



**BOARD OF DIRECTORS 2019**

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EXECUTIVE DIRECTOR

# AGENDA

## PENINSULA CORRIDOR JOINT POWERS BOARD

### Work Program – Legislative – Planning (WPLP) Committee Meeting

San Mateo County Transit District Administrative Building  
Bacciocco Auditorium, 2<sup>nd</sup> Floor  
1250 San Carlos Avenue, San Carlos CA 94070

**July 24, 2019 – Wednesday**

**9:00 – 11:00 a.m.**

Call to Order

Roll Call

1. Discussion of Committee Role and Meeting Frequency                      INFORMATIONAL
2. Caltrain Business Plan Update    INFORMATIONAL
  - a. Service Vision
  - b. Organizational Assessment
3. Public Comment on Items not on the Agenda  
Comments by each individual speaker shall be limited to two (2) minutes. Items raised that require a response will be deferred for staff reply.

Date/Time of Next Regular WPLP Committee Meeting: Monday, August 28, 2019 at 1:00 p.m. San Mateo County Transit District Administrative Building, 2<sup>nd</sup> Floor, 1250 San Carlos Avenue, San Carlos, CA 94070

Adjourn

Committee Members: Charles Stone (Chair), Cheryl Brinkman, Cindy Chavez

### **INFORMATION FOR THE PUBLIC**

All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.

If you have questions on the agenda, please contact the JPB Secretary at 650.508.6242. Agendas are available on the Caltrain website at [www.caltrain.com](http://www.caltrain.com). Communications to the Board of Directors can be e-mailed to [board@caltrain.com](mailto:board@caltrain.com).

#### **Location, Date and Time of Regular Meetings**

Regular meetings are held at the San Mateo County Transit District Administrative Building located at 1250 San Carlos Avenue, San Carlos, one block west of the San Carlos Caltrain Station on El Camino Real, accessible by SamTrans bus Routes ECR, FLX, 260, 295 and 398. Additional transit information can be obtained by calling 1.800.660.4287 or 511.

The JPB meets regularly on the first Thursday of the month at 10 a.m. The JPB Citizens Advisory Committee meets regularly on the third Wednesday of the month at 5:40 p.m. at the same location. Date, time and place may change as necessary.

#### **Public Comment**

If you wish to address the Committee, please fill out a speaker's card located on the agenda table and hand it to the JPB Secretary. If you have anything that you wish distributed to the Board and included for the official record, please hand it to the JPB Secretary, who will distribute the information to the Committee members and staff.

Members of the public may address the Committee on non-agendized items under the Public Comment item on the agenda. Public testimony by each individual speaker shall be limited to two minutes and items raised that require a response will be deferred for staff reply.

#### **Accessibility for Individuals with Disabilities**

Upon request, the JPB will provide for written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. Please send a written request, including your name, mailing address, phone number and brief description of the requested materials and a preferred alternative format or auxiliary aid or service at least two days before the meeting. Requests should be mailed to the JPB Secretary at Peninsula Corridor Joint Powers Board, 1250 San Carlos Avenue, San Carlos, CA 94070-1306; or emailed to [board@caltrain.com](mailto:board@caltrain.com); or by phone at 650.508.6242, or TDD 650.508.6448.

#### **Availability of Public Records**

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at 1250 San Carlos Avenue, San Carlos, CA 94070-1306, at the same time that the public records are distributed or made available to the legislative body.



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JIM HARTNETT  
EXECUTIVE DIRECTOR

July 19, 2019

Dear Board of Directors:

This is a very exciting time for Caltrain.

After years of advocacy, planning and work, the long-envisioned Electrification of the Caltrain corridor is under construction, with passenger service scheduled to begin in 2022. This investment will improve service for our customers with faster trips, greater frequency and more capacity. It is a transformational moment for the railroad and it is also the first, foundational step in the realization of a larger future for Caltrain.

That future will be defined and guided by the Caltrain Business Plan, and the adoption of a Long Range Service Vision as a part of that plan. The draft staff recommendation for Caltrain's Long Range Service Vision shows us what this future can look like. The recommendation lays out a vision for a service that triples Caltrain's current ridership to 180,000 riders a day. It envisions express trains every 15 minutes, comprehensive coverage of local stations and greatly expanded frequencies in the middays, evenings and weekends over the full length of our system. It is a vision for a system with increased capacity, longer trains and level boarding.

The Service Vision is also about more than just Caltrain. Importantly, it pictures a system ready to expand and integrate into a larger regional rail network when the time is right. It connects and weaves together the many rail projects and investments that are already beginning to take shape around us through the work of our local, regional and state partners.

It is a vision that includes the Downtown Extension to the Salesforce Transit Center in San Francisco, potential new rail connections across the Dumbarton Bridge to connect communities across the bay, and the rebuilding of a new Diridon Station in San Jose. It is a vision that includes expanded electrified service to Gilroy and a shared corridor with High Speed Rail. It is a vision that considers the growth and needs of each of the communities along the Caltrain corridor.

I am very proud of the work undertaken to get the Business Plan this far. It has been an expansive and technically rigorous process that has challenged all of us to ask big questions and think critically about the future of the corridor, and the region. Most importantly, it has been the product of a transparent and collaborative process with our riders, our community and private sector partners, and the public.

As we work to achieve this Vision, the larger Caltrain Business Plan also considers how our organization will need to expand and evolve to deliver a service that meets the needs of our growing region. To that

end, I am very pleased to present you with a detailed organizational assessment that maps out the challenges and issues faced by Caltrain, and lays out options and guidance for the path ahead.

Finally, as we have anticipated and discussed for many years, a necessary step in achieving this Vision and the long-term sustainability of Caltrain will be to secure a dedicated source of funding. Caltrain demonstrates its importance to the region every day through the riders we carry, the communities we connect and the congestion we reduce. The recommended Long Range Service Vision demonstrates the enduring value that we can provide when given the resources to sustain ourselves and grow.

Achieving this ambitious Vision will be challenging, but we can achieve it by working one step at a time. Pending the Board's adoption of the Long Range Service Vision, staff will work over the remainder of the year to complete the Business Plan and consider the ways we will incrementally deliver and fund this Vision over the next 20+ years.

Thank you all for your support and participation in this process. We are excited to hear your feedback and input as we take this historic first step toward the evolution of the Caltrain system and mobility throughout the Peninsula.

A handwritten signature in blue ink, appearing to read "Jim Hartnett", with a long, sweeping horizontal line extending to the right.

Jim Hartnett

Executive Director, Caltrain

# SUMMARY OF DRAFT RECCOMENDATION FOR CALTRAIN'S LONG RANGE SERVICE VISION

The following memo supplements the PowerPoint presentation provided to the Peninsula Corridor Joint Powers Board at their August meeting. It provides a high level summary of the service planning and business case analysis completed as part of the Caltrain Business Plan to date and explains the importance of choosing a “Long Range Service Vision” at this stage in the planning process.

The memo then describes staff’s draft recommendation for the Long Range Service Vision and explains why staff has recommended this specific vision relative to other options considered. Finally, the memo includes a narrative description of the recommended Vision and a draft of the precise language that the Board would be asked to consider for adoption in October, pending revisions or changes based on input received from the Board and through outreach planned in August and September.

## **A LONG RANGE VISION FOR CALTRAIN SERVICE**

The Caltrain Business Plan is an expansive planning process that has been ongoing for more than a year. A major focus of the plan has been to develop analysis of different long range service options for Caltrain and to weigh the costs, revenues, benefits and impacts of these options through a detailed “Business Case” analysis. At this stage of the Business Plan process, Caltrain staff has developed and evaluated three distinct “growth scenarios” that provide illustrative options for how the Caltrain Service could grow by 2040. Based on this analysis, staff has now developed a single, recommended “Long Range Service Vision” for consideration and potential adoption by the Board.

Choosing a “Long Range Service Vision” is an important milestone in the Business Plan process. Having a clearly articulated goal for the quantity and type of service that the railroad aspires to provide in the future will provide staff with the critical guidance needed to complete the Business Plan. Once adopted, the Long Range Service Vision will create a framework that allows staff to “work backwards” from 2040, developing analysis showing how the Vision can be phased, funded and implemented over time. This analysis will be conducted in the fall of 2019 with a goal of completing the Business Plan by early 2020.

## **A REGIONAL VISION BUILT ON REGIONAL INVESTMENTS**

Selection of a Long Range Service Vision will also allow Caltrain staff to engage efficiently and constructively in the development of other long range plans and projects throughout the region. This is particularly important since the Caltrain corridor interfaces with many different local,

state and regional transportation systems and investments. While the Long Range Service Vision is fundamentally focused on Caltrain, the Vision must account for and integrate a vast array of transportation projects that have been planned by corridor cities and regional and state partner agencies. Key projects that directly influence Caltrain’s corridor and long range service ambitions include;

- California’s High Speed Rail System
- The Downtown Extension to the Salesforce Transit Center
- The rebuilding of Diridon Station in San Jose
- Multiple grade separation projects planned and contemplated by corridor cities

The Caltrain Business Plan and Caltrain’s Long Range Vision have been deliberately developed to integrate and build on all of these projects. One of the goals of the 2040 Vision is to build a “big tent” that shows how all of the investments currently being planned in the corridor can fit together as part of a cohesive whole, with expanded Caltrain service further enhancing their value and importance.

It is important to note at the outset, that these regional and partner projects also drive a significant portion of the overall investment costs that are considered within the Long Range Service Vision. Figure 1 shows the total set of capital investments that have been included in the “baseline” growth scenario, broken down by major source.

**Figure 1- Capital Investments Included in the “Baseline” 2040 Growth Scenario**



All costs have been adjusted to 2018 dollars

The costs shown in Figure 1 total to \$22.1 billion in 2018 dollars and are divided into three categories;

- **Caltrain Work Underway:** Including electrification and other major capital projects that are already in progress
- **Investments Planned and Proposed by Caltrain Partners:** Including major terminal projects like the Downtown Extension (DTX) and Diridon Project as well as High Speed

Rail Investments and those grade separations that are already actively being planned by local jurisdictions. While all of these projects are in active stages of planning, most are substantially unfunded.

- **New Caltrain Investments to Support the Baseline Growth Scenario:** This category includes the essential investments that the Caltrain believes will be needed by 2040 to support the baseline level of blended service. Examples include additional electrified rolling stock (to fully electrify the fleet and expand all consists to 8-car trains), level boarding, expanded storage and maintenance facilities and additional grade crossing improvements. These projects are not funded.

These costs have been used as the basis, or “baseline,” for looking at the incremental investment that would then be required to achieve the higher levels of Caltrain service contemplated in the “moderate” and “high” growth scenarios.

## DEVELOPMENT OF “GROWTH SCENARIOS”

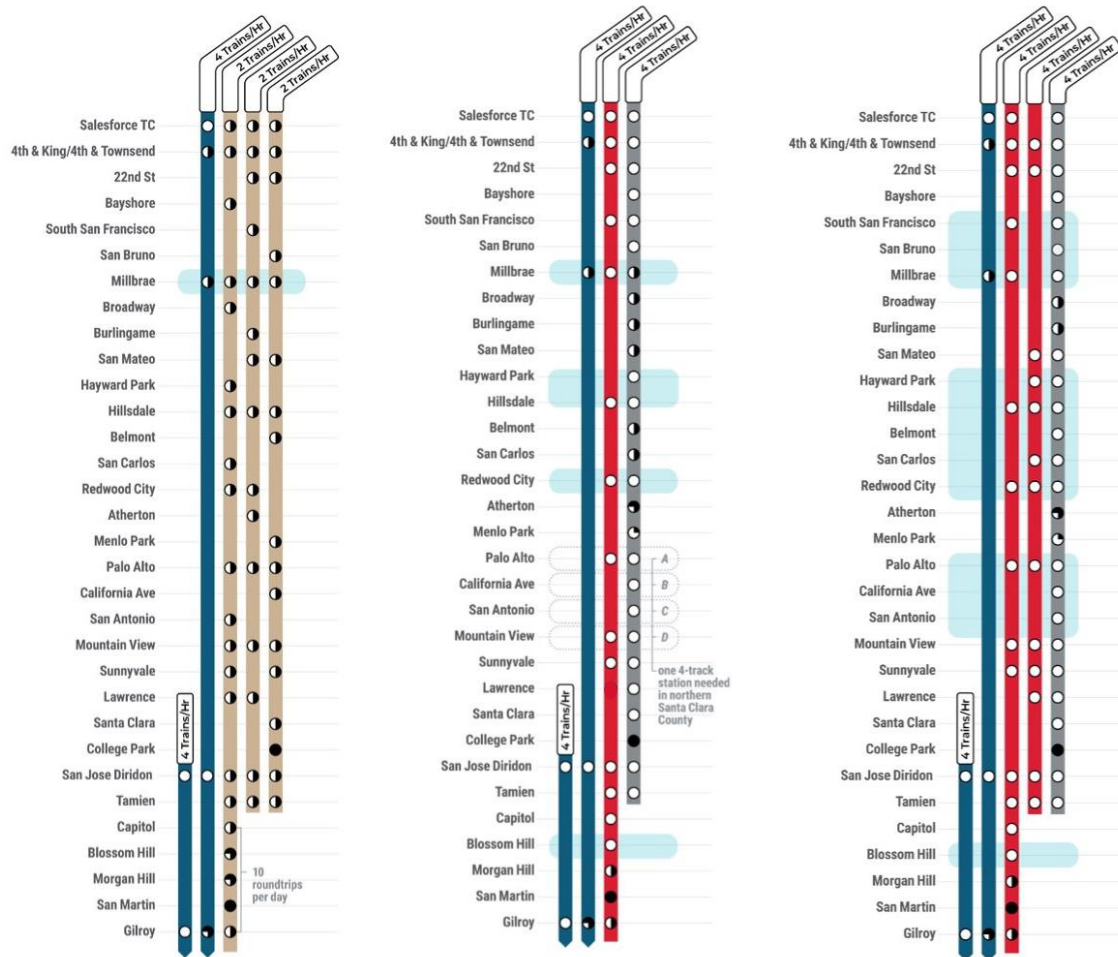
Much of the technical work of the Caltrain Business Plan over the past year has been focused on the development and refinement of three illustrative “Growth Scenarios,” each representing a different option for the kind of service that Caltrain could provide in 2040 given different levels of supporting investment. The three scenarios include a “baseline” level of service (consistent with Caltrain’s prior long range planning and the regional and partner projects discussed above) and two additional scenarios that consider what it might look like if Caltrain were to further expand service (the “moderate” and “high” growth scenarios).

Although illustrative, these growth scenarios were developed at a high level of detail through an extensive service planning process (diagramed in Figure 2). Details of each of these scenarios are shown in Figure 3 and can also be reviewed in the accompanying presentation and on the project website, [www.caltrain2040.org](http://www.caltrain2040.org).

Figure 2 – Growth Scenario Development Process



Figure 3 – Growth Scenario Detail



The process to develop the different growth scenarios evaluated in the Caltrain Business Plan was conducted in a highly transparent and collaborative manner. Throughout the development of the Growth Scenarios, Caltrain staff have met on a monthly basis to share information and discuss findings with a technical team of partner agency staff (the Project Partner Committee) as well as with corridor local jurisdiction staff (the City and County Staff Group) and corridor elected officials (the Local Policy Maker Group). Additionally, the project team has held quarterly stakeholder meetings with a Stakeholder Advisory Group representing over 90 different organizations and has held multiple rounds of one on one meetings with every city in the corridor. The team also developed customized “booklets” for each city, showing the impacts and benefits of different growth scenarios on their jurisdiction. All told, Caltrain staff have presented Business Plan materials at over 150 stakeholder meetings during the course of the last year.



## WEIGHING CALTRAIN'S CHOICES

The detailed illustrative growth scenarios developed through the service planning process were used to model ridership, specify and estimate the costs of required capital investments, and to model detailed operating costs. These outputs were then used as the basis for developing a “Business Case” analysis of each scenario. The Business Case analysis is a structured framework that helps analyze and weigh the costs and benefits of the different options. The analysis examines five areas, each of which is presented in detail in the accompanying presentation and is discussed briefly in this memo.







Figure 4 – Areas of the Business Case Analysis



### SERVICE COMPARISON

The service comparison section of the business case looks at the key service, and service-related qualities of the different scenarios and compares them on a head to head basis. The accompanying presentation provides a detailed analysis. In general, the quality of service across the options as measured by various metrics improves as the level of train service and investment increase. Conversely, however, the increased service included in the “high growth” scenario requires the construction of extensive 4-track segments in the corridor – complex infrastructure that has the potential to drive significant community impacts. A detailed service comparison is provided in the accompanying presentation and a summary table of key metrics is shown in Figure 5.

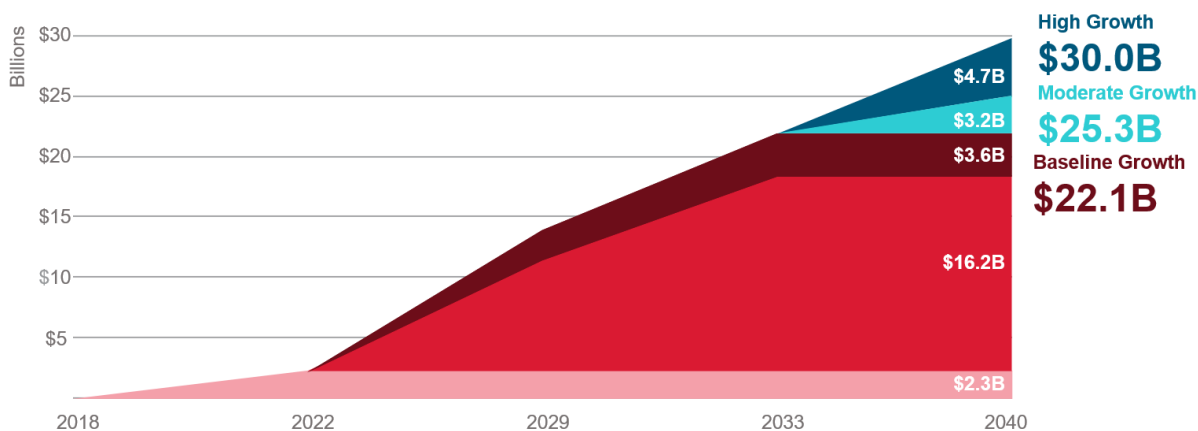
**Figure 5 – Summary of Key Comparative Service Metrics**

	Metric	Baseline Growth	Moderate Growth	High Growth
 Frequency	Number of Stations Served by Frequent Service (>4 TPHPD)	13 Stations	21 Stations	24 Stations
	Longest Wait Times At Major Stations Served by All Trains	22 minutes	12 minutes	8 minutes
 Connectivity	Percentage of Station Pairs Connected Without/(With) a Transfer	84% (91%)	96% (98%)	99% (99%)
	Number of Station Pairs Not Connected at All*	95	17	2
 Network Integration	Timed Connections at Regular Intervals	No	Yes	Yes
 Ridership	Daily Ridership (capacity constrained)	151,700 Riders	177,200 Riders	207,300 Riders
	Comfortable Peak Hour Train Loads?	No	Some Crowding	Yes
 Travel Time	Travel Time, San Francisco (STC) to San Jose (Diridon)	69-73 Minutes	61 Minutes	60 Minutes
	Average Travel Time per Rider, All Origin-Destination Pairs	33 Minutes	32 Minutes	31 Minutes
 Infrastructure	Passing Tracks Needed	<1 Mile	<5 Miles	15-20 Miles

## FINANCIAL ANALYSIS

Detailed capital cost estimates for each scenario, building incrementally off of the “baseline” investments described previously were developed for the moderate and high growth scenarios. Figure 6 shows the baseline investment described previously, profiled over time, with the incremental additional investment required to achieve the “moderate” or “high” growth scenarios shown as an additional increment.

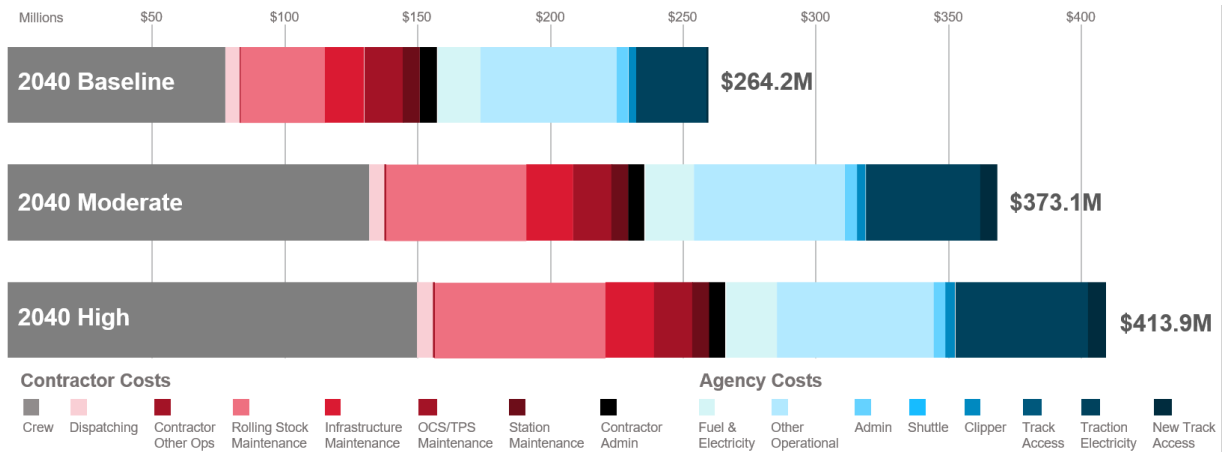
**Figure 6 – Total Capital Investment by Scenario**



All costs have been adjusted to 2018 dollars

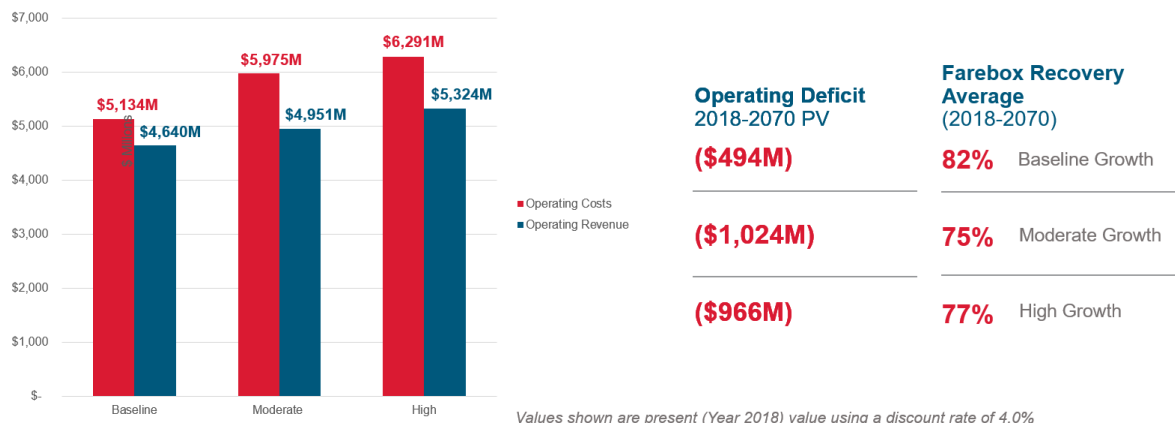
Figure 7 shows the projected 2040 annual operating and maintenance costs for each of the scenarios (in 2018 dollars).

**Figure 7 – Total Operating Costs by Scenario**



Finally, Figure 8 shows the net present value of total operating costs and projected revenues projected over the 2018-2070 period (the lifecycle timeframe of key investments included in each of the scenarios) along with the average fare box recovery rate across that same period. Additional financial analysis and metrics are reported in the accompanying presentation.

**Figure 8 – Net Present Value of Total Operating Costs and Revenues by Scenario, 2018-2070**



## CALTRAIN ECONOMIC ANALYSIS

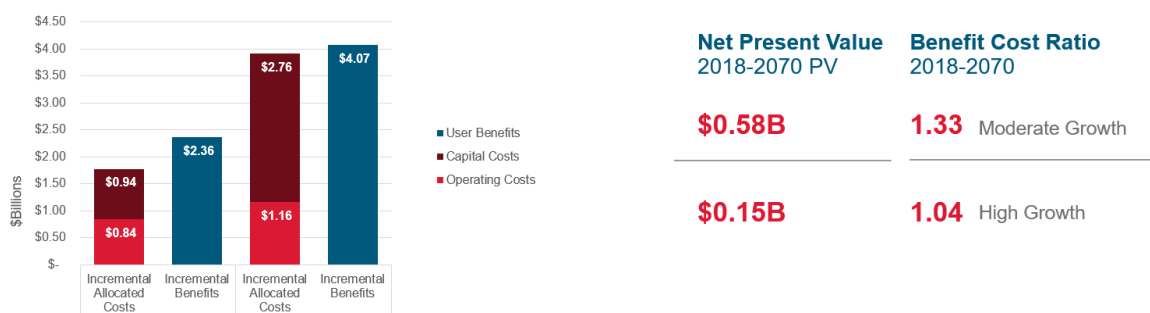
The Business Plan team also developed a series of analyses examining the economic impact of the different growth scenarios on Caltrain riders. This analysis considers the various ways that improved Caltrain service could directly benefit riders, monetizes these benefits and compares them to costs. This analysis is done on a marginal basis against the baseline scenario meaning that calculations are based on the incremental costs and benefits of the “moderate” or “high” growth scenarios relative to the baseline. Costs included in the analysis have also been “allocated” meaning that the overall costs of shared investments (eg projects that serve multiple purposes or benefit multiple users beyond just Caltrain) have been proportioned so as to fairly weigh Caltrain “costs” against Caltrain “benefits.” Calculations are performed for the period between 2040 and 2070, when each growth scenario is assumed to be fully operational. Figure 9 shows directly calculated benefits while Figure 10 shows the net present value of monetized benefits weighed against the value of incremental, allocated costs.

**Figure 9 –Estimated Incremental Economic Benefits to Caltrain Users Relative to Baseline, 2040-2070**

Benefit	Unit	Moderate Growth		High Growth	
		Total*	Per Year Average	Total*	Per Year Average
Existing Transit User Travel Time Savings	hours	12.9M	0.43M	20.9M	0.70M
New Transit User Travel Time Savings	hours	27.7M	0.92M	40.4M	1.35M
VMT Savings from New Transit Users (Avoided Auto Trips)	vehicle miles	9,000M	300M	16,100M	540M
Roadway Network Safety Improvements	reduced fatal/injury accidents	7,300	240	13,000	430
Public Health Benefits (from Active Transportation Mode Access)	lives saved	70	2	150	5
	reduced absent days at work	30,000	1,000	67,000	2,200

\*Values rounded for presentation purposes






**Figure 10 – Net Present Value and Benefit / Cost Ratio of Caltrain User Benefits Weighed Against Allocated Costs, 2040-2070**



## REGIONAL ANALYSIS

The Business Plan team also developed analysis and qualitative discussion of a number of “regional” benefits that would result based on different levels of investment in the Caltrain system. These benefits accrue to a general population and not just users of the system. These regional benefits are described in detail in the accompanying presentation and are summarized in Figure 11 below

Figure 11 – Summary of Regional Benefits

Metric	Baseline Growth	Moderate Growth	High Growth
 Freeway Throughput Additional Freeway Lanes	+4 lanes	+5.5 lanes	+8.5 lanes
 Regional Rail Integration Accommodation of Large-Scale Corridor-Sharing Beyond HSR	could be scaled to accommodate	could be scaled to accommodate	can accommodate
 Environmental Benefits GHG (MTCO2e)	1,108,045	1,898,330	3,006,028
 Land Value Benefits Property Value Premiums Generated by 2040 Service Growth within 1 Mile of a Station	\$10B	\$10 - \$22B	\$22B
 Economic Productivity Economic Output	\$32.8B	\$40.8B	\$47.7B
Full and Part-time Jobs	44K job-years	51K job-years	69K job-years

## FLEXIBILITY AND UNCERTAINTY

Finally, the Business Plan team considered the degree of flexibility and uncertainty inherent in the growth scenarios examined. The detailed service plans developed in each scenario are “illustrative,” not definitive and much work remains both within and beyond the Business Plan process to examine specific service patterns and service levels at individual stations.

Additionally, all of the 2040 growth scenarios have been developed in a way that includes and integrates regional projects like High Speed Rail, the Downtown Extension and the rebuilding of Diridon Station. These projects are in various stages of planning and design but all currently lack the funding. There is a great deal of potential uncertainty regarding the timeframe in which they will be delivered and the final form they may ultimately take. Similarly, while larger regional visions for a greatly expanded, integrated rail network are ongoing there is a tremendous amount of uncertainty around how and when these concepts may ultimately manifest.

The issues of service flexibility and uncertainty around regional projects are particularly relevant in the context of understanding where overtake infrastructure may be required. The location and extent of required overtake infrastructure is highly sensitive to what service is being accommodated. This especially true in the “High growth” scenario where the large volume of blended train traffic creates a need for long overtakes used by multiple different operators. The

“moderate” growth scenario has over take infrastructure needs that are more modest and can be planned for more discretely.

Finally, this section of the presentation also discusses a number a series of initial financial sensitivity tests to understand how key business metrics associated with the different growth scenarios may vary in response to changing conditions.

## **RECCOMENDED LONG RANGE SERVICE VISION**

### **SUMMARY AND BASIS FOR RECCOMENDATION**

Caltrain staff has developed a draft recommendation for the Long Range Service Vision. This recommended Vision is described in detail below, but, as it relates to the options studied, the recommendation is that Caltrain adopt and pursue a Vision compatible with the “moderate” growth scenario while also taking a series of steps to plan for and not preclude the potential realization of the “high growth” scenario.

The extensive analysis conducted during the Business Plan process has shown that there a strong demand for expanded Caltrain service and the business case analysis conducted as part of the plan has shown that there is a clear case, based in economic and regional benefits, for pursuing a Vision that goes beyond the baseline levels of service previously contemplated. While the high growth option generates the greatest ridership and expanded regional benefits, it also comes at a higher cost and carries significantly higher levels of uncertainty and potential for community impacts. Therefore, based on the assembled evidence, staff has developed a recommendation that would direct Caltrain to pursue a service vision consistent with the “moderate” scenario while retaining the ability to expand to a level consistent with the “high growth” scenario at such time as demand warrants or the region has made the policy and funding commitments to pursue a larger, integrated rail system.

### **DESCRIBING THE VISION**

The Long-Range Service Vision for Caltrain provides a world class service that is tailored to the future needs of our local communities, the region and the state. It responds to and integrates the committed and planned investments in the Caltrain corridor to deliver the greatest value to the public and region, while maintaining the flexibility to respond as local and regional needs develop.

#### **The Key Features of the Service Vision Include:**

- Fast and frequent all day (every day) service
  - Total peak hour frequencies of 8 Caltrain trains per direction

- Faster, all day baby bullet service with express service every 15 minutes
- Significantly increased off-peak and weekend service levels
- User friendly, show up and go service with easy to understand schedules
- Increased Capacity
  - Provides the capacity to triple today's ridership, serving nearly 180,000 people a day
  - Adding more than 5 freeway lanes worth of regional capacity
- Regional Connectivity
  - End to end service- connecting Gilroy to downtown San Francisco (all day, both ways)
  - Comprehensive local service providing coverage to every community
  - Regular service making transfers and connections easier and more predictable

### **Major Additional Benefits**

The Vision will bring huge benefits beyond direct improvements to service. Once complete, the Vision will deliver;

- 1.3 million hours of travel time savings for existing and new Caltrain riders every year as compared to the baseline scenario
- 300 million vehicle miles not traveled every year as compared to the baseline scenario
- \$40.8 billion in regional economic output created by ongoing capital and operating investments
- By 2040 Caltrain service will add between \$25 and \$37 billion in property value premiums to residential and office properties within 1 mile of stations. (This analysis is conservative and excludes San Francisco as well as commercial, non-office properties for which estimates could not be reliably developed)
- The Vision will result in a reduction of nearly 2 million metric tons of CO2 as well as other air quality improvements

### **Ready to Grow with the Region**

- The Vision has been designed to integrate and add value to the many local, regional and state investments that are being planning in the Caltrain corridor. These include projects like grade separations, major improvements to terminal infrastructure and stations in San Francisco and San Jose, and the integration of the state's high speed rail system.
- The vision also anticipates the ongoing role of Caltrain in a regional rail network that in addition to high speed rail could include a new rail service in the Dumbarton corridor, a second transbay crossing, service to the Monterey peninsula and ongoing improvements to service on Capital Corridor and ACE.
- As part of the Business Plan process, staff evaluated how the service and infrastructure contemplated in the recommended Vision could scale up to an even "higher" level of growth that would allow for up to 16 trains per hour per direction and even greater regional integration and further expansion of rail. At this time, there is still a great deal

of uncertainty around the future of regional rail and Caltrain does not feel that we can independently recommend moving forward with a maximum growth approach given the high costs and potential for extensive community impacts.

- Instead, we are recommending a “do not preclude” approach that would allow for this future growth to proceed once key regional decisions and funding commitments are in place. In practice, this would mean limiting the sale or encumbrance of certain JPB land, accounting for the possibility of more trains when we do terminal and facility planning, and considering the potential need for 4 tracks as certain grade separations are designed. At the same time, Caltrain will actively participate in evolving regional conversations and will help the region and the state evaluate the feasibility and benefits of an expanded and integrated rail network. If the region is truly prepared to move forward with a full regional rail expansion Caltrain will be ready.

## Capital Costs

- Achieving the Vision will also be costly- the total range of all projects contemplated to achieve the Vision from Gilroy to San Jose include up to \$25 billion (this includes roughly \$2.5 billion of Caltrain investments already paid for and underway).
  - The significant majority of this cost is driven by projects that are being planned by corridor partners (DTX in San Francisco, grade separations all along the corridor, the potential cost of the Diridon Station project, and HSR improvements- collectively account for more than \$16 billion of the total).
  - The goal of the Vision is to help knit these projects together and to add value to all of them by providing greatly improved Caltrain service. Direct Caltrain investments contemplated (beyond the existing projects already underway) total to roughly \$6.5 billion)
- New sources of funding will clearly be required to address this level of need- including to even come close to achieving the baseline. The \$22 million a year contributed by member agencies to the capital budget is not going to be sufficient to do any of this.

## Operating Costs

- Projected 2040 operating annual costs for the Vision are \$373.1 million a year in current dollars (compared to about \$135 million in 2018). By way of comparison, achieving a “baseline” level of growth would cost about \$265 million a year in 2040
- Financial projections show that the efficiency of the system will remain high- we are projecting an average farebox recovery ratio of 75% (holding today’s fare levels constant with inflation). Nonetheless, the need for subsidy will grow as the size of the system increases. Caltrain may need as much as \$90 million a year in operating subsidy (compared to the roughly \$36 million in subsidy it receives today- \$30 million of which come from local member agencies). As the business plan continues we will be exploring ways to further increase system efficiency and generate additional revenues that would offset the need for direct subsidy. Nonetheless, new funding is clearly needed.



## Incremental Improvements

- The Vision is not one project- it can be implemented incrementally over time with improvements to service and capacity delivered along the way. During the remainder of the Business Plan Caltrain will work to identify key incremental steps that can be delivered in the near- and medium term timeframes.
- We don't need to wait until 2040- the first major improvement in service is coming soon. Electrification, in 2022 is the first step and will mark a substantial step forward towards the realization of this vision with significant service improvements throughout the corridor.

### **CALTRAIN'S LONG RANGE SERVICE VISION – DRAFT LANGUAGE**

*The following is the specific, draft “Service Vision” language that the JPB would be asked to consider for adoption in October. This language will be reviewed and revised based on input from the Board and comments received through stakeholder and public outreach.*

- 1) Caltrain's Long Range Service Vision directs the railroad to plan for a substantially expanded rail service that will address the local and regional mobility needs of the corridor while supporting local economic development activities. When fully realized, this service will provide;
  - A. A mixture of express and local Caltrain services operated in an evenly spaced, bi-directional pattern
  - B. Minimum peak hour frequencies of;
    - 8 trains per hour per direction on the JPB-owned corridor between Tamien Station in San Jose and San Francisco, extended to Salesforce Transit Center at such time as the Downtown Extension is completed
    - 4 trains per hour per direction between Blossom Hill and Tamien Stations, subject to the securing of necessary operating rights
    - 2 trains per hour per direction between and Gilroy and Blossom Hill Stations, subject to the securing of necessary operating rights
  - C. Off-peak and weekend frequencies of between 2 and 6 trains per hour per direction north of Blossom Hill and hourly between Gilroy and Blossom Hill, with future refinements to be based on realized demand

- D. Accommodation of California High Speed Rail trains, in accordance with the terms of existing and future blended system agreements between the JPB and the California High Speed Rail Authority
  - E. Delivery of these services will occur through the incremental development of corridor projects and infrastructure to be further defined through individual planning process, feasibility studies and community engagement. At this time, such infrastructure is conceptually understood to include;
    - i. Investments in rail systems including a new, high performance signal system
    - ii. Station modifications including platform lengthening, level boarding, and investments in station access facilities and amenities to support growing ridership and improve customer experience
    - iii. New and modified maintenance and storage facilities in the vicinity of both terminals as well as the expansion of the electrified Caltrain fleet
    - iv. A series of short, 4-track stations and overtakes at various points throughout the corridor
    - v. Completion of key regional and state partner projects including
      - 1. The Downtown Extension to the Salesforce Transit Center
      - 2. The reconstruction of Diridon Station and surrounding rail infrastructure
      - 3. The reconstruction and electrification of the rail corridor south of Control Point Lick to the Gilroy Station
      - 4. Additional improvements to allow for the operation of High Speed Rail service between Gilroy and San Francisco
      - 5. The substantial grade separation of the corridor as well as safety upgrades to any remaining at-grade crossings, undertaken in a coordinated strategic manner driven by the desires of individual local jurisdictions as well as legal requirements associated with any proposed 4-track segments.
- 2) Caltrain’s Long Range Service Vision further directs the railroad to continue its consideration of a potential “higher” growth level of service in the context of major regional and state rail planning. Specifically, the Long Range Service Vision directs the railroad to;
- A. Work with regional and state partners to study and evaluate both the feasibility and desirability of higher levels of service in the context of major regional and state rail initiatives including planning related to the Dumbarton Rail Corridor, the 2<sup>nd</sup> Transbay Crossing, the potential for expanded ACE and Capitol Corridor services, and ongoing planning for the California High Speed Rail system.

- B.** To take certain actions to consider and, where feasible, not preclude such higher levels of service as they specifically relate to;

  - i. The planning of rail terminals and related facilities
  - ii. The sale or permanent encumbrance of JPB land
  - iii. The design of grade separations in areas where 4-track segments may be required
  - iv. The sizing of future maintenance facilities and storage yards
  
- C.** To return to the board with a recommendation regarding any formal expansion of the Long Range Service Vision at such a time as clear regional and state policy and funding commitments are in place and the feasibility of such an option on the corridor has been confirmed
  
- 3)** Finally, Caltrain’s Long Range Service Vision directs the railroad to periodically reaffirm the Vision to ensure that it continues to provide relevant and useful guidance to the railroad. Such reaffirmations should occur;

  - A.** At a regular intervals of no less than 5 years
  
  - B.** In response to significant changes to JPB or partner projects that materially influence the substance of the Long Range Service Vision

CALTRAIN BUSINESS PLAN

# ORGANIZATIONAL ASSESSMENT



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# INTRODUCTION

The following report is an organizational assessment of Caltrain. It has been undertaken as one part of the “Caltrain Business Plan,” a long range plan analyzing the overall future of the Caltrain service and corridor. The delivery of this Organizational Assessment report has been deliberately timed to coincide with the Board’s consideration of different options for a “Long Range Service Vision” as part of the larger Business Plan process. As the Board considers what the long term vision for Caltrain rail service might be, this report sets out an accompanying spectrum of organizational considerations, options and recommendations that will need to be addressed as part of any larger transformation of the railroad.

Caltrain is at a pivotal moment in its history and change is coming. Since assuming its current institutional form in the early 1990s, Caltrain has experienced nearly three decades of successful growth, becoming the US’s 7<sup>th</sup> largest commuter railroad as well as the most efficient major passenger railroad in the country. Looking forward, however, the decisions to electrify the railroad and to one day share the corridor with High Speed Rail have set the agency down a path of significant change and transformation. Similarly, the Caltrain corridor and service are central to a number of major, multi-billion dollar regional projects like the Downtown Extension in San Francisco, the rebuilding of Diridon Station in San Jose, and the planned and contemplated grade separation of dozens of at-grade crossings along the rail corridor.

Caltrain’s organization is foundational to all of these changes. From its overall governance to the manner in which it delivers its day-to-day service, the railroad’s organizational choices will be instrumental to ensuring its continuing success as it prepares for a period of dynamic growth and change that may continue for decades.

This report provides a comprehensive analysis of the Caltrain organization. It addresses the related organizational areas of service delivery, internal organization and governance and lays out a spectrum of choices, focus areas and recommendations for consideration by Caltrain and its partners as they prepare for the work ahead. The report is divided into five chapters, each with a different emphasis.

- Chapters 1 through 3 provide important context, background information and comparative analyses that are intended to help the reader understand key issues surrounding the Caltrain organization and to relate the specific circumstances of Caltrain to the organizational structures and approaches used by other railroads around the country and world
- Chapter 4 is an extensive analysis of the specific issues and options available to Caltrain in the areas of service delivery, internal organization and governance
- Chapter 5 builds on the analysis of the preceding chapter and makes specific recommendations and outlines implementation steps

This report has been prepared by Howard Permut, of Permut Consulting LLC with contributing assistance from the following individuals and institutions;

- Professor Michael Bennon and the Stanford Global Projects Center (Chapter 3)
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# CHAPTER 1: INITIAL ASSESSMENT IDENTIFYING KEY ISSUES AND AREAS FOR FOCUS

## I. OBJECTIVE AND ORGANIZATION

This chapter serves as an entry point into the larger organizational assessment of Caltrain. It was written during the summer and fall of 2018 and includes a series of initial observations related to key context, themes and issues that were determined to be of importance to the overall organizational assessment. Many of these are addressed in detail through subsequent chapters in the organizational assessment while others are surfaced here but have not been analyzed further at this time. This chapter was originally completed as an independent memo in the fall of 2018 and was provided to Caltrain Board members and partner agency staff at that time for discussion. In developing this memo into the first chapter of the overall organizational assessment, some minor modifications to the text of the original memo have been made to ensure internal consistency in the overall document.

The chapter consists of three sections:

- Work completed;
- Key high-level observations regarding the Caltrain organization; and
- Organizational areas recommended for future focus as part of the Business Plan.

The objective of this chapter is to provide context for the organizational assessment portion of the Business Plan. The organizational assessment will ultimately help the Joint Powers Board (JPB) and Joint Powers Authority (JPA) members identify the organizational structure that best enables the successful implementation of Caltrain's future service vision.

At the outside, it is important to highlight and differentiate among three related, yet different, concepts of service delivery, internal organization and governance. These concepts are used throughout the Organizational Assessment and are defined as follows:

Service Delivery is defined as how Caltrain operates and manages its services both on and off the corridor. For example, how does Caltrain fulfill its various functions such as train operations, rolling stock maintenance, track maintenance, and implementation of infrastructure improvements. The most basic management choice will revolve around the extent of the use of in-house forces as compared to third-party contractors. There are a number of different combinations and models as to how this could be done which will be explored in the organizational assessment.

- Internal Organization is defined as the manner in which Caltrain has organized itself. While there is significant overlap between this concept and the discussion of both service delivery and governance, there are many key areas of internal focus (resources, departmental functionality, and supporting/shared services) which must be independently evaluated and addressed regardless of the selected governance structure or delivery method.
- Governance is defined as the manner in which Caltrain is overseen by the JPB and JPA members. It focuses on the agency's decision-making processes and the Board's oversight of the Caltrain organization. The

decision as to the optimal structure will be driven by a number of factors including the basic determination of Caltrain’s future role in the region (for example, is Caltrain a mobility provider?).

## II. WORK COMPLETED

This chapter was initially developed as a standalone memo in the summer and fall of 2018 and involved an extensive review of information from a variety of sources. Three trips were made to California to meet with, interview and discuss key issues with people that have substantive knowledge and influence in the Caltrain corridor. In addition, a number of telephone interviews were conducted due to time constraints and scheduling conflicts. There were also a number of follow-up meetings with many of the interviewees.

In total, over 50 people were interviewed from the JPB, Caltrain, VTA, SFMTA, SFCTA, MTC, High Speed Rail Authority (HSRA), Caltrans - Division of Rail (Caltrans), Stanford, private sector leaders and regional advocacy groups. Appendix 1 is a complete listing of the people who were interviewed in the development of this Chapter. All the interviews are confidential.

In addition, numerous documents were reviewed, including reports, organizational charts, contracts, schedules and budgets. These included both internal Caltrain documents as well as external documents from other state agencies and regional planning agencies. Appendix 2 is a listing of the key reports reviewed.

Finally, a number of project meetings with external parties were also attended and there have been regular on-going discussions with the Business Plan team as well as other key Caltrain staff.

Appendix 3 is Howard Permut’s personal vita.

## III. KEY HIGH-LEVEL OBSERVATIONS

### 1. Change is coming.

The first and most important observation is that change is coming. The status quo is no longer viable as transformative decisions have already been made; the most critical being the electrification of the Peninsula Corridor and the agreement to share the corridor with HSR service. These changes have and will continue to impact all aspects of the Caltrain organization: how it operates, how it is perceived by its customers, how it relates to its external stakeholders, etc. In short, it is a transformational moment for Caltrain that brings both great opportunity and equally great challenges.

### 2. This change will inevitably require organizational change and growth.

With increased ridership, new maintenance-intensive infrastructure as well as new agreements with HSRA and other outside agencies, Caltrain’s organization will need to change and grow regardless of its chosen service delivery or governance models.

There have been positive organizational changes over the past few years including hiring of skilled staff, greater transparency and increased Board involvement but to continue this improvement, Caltrain will need to seek out the following:

- Additional staff and financial resources to address the demands currently being placed on Caltrain (discussed in more detail below);
- New railroading operational and support skills to maintain and operate an electrified railroad;
- New scheduling and operating approaches to reflect increased and blended service; and
- Additional operational and business acumen to enable negotiation of more comprehensive agreements with HSRA, other external parties and the private sector. These agreements, in particular those with HSRA and

those pertaining to 4th and King and Diridon stations, are far more complex and at a much greater scale than the agreements completed to date.

Any potential change in the service delivery and/or governance models will likely further impact the organizational structure and needs.

### **3. At the same time, Caltrain is having great demands placed on it.**

While Caltrain needs to prepare for this future change, the organization is currently facing great demands in a number of different areas:

- There are a number of over-capacity trains. Crowding is driven by significant ridership increases with the potential for much higher ridership to come;
- Caltrain is managing the largest and highest profile infrastructure improvement program in the railroad's history (this is discussed in more detail below);
- There is an imminent need to manage and operate an electrified railroad with significantly greater service and possibly new operating patterns;
- There is a need to coordinate corridor management, train operations and infrastructure investment with HSRA (this is discussed in more detail below);
- There is a need for a corridor-wide strategy<sup>1</sup> to address at-grade crossings (via grade separations, closings or other treatments) involving multiple levels of government;
- There is an expectation that Caltrain will be the primary transportation solution for a heavily auto-oriented and congested corridor with a booming economy;
- There is a need for a new operating contract when the TASI contract expires in June 2022<sup>2</sup>;
- There is the potential to improve integration with other existing transit systems as well as interface with regional system expansion projects such as the Downtown Rail Extension to the Salesforce Transit Center, Dumbarton Corridor and the San Jose - Gilroy Corridor.

### **4. All of this is happening in a very heavily- and densely-used corridor.**

Increasing the challenge is the fact that the Caltrain corridor is already very heavily used and ridership is continuing to grow. The Caltrain service:

- Is the seventh largest railroad in the US in terms of ridership;
- Is the fastest growing major railroad in the US;<sup>3</sup>
- Is the second most densely used railroad in the US as measured by ridership per track mile<sup>4</sup>
- Has the highest Fare Operating Ratio for commuter railroads in the US<sup>5</sup>, which has been driven by large ridership increases;
- Carries 50 percent more customers than Metrolink in Los Angeles on 25 percent of the trackage; and
- Is very much a regional railroad serving multiple markets: San Francisco/San Jose work trips, reverse commuters, intermediate riders and off-peak riders. Over 50 percent of the trips on the railroad are being

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1 This would include, among other key factors, design criteria, funding and implementation responsibility

2 JPB has an option for a one year extension until June 2023.

3 Since 2010 Caltrain ridership has increased by 73 percent as compared to an average of 30 percent for the nine other largest rail systems in the US.

4 Excluding the service to Gilroy, the Caltrain corridor between San Francisco and San Jose is the most densely used railroad in the US.

5 Excluding BART.

made between intermediate stations<sup>6</sup> as compared to a standard commuter railroad with one major terminal in the central business district. This is the highest percentage of intermediate trips in the US.

**5. This is happening in an extremely diverse and growing region.**

Another complicating factor is that this is occurring in an extremely diverse and unique region. The entire corridor has seen significant growth in both population and especially employment. The corridor has two major growing cities<sup>7</sup> at its mainline ends with a mixture of towns and smaller cities in the middle of the corridor and south of San Jose. These communities also have major and rapidly growing employment centers.<sup>8</sup> Many of these jobs are located in reasonable but not direct proximity to Caltrain stations. This level and type of growth is unique in the country.

**6. There are significant potential land development opportunities on Caltrain controlled properties.**

Caltrain is fortunate to control a significant amount of land that could be monetized and used for commercial development and/or used to address requests for affordable housing programs. This provides an opportunity to develop and implement a corridor-wide value capture strategy with particular focus on the two potential mega development projects at the terminals in San Francisco and San Jose.

Over the recent past, Caltrain has initiated a series of efforts that will help inform this strategy. The Business Plan will both help outline a comprehensive system-wide view of which properties will be needed for future rail infrastructure as well as provide a better understanding of the role of development in the railroad's overall future financial situation. The Rail Corridor Use Policy (RCUP) and Station Management Toolbox will provide the detailed analysis and policy tools needed to analyze and make decisions about individual properties. In combination, these studies will assist the Caltrain Board in developing and implementing an overall value capture policy, which can then drive individual development agreements.

It is important to note that there are different ways in which Caltrain could "monetize" its assets. There are two basic divergent approaches: use the funds to support individual projects or use them to provide overall financial support for system operations and maintenance. Selecting a direction, with the expectation of site specific decisions and exceptions, would be a key component of a value capture strategy.

**7. This is happening with a unique and complex governing structure.**

While a more complete analysis is presented later in this report, a few points that make Caltrain's current structure for a public railroad unusual in the United States (without determining pros or cons) are:

- Most public railroads are governed by a Board of Directors (elected or appointed) that has direct oversight of the railroad's management;
- Most governing board members are selected by their sponsors (in this case, the Counties) for fixed terms in a similar or consistent manner;
- Most Boards have standing committees;
- Most railroads' futures are not as intertwined with other State Agencies (HSRA, Caltrans) as Caltrain; and
- The San Mateo County Transit District plays two roles as both a JPA member and the managing authority.

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<sup>6</sup> Including San Jose as an intermediate station.

<sup>7</sup> Since 2010, San Francisco and San Jose's populations have each grown by approximately 10 percent.

<sup>8</sup> Over the past 25 years, the number of jobs has increased by 25 percent in San Mateo and Santa Clara Counties and 20 percent in San Francisco. Going forward, by 2040, the SPUR Vision Plan projects that jobs will grow (vs 2010) by 37 percent (San Mateo), 42 percent (Santa Clara), and 51 percent (San Francisco).

**8. This is happening simultaneously with an evolving relationship with HSR.**

As noted above, the relationship with HSRA is critical to the future of Caltrain. This is a complex multi-year relationship that will need a significant amount of ongoing attention.

In a general sense, HSRA provides both challenges with regard to service integration, service delivery, infrastructure planning, cost sharing, etc. as well as major opportunities related to the development of corridor-wide grade crossing and operational strategies, funding, political support, interline travel, etc.

Currently, there is no agreement in place that addresses the Caltrain-HSRA relationship in a global manner. The agreements that currently exist are basically project agreements that include statements committing the parties to reach future agreements on operations and cost-sharing. A more complete agreement that includes an overall framework defining each agency's respective management and operational responsibilities, cost-sharing protocols, a process to resolve future issues, and a multi-year investment plan would be extremely helpful in building a cooperative "win-win" relationship. It would greatly assist in defining a common vision for the corridor and a path forward to implementation.

**9. This is happening during a period of financial uncertainty.**

Caltrain is facing both uncertain future funding availability as well as a difficult cost sharing arrangement amongst the JPA members. Total partner funding has been significantly reduced over the past decade and the individual partner agencies appear to have impending financial issues that will continue or possibly exacerbate the problem.

These funding challenges affect both annual operating costs as well as capital costs:

- On the operating side, there is no dedicated funding source nor mutually agreed upon funding levels.
- On the capital side, there is inadequate funding for state of good repair investments, no mutually agreed upon funding levels and no funded multi-year capital investment plan except for the electrification project.

**10. This is happening simultaneously with the implementation of a huge capital program that is critical to the future of the organization and has a number of inherent risks.**

At the same time that Caltrain is facing all these issues, it is implementing the electrification program, which is an extremely complex, high profile project that is critical to Caltrain's future service and organizational credibility. Furthermore, this is happening on the heels of the challenging implementation of positive train control, which is causing concerns both at Caltrain and at many other railroads throughout the country.

The most recent risk assessment for the electrification project shows that the project has both available schedule and cost contingencies. In addition, the San Mateo Civil Grand Jury recently found that "Caltrain has adequate management processes in place to implement a project of this scale."<sup>9</sup> However, any project of this size and complexity will have both schedule and budgetary concerns. Of particular note are the following potential issues:

- The coordination of the car deliveries and the availability of traction power. The current schedule has cars delivered before the traction power system will be operational requiring cars to be put in storage for a period of approximately 12 months;
- The successful implementation of the constant warning time system for grade-crossing gates;
- The interface between operations (track outages) and the contractor during the construction period; and
- The rail activation plan to accept and place the new cars in service while de-commissioning a portion of the diesel feet and then operating and maintaining a mixed fleet.

**11. There also appears to be a misconception regarding the electrification project with external constituents.**

There appears to be an expectation among some external constituents and the public that the completion of the electrification program is the end of the major capital investment program. In fact, this is a corridor that will require

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<sup>9</sup> San Mateo Civil Grand Jury Report, Project Management of the Caltrain Modernization Program, July 2018.

major capital investment for an extended period to address grade crossings, track re-alignments, maintenance facilities, yards, stations (platform length and increased height for level boarding) and signals. Beyond the need to identify funding sources for this work, these projects will have community impacts (land-takings, noise, etc.) and will also require significant track outages with attendant service restrictions. Setting realistic expectations with the public and external constituents at this time will assist Caltrain in maintaining future organizational credibility as well as obtaining additional funding.

**12. This is happening at a time that major private sector companies and many external constituents are fully engaged and have significant expectation that Caltrain will be a major part of the solution to the corridor’s major transportation challenges.**

Another unique and critical factor is that the Bay Area has a number of private sector companies and universities that are engaged with the public sector. This engagement, led by Stanford, is manifested in their interest in Caltrain and their extensive involvement in the Business Planning process. They are looking towards Caltrain as a major part of the solution to improve accessibility in the Corridor.

Further, there is a general positive perception of Caltrain and an accompanying level of support with partner agencies as well as local planning agencies, non-governmental organizations and advocacy groups. This degree of support and involvement, including the funding of a portion of the Business Plan, is very atypical in the country. On balance, it is a positive development as it provides the opportunity for future funding, political support as well as customers. However, this support can change quickly if Caltrain is perceived as being unable to deliver a Business Plan with a realistic implementation strategy and schedule or is unable to improve future service.

**13. In a slightly different vein, this is also happening during a time period when there may be an opportunity for Caltrain to build support by increasing rail service as long as it does not impinge upon construction windows.**

While there is and will be a significant amount of construction ongoing over the next few years, there may also be an opportunity to add small amounts of rail service in the weekday off-peak and evening periods as there appears to be a significant market for this service. If feasible, this would illustrate to Caltrain’s customers and external partners the vision of improving service wherever possible while also garnering some political capital that may be useful in the future.

**14. The extent of Caltrain’s success in meeting these demands will not only greatly affect the organization’s future but will have major impacts on the regional economy.**

In short, what Caltrain does really matters to the region!

## IV. ORGANIZATIONAL AREAS FOR FUTURE FOCUS

Based on the research and discussions to date, the following are major areas of future focus that will need to be addressed by Caltrain.

**1. What is Caltrain’s future role on the corridor: corridor manager, rail operator, mobility provider, developer or combination thereof?**

Caltrain currently plays a number of different roles on the corridor. With the exception of rail operator, the roles are partially fulfilled (for example, Caltrain is a partial mobility manager in that it supports some but not all bus shuttle service connecting to the system). A critical issue for Caltrain is determining to what extent the organization will more fully engage these different roles. Caltrain’s posture relative to these roles will underlie future relationships and agreements with HSRA, partner agencies, local jurisdictions, private businesses, the development community and other external constituencies. Further, it is a key factor in determining the organizational structure with regard to both service delivery and governance.

## **2. What is Caltrain’s service delivery model starting in 2022 and what structure provides the most effective way to deliver the future service?**

The confluence of the completion of the electrification project and the ending of the TASI contract in 2022 provides Caltrain with the opportunity to redefine how it provides its service. This in part will be a function of Caltrain’s role in the corridor as discussed above.

There are a number of different options for service delivery ranging from doing work in-house to full contracting with third parties. These contracts can be for operations, operations and maintenance, operations/maintenance/financing or combinations thereof. Different approaches can be used for transportation, maintenance of way, maintenance of equipment, administrative functions, and real estate development. A third party could be a private operator such as TASI or an operator procured through HSRA.

Typically, this service delivery decision revolves around a balance of organizational capability, cost, level of control over service delivery/fare setting, funding availability and stability and, importantly, financial risk (i.e. which party bears the revenue risk). Caltrain’s priorities ought to determine the relative weight of these different criteria.

As noted above, this will be a central focus of the organizational assessment.

One final point is that the organizational strategy, while moving Caltrain towards its desired end-state delivery structure, will also simultaneously need to ensure continued operations in a seamless fashion for customers and enable timely completion of the electrification program. Over the next twelve months, this would entail the selection of a desired structure, the initial implementation of the strategy including required staffing and/or the development, procurement and negotiation of potential new agreements. It may also include a possible short term extension to the TASI contract as appropriate.

## **3. What information does Caltrain have to inform the above discussion?**

In order to make the best possible decisions regarding service delivery, Caltrain will need adequate information with respect to railroad operations for current operations, future needs and alternative service delivery concepts. The work currently being done as part of the Business Plan will address many of these needs.<sup>10</sup> Specifically, the following information is most important:

- Cost (both aggregate and disaggregate) to provide current service;
- Cost drivers for current service;
- Key performance metrics for current service;
- Projected future operating costs (including the impact of electrification); and
- Projected future capital needs.

To the extent additional work is required, this should be done at the earliest possible date.

## **4. What organizational bandwidth and resources are needed both short term and long term to implement Caltrain’s future servicevision (both skills and amount of resources)?**

While Caltrain has a number of skilled professionals, it will need expanded organizational capability, including individuals with railroad specific knowledge, to prepare for and provide future operations. The decision regarding service delivery will determine where these skills should be housed (at Caltrain or with a third party) but in either case, these skills will be needed. Currently, it appears that there are a number of areas where staff are stretched and there are large numbers of vacancies. Some of the areas that will need to be reviewed and addressed are as follows:

- Positions to operate a large and ultimately high speed electrified railroad (safety, operations, maintenance of equipment, maintenance of way, planning, procurement, IT and administration);

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<sup>10</sup> This work is being done by First Class Partners in conjunction with Caltrain staff.

- Positions to provide improved customer interfaces: ticketing, mobile apps and real time information;
- Positions to develop plans and strategies (i.e. fares, development policies), specify multi-year capital investment programs and work to obtain necessary funding
- Positions to implement major infrastructure projects;
- Positions to negotiate potential future agreements with critical external parties such as HSRA, Union Pacific, a future short line freight operator and other regional transit agencies;
- Positions to support procurement of a new service provider and to oversee performance management on an on-going basis (assuming JPB decides to use a third-party contractor for some portion of service delivery);
- Positions to support community and external interfaces with both other transit agencies and other public and private organizations that will grow in conjunction with the growth of Caltrain; and
- Positions to support expanded duties such as mobility management and real estate development to capture the value created by Caltrain service (if the JPB decides to undertake this work).

As part of this review, there is the need to identify which functions require additional railroad expertise and training as contrasted those needing more general transportation knowledge. Relatedly, those functions that can be managed by people with a more generalized set of skills should be identified as they could be considered for consolidation as part of a service delivery option that includes an “administrative service center” concept. This concept will be reviewed as part of the different service delivery models.

#### **5. What is needed for Caltrain to attract and retain the necessary talent to operate a major railroad?**

The issue of attracting people to work and live on the Peninsula is a challenge faced by all public and private employers. However, in order to successfully expand organizational bandwidth, especially in areas requiring increasingly specialized railroad expertise, Caltrain will need to develop a talent acquisition and retention strategy. This will be difficult given that one of the consistent themes that was regularly expressed by both internal and external people was that Caltrain has a very dedicated staff but that it struggles mightily to fill positions and attract qualified personnel. This will become more critical as the need for additional organizational capability develops over the next few years. Further complicating this is the fact that the rail industry workforce is generally older and there are a large number of people retiring, thereby increasing the industry-wide demand for a limited number of skilled individuals.

There are a few elements to this:

- What needs to be done to improve Caltrain’s image, increase its profile in the industry and become an employer of choice?
- What changes in compensation need to be made to reflect the extremely high cost of living in the Bay Area and especially the Peninsula?
- What type of employee training and development programs are needed to expand employee skills, provide a career path for employees and help staff retention?
- What would the impact be of including Caltrain in the Federal Railroad Retirement System? This is a very complex issue that will need detailed research. On the positive side, it could be a key step in attracting mid-level managers with 10 to 20 years of experience. On the downside, it could be extremely costly.

#### **6. What process improvements are needed to maintain and improve upon Caltrain’s efficiency and effectiveness?**

This question was raised by a number of internal staff who believe that there is an imbalance between process and decision-making that has led to an aversion to making decisions and taking actions. Others believe that other process improvements in select areas would have a positive impact. While the following is not meant to be exhaustive, some of the areas noted were:

- Interface between operations and construction;



- Interface between operations and administrative staff (HR, Procurement);
- Construction oversight;
- Design standards;
- Budget development; and
- Capital planning.

**7. What reporting systems are needed to monitor/evaluate major project implementation and ongoing operational performance for different audiences (JPB, CEO, senior staff, public, outside agencies)?**

A related issue is the adequacy of the reporting that is done with respect to both operational performance and project delivery for internal and external audiences. As the electrification project progresses, external party awareness of project details will likely increase as will their level of interest.<sup>11</sup> Having transparent and comprehensive reports will be critical for both internal project oversight as well as building organizational credibility with key external constituents.

**8. What governance structure is most likely to enable successful outcomes for Caltrain with a significantly expanded mission?**

This is an extremely complex issue as it involves setting policies, decision-making, oversight of the CEO and their team, and the nature of funding arrangements between the parties. There is a wide range of options and the decision ought to reflect the priorities of the JPA members. Typically, key factors include cost sharing, control over decision-making, implementation ability (what is required legally, what is politically acceptable, etc.) and transparency.

Furthermore, the best governance structure will be in part a function of the service vision as well as the service delivery option that is chosen. It could also be implemented in different ways: incrementally, all at once or a combination thereof. In addition, the structure should position Caltrain to successfully address known looming problems such as need for new funding sources and the need for agreements with HSRA.

In addition, in the event that Caltrain service were to extend beyond the current three-county geographic area (i.e. towards the East Bay as part of a Dumbarton extension or south into Monterey County), an alternative governing structure may be required or appropriate.

As noted previously, this will also be a central focus of the organizational assessment.

**9. What organizational and cultural changes are needed to support Caltrain's future business vision and organizational strategy?**

Finally, regardless of the specific service delivery and governance structure that are ultimately selected, Caltrain will be going through a transformation. As part of this, the organizational culture and structure (i.e. the definition of responsibility, reporting relationships, etc.) will likely have to change and specific initiatives will need to be detailed and implemented to help guide Caltrain through this period. As important, the communication protocols between the staff and board will need to be reviewed and modified as appropriate. Finally, the results of ongoing studies should be used to develop explicit Board policies that will enable staff to implement projects more efficiently.

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<sup>11</sup> The fact that the previously noted San Mateo Civil Grand Jury report states "it is difficult for the public to find and access useful summary project information and that searching for key project terms on the Caltrain and CalMod websites doesn't yield useful results" is indicative of the extensive attention the project will face as it moves forward.

# CHAPTER 2: DEFINING THE STANDARD FUNCTIONS OF A MAJOR PASSENGER RAILROAD AND MAPPING THE CALTRAIN ORGANIZATION

## I. OBJECTIVE AND ORGANIZATION

This chapter outlines the core functions and outputs that are required for the successful operation of a major passenger railroad and then describes the specific manner in which these activities are currently organized and undertaken by Caltrain.

Railroads are complex entities. Defining their organizational structure, both generally, and specifically at Caltrain, has been undertaken as a foundational piece of analysis to support the Business Plan's organizational assessment. This mapping is used to provide the basis for the comparative analysis that is undertaken with other national and international properties in Chapter 3 and also provides a grounded and specific basis for the organizational recommendations in Chapter 5. Additionally, the mapping is intended to serve as a written reference document for interested partners and stakeholders who may not be as directly familiar with the full scope and organization of the railroad.

It is worth noting that the description and mapping of railroad functions (both generically and specifically at Caltrain) is done from two different perspectives. The first describes high level railroad "outputs" – the major outward facing functions that all railroads deliver. The second describes the detailed organizational activities required to produce these outputs and identifies the parties responsible for their execution.

## II. HIGH LEVEL OVERVIEW OF RAILROAD FUNCTIONS AND OUTPUTS

It is important to start with the simple fact that a major passenger railroad exists to transport customers in a safe, convenient, economical and reliable manner.<sup>12</sup> It also provides numerous other ancillary benefits: increases in land values, environmental benefits, safety benefits, and improved accessibility, among others.

To accomplish this core function, however, is an extremely complex undertaking. While passenger railroads have different organizational structures, there are certain essential features and functions that are common to all. The functions described may be governed and delivered by a single organization or may be provided by any combination of multiple public and private entities with different areas of focus and responsibility. However, a well-functioning railroad requires all of the major activities or outputs summarized below.

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<sup>12</sup> The functions described in this chapter are defined for railroads using a standard gauge of 4'8.5" (like Caltrain). The basic functionality would be the same for railroads using a wider gauge (BART).

## **TRAIN OPERATIONS AND MAINTENANCE**

This is the daily and safe operation of revenue and non-revenue trains. It comprises the customer facing operations of the service, dispatching of equipment, including that from other railroads, the cleaning of equipment and the inspection and maintenance of the equipment to meet all federal and state regulations. Underlying this operation is the development of service plans and schedules.

## **INFRASTRUCTURE OPERATIONS, MAINTENANCE AND DELIVERY**

This is the daily operation, maintenance and inspection of track, signal systems, civil structures and facilities to enable a safe and reliable operation and maintenance and to meet all federal and state regulations. In addition, it includes the delivery of capital projects to improve the infrastructure. Underlying this is the development of multi-year capital investment programs and strategies to obtain the necessary funding.

## **CUSTOMER PAYMENT AND INFORMATION SYSTEMS**

This is a primary customer facing function that involves the collection of passenger revenue and the provision of customer information. Underlying this function is the development of fare policies, fare tariffs, integrated fares and revenue collection strategies (fare gates, ticket-vending machines (TVMs), regional fare media, mobile/internet-based ticketing). Underlying the customer information system is the development of information plans and systems as well as system maintenance. Note that this frequently includes both direct communications as well as coordination and dissemination of information through trip planning applications and third-party channels.

## **STATION OPERATIONS AND MAINTENANCE**

This includes the safe operation, maintenance and cleaning of station facilities including platforms and ticket selling devices. This function is at times done in conjunction with other organizations and political entities (usually local cities).

To an even greater degree than stations, the following two functions are frequently done in conjunction with other organizations and political entities.

## **ACCESS AND EGRESS**

This is the daily provision of a means for customers to access and egress the railroad. This includes the direct operation and management or coordination of parking, connecting bus and shuttle services (provided by either the railroad, local government including both transit agencies and municipalities, or the private sector), taxis/ride-hailing, and walking, bicycling and other forms of active transportation. Underlying this is the development of access plans and agreements with outside entities including local municipalities, local and regional transit agencies, transit management associations, and the private sector.

## **COMMERCIAL ACTIVITIES**

This can include a wide range of functions and activities that monetize the railroad's assets in a way that supports or complements either its operations or its capital improvement program. Examples are major developments that utilize railroad property, advertising, station leasing, and right-of-way leasing (often for fiber optics or other utilities). All of these activities involve extensive and specialized negotiations with the private sector and at times with other public entities.

### III. HIGH LEVEL OVERVIEW OF TYPICAL LARGE US RAILROAD ORGANIZATION

Prior to discussing the detailed functionality of a generic railroad and of Caltrain specifically, it is useful to outline at a high level the organizational units of large US passenger railroads that handle their core functions in-house or contract out select functions. These would include:

- Board of Directors/CEO who provide executive leadership;
- Operations who provides the daily service;
- Safety and Security who oversee the safe operation of the service;
- Finance who oversee the financial functioning of the railroad;
- Administration who support the functioning of the company;
- Planning who provides direction for the company;
- Capital Programs/Engineering who implement programs and projects for the company;
- Real Estate that monetizes the assets as well as obtains property to support on-going railroad functions; and
- Communications/Government Relations who interact with critical external audiences.

It is also important to note that passenger railroads operate in a very comprehensive and complex regulatory environment. In the United States, the operations of passenger railroads are overseen by the Federal Railway Administration (FRA) that has strong powers to impact and direct operating and safety outcomes. In addition, railroads are affected by the Federal Transit Administration (FTA), Department of Labor and State (i.e. California Public Utilities Commission (PUC)) regulations. Furthermore, railroads frequently have agreements with other transportation providers (freight railroads, local parking authorities, local bus authorities) and are strongly influenced by the plans and policies of other state, regional and local public entities that provide needed funding. In short, they exist in a very complex environment.

While the core “outputs” of a railroad described in the previous section will be broadly similar across organizations, the exact functions being undertaken by any railroad will reflect the organization’s current situation: its size, geographic scope, history, and the critical upcoming issues. For example, agencies with large capital expansion programs will likely have larger engineering and capital program management departments and expend more resources in that area than legacy systems that are more focused on daily operations. The question of who undertakes these functions in different circumstances: the railroad itself, an outside contractor, a host railroad (Amtrak or freight) or some combination thereof will be examined in more detail in later phases of the organizational assessment process. These responsibilities vary greatly from railroad to railroad - there is no standard model.

Finally, for ease of reference, these functions have been categorized into the departments and divisions that frequently, but not always, are responsible for completing these tasks. Where a task is frequently done by more than one department, which is often the case, it is noted.

## IV.DETAILED DISCUSSION OF RAILROAD FUNCTIONAL UNITS

### BOARD OF DIRECTORS

While Board responsibilities vary widely across the industry, the basic functions include:

- Setting policy;
- Approving business plans;
- Selecting the CEO;
- Approving major contracts;
- Approving budgets and capital programs; and
- Approving fares and service provided.

### CEO

The CEO, in conjunction with the Board, sets the corporate vision and goals and is then responsible for implementing these goals. Key functions include:

- Acting as the public face of the organization;
- Developing the corporate culture;
- Managing all aspects of the organization;
- Managing emergency situations;
- Resolving major problems and conflicts; and
- Interfacing with political decision-makers and key external constituents.

### OPERATIONS DIVISION

This is usually the largest group in a passenger rail agency and is responsible for the provision of daily service. It includes the delivery of the detailed functions described below. The specific organization of these functions into departments may vary between organizations, but a typical structure would be as summarized as follows.

#### 1. TRANSPORTATION

The Transportation department delivers the daily service to the customers: The basic functions include:

- Safe operation of the trains;
- Crew book development, which determines the work assignment for all train and engine crews (sometimes in conjunction with the Operations Planning department);
- Crew management, which manages the daily assignment of personnel (engineers, conductors, ticket collectors) to the trains including the extra list and conductor flags (to support construction contracts);
- Monitoring compliance to ensure that engineers, conductors and ticket collectors are performing their job;
- Fleet management, which involves moving trains to their appropriate location for either revenue service, storage or maintenance; and
- Dispatching trains, which is done in the control center. This is a critical function as the dispatchers' control the flow of rail traffic over the corridor (train prioritization) as well as crisis management.

**2. MAINTENANCE OF WAY**

The Maintenance of Way department is responsible for maintaining the railroad's infrastructure. This includes daily maintenance, compliance with FRA and other applicable regulations, and in certain organizations the implementation of select capital projects. The basic functions include:

- Track maintenance, which involves main line track, sidings and switches;
- Power system maintenance, which involves the electrical system including substations (this is done for both third rail and overhead catenary systems);
- Signals and communications maintenance, which involves the signal system, the communication network (usually fiber optics) and in many instances responsibility for maintaining a portion of the Positive Train Control system (PTC); and
- Bridges and buildings maintenance, which involves railroad buildings (shops, field headquarters) and structures.

**3. MAINTENANCE OF EQUIPMENT**

The Maintenance of Equipment department is responsible for maintaining the railroad's rolling stock, including locomotives, coaches and electric multiple units. The basic functions include:

- Daily repairs and inspection of equipment to meet the service needs as well as remain in compliance with FRA regulations;
- Cleaning of trains;
- Implementation of select capital projects;
- Responsibility to maintain non-revenue rolling stock (track machinery, inspection vehicles); and
- Responsibility, in certain instances, for the implementation and maintenance of the PTC system components on-board the vehicle.

**4. STATIONS/CUSTOMER SERVICE/TICKET SELLING**

This is a department whose responsibility has generally evolved and grown over the past few years across the industry. Their responsibility varies at different agencies but in general utilizes front-line employees that interface directly with customers. Their key functions are to:

- Maintain and clean stations and ancillary facilities such as parking lots and inter-modal facilities (frequently with localities);
- Handle the provision of customer information (signage, station announcements, operation of real time information systems, etc.);
- Manage lost-and-found;
- Manage and respond to customer complaints;
- Manage different aspects of ticket sales via different methods: ticket agents, Ticket Vending Machines (TVMs), conductor devices, apps, mail, and corporate agreements (usually in conjunction with the Finance and Operating divisions); and
- Manage connecting services (usually buses) during scheduled and unscheduled rail disruptions.

**SAFETY AND SECURITY DIVISION**

This division contains three basic functions: safety, security and policing. It is organized differently throughout the industry.

### **1. SAFETY**

The Safety department is responsible for the development and implementation of corporate safety programs. Key functions are to:

- Develop and manage on-going safety programs, frequently in close coordination with the operations and engineering divisions;
- Perform safety audits and post incident reviews; and
- Interface with the FRA (especially with regard to incidents and FRA inspections).

### **2. SECURITY**

The Security department is responsible to ensure the safe keeping of the railroad's assets.

### **3. POLICE**

The Police department is responsible for policing the railroad's operations to maintain a safe environment, including both stations and on-board vehicles. Frequently, policing is provided by a combination of railroad and local municipal and state police officers.

## **FINANCIAL DIVISION**

The Finance division is responsible for managing the corporate finances. While the structure varies greatly between railroads, there are typically a few basic departments.

### **1. BUDGET DEPARTMENT**

The Budget department develops and monitors the corporate budget and multi-year financial plan. The authority that rests in the Budget department varies widely between agencies (from a basic monitoring function to a major decision-making responsibility). Their basic functions are to:

- Manage the agency budget process;
- Provide reports to outside agencies (FTA, States, etc.);
- Depending upon the agency, they may also have a major role in the development of fare and non-passenger revenue strategies (frequently in conjunction with the Planning, Marketing and Operations divisions); and
- Similarly, they may assist in the management of the agency's key performance indicators.

### **2. ACCOUNTING**

The Accounting department typically has the following functions:

- Receipt of monies;
- Payroll management;
- Payment of bills;
- In certain instances, collection of revenues from stations, ticket vending machines and third-party providers; and
- Maintaining the corporate financial records.

## **REAL ESTATE DIVISION**

The Real Estate division is typically a stand-alone division or is part of the Finance division. Regardless, it typically has a series of functions:

- Management of railroad owned properties and leases;
- Obtaining land, easements and permits for construction projects;

- Monetizing assets; and
- Negotiation of agreements for major developments (typically with the Legal department).

## **ADMINISTRATIVE DIVISION**

Railroads typically include a wide range of functions in the administrative area, but the particulars are very specific to individual railroads. As discussed below, much of the work is jointly done by an administrative and operating or other user department that frequently leads to a matrix type organization. Key functions that are included are listed below:

### **1. PROCUREMENT**

The Procurement department is responsible for the procurement of the systems, third party contracts and materials needed to operate, maintain and support the railroad. A large portion of this work is done in conjunction with the department using these services.

The Procurement department is a critical lynch pin in successful railroad operations. It must follow procurement procedures that are driven by complex federal, state and local regulations. The procurement process is also quite transparent and can lead to high visibility lawsuits. In addition, the department will typically procure a very wide range of goods and services from basic rolling stock parts and professional services to major infrastructure contracts.

All of these requirements lead to the industry wide issue of the extent to which the Procurement department has the resources and technical skills needed to fulfill its responsibilities, especially as it relates to the award of larger-scale and complex third-party contracts. One such example is the procurement of major third-party design, build, operate and maintain contracts (somewhat similar to Caltrain's current operating contract with TASI). The complexity and importance of these issues usually results in pairing the procurement staff with user/legal/planning department staff and/or the development of an agency wide task force that oversees these types of major procurements. These task forces will frequently report to the CEO and the senior management.

Basic functions of the department are to:

- Manage the procurement process so that it is done in accordance with company policies, procedures and legal requirements as well as all applicable federal and state regulations, and
- Monitor work on on-going contracts to ensure contract compliance.

### **2. INFORMATION TECHNOLOGY**

The Information Technology (IT) department usually manages the railroad's hardware and software systems, but typically does not manage the signals and communications function, which is handled by the Maintenance of Way, Signals and Communications group. For many systems (asset management, etc.) they support another department's work while for others (office computers, etc.) they are responsible for the full operation and maintenance of the system. In addition, the IT department typically has the following roles:

- Support key customer facing systems such as ticket selling and provision of customer information. This is usually done in conjunction with the Customer Service and Transportation departments.
- Work with third party providers to develop and manage operational support and customer apps.

### **3. HUMAN RESOURCES/TALENT MANAGEMENT**

The Human Resource (HR) department is responsible for providing the railway with the people needed to operate and manage the system, including both management and union personnel. Similar to the Procurement department, across the railroad industry, HR departments face a number of evolving challenges in meeting their mission: an aging workforce, the need to hire people with specialized skills, a heavily unionized work force and the need to coordinate their activities very closely with the other departments. Basic functions include:

- Recruitment of new personnel;



- Development and management of corporate compensation programs;
- Development and management of corporate employment policies;
- Managing the discipline process, usually in conjunction with the Labor Relations department for union employees; and
- Talent management, which involves the identification of needed organizational skills as well as the specification of employee development programs to provide these skills.

#### **4. TRAINING**

Training is closely related to the HR function and in certain organizations is a combined function. Industry-wide, Training Departments are faced with the need to evolve their approach to adapt to the increased use of technology in the industry (rolling stock maintenance, PTC maintenance, etc.). Basic functions include:

- Training of most if not all operating division personnel (train and engine crews, maintenance of way, maintenance of equipment) though in some cases it is done jointly with the Operating Department;
- Developing and maintaining training programs; and
- Ensuring that employees receive the necessary FRA certifications.

#### **5. LABOR RELATIONS**

Labor relations is typically the department that deals with the union leadership and union issues. This includes:

- The negotiation of union contracts;
- The on-going administration of union contracts (including discipline and regular disputes over work rules and practices); and
- On-going interface with the union leadership.

#### **6. EQUAL EMPLOYMENT OPPORTUNITIES OFFICE**

The Equal Employment Opportunities (EEO) office is responsible for the development and administration of corporate EEO policies, which address issues of non-discrimination (e.g., age, sex, race). In many railroads, they work with the Procurement department to encourage the participation of small and minority owned business in railroad contracts.

#### **7. LEGAL**

The authority that rests in the Legal department varies greatly between organizations. In certain cases, they are a central part of the key decision-making team; in others they play a lesser or slightly more administrative role. The responsibilities typically include:

- Negotiation of contracts (frequently with the Procurement department);
- Overseeing of claims against the railroad;
- Negotiation of multi-agency agreements; and
- Monitoring compliance with respect to everything from regulatory agreements to contract disputes to environmental compliance.

### **PLANNING DIVISION**

The role of the Planning division varies greatly from agency to agency. They have regular interfaces with almost all departments within the railroad though their decision-making authority varies greatly. The key functions include:

- Operations and service planning, which entails the development of the customer train schedules and in some cases, ancillary products, such as crewbooks, fleet plans, etc. This can also include long term service plans.
- Fare policy (usually with the Finance division).

## **CALTRAIN BUSINESS PLAN**

### ORGANIZATIONAL ASSESSMENT – DRAFT REPORT

- Capital planning, which is responsible for the development of multi-year investment plans (frequently with the Operating and Engineering divisions).
- Strategic planning, which is responsible for the development of business plans, corporate strategies and key initiatives.
- Long-range planning where long term studies and major plans are developed. This would include conducting environmental review under the National Environmental Policy Act (NEPA) and in California, the California Environmental Quality Act (CEQA).
- Process improvement/performance measurement, which involves the use of key performance indicators and targeted studies to improve the efficiency and effectiveness of the railroad. This is frequently done with the Operating and Budget departments.
- Negotiation of third-party agreements (developers, other operators, municipalities, etc.). This too is usually done in conjunction with the legal, finance, real estate and engineering departments.

## **CAPITAL PROGRAM MANAGEMENT/ENGINEERING DIVISION**

The Capital Program Management/Engineering department is also organized differently at each agency. Their basic responsibilities are:

- Implementation of the major portion of the railroad's capital program (with the basic infrastructure work done by the Maintenance of Way department). This would include grade-separations, station work, line extensions, procurement of vehicles, electrification, etc.
- Management of third-party contracts and depending upon the project size, use of a third-party construction management firm as well as outside inspectors.
- In some cases, they are responsible for developing and maintaining engineering standards.
- In some cases, this division will also be responsible for the development, writing and administrating of grant applications (this is frequently done in conjunction with the Planning division).

## **COMMUNICATIONS/GOVERNMENT RELATIONS DIVISION**

This division is the primary group who interacts with numerous external stakeholders. It is organized in a variety of different ways throughout the industry though the overall functionality is fairly constant.

### **1. MARKETING**

The Marketing department develops programs to increase ridership and revenue as well as promote the corporate brand. They usually are responsible to conduct market research studies.

### **2. PRESS/PR/SOCIAL MEDIA**

This department typically works closely with Marketing and Government relations. Key functions are:

- Daily interaction with the local media and during emergencies becoming a key face of the agency, and
- Development, in conjunction with the marketing department, of the corporate messaging program.

### **3. COMMUNITY OUTREACH/GOVERNMENT RELATIONS**

The Community Outreach/Government Relations department is responsible for maintaining on-going relationships with key external stakeholders. This would include municipalities, elected officials, state officials and advocacy groups among others.

## V. SUMMARY OF STANDARD RAILROAD FUNCTIONALITY

In conclusion, while railroads all provide and deliver a similar set of core outputs, the organization(s) that support them differ substantially in scope and responsibility. These differences are strongly driven by two factors:

- The specific circumstances of the railroad, with major differences between organizations that are expanding rapidly or are responsible for the delivery of major capital projects versus those that are operating existing stable systems. This results in different organizational structures, different allocation of resources and areas of focus well as different skill sets.
- The precise set of responsibilities for the railroad as certain functions may be done by outside organizations including private contractors.

This analysis serves as the basis for the work in this chapter, as well as Chapter 3. Next in this chapter, the Caltrain organization is mapped to identify how Caltrain performs its basic functions, while in Chapter 3 the manner in which other railroads in the US and abroad are structured is examined. This information is synthesized in Chapter 4, where alternative service delivery and governance options for Caltrain to meet its 2040 vision are evaluated at a high level.

## VI. MAPPING THE CALTRAIN ORGANIZATION

The following sections build on the standard railroad functionality defined above and explain how specific rail functions and tasks are organized and delivered at Caltrain.

Given the size, history, complexity and structuring of Caltrain's operations, many of the functions are shared by different organizational entities. For purposes of this chapter, entities are identified when they have significant responsibility for a function; entities with tangential involvement are not designated. For all functions, an explanatory note is included to provide more detail.

In all cases, responsibility is assigned to one or more of six different groups:

- **Caltrain Management:**
  - Rail Division/CalMod
  - San Mateo County Transit District (i.e. "District") Shared Services
- **Caltrain Contractor:**
  - TASI
  - Other
- **Non Caltrain:**
  - Outside public partners
  - Outside private partners.

This mapping is based on an analysis of Caltrain's organizational chart, the TASI organizational chart and contract as well as numerous interviews with Caltrain staff during the summer of 2018 and further discussions with senior staff in March 2019.

In order to map these functions in a clear fashion, it is useful to define the different organizational entities that comprise and interact to form "Caltrain" and specify the relationship between them. **Figure 1** at the end of the chapter provides this information.

## VII. CALTRAIN'S HIGH LEVEL OUTPUTS

Table 1 outlines the responsibility for high level functions and outputs for Caltrain.

Table 1: Caltrain's High Level Outputs

	Caltrain Management		Caltrain Contractor		Non-Caltrain		Notes
	Rail Division + CalMod	District Shared Services	TASI	Other 3rd Party Contractors	Outside Entities (Public partners and cities)	Outside Entities (Private)	
Train Operations	X		X				1
Train Maintenance	X		X				1
Infrastructure Maintenance	X		X				1
Infrastructure Construction	X	X	X	X			2
Customer Payments	X	X	X		X		3
Customer Information Systems		X	X		X		4
Station Operations/ Maintenance			X		X		5
Station Access/ Egress	X				X	X	6
Commercial Activities	X	X					7

Notes:

- Under a contract with Caltrain, TASI has direct responsibility for train operations, equipment and infrastructure maintenance. Rail Division provides oversight of both the service and contract, develops the train schedule, implements on-going maintenance programs and coordinates rail service for special events and major construction activities including the Peninsula Corridor Electrification Program.
- Rail Division and CalMod departments oversee third-party contractors implementing funded projects. TASI provides field support (flags). District shared services manages the procurement process for Rail Division and CalMod projects. The Rail Division and CalMod manage the contracts and provide project management services. In certain instances, the Rail Division oversees construction of real estate development and other major non-rail projects on District property. There is no underlying multi-year rail capital infrastructure plan that balances funding and needs.
- JPB is responsible for setting fare policy and codified tariff changes with the support of the District shared services and Rail Division. Rail Division determines fare collection procedures and programs. TASI is responsible for enforcing the fare tariff on board the trains. Rail Division is responsible for purchasing and installing fare sales/collection devices (ticket vending machines, Clipper card tag on/tag off devices). District shared services collects the revenue, maintains the underlying computer systems, and provides customer service. District staff maintains the ticket vending machines (TVMs). The Clipper devices are maintained by TASI and District shared services. MTC developed and oversees the Clipper Card Program. District shared services is responsible for the Go Pass program.
- District shared services is responsible for providing the informational content for signage, social media, third-party apps and press releases. TASI is responsible for maintaining the public address systems and majority of the station signage; some of this is maintained by local communities.
- TASI is responsible for the operation and maintenance of the vast majority of the train stations, platforms and parking lots. In certain cases, the local municipality is responsible. Rail Division oversees the contract and undertakes station planning.
- Rail Division is responsible for the planning and managing of station access/egress facilities (parking lots, bicycle facilities, etc.). Third parties, including SamTrans, VTA, SFMTA, ACE, Capitol Corridor, BART, and private companies, all provide connecting services as well.
- Rail Division is responsible for the planning of transit-oriented development (TOD) at the two terminals, with support from District shared services. All other commercial development work, including TOD at intermediate stations, is done by Rail Division and District shared services. Managing of leases and obtaining easements and access for railroad operations and construction is done by District shared services.

## VIII. CALTRAIN'S DETAILED FUNCTIONALITY

Table 2 below provides similar information for the detailed functionality.

**Table 2: Caltrain's Detailed Functionality**

	Caltrain Management		Caltrain Contractor		Non-Caltrain		Notes
	Rail Division + CalMod	District Shared Services	TASI	Other 3rd Party Contractors	Outside Entities (Public partners and cities)	Outside Entities (Private)	
<b>CEO</b>	X	X					1
<b>Operations</b>							
Transportation	X		X				2
Maintenance of Way	X		X				3
Maintenance of Equipment	X		X				4
Maintenance of Stations	X		X		X		5
Customer Service		X	X				6
Ticket Selling and Tariff Enforcement	X	X	X		X		7
<b>Safety and Security</b>							
Safety	X	X	X	X			8
Police				X			9
Security		X		X			10
<b>Finance</b>							
Budget	X	X	X				11
Accounting		X					12
Treasury and Payroll		X					12
Insurance and Claims Management		X					12
<b>Real Estate and Commercial Activities</b>							
Managing leases and railroad-owned property		X					13
Obtaining land, easements, and permits for construction projections		X					13
Reaching commercial agreements with third parties		X					13
Planning for TOD, including policy development, terminal development, and TOD at stations	X	X					13
Joint development projects on JPB property	X	X					13

**Table 2: Caltrain’s Detailed Functionality**

	Caltrain Management		Caltrain Contractor		Non-Caltrain		Notes
	Rail Division + CalMod	District Shared Services	TASI	Other 3rd Party Contractors	Outside Entities (Public partners and cities)	Outside Entities (Private)	
<b>Administration</b>							
Procurement	X	X	X				14
IT	X	X					15
HR/Talent Management		X	X	X			16
Training			X				17
Labor Relations	X		X				18
EEO		X	X				19
Legal				X			20
Contract Management and Agreements	X	X		X			21
<b>Planning</b>							
Operations Planning	X		X				22
Strategic Business Planning	X						23
Environmental Planning (EIS)	X	X					24
Capital Planning and Programming							25
Facility Planning	X						26
Performance Measurement and Process Improvement	X		X				27
<b>Capital Program Management/Engineering</b>							
Infrastructure Construction	X			X			28
Asset Management	X						29
Grants		X					30
<b>Communications and Government Relations</b>							
Press		X					31
Marketing		X					31
Outreach		X					31
<b>Other</b>							
Sustainability		X					32
First Mile/Last Mile	X	X			X	X	33

Notes:

1. Caltrain CEO performs all the standard CEO executive level functions: representing the agency to the public and key external constituents, developing the corporate culture and organizational vision, managing the organization, managing emergencies, and making critical decisions. CEO manages both shared services and rail division staff, including the Chief Officer of Rail who is responsible for critical railroad operations and functions with the exception of those which are the undertaken by CalMod and District shared services.

2. TASI is responsible for providing the train service: crewing the trains, managing the fleet, dispatching the trains, and monitoring compliance with operating rules. Rail Division oversees the contract and the operation, approves the crewbook, and coordinates construction activities with TASI.
3. TASI is responsible for FRA required infrastructure inspections and maintenance of track, signals, communications, bridges/tunnels and buildings. Rail Division oversees the contract and the operation as well as manages select projects. For manning changes from the base contract, TASI proposes changes for Rail Division approval. This is usually done as part of the budget process.
4. TASI is responsible for rolling stock maintenance, cleaning of trains and FRA required inspections. Rail Division oversees the contract and the operation as well as manages select projects. Manning changes are handled in the same manner as above.
5. TASI is responsible for maintaining most stations, platforms, parking lots and inter-modal facilities, with municipalities or partner transit agencies handling the remainder. Rail Division oversees the contract and undertakes station planning.
6. District shared services is responsible for the provision of customer information content (signage, social media, electronic signs) and works with third-party app providers. District shared services provide customer service for Caltrain passengers. TASI is responsible for maintaining station public address systems and signage. TASI, in conjunction with the Rail Division, is also responsible for Lost and Found. TASI manages the use of buses for scheduled or unscheduled outages with the appropriate bus provider.
7. JPB is responsible for setting fare policy and codified tariff changes with the support of the District shared services and Rail Division. Rail Division determines fare collection procedures and programs. TASI is responsible for enforcing the fare tariff on board the trains. Rail Division is responsible for purchasing and installing fare sales/collection devices (ticket vending machines, Clipper card tag on/tag off devices). District shared services collects the revenue, maintains the underlying computer systems, and provides customer service. District staff maintains the TVMs. The Clipper devices are maintained by TASI and District shared services. MTC developed and oversees the Clipper Card Program. District shared services is responsible for the Go Pass program.
8. District shared services provides oversight to safety programs and conducts safety audits and inspections. Rail Division develops the system safety plan in conjunction with the District Safety Department. TASI implements safety programs, policies and training for both their employees and third-party contractors as well as conducts incident investigations. Third-party contractors are used for safety training on major projects involving outside contractors.
9. Policing is provided under contract to Caltrain by the San Mateo County sheriff for the entire system.
10. District shared services provides program oversight. A third-party contractor provides security for passengers and facilities.
11. District shared services is primarily responsible for the operating budget function. Rail Division oversees TASI budget and assists in the development of portions of the Caltrain budget (utilities, fuel, etc.). The Rail Division and District shared services jointly develop the capital budget with input from TASI for the state of good repair element.
12. District shared services is responsible for the accounting, payroll, claims, insurance and treasury functions.
13. District shared services is responsible for the real estate functions, including managing leases and railroad owned properties; obtaining land, easements, and permits for construction projections; and reaching commercial agreements with third parties. The Rail Division and District shared services are both responsible for development of policies related to TOD. District shared services leads the process for joint development projects on JPB property with support from the Rail Division. The Rail Division is responsible for the planning of TOD at the two terminals, with support from District shared services. All other commercial development work, including TOD at intermediate stations, is done by Rail Division and District shared services.
14. District shared services is responsible for procurement for all rail projects and materials other than work procured by TASI under its agreement. Rail Division oversees TASI procurements.
15. District shared services is responsible for the IT function that support administrative functions (non-vital systems). Rail Division is responsible for IT functions that support rail operations (vital systems). There are on-going discussions regarding respective responsibilities for functions that straddle these two classifications.

16. District shared services is responsible for the basic human resource functions/talent management. For certain select positions, an outside recruitment firm is used. TASI is responsible for hiring their own employees however, the Rail Division has the authority to approve TASI senior management (the GM and their direct reports).
17. TASI is responsible for the training and certifying as needed all its employees.
18. TASI negotiates labor contracts with the unions (this has occurred twice during the contract duration) and handles daily issues in collaboration with the Rail Division; costs are borne by Caltrain.
19. District shared services is responsible for the EEO function for District employees and TASI is responsible for their employees.
20. Legal services are contracted out to Hanson and Bridgett.
21. Rail Division oversees TASI contract. Negotiation of inter-agency agreements is done by Legal Department and Rail Division. Some contracts, such as the On-Call Transportation Planning contract, are managed by District shared services.
22. Rail Division is responsible for train schedules; TASI provides input.
23. Rail Division is responsible for the Business Plan.
24. Cal Mod is responsible for environmental clearance of their projects. District shared services handles all other projects.
25. The development of system wide multi-year investment plans that balance funding and needs is not currently done. The Business Plan will provide the foundation for the development of future investment programs.
26. Rail Division is responsible for planning both major terminal and station projects as well as other infrastructure projects.
27. Rail Division is responsible for data collection and analysis. TASI prepares operational and contract compliance reports as defined in the TASI contract.
28. CalMod oversees the contractors implementing the electrification, SF tunnel modifications and the EMU contract with Stadler. Rail Division is responsible for implementing all other projects (PTC, grade-separations, signals, stations, etc.). TASI implements smaller low-cost projects directly.
29. Rail Division has an asset management plan.
30. District shared services is responsible for grant applications; Rail Division provides significant input and support for major project applications.
31. District shared services is responsible for all press, government relations, community outreach, public outreach, marketing and market research.
32. District shared services is responsible for all sustainability programs.
33. Rail Division is responsible for the planning and managing of station access/egress facilities (parking lots, bicycle facilities, etc.). District shared services and third parties manage the planning and operation of connecting shuttle bus/van services. Connecting transportation services are provided by SamTrans, VTA, SFMTA, ACE, Capitol Corridor, BART, and private companies as well.

## IX.OBSERVATIONS

Based on this analysis as well as information received in interviews with Rail Division and District shared services staff, the following are my general observations regarding the existing Caltrain organization. These are important as they serve as a starting point for discussion of the organizational structure that is best suited to support the ongoing service and commitments of the railroad and deliver Caltrain's future Service Vision. Chapter 4 of this organizational analysis will include this discussion of possible future directions for the organization.

1. There is significant bifurcated responsibility throughout the Caltrain organization. This is a natural result of two phenomena:
  - Utilization of a third-party contractor to provide rail service; and
  - Having a robust shared services function.



The key question going forward is to determine if these are the most effective organizational structures for Caltrain as it strives to grow its service and achieve a more expansive service vision.

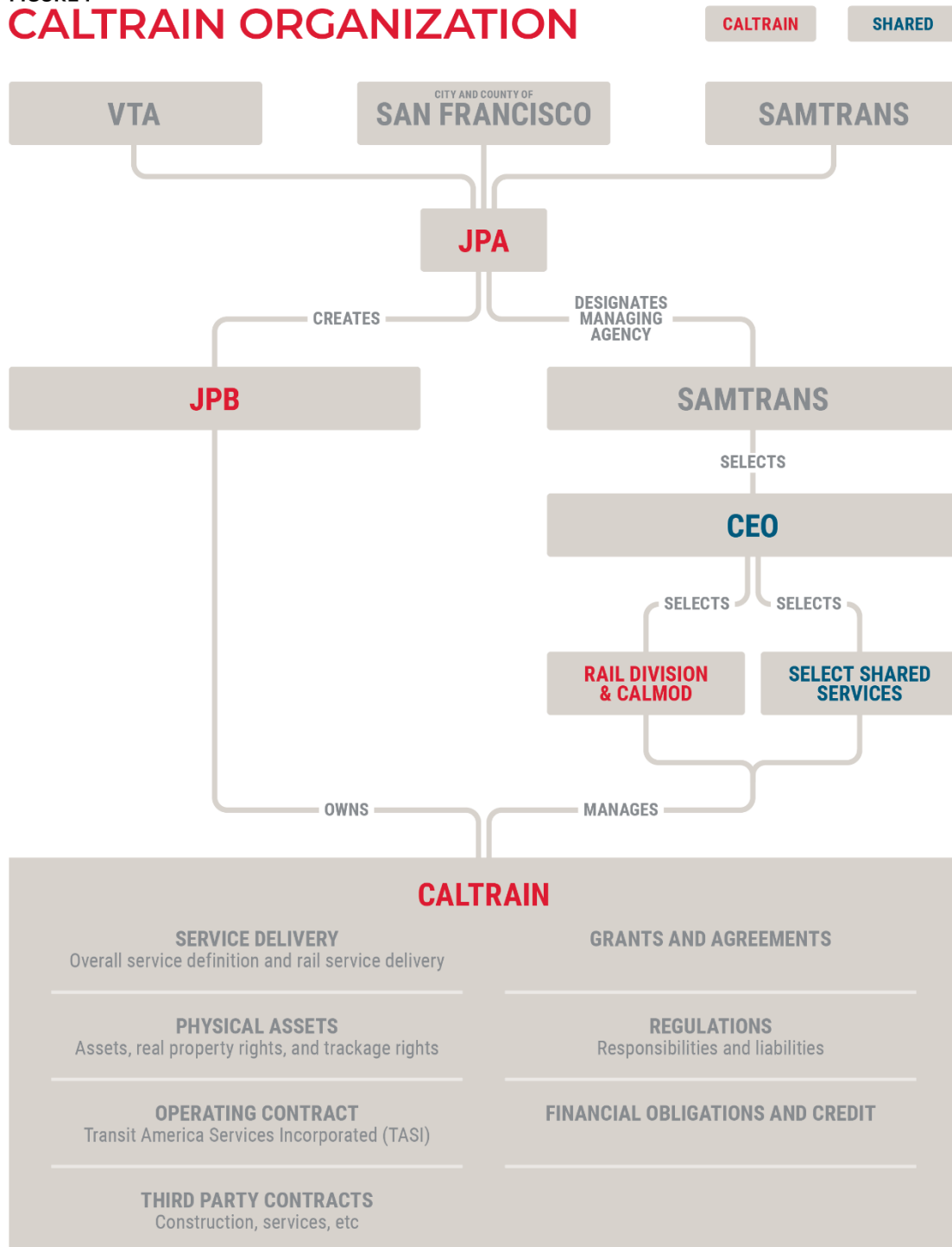
2. In providing the operations functions, the respective responsibilities of TASI and the Rail Division can be more clearly defined. Most importantly, the future organizational structure and responsibilities in the Rail Division need to be directly aligned with either a new operating contract or an explicit, higher level decision to begin conducting certain work with in-house forces.
3. As future capital investment programs are developed, a decision will need to be made as to how best implement and manage major construction projects. There are three basic units that could deliver these programs: Rail Division, Caltrain Special Projects Division (i.e. an organizational unit similar to CalMod) or an outside entity such as a special purpose district or authority. The decision will be a function of many factors including governance, funding, and organizational capability/reputation. However, it is structured, it is critical that the rail operational and service requirements are met by the implementing group.

One possible structure could be:

- Megaprojects such as DTX, grade separations, Diridon Station are managed by either an outside party or a special Caltrain division.
  - Major projects, such as a new shop, new signal system, and station/platform programs, are managed by Caltrain Rail.
4. One atypical organizational situation is having District staff directly responsible for maintaining the Ticket Vending Machine system, which is used solely by the railroad customers in contrast to the majority of rail systems that are maintained under contract to the Rail Division. Maintenance of Ticket Vending Machines is usually done within the railroad organization.
  5. As is frequently the case, there are differing opinions within the organization as to how well some of the shared service functions are working; in particular, Safety, IT, Procurement, and Human Resources. This may be a result of inadequate resources, a lack of necessary skills or a combination thereof. As Caltrain grows and strives to achieve its vision, this will require focused attention and resolution.
  6. Despite limited organizational resources due to financial constraints, the Caltrain organization has had many successes, including provision of high-quality rail service for a growing customer base, implementing major capital programs, undertaking a comprehensive business planning process and taking the initial steps towards transforming itself into a major railroad. This provides a strong base upon which to build the future Caltrain organization.

FIGURE 1

# CALTRAIN ORGANIZATION



# CHAPTER 3: SUMMARY AND COMPARISON OF ORGANIZATIONAL STRUCTURE OF OTHER COMMUTER RAILROADS AND PUBLIC AGENCIES

## I. OBJECTIVE AND ORGANIZATION

This chapter is a discussion of the manner in which other railroads and public agencies provide their core operating and maintenance functions.<sup>13</sup> It does not focus on capital project delivery. From this information, comparisons will be drawn with Caltrain and key lessons and themes highlighted.

Two different sets of analysis have been completed:

- General review of how all North American railroads deliver their core service; and
- Detailed case studies of six US and three international railroads with an eye towards three specific issues that are central to Caltrain’s future. These include: (1) organizational governance; (2) service delivery options; and (3) organizational structure with a focus on shared services. Depending upon the situation, shared services could entail sharing across different modes within a single organization (“internal shared services”) or shared services between different modes and different organizations (“external shared services”). MBTA and SEPTA are examples of the former while Caltrain and the other US cases are examples of the latter.

## II. GENERAL REVIEW OF NORTH AMERICAN RAILROAD SERVICE DELIVERY MODELS

There is an extremely wide range of core service delivery models in use throughout the United States and Canada. These can be classified into three basic service models in use today:

**In-house model** – The Transit Agency uses its own workforce to provide the primary functions of the railroad. Examples of this are Metro-North (New York), New Jersey Transit (NJT) and Southeastern Pennsylvania Transportation Authority (SEPTA).<sup>14</sup> The in-house model is most common in the older and larger legacy properties in the Northeast, though the

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<sup>13</sup> Major assistance has been provided by Professor Michael Bennon of the Stanford Global Projects Center and Ratna Amin. Much of the information in this section is based on the TCRP Report Contracting Commuter Rail Services, Volumes 1 and 2, National Academy of Science 2018. This report is an excellent resource for more detailed future analysis of alternative service delivery models. <http://www.trb.org/Main/Blurbs/178090.aspx>

<sup>14</sup> The portions of the NJT and SEPTA systems not on the Northeast Corridor are operated by in-house personnel; the Northeast Corridor is operated by Amtrak.

Utah Transit Authority and the Sonoma-Marín Area Rail Transit District (SMART) have selected this model in the last 10 years.

**Contracted or Third-Party Model** – The agency contracts with a third party that uses its own forces to provide the primary functions of the railroad. Examples of this are Caltrain, GO Transit (Toronto), and the Massachusetts Bay Transit Authority (MBTA). This work can be done either by a host railroad (e.g., the Union Pacific doing infrastructure maintenance between Tamien and Gilroy) or a contractor supplying service on infrastructure owned by the agency (e.g., TASI for Caltrain). This is the most common contracting arrangement in North America.

There are two basic types of contracting models: bundled and un-bundled. Bundled is where the agency contracts with a single entity to provide the primary operations and maintenance functions. Caltrain’s relationship with TASI is an example of that. Un-bundled is where the agency has two or more contracts to provide these functions, usually divided between train operations and rolling stock/infrastructure maintenance. Metrolink’s recent use of four different contractors is an example of this approach.<sup>15</sup>

**Mixed Model** – This is simply the case where the agency uses a combination of the in-house and contracted arrangements. The prime example of this is METRA (Chicago), though almost all agencies, including Caltrain, have to some degree a mixed delivery approach.

**Table 3**<sup>16</sup> is a summary of how North American passenger railroads deliver their services. Note that the rail functions are defined at a higher level than is the case later in this chapter, which provides a detailed mapping of Caltrain’s service delivery approach. While it is therefore difficult to make exact comparisons, **Table 3** gives a good overview of both industry approaches in North America and specific agency approaches.

Of note:

- Caltrain uses the same contracting model as the majority of commuter railroads in North America.
- In general, the larger and older railroads are the predominant users of in-house forces. However, two new agencies, SMART and Utah Transit Authority, also use in-house forces, while GO Transit, which is rapidly growing and is projected to become the largest commuter railroad in North America within ten years, uses the contracted services model.
- Not only is there significant variation between properties, but in the majority of cases, agencies use different models on different parts of their network (e.g., NJT and Metra use in-house forces to deliver service on some of their lines while Amtrak and freight railroads provide service on other lines).
- The TCRP authors note that the service delivery option does not have a clear impact on operating or financial performance metrics.<sup>17</sup>

The determination of which models are used by the different properties is largely a function of the following factors:

- Ownership of the railroad – It is common for the owner to set certain requirements to use their forces for all or selected functions as a condition of allowing an operator to provide passenger service. In turn, this is frequently driven by the host railroad’s labor agreements.
- Agency organizational capacity – The organizational bandwidth may not be sufficient for an agency to operate rail services on its own even if they have that option.

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<sup>15</sup> There are separate contractors for the Maintenance of Way, Maintenance of Equipment, Maintenance of Signals and Communications and Train Operations functions. The Metrolink case study describes the agency’s recent choice to reduce the number of contractors through bundling.

<sup>16</sup> Summarized from TCRP Research Report 200: Contracting Commuter Rail Services.

<sup>17</sup> TCRP Report 200, Volume 1, pg. 37

## **CALTRAIN BUSINESS PLAN**

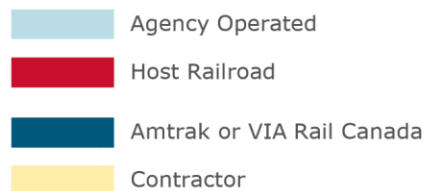
### ORGANIZATIONAL ASSESSMENT – *DRAFT REPORT*

- Agency mission – Certain agencies have been formed with limited mission statements that are focused on planning and/or funding commuter rail service and thus directly providing service is not within their scope.
- Operating environment – A final, and major, factor is that each decision is made in the context of the local situation at that particular point in time. Issues such as contract timing, regional planning, funding levels, and labor agreements will be major determinants of which service model is chosen.

**TABLE 3: APPROACHES TO SERVICE DELIVERY FOR COMMUTER RAIL SYSTEMS \***

System	Service Area	Train Operations	Dispatch	Maintenance of Way	Maintenance of Equipment
<b>Agency Operated and Maintained Commuter Rail (7)</b>					
LIRR	New York City–Long Island, NY	Agency Operated	Agency Operated	Agency Operated	Agency Operated
Metro-North	New York City–North and East NY	Agency Operated	Agency Operated	Agency Operated	Agency Operated
NJ TRANSIT	New Jersey–New York City	Agency Operated	Agency Operated	Amtrak or VIA Rail Canada	Contractor
SEPTA	Philadelphia, PA	Agency Operated	Agency Operated	Amtrak or VIA Rail Canada	Agency Operated
South Shore Line	South Bend, IN–Chicago, IL	Agency Operated	Agency Operated	Host Railroad	Host Railroad
FrontRunner	Ogden–Salt Lake City–Provo, UT	Agency Operated	Agency Operated	Agency Operated	Agency Operated
SMART	Sonoma–Marin counties, CA	Agency Operated	Agency Operated	Agency Operated	Agency Operated
<b>Contracted Commuter Rail–Bundled (12)</b>					
MBTA	Boston, MA	Agency Operated	Agency Operated	Agency Operated	Agency Operated
MARC	Brunswick and Camden Lines and Penn Line, Baltimore, MD	Amtrak or VIA Rail Canada	Host Railroad	Host Railroad	Agency Operated
SLE	New Haven–New London, CT	Amtrak or VIA Rail Canada	Host Railroad	Host Railroad	Amtrak or VIA Rail Canada
Caltrain	San Francisco–San Jose, CA	Agency Operated	Host Railroad	Host Railroad	Agency Operated
COASTER	San Diego County, CA	Agency Operated	Agency Operated	Agency Operated	Agency Operated
TRE	Dallas–Fort Worth, TX	Agency Operated	Agency Operated	Agency Operated	Agency Operated
ACE	Stockton–San Jose, CA	Agency Operated	Host Railroad	Host Railroad	Agency Operated
Rail Runner	Albuquerque–Santa Fe, NM	Agency Operated	Agency Operated	Agency Operated	Agency Operated
Music City Star	Nashville, TN	Agency Operated	Host Railroad	Host Railroad	Agency Operated
MetroRail	Austin, TX	Agency Operated	Agency Operated	Agency Operated	Agency Operated
A-train	Denton County, TX	Agency Operated	Agency Operated	Agency Operated	Agency Operated
RTD	Denver, CO	Agency Operated	Agency Operated	Agency Operated	Agency Operated
<b>Contracted Commuter Rail–Unbundled (8)</b>					
GO Transit	Toronto–Hamilton, Ontario, Canada	Agency Operated	Host Railroad	Agency Operated	Agency Operated
RTM	Montreal, Quebec, Canada	Agency Operated	Host Railroad	Agency Operated	Agency Operated
Tri-Rail	South Florida	Agency Operated	Agency Operated	Agency Operated	Agency Operated
Metrolink	Los Angeles, CA	Amtrak or VIA Rail Canada	Host Railroad	Agency Operated	Host Railroad
VRE	Northern VA–Washington, D.C.	Agency Operated	Host Railroad	Host Railroad	Agency Operated
WCE	Vancouver, BC, Canada	Agency Operated	Host Railroad	Host Railroad	Amtrak or VIA Rail Canada
Souder	Tacoma–Seattle–Everett, WA	Host Railroad	Host Railroad	Host Railroad	Amtrak or VIA Rail Canada
SunRail	Central Florida–Orlando, FL	Agency Operated	Agency Operated	Agency Operated	Amtrak or VIA Rail Canada
<b>Mixed Agency Operated and Contracted Host Railroad (3)</b>					
Metra	Chicago, IL	Agency Operated	Host Railroad	Agency Operated	Host Railroad
Northstar	St. Cloud–Minneapolis, MN	Host Railroad	Host Railroad	Host Railroad	Agency Operated
WES	Wilsonville–Beaverton, OR	Host Railroad	Host Railroad	Host Railroad	Agency Operated

Updated March 2018



\* TCRP Report 200, Contracting Commuter Rail Services, Vol. 1, pg. 4

**Table 4** provides a summary of the high-level strengths and challenges of these models as applied to Caltrain at this time.

**TABLE 4: HIGH LEVEL STRENGTHS AND CHALLENGES FOR SERVICE DELIVERY OPTIONS**

<b>Service Delivery Options</b>	<b>Strengths</b>	<b>Challenges</b>
<b>In House Model</b>	Direct control that matches agency accountability	Cost and bureaucratic rigidity
	Direct accountability to the customer	Maintaining operations during transition period from contractual model to in-house model
	Seamless customer experience; no transitions in responsibility	
<b>Bundled Contracting Model</b>	Single accountable contractor	Single point of failure and significant risk if contractor fails to perform
	Consistent and easier contract management and oversight	Maintaining operations during transition period for new contractor
	Opportunity to partner with private sector and take advantage of competitive market forces	
<b>Unbundled Contracting Model</b>	Contractor skills/experience are specific to the function	Extensive interfaces between contractors; potential that they defer responsibility to another contractor
	May increase number of potential contractors	Contract administration and oversight is more complex
	Opportunity to partner with private sector and take advantage of competitive market forces	Increased agency effort to manage interfaces
<b>Mixed Model</b>	Greater accountability to the customer	Extensive interfaces between agency and contractor
	Agency can add targeted contractor expertise where needed	Maintaining operations during transition period to new contractor

From a Caltrain perspective, the three key takeaways are:

- In comparison to other US railroads, Caltrain has significantly greater flexibility in determining its service delivery model as:<sup>18</sup>
  - It owns the right-of-way from San Jose to San Francisco;
  - It determines train schedules and dispatches the trains;<sup>19</sup>
  - It is and will continue to be the predominant user of the corridor; and
  - Its governance structure gives the JPB complete discretion in selecting a service delivery model.
- There is no universally “correct” model that Caltrain should adopt, as each model in use across North America reflects the specific circumstances that the commuter railroad agency faced when it made its decision. As Caltrain begins the process to determine its future service delivery model (which is discussed in Chapter 4), there are many lessons to be learned from other railroads.

<sup>18</sup> As the portion of the line between Gilroy and Tamien is owned by the Union Pacific, there are different and greater constraints on this segment than from San Jose to San Francisco.

<sup>19</sup> Subject to certain agreements with HSRA and the Union Pacific.

- Regardless of the model selected, the agency retains ultimate responsibility for the service delivered and the political environment will expect that. Contractor failure does not provide a “level of protection for the agency.”

### **III.DETAILED US CASE STUDIES**

The following case studies were selected to provide further detail and insights that are directly applicable to Caltrain as it considers and develops its future organization, service delivery and governance structures. In specific, the key areas of focus for each individual railroad are as follows:

1. Capitol Corridor Joint Power Authority (CCJPA): governance model and external shared service arrangement
2. Southern California Regional Rail Authority (SCRRA) d/b/a Metrolink: governance model and external shared service arrangement
3. San Joaquin Regional Rail Commission (SJRRC) d/b/a ACE: governance model and external shared service arrangement
4. Sonoma-Marín Area Rail Transit (SMART): governance model
5. Massachusetts Bay Transportation Authority (MBTA): internal shared service arrangement
6. Southeastern Pennsylvania Transportation Authority (SEPTA): internal shared service arrangement

The information in the case studies is based on both publicly available information as well as detailed interviews with senior staff at the agencies.

**Table 5** provides additional system description information regarding the six case studies. **Table 6** summarizes select governance aspects for the agencies. Each case study goes into more depth and notes comparisons with Caltrain.



**TABLE 5: US CASE STUDIES – SYSTEM COMPARISON WITH CALTRAIN**

	<b>Peninsula Corridor Joint Powers Board (PCJPB) dba Caltrain</b>	<b>Capital Corridor Joint Powers Authority</b>	<b>Southern California Regional Rail Authority (SCRRA) dba Metrolink</b>	<b>San Joaquin Regional Rail Commission (SJRRRC) dba Altamont Corridor Express (ACE)</b>	<b>Sonoma–Marin Area Rail Transit (SMART)</b>	<b>Massachusetts Bay Transportation Authority (MBTA)</b>	<b>Southeastern Pennsylvania Transportation Authority (SEPTA)</b>
<b>Location/ Geography</b>	San Francisco Bay Area, CA Peninsula – 3 Counties	San Jose - Sacramento, CA – 5 Counties	Los Angeles Basin – 5 Counties	San Jose - San Joaquin Valley, CA – 3 Counties	Marin-Sonoma, CA – 2 Counties	Boston Region, MA	Philadelphia Region, PA
<b>Route Miles</b>	77	168	538	85	43	398	280
<b>Ridership (annual unlinked passenger trips)</b>	18.35 million	1.6 million	13.75 million	1.29 million	~1 million	33.83 million	36.18 million
<b>Passenger Miles (annual)</b>	406 million	105 million	420 million	56 million	N/A	698 million	426 million
<b>Traffic Density (passenger miles/route mile, annual)</b>	5.25 million	0.62 million	0.78 million	0.66 million	N/A	1.75 million	1.52 million
<b>Right-of-Way Owner (one-way route miles)</b>	PCJPB 52 miles, UPRR 25 miles	UPRR 166 miles, PCJCB 2 miles	SCRRA 388 miles, BNSF 115 miles, UPRR 84 miles	UPRR 83 miles, PCJPB 3 miles	SMART 42 miles	MBTA 358 miles, Amtrak 30 miles	SEPTA 151 miles, Amtrak 108 miles, CSX 15 miles, City of Philadelphia 6 miles
<b>Service Delivery Method – Train Operations</b>	Independent Contractor	Amtrak	Amtrak	Independent Contractor	Agency	Independent Contractor	Agency
<b>Service Delivery Method – Maintenance of Infrastructure</b>	UPRR, Independent Contractor	UPRR, Independent Contractor	Independent Contractor	UPRR	Agency	Amtrak, Independent Contractor	Agency, Amtrak
<b>Service Delivery Method – Maintenance of Equipment</b>	Independent Contractor	Amtrak	Independent Contractor	Independent Contractor	Agency	Independent Contractor	Agency

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	<b>Peninsula Corridor Joint Powers Board (PCJPB) dba Caltrain</b>	<b>Capital Corridor Joint Powers Authority</b>	<b>Southern California Regional Rail Authority (SCRRRA) dba Metrolink</b>	<b>San Joaquin Regional Rail Commission (SJRRRC) dba Altamont Corridor Express (ACE)</b>	<b>Sonoma–Marin Area Rail Transit (SMART)</b>	<b>Massachusetts Bay Transportation Authority (MBTA)</b>	<b>Southeastern Pennsylvania Transportation Authority (SEPTA)</b>
<b>Major Operating Funding Sources</b>	Fare Revenues, Local Funds (Member Agencies)	Fare Revenues, State Funds	Local Funds (Member Agencies), Fare Revenues, Freight/Amtrak Revenue	County Sales Taxes, Local Funds, Fare Revenues, State Funds	Dedicated Sales/Use Tax, State Funds	Dedicated Regional Sales Tax, Fare Revenues, Non-Fare Revenue (Advertising, Real Estate, Parking)	State Funds, Fare Revenues
<b>Major Capital Funding Sources</b>	Local Funds (Member Agencies), Federal Funds, CA High-Speed Rail	State Funds	Federal Funds, State Funds, Local Funds (Member Agencies)	State Funds, Federal Funds, Local Funds	Federal Funds, State Funds	Federal Funds, State Funds, MBTA Revenue Bonds	State Funds, Federal Assistance, SEPTA Capital Financing

Notes:

1. From 2017 National Transit Database. Route miles is the length of the right-of-way over which passenger service is operated.
2. Contracting Commuter Rail Services Volume 2: Commuter Rail System Profiles, 2018 (based on National Transit Database).
3. FY 17.Source: "Performance Report 2017" (PDF). Capitol Corridor Joint Powers Authority.
4. <https://sonomamarintrain.org/node/278>.
5. From 2017 National Transit Database. Passenger miles are the cumulative sum of the distances ridden by each passenger.
6. PCPCB = Peninsula Corridor Joint Powers Board; UPRR = Union Pacific Railroad; SCRRRA = Southern California Regional Rail Agency; SMART = Sonoma-Marín Area Rail Transit; MBTA = Massachusetts Bay Transportation Authority; SEPTA = Southeastern Pennsylvania Transportation Authority.
7. At this time SMART rail does not own all of the tracks for its planned extension north to Cloverdale. North Coast Rail Authority is the owner of the tracks north of Windsor.
8. [http://www.caltrain.com/Assets/\\_Agendas+and+Minutes/JPB/Board+of+Directors/Presentations/2018/PCJPB+FY18+Operating+Budget.pdf](http://www.caltrain.com/Assets/_Agendas+and+Minutes/JPB/Board+of+Directors/Presentations/2018/PCJPB+FY18+Operating+Budget.pdf).
9. [https://images.capitolcorridor.org/wp-content/uploads/2019/04/CCJPABizPlanFY1920\\_04.12.19.pdf](https://images.capitolcorridor.org/wp-content/uploads/2019/04/CCJPABizPlanFY1920_04.12.19.pdf).
10. Freight railroads and Amtrak Intercity Services operating over territory owned by Member Agencies provide maintenance-of-way revenues and dispatching revenues, based upon existing agreements. <https://www.metrolinktrains.com/globalassets/about/financial-reports/fy2018-19-adopted-budget.pdf>.
11. <https://www.acerail.com/getattachment/About/Board/Work-Program-20182019-TEXT.pdf?lang=en-US>.
12. <https://www.sonomamarintrain.org/sites/default/files/Financial%20Documents/FY%202018-19%20Approved%20Budget%20And%20FY%202017-18%20Year%20End.pdf>.
13. <https://cdn.mbta.com/sites/default/files/fmcb-meeting-docs/2019/04-april/2018-04-08-fmcb-K-fy20-final-itemized-operating-budget-support-accessible.pdf>.
14. <http://septa.org/strategic-plan/2020-03-operating-budget-proposal.pdf>.

TABLE 6: US CASE STUDIES – BOARD COMPOSITION AND OPERATIONS COMPARISON WITH CALTRAIN

	Peninsula Corridor Joint Powers Board (PCJPB) dba Caltrain	Capital Corridor Joint Powers Authority	Southern California Regional Rail Authority (SCRRA) dba Metrolink	San Joaquin Regional Rail Commission (SJRRC) dba Altamont Corridor Express (ACE)	Sonoma–Marin Area Rail Transit (SMART)	Massachusetts Bay Transportation Authority (MBTA)	Southeastern Pennsylvania Transportation Authority (SEPTA)
<b>Number of Board Members</b>	9 members	16 members	11 members	8 members	12 members	Overseen by 2 governing bodies: <ul style="list-style-type: none"> <li>• 5 members on the Fiscal and Management Control Board;<sup>4</sup></li> <li>• 11 members on MassDOT Board</li> </ul>	15 members
<b>Board Member Appointment Authority</b>	<ul style="list-style-type: none"> <li>• 3 - City and County of San Francisco<sup>1</sup></li> <li>• 3 - San Mateo County<sup>2</sup></li> <li>• 3 - Santa Clara Valley Transportation Authority<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 6 - BART Board of Directors</li> <li>• 2 - Sacramento Regional Transit District</li> <li>• 2 - Santa Clara Valley Transportation Authority</li> <li>• 2 - Yolo County Transportation District</li> <li>• 2 - Solano Transportation Authority</li> <li>• 2 - Placer County Transportation Planning Agency</li> </ul>	<ul style="list-style-type: none"> <li>• 4 - Los Angeles County Metropolitan Transportation Authority</li> <li>• 2 - Orange County Transportation Authority</li> <li>• 2 - Riverside County Transportation Commission</li> <li>• 2 - San Bernardino County Transportation Authority</li> <li>• 1 - Ventura County Transportation Commission</li> </ul>	<ul style="list-style-type: none"> <li>• 6 - San Joaquin County (full voting members)<sup>5</sup></li> <li>• 2 - Alameda County (special voting members)</li> </ul>	<ul style="list-style-type: none"> <li>• 2 - Sonoma County Board of Supervisors</li> <li>• 2 - Marin County Board of Supervisors</li> <li>• 3 - Sonoma County city councils</li> <li>• 3 - Marin County city councils</li> <li>• 2 - Golden Gate Bridge, Highway and Transportation District</li> </ul>	<ul style="list-style-type: none"> <li>• Governor retains appointment authority of FMCB and MassDOT Board</li> </ul>	<ul style="list-style-type: none"> <li>• 2 - Bucks County</li> <li>• 2 - Chester County</li> <li>• 2 - Delaware County</li> <li>• 2 - Montgomery County</li> <li>• 2 - City of Philadelphia</li> <li>• 1 - appointed by the Governor of Pennsylvania</li> <li>• 4 appointed by Pennsylvania legislative leadership</li> </ul>

**CALTRAIN BUSINESS PLAN**

ORGANIZATIONAL ASSESSMENT – DRAFT REPORT

	<b>Peninsula Corridor Joint Powers Board (PCJPB) dba Caltrain</b>	<b>Capital Corridor Joint Powers Authority</b>	<b>Southern California Regional Rail Authority (SCRRA) dba Metrolink</b>	<b>San Joaquin Regional Rail Commission (SJRRRC) dba Altamont Corridor Express (ACE)</b>	<b>Sonoma–Marin Area Rail Transit (SMART)</b>	<b>Massachusetts Bay Transportation Authority (MBTA)</b>	<b>Southeastern Pennsylvania Transportation Authority (SEPTA)</b>
<b>Board Standing Committees</b>	Under establishment <sup>6</sup> (Planning, Finance/Budget)	None <sup>7</sup>	Executive Management and Audit	None	None	<ul style="list-style-type: none"> <li>• Finance and Audit</li> <li>• Capital Programs</li> <li>• Rail Vision Advisory</li> </ul>	<ul style="list-style-type: none"> <li>• Administration</li> <li>• Audit and Oversight</li> <li>• Budget, Planning and Information Technology</li> <li>• Operations Pension</li> </ul>
<b>Board Terms</b>	Designated by member agencies	Designated by member agencies	Designated by member agencies	Regular Voting Commissioners serve 4-year terms	Staggered 4-year terms	FMCB - limited term by legislation through 2020	Designated by member agencies
<b>Meeting Schedule</b>	Minimum once per month	Every other month, starting in February	Minimum once per month, normally twice per month	Once per month	Twice per month	FMCB meets weekly/biweekly	Once per month

Notes:

1. 1 seat appointed by the Mayor, 1 seat appointed by the S.F. Municipal Transportation Agency (SFMTA), 1 appointed by the County Board of Supervisors.
2. 1 seat appointed by the Cities Selection Committee, 1 seat appointed by the San Mateo County Transit District (SamTrans), 1 appointed by the County Board of Supervisors.
3. 1 seat for the County Board of Supervisors representative on the MTC (if that person declines to serve, the MTC representative chosen by the Cities Selection Committee will take that role), 2 seats appointed by the Santa Clara Valley Transportation Authority (VTA) (if county supervisors are not appointed, one member must be from San Jose and another from a city other than San Jose).
4. The Fiscal and Management Control Board (FMCB) is responsible for governance, finances, agency structure, and operations.
5. The members appointed by the San Joaquin Council of Governments (SJCOG) are based on nominations by local government. The regular voting commissioners must reside in San Joaquin County and serve a term of four years. The SJRRRC board also consists of several ex-officio or nonvoting members. These members represent Caltrans District 10, the San Joaquin Regional Transit District, the San Joaquin Council of Governments, and the Stanislaus Council of Governments.
6. Caltrain also has an ad-hoc committee for the Caltrain Business Plan.
7. CCJPA Board has an ad-hoc committee that considers deeper policy issues which arise from time to time.

## CAPITOL CORRIDOR JOINT POWERS AUTHORITY (CCJPA)

- a. **Description** – The Capitol Corridor Joint Powers Authority (CCJPA) manages the operation of the Capitol Corridor Service, an Amtrak-contracted intercity passenger train service connecting Auburn through Sacramento to San Jose in Northern California. The Capitol Corridor Service was created by the California Department of Transportation in partnership with Amtrak in 1991 after California voters approved funding to add more passenger services between San Jose and Sacramento. In 1998, governance of the service was transferred from the State to the newly formed Capitol Corridor Joint Powers Authority (CCJPA).<sup>20</sup> Today, CCJPA is one of three State-sponsored intercity rail Joint Powers Authorities in California (together with SJJPA and LOSSAN).<sup>21</sup>

Capitol Corridor trains share the rail corridor with freight trains on 168 miles of Union Pacific Railroad (UPRR) tracks (except for two miles of tracks near San Jose that belong to the JPB). The service is operating at the maximum number of operating slots allowed by UPRR and Caltrain, and further service expansion requires agreement between the CCJPA, UPRR and Caltrain on necessary capacity-increasing track infrastructure projects.

- b. **Governance** – The CCJPA Board is composed of 16 directors appointed from transit agency representatives from eight counties (two directors from each county). The San Francisco Bay Area Transit District (BART), as a three-county district, has six seats on the CCJPA Board. The Chair and Vice Chair serve two terms; at any given time, one represents the northern half of the route and the other represents the southern half of the route.

CCJPA receives all its operating funding support from the State. Any contributions from member agencies are on a voluntary basis, such as contributions to the CCJPA for joint marketing promotions/campaigns. The CCJPA legislation requires a two-thirds vote for its annual Business Plan, which includes the CCJPA’s funding request to the State to support the proposed annual service plan; all other actions before the Board require a simple majority vote for passage including the adoption of its annual budget.

Since its creation, the Capitol Corridor service has been managed by BART through the “Agreement Between Capitol Corridor JPA and the BART District for Administrative Support” (ASA). The ASA has been renewed multiple times with BART, though the CCJPA Board retains the option to choose another Managing Agency after the expiration of each term of the ASA. As the Managing Agency, BART is responsible for day-to-day operational management of the service and administrative support to the CCJPA Board. All Capitol Corridor JPA employees are BART employees. Through this support agreement, BART provides two types of shared staff. First, BART provides the Executive Director, General Counsel, Controller-Treasurer, and Secretary for the CCJPA. In practice, the CCJPA Managing Director (also a BART employee) leads all administration, planning, budget development, and similar activities for the Capitol Corridor service and the CCJPA Board. The second type of BART staffing is defined contract support services. BART’s contracted services for CCJPA typically include human resources, procurement, legal services, accounting, capital program/project management, and information technology services. Approximately one-fifth of CCJPA’s administrative budget goes to BART for these specified services.<sup>22</sup>

<sup>20</sup> On July 1996, [Senate Bill 457](#) was passed, which provided for the creation of the Capitol Corridor Joint Powers Board (CCJPA/Board). On December 31, 1996, the CCJPA entered into a Joint Exercise of Powers Agreement with six public transportation agencies to establish the Capitol Corridor Joint Powers Authority (CCJPA) (State of California, 1996). On July 1, 1998, the CCJPA entered into an Interagency Transfer Agreement (ITA) with the State of California, Department of Transportation. The ITA provided for the transfer of the responsibility for administration, managing and control of the operation of the Capitol Corridor Rail Service from the State to the CCJPA.

<sup>21</sup> There are three “state-supported” inter-city rail lines in California funded through Caltrans’ Rail Division, each a Joint Powers Authority. In 2015, governance responsibilities for two of these routes were transferred from the State to the San Joaquin Joint Powers Authority and to the Los Angeles – San Diego – San Luis Obispo Rail Corridor (LOSSAN) Corridor Joint Powers Authority. All three services are augmented with Amtrak “Thruway” bus services that extend the reach of the train routes.

<sup>22</sup> The CCJPA-BART Administrative Support Agreement details which support services are provided by BART. <https://images.capitolcorridor.org/wp-content/uploads/2017/09/CA-CC-CCJPA-BARTSupportAgmt.pdf>

Per the ASA, BART’s controller-treasurer provides an annual independent audit of CCJPA’s accounts to the CCJPA Board.

In addition to services prescribed under the ASA, CCJPA may choose whether to hire BART or another entity for other services. For example, in October 2005 CCJPA moved call center services from the Amtrak reservation center to the BART Customer Services/Telephone Information Center.

It is the responsibility of the BART General Manager as the CCJPA Executive Director to hire the CCJPA Managing Director. A new Managing Director is currently being hired, as the current Managing Director is retiring; CCJPA board members are being consulted by the BART General Manager during this process.

- c. **Service Delivery** - CCJPA has contracted with Amtrak to operate and maintain locomotives and passenger cars. CCJPA staff coordinates with Amtrak to monitor rail and bus operations; oversees rail vehicle and station maintenance; interfaces with Amtrak and the UPRR on dispatching and railroad-related issues; and coordinates with stakeholders to develop and implement an annual Capital Improvement Plan.
- d. **Comparison to Caltrain** - Like Caltrain, Capitol Corridor ridership has been growing – a 20% increase over the last 5 years. However, CCJPA differs from Caltrain in many ways. CCJPA doesn’t own its tracks or stations; it receives State funding for operations and capital projects; as the CCJPA receives no local or regional funds, it does not require member agencies to provide funding; and, its board is composed wholly of transit agency board members.

CCJPA also has shared services – provided by BART – though CCJPA contracts with BART for more narrowly-defined administrative services. With respect to various elements of rail service operations, the CCJPA has the option to contract with other entities for those services. The CCJPA Managing Director reports to the CCJPA Board for all aspects of the railroad.<sup>23</sup> The CCJPA Managing Director’s sole responsibility is to manage the operation and capital program of the Capitol Corridor service. This is different from Caltrain where the railroad CEO has additional responsibilities at SMCTA and SMCTD.

## **SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (SCRRA)**

- a. **Description** - Southern California Regional Rail Authority (SCRRA) operates Metrolink, the commuter rail system that serves Los Angeles, Orange, Riverside, San Bernardino, Ventura and San Diego counties. SCRRA was founded in 1991 and began operations October 1992, after four of the counties, all but Ventura County, passed transportation sales taxes. At that time the State and member agencies purchased most but not all the tracks on which Metrolink operates services.

About two-thirds of the railroad right-of-way is publicly owned and about one-third is owned by two freight railroads, BNSF and UPRR. Local jurisdictions, Caltrans, and some member agencies own and operate the Metrolink stations. Amtrak long-distance trains and the State-subsidized Pacific Surfliner trains (locally managed by LOSSAN) jointly serve several of the stations with Metrolink. A major multi-agency capital investment program is underway to upgrade infrastructure that facilitates more service in preparation for the 2028 Olympic Games. In the long-term, California High-Speed Rail Authority planned services would blend with Metrolink’s services in certain corridors.

- b. **Governance** - The SCRRA is a joint powers authority; the 11-member board represents the transportation commissions of Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. The Los Angeles County Metropolitan Transportation Authority has a plurality of seats on the board (four); however, it takes two counties (six votes) for any proposals to pass. This voting structure supports the intent for Metrolink to be a regional service.

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<sup>23</sup> On paper, the BART’s General Manager serves as the CCJPA Executive Director. In actuality, the ED delegates these responsibilities to the Managing Director.

The SCRRA Board directly hires its CEO and General Counsel. The Executive Management and Audit Committee (EMAC) composed of one regular member from each agency; these members also serve on the Board of Directors. The EMAC meets on a quarterly basis and is responsible for reviewing high priority items for the Authority, particularly as it pertains to policy and audit compliance. The EMAC agenda items are provided in the next scheduled Board of Directors' meeting for final action, as necessary.

SCRRA lacks a long-term, dedicated funding source; SCRRA has conducted initial analysis to develop a source(s). SCRRA operating and capital budgets must be approved by each of the member governments. Member agencies provide operating subsidies for operating costs not covered by farebox revenue and contribute to some capital improvements through an annual budgeting process. The budgeting process relies on complicated formulas to determine each member's contribution. When a member county wants more service, it provides subsidy increases. In years when agencies are not able to pay for the service, reductions to those services are implemented. When two counties pay for service on a shared line, a reduced contribution by one county tends to lead to a reduction by the sharing county. Member agencies can stop paying and terminate their membership in the JPA with one year's notice.

Metrolink completed a major asset rehabilitation plan in 2018 that has enabled the agency to augment the annual budget process with forecasted costs for the next four years. Metrolink staff stated this has improved its budget process with member agencies.

- c. **Service Delivery** - In 2018, the SCRRA Board decided to bundle its current operations and maintenance contracts with the goal of increasing efficiency and assisting the Authority in raising ridership by improving customer service. Metrolink has four existing contracts that would be replaced by one contract for the duration of ten years with extension options (RFP is expected to be released soon). The current contracts are as follows:
- Operations (train crews) with Amtrak
  - Maintenance (rolling stock) with Bombardier
  - Maintenance (track, structures and right-of-way) with Transdev
  - Maintenance (signals, communications and train control) with Mass Electric

The future contractor(s) will be responsible for all operational activities of Metrolink service, maintenance of rolling stock and infrastructure, as well as construction support (as required). Should the contractor exceed specified performance standards, they can receive a fixed amount incentive payment to be allocated annually.

Metrolink does not utilize staff from other transportation agencies, other than when collaborating on share projects with member agencies. In recent years, member agencies have delivered some Metrolink rehabilitation and most expansion projects, with design oversight, flagging and signal installation provided by Metrolink.

- d. **Comparison with Caltrain** - Like Caltrain, Metrolink is governed by several counties, lacks a dedicated funding source, and relies on member agency contributions to fund operations and some capital projects. Another similarity between the agencies is plans for blended services with California High-Speed Rail. However, there are many differences: Metrolink is wholly independent from its member counties, acting as a contracted service provider pursuant to the JPA. The SCRRA directly hires its staff and does not use shared services. Metrolink member contributions are more oriented to paying for services provided on specific lines in member counties rather than to the whole rail system. A recent asset management study/strategic plan enables a budget process that looks beyond the current year. Another difference from Caltrain is that the SCRRC has an Executive Management and Audit Committee that reviews agency priorities, which results in significant influence on the full Board's activities.

## SAN JOAQUIN REGIONAL RAIL COMMISSION (SJRRRC)

- a. **Description** - The San Joaquin Regional Rail Commission (SJRRRC) governs the Altamont Corridor Express (ACE), a commuter rail service in Northern California that connects Stockton and San Jose via Fremont through three counties. The rail service was launched in 1998 to connect the Central Valley to Silicon Valley on Union Pacific tracks. The ACE service received funding after Measure K, a half-cent sales tax for transportation, which was strongly supported by voters of San Joaquin County in 1990.

**Governance** - SJRRRC is governed by a Board of Directors that consists of six full-voting members from San Joaquin County and two special-voting members from Alameda County and no members from Santa Clara County. When the ACE service began operations, it was governed by a three-county Altamont Corridor Express Joint Powers Board with equal representation from San Joaquin County, Alameda County and Santa Clara County. However, this JPA was dissolved in 2003 when VTA faced budget constraints. The SJRRRC board, which previously only served San Joaquin County, was expanded to add Alameda County (only voting on issues related to its ACE service) and a Cooperative Services Agreement was put in place with Santa Clara County. As a result, the SJRRRC remains the primary owner and operator of the ACE service. (NEEDS A SECTION B)

The SJRRRC operates as a policy board, like the Capitol Corridor Board, without deep involvement in day-to-day operations. ACE member counties have helped with funding the ACE service in some instances, particularly San Joaquin COG.

The SJRRRC also serves as the managing agency for the San Joaquin Joint Powers Agency (SJJPA) that operates the State-subsidized San Joaquin inter-city rail service between Bakersfield and Oakland/Sacramento (contracted to Amtrak). The SJJPA chose SJRRRC for a three-year contract that has now been extended for another five years. The majority of SJRRRC staff work for both the ACE and San Joaquin services. There is one shared General Manager for the two agencies, hired by the SJRRRC Board. The SJRRRC/SJJPA shared staff model was chosen for administration efficiencies, coordinated planning, and engagement at a multi-regional scale. Since SJRRRC provides shared services to two boards, SJRRRC staff time is allocated between the two rail services. Detailed accounting is kept by staff and each Board sees a monthly report of staff time tracked against yearly expenses. SJJPA is now beginning a billion-dollar investment program that will extend services to three new counties.

- b. **Service Delivery** - SJRRRC is the owner/operator for the ACE service, overseeing the day-to-day management, planning and support services necessary to operate the trains. SJRRRC issued a contract for operations and maintenance of equipment to Herzog Transit Services in 1998. SJRRRC staff perform fare enforcement and ticketing for the ACE service.
- c. **Comparison with Caltrain** – The ACE service, with four roundtrips per day, is a far smaller service than Caltrain. Like Caltrain, SJRRRC depends on operating funding and investment from its member counties and doesn't get State operating funds. While SJRRRC is also a three-county service, only two of the counties are represented on the Board and not evenly (six members from San Joaquin County; two special-voting members from Alameda County).

While Caltrain's shared services are between a rail group and local transit agency and a transportation authority, SJRRRC is an example of shared services between two rail agencies.

## SONOMA-MARIN AREA RAIL TRANSIT DISTRICT (SMART)

- a. **Description** - Sonoma-Marin Area Rail Transit (SMART) is a new commuter rail system running between Sonoma and San Rafael in Northern California. SMART was formed in 2002 and is funded primarily by the Measure Q two-county sales tax, which passed in 2008. The first 43-mile phase of the line opened for public service in late 2017, operating on tracks that the SMART District owns. SMART was formed as a District, rather than a joint powers authority, to put a sales tax on the ballot and to provide autonomy and longevity for the agency.



During its first weeks of operation, SMART provided service during the devastating Sonoma wildfires when the parallel Highway 101 was closed. Though it is a new agency, SMART is being asked to play a larger and larger role in the North Bay transit system.

- b. **Governance** - The SMART Board is responsible for all aspects of agency operations and policy and appoints the General Manager of the organization. The 12-member Board consists of members from cities and county governments along the system route and representatives from the Golden Gate Bridge, Highway and Transportation District. SMART Board committees were used for the early work of launching SMART; however, they are no longer utilized.

Local agencies do not contribute funding directly to SMART operations or capital needs apart from small local capital projects (operations are mostly funded by SMART District voter approved sales tax and fare revenue; capital projects are funded mostly by Federal and State funds). In the future, SMART may look to new local sales taxes for additional and continued funding and could put its own funding measure on the ballot. SMART has been balancing establishing passenger rail operations while simultaneously building substantial capital projects during its first few years of services (including expansion of service to Larkspur, Cloverdale, Healdsburg and Windsor and infill station expansion in Novato and Petaluma).

- c. **Service Delivery** - Nearly all system operations, rolling stock and track maintenance, as well as signal maintenance and repair, are managed by agency staff directly. Although SMART possesses requisite legal authority to contract out these functions, its enabling legislation contains unique labor protection provisions guaranteeing employment priority, together with wage and benefit protections, for employees of the Golden Gate Bridge, Highway and Transportation District bus division – whose positions of employment might have been adversely affected by the commencement of parallel commuter rail service in the same transportation corridor. These circumstances influenced the SMART governing board to decide to operate its system on an in-house basis. SMART has hired 200 of its own employees since its creation. The agency has found using its own workforce for nearly all functions has been challenging due to the hiring and management demands, but also beneficial as it increases SMART's span of control from a labor relations perspective.
- d. **Comparison with Caltrain** - SMART is a new service and agency. Like Caltrain, SMART owns most of the tracks it uses; is governed largely by locally elected officials along the route; raises most of its funding locally; and, the organization is being stretched by large capital projects. However, SMART is a District and not a joint powers authority and also has a dedicated two-county sales tax. Furthermore, SMART does not contract out for its rail operations and maintenance and does not share services with any other transportation agency. Like other Bay Area transit agencies, attracting and retaining staff has been a growing challenge due to housing costs, exacerbated by the North Bay Fires that destroyed thousands of homes.

## MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

- a. **Description** - The Massachusetts Bay Transportation Authority (MBTA) operates subway, bus, ferry, para-transit and commuter rail services in the greater Boston area. While the transit system is much older, MBTA as an agency has been in operation since 1964. The commuter system is largely owned by the MBTA, and it contracts out its operation to Keolis (this is by far the largest third-party operating contract in the US). The railroad system is also facing significant challenges in serving a growing market in an extremely congested region.

Interestingly, the MBTA is undertaking a very similar effort as the Caltrain Business Plan, titled the Rail Vision Study. The study is defining the MBTA's vision for future rail service, the infrastructure needed to achieve this goal (i.e., extent of electrification, additional trackage, etc.), as well as the best service delivery model to achieve the goal.

- b. **Governance** – MBTA is currently governed by a Fiscal Management and Control Board (FMCB) that was created by the Governor in 2015 in response to major service difficulties. The Governor appoints the Board members who have extensive authority to manage the MBTA. The FMCB structure is in place until July 2020 at which time it will either be extended, or a previous form of governance will be put in place. Authority is clearly centralized in the Governor's Office. This structure and associated issues are completely different than those facing Caltrain.
- c. **Service Delivery** – MBTA is inherently a highly centralized internal shared services organization. All its different modes are treated similarly so that the Chief Operating Officer oversees operations on the subway, light rail, commuter rail, and bus networks, and the Chief Administrative Officer oversees the administrative support departments (procurement, human resources, etc.) for all modes. They are in the process of formulating a single capital delivery and planning department for all the modes. Similar to TASI, Keolis is responsible for hiring and supervising its own employees. The MBTA has an external shared service arrangement with the Massachusetts DOT with respect to legal and civil rights functions. Previously they shared the human resource function, but that no longer is the case.
- d. **Comparison to Caltrain** – The MBTA is facing similar challenges as Caltrain and is approaching them in a similar manner. They share with Caltrain the utilization of a third-party contract operator. With respect to internal shared services, they have an organizational model that basically organizes and consolidates all the modes by function, and it meets their corporate needs. As it relates to the administrative departments, they have found that this arrangement works and that they do not have trouble attracting the necessary rail expertise. Given all the similarities, on-going dialogue with the MBTA staff may be quite informative.

## SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY (SEPTA)

- a. **System Description** - The Southeastern Pennsylvania Transportation Authority (SEPTA) is an instrumentality of the Commonwealth of Pennsylvania created by the State Legislature. It provides subway, light rail, bus and commuter rail service to the Philadelphia region. Service is also provided to New Jersey (Trenton) and Delaware (Wilmington/Newark), with the latter involving a purchase of service agreement. The commuter rail system is owned by SEPTA with the exception of the critical Northeast Corridor trackage, including the Keystone Corridor to Harrisburg, 30th Street Station and a couple of other smaller lines. It operates its system with its own employees, with the exception of operating and maintaining Amtrak owned facilities; Amtrak employees do this work.
- b. **Governance** – SEPTA is governed by a Board consisting of appointees of the Governor, Legislature, local counties and the City of Philadelphia. The Board chair is voted in by the Board and the same person has served as Chair for over 20 years. A Board member, or members representing a county or counties that have one third or more of the population of the metropolitan area, can veto any item approved by the Board. However, the veto may be overridden with the vote of at least 75 percent of the full Board within 30 days, though this is rare as the Board usually votes unanimously.

- c. **Service Delivery** – SEPTA is similar to the MBTA in that it is a highly centralized shared services operation. Again, the Assistant General Manager for Operations oversees all the modes while the Deputy General Manager oversees all the administrative functions. Unlike the MBTA, SEPTA is responsible for hiring and managing all its rail employees with the exception of those that work for Amtrak.
- d. **Comparison to Caltrain** – SEPTA is quite dissimilar from Caltrain in how it is governed and how it provides its services with in-house employees. However, it is another example of an organization structured around internal shared services. They face problems in attracting personnel with the necessary railroad skills, but this is more a function of the market than their organizational structure.

In summary, the case studies have provided additional insight into how other US commuter railroads deal with service delivery and governance questions. This information is referenced in Chapter 4 as part of the analysis of specific governance and service delivery options for Caltrain.

## II. INTERNATIONAL CASE STUDIES

Prior to discussing the three specific case studies, it is worth noting that as a general practice, the private sector has been more deeply involved in various aspects of the delivery and operation of rail improvements and services in Europe, Canada and South America than in the US. Various business models have been tried and they frequently evolve over time (a prime example being the UK railways, which are discussed below). Each model is a unique balance among control, risk and reward, but all are structured to introduce and take advantage of competitive tension and market forces. In general, the public sector usually sets public policy objectives and retains ownership of the infrastructure and many of the other assets, while the private sector operates rail services and, in certain cases, controls fares.

These international case studies were selected because they each represent a significantly different business model or governance arrangement in delivering passenger rail transportation than is found in the US. In all three case studies, the business model involves the private sector and/or the use of market forces to drive desired outcomes to a greater degree than Caltrain does today. While the different business models discussed here may not be wholly or directly transferable to Caltrain's circumstances due to differing regulatory, political and historical factors, they are meant to be both aspirational and illustrative so as to provide the JPB members with a broad range of different models for managing the railroad as well as provide some lessons learned with respect to:

- Using the private sector to deliver services efficiently and to monetize assets;
- Coordinating real estate development with railway access;
- Joint use by multiple carriers on a publicly owned corridor; and
- Separation of responsibility for infrastructure and operations.

The specific cases are as follows:

- The Bern-Lötschberg-Simplon railway (now called BLS) in Switzerland is a rail system under combined private and public company ownership that manages its infrastructure, coordinates scheduling with the Swiss national railway (SBB) and provides its own services as well as connecting services with the SBB.
- The Kintetsu Rail Company in Japan is a for-profit, vertically integrated private corporation operating regional rail services that connects at various points with the former JNR companies, as well as owning a number of different business lines outside the rail sector.
- The Chiltern Railroad in the UK is an example of a railroad operating under a franchise model where responsibility for infrastructure and train operations is divided between the public and the private sector.

**TABLE 7: INTERNATIONAL CASE STUDIES - SYSTEM COMPARISON WITH CALTRAIN**

	<b>Caltrain<sup>1</sup></b>	<b>BLS<sup>2</sup></b>	<b>Chiltern<sup>3</sup></b>	<b>Kintetsu<sup>4</sup></b>
<b>Service Area</b>	San Francisco, San Jose, Gilroy	Bern Canton and Adjacent Tourist Services	Birmingham, London, Oxford	Nara, Nagoya, Kyoto, Osaka
<b>Route miles</b>	77.4	261	225	309
<b>Ridership (annual)</b>	18.35 million	n/a	28.1 million	583.7 million
<b>Passenger-Miles (annual)</b>	406 million	623.5 million	992.7 million	6,792 million
<b>Traffic Density (passenger miles/ route mile)</b>	5.25 million	2.4 million	4.4 million	22.0 million

Sources:

1. From 2017 National Transit Database. Route miles is the length of the right-of-way over which passenger service is operated.
2. "International Railway Statistics," Union internationale de chemins de fer.
3. Office of Rail Regulation, United Kingdom.
4. Correspondence with researcher at the Institute of Transportation Economics.

**BLS – SWITZERLAND**

BLS is one of Switzerland’s largest transport companies. It is a railway conglomerate that provides suburban and regional passenger services in the Canton of Bern and local and touristic services in nearby mountainous regions. The BLS system size and passenger services are roughly three times the size of Caltrain, though subsidiaries providing freight, bus and lake steamer ship services add diversity to the system. BLS is fully coordinated with the much larger Swiss National Railways (SBB), though it does provide duplicate services in a few markets.

BLS both operates trains and owns and maintains its infrastructure. Two subsidiaries are responsible for this work: the first operates the BLS trains and the Canton of Bern is the majority owner (the National Government, other Cantons and the private sector also are owners), while the second is responsible for infrastructure maintenance and the Swiss National Government is the majority owner. The operating subsidiary dispatches the line. The National Government coordinates the train schedules for BLS and SBB. They both operate on each other’s infrastructure. BLS performs infrastructure maintenance on its trackage at the direction of the National Government. This arrangement and decision-making process ensures that the local and national services are integrated. This has worked extremely well as both BLS and the SBB are well known for providing high quality service with excellent on-time records (BLS is 95 percent, SBB is 98 percent).

Applying this model to Caltrain would involve Caltrain:

- Separating responsibility for operations and infrastructure (this is discussed in more detail in the Chiltern case study);
- Becoming a corridor manager responsible for infrastructure maintenance, joint scheduling, and allocation of train slots to other rail carriers (including High-Speed Rail and freight) in the corridor as well as operation of commuter services;
- Developing new processes to coordinate and integrate different rail services; and
- Developing a coordinated fare policy with other passenger rail carriers on the corridor.

## **KINTETSU RAIL COMPANY – JAPAN**

Though most international attention has been focused on the Japanese “Bullet Trains” (Shinkansen) operated by the successor railways to the old Japanese National Railways (JNR), about 30 percent of the Japanese rail network has always been made up of wholly private railroads that existed outside of the former JNR system. Most of these railways, of which Kintetsu is a good example, exist to operate suburban services in the major urban areas of Japan and to diversify into a wide range of activities related to the rail services. They are examples of highly vertically integrated companies that typically include railway operations (both passenger and freight), real estate investments, bus and other non-rail forms of transportation, air freight, television, resorts, and in two cases, owning baseball teams.

Kintetsu is entirely private, owning all of its infrastructure and rolling stock. It operates high-density, conventional suburban services centered in Nara, but connecting to Nagoya, Kyoto and Osaka. Kintetsu sets service levels as well as controls passenger fares.

Though the Kintetsu system is about four times the system length of Caltrain, it carries roughly half as many passengers each week as Caltrain carries in a year. The overall conglomerate to which it belongs has annual revenues approaching \$27 billion but does not report the share of rail within this total.

Applying this model to Caltrain would, in the extreme, involve Caltrain:

- Privatizing its operation;
- Aggressively expanding into business lines other than railroading with the goal of maximizing financial return;
- Operating the railroad with a singular focus on the bottom line; and
- Operating in a largely de-regulated environment.

Assuming less of a dramatic change, it would involve Caltrain:

- Increasing its focus on station development with private partners or on its own to better capture the real estate value it generates;
- Partnering with the private sector on new ways and new business arrangements to monetizing and capturing the value it generates; and
- Assessing its services and fare policies from a commercial as well as social viewpoint.

## **CHILTERN RAIL – UK**

Chiltern Railways is a privately-owned train operating company owned by Arriva operating on public infrastructure. Arriva has won the franchise to operate commuter and regional rail services on five routes in the UK. The Chiltern franchise carries approximately 50 percent more passengers than Caltrain. Interestingly, the density of traffic (passenger-miles per mile of line served), an important indicator of underlying economics, is actually higher on Caltrain than on Chiltern. It is an example of the UK franchising model, which is described in detail below.

This model had its origins in the decline of British Railways (BR) post World War II. By the early 1990s, the British Government decided that growing deficits and ever poorer service had become unsustainable and decided to break up the railway and privatize it in its entirety.

The basic approach – separating infrastructure from all operations – was partly influenced by contemporary changes in Sweden and in the European Union (EU) where infrastructure separation had become an objective. In Sweden, the objective was to clarify the economics of the infrastructure versus the various operations, so the government could decide what it wanted to pay for. In the EU, the European Commission (the governing agency of the EU) wanted to break the link between operator and infrastructure owner so that multiple operators could use the same track and so that the government support

could be targeted to social services while commercial services (domestic and international freight) could compete more fairly with road and water. By separating infrastructure from operations, the Commission also wanted to promote the rise of competition across borders and in domestic markets from multi-country operators. These objectives were translated into specific policies that required the infrastructure to be separated from operations and that users of the infrastructure be charged non-discriminatory access fees.

The U.K. government decided to go even farther by privatizing everything. The approach was to create an infrastructure company (then called Railtrack, subsequently taken back into public control, and now called Network Rail) that would permit all users equal and neutral access with access charges intended to collect the full cost of the infrastructure. Railtrack was sold on the stock market and fully privatized. About 25 Train Operating Companies (TOCs) were awarded mostly exclusive franchises to serve various pre-existing business lines of the old BR. Potential franchisees bid for 5- to 10-year franchised service on the basis of maximum payment to, or minimum payment from, the government for the stated service. In some cases, the franchise paid to government from the beginning, in others the government paid at the beginning and then was to receive payments in future years and in some cases, support payments were predicted for the life of the franchise. The rolling stock was sold to companies (“ROSCOs”) that maintained the equipment and leased it to the operating franchises. The ROSCOs also began to purchase new rolling stock and lease it to franchises. Several freight companies were also created and sold to investors.

The outcome has been mixed. Passenger demand rapidly reversed a downward trend of many years and has, since the franchising, grown more rapidly than most other EU rail systems. Railtrack went bankrupt because of poor cost estimating and control as well as safety concerns and had to be brought back under government control as a quasi-public corporation. The initial three ROSCOs have been joined by five more. While there have been complaints about their competitive behavior (or lack thereof), the ROSCOs continue to fulfill their purpose of permitting mostly short-term franchises to use rolling stock that has a much longer life than the franchise. The freight franchises have been bought and sold several times but continue to operate although they have had problems of adequate access to the network that is dominated by passenger services.

The TOCs have also had a mixed history. Of the original 25, there are now 18. Many went bankrupt or gave up their franchise because of poor performance. Some of these were re-bid successfully; some were taken into public control and remain there. As a general observation, the short haul and suburban franchises tended to do less well and need more public support, the longer haul franchises did better and needed less support. The Chiltern franchise has changed over the years and has been bought and sold several times.

Applying this model to Caltrain would involve Caltrain:

- Separating infrastructure responsibility from that of train operations. This could mean the splitting of Caltrain into different functional organizations (an infrastructure company and one or more train operating companies that could be franchised to either other private or public entities) or for Caltrain to continue to be both the infrastructure provider as well as the operator of commuter services and allow other passenger operators to use the corridor through trackage right agreements including access fees.
- Clearly determining and separating infrastructure and train operating costs so as to provide a basis for both setting access fees and gaining better insight into the relative economics of different decisions facing Caltrain. The work by First Class Partners in the Business Plan will greatly assist in this effort.
- Determining the structure and degree of risk that Caltrain is willing to take as part of its potential future third party operating contract
- Assessing its role as a market driven as opposed to publicly supported passenger carrier.

# CHAPTER 4: ORGANIZATIONAL AND GOVERNANCE REVIEW AND ANALYSIS

## I. OBJECTIVE AND ORGANIZATION

This chapter is based on the work done in the previous chapters<sup>24</sup> as well as significant additional analysis of organizational and governance options.<sup>25</sup> It is structured to provide the Peninsula Joint Powers Board (JPB or Board) and member agencies with a defined set of choices as to a path forward with regard to three critical organizational areas:

- Service delivery
- Internal organization
- Governance structure

In each of these sections, alternative paths are outlined and high-level impacts delineated.

## II. DEFINITION OF TERMS

For purposes of clarity and to enable a more focused discussion, the above aspects of organization and governance have been defined and are discussed in separate sections. It is important to recognize that there is significant overlap and interaction between them as choices in one area could well impact choices in another area. For example, a decision as to the service delivery mechanism will affect the optimal internal organization. As warranted, these types of connections are noted throughout the paper.

**Service Delivery** – This is the manner in which Caltrain operates and delivers its services. Chapter 2 outlined this in detail for the current situation. This section will define and analyze alternative future operating structures, with a particular focus on how Caltrain will deliver its daily train service after the expiration of the current TASI contract term in June 2022. Note that this section discusses the delivery of train service not the implementation of capital projects, which is addressed in both the internal organization and governance sections.

**Internal Organization** – This is the manner in which Caltrain has organized itself. While there is overlap with the discussion of core governance, this section identifies key areas of focus (resources, departmental functionality, and supporting/shared services) that must be addressed regardless of the selected governance structure.

**Governance Options** – These options are divided into two types of governance structures:

- **Core Governance Structure** – This is the manner in which the Caltrain organization is overseen by the JPB and member agencies or, in some options, by a potential successor governing body. Discussion is focused on the legal form of governance as well as the structural relationship between the governing body and the Caltrain management and delivery organization. This section will define and evaluate alternative structures that could be

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<sup>24</sup> These have been documented in previous chapters, including Chapter 1 (Organizational Assessment), Chapter 2 (Defining Standard Functions of Major Railroads and Mapping the Caltrain Organization), and Chapter 3 (Summary and Comparison of Organizational Structure of Other Railroads and Public Agencies).

<sup>25</sup> Major assistance was provided by a team of outside experts: Renee Marler, David Miller, Lou Thompson and Ratna Amin.

used by the JPB or a successor governing body to govern Caltrain. These options are either “self-directed” as they can largely be implemented by the JPB and the member agencies, or “non-self-directed” as they require the significant participation of parties external to the JPB and the member agencies.

- **Parallel Governance Considerations and Structures** – This section discusses several governance-level issues, considerations and structures that the JPB and its member agencies may wish to address independent of (or in combination with) the core governance structure of the railroad. Generally, these relate to specific major issues and would require extensive involvement and support from external parties. Examples of this would include participation in a regional construction agency or a grade separation district.

### III. HIGH-LEVEL QUESTIONS FOR BOARD/MEMBER AGENCY DECISION MAKING

Prior to reviewing this information, it is important to highlight the basic questions for the JPB and member agency consideration:

- Timing – Is this the right time to be having this discussion? Relatedly, what are the implications if no decisions are reached?
- Recommendations – What are the recommendations or key focus areas?
- Implementation Plan – What additional work is needed?

Chapter 5 will include discussion of each of these questions as they relate to the three organizational areas. Select recommendations as to possible paths forward will be made.

### IV. CONTEXT

As the Board and member agencies review the different organizational elements and choices described here, it is important to view them within the context of Caltrain’s current and future environment.

Today, the Caltrain organization is challenged to plan for successful outcomes across four different workflows. The railroad must:

- Serve its existing customers and sustain its existing service;
- Complete the Peninsula Corridor Electrification Project and launch a transformed, electrified service (as well as supporting other near-and mid-term capital projects);
- Plan for significantly increased ridership and additional train service; and
- Plan for and actualize a future of continued expansion and integration with significant local, regional and state projects including an extensive program of grade separations, major terminal projects in San Francisco and San Jose, and integration with both a statewide high speed rail system as well as other statewide rail systems.

The above underscores the fact that Caltrain has already embarked upon a path that requires significant organizational change. The status quo is no longer viable as transformative decisions have already been made, the most critical being the electrification of the corridor and the future sharing of the corridor with the High Speed Rail Authority (HSRA). In addition, the Business Plan lays out an ambitious future vision requiring major new capital-intensive projects and expanded operations. In combination, these changes will impact all aspects of Caltrain’s operations and organization and come with attendant opportunities and challenges.



Implementation of substantial organizational change always requires a great deal of organizational focus and energy. For each of the options under consideration there will be differential impacts on the Caltrain organization, which will drive the amount of effort and resources needed to transition to a new structure. This will be undertaken in the same time period as other significant transformational change:

- Completion of the electrification project and the initiation of expanded electric service;
- Selection of a new train operator or extension of the existing contract; and
- Initial steps toward the implementation of the Business Plan.

These factors will make the transition to the desired outcome much more complex and require very careful and comprehensive transition planning.

Within the context of the Caltrain corridor there are many possibilities and unknowns that have the potential to materially impact and influence the preferred organizational and governance structure for Caltrain. Key uncertainties include the availability of major new funding for the railroad and its partners (with potentially attendant changes to how the region manages and delivers rail service) and the exact timing of key mega projects and services including High Speed Rail, the Downtown Rail Extension (DTX) of passenger rail service from 4th and King Station to Salesforce Transit Center (STC) in San Francisco, a rebuilt Diridon Station, or even a second Transbay crossing. Furthermore, there is discussion of new future services that could well be integrated with Caltrain, including future Dumbarton service and extension of service south of Gilroy. In this environment Caltrain must address the challenge of continuing its own work to improve its organization and system while also proactively and positively coordinating with these larger projects and opportunities.

Finally, the Business Planning process has engaged the private sector in a significant manner. Meeting their expectations for a clear and viable path forward will provide a strong foundation for future collaboration and their support for the needed major investments outlined in the Business Plan.

## V. SERVICE DELIVERY OPTIONS

This section of the chapter focuses on service delivery. It is organized as follows:

- Section A: Overview
- Section B: Current Service Delivery Method
- Section C: Optional Models
- Section D: Other Considerations
- Section E: Summary

### A. OVERVIEW

As outlined in Chapter 3, there are innumerable options to be considered for delivering rail service, both domestically and around the world. Models vary from rail agency to rail agency and within individual agencies. There are many factors that result in the selection of a service delivery model by an agency at any given point in time. It is important to emphasize that there is no “correct” model that can simply be adopted for Caltrain’s use at this time. Instead, Caltrain needs to consider a number of factors outlined below to determine which model is the one that will enable the agency to achieve its 2040 service vision, to provide excellent service during the coming decades, and to navigate its immediate changes over the next five to ten years. It is also important to note that the model can change over the next 20 years to reflect Caltrain’s situation at any point in time; incremental evolution over time is a possibility and has been used by many railroads throughout the world (the UK experience with Railtrack being transformed into Network Rail being a prime example).

The importance to Caltrain of selecting the most cost-effective model for its current situation cannot be overstated. The manner in which Caltrain provides its services will have a critical impact on the overall success of Caltrain going forward.

It will affect all elements of the organization including customer service, finances, capital improvements, safety and internal organizational structure. A well-conceived strategy is critical.

It is important to note that the models outlined in this section have been defined at a conceptual level. Additional analysis would be required to fully define the models.

## **B. CURRENT SERVICE DELIVERY METHOD**

Caltrain currently contracts with TASI to provide rail services, including track maintenance, rolling stock maintenance and operating services.<sup>26</sup> The current contract was initiated in 2011. The end date of the current contract is June 2022. Caltrain has a one-year option to extend the contract as well as an agreement to extend the contract through 2027 subject to negotiation of satisfactory commercial terms and possible FTA approval.

This is a bundled service contract as TASI has responsibility to deliver all the key elements of infrastructure maintenance, rolling stock maintenance and train operations.<sup>27</sup> As outlined in Chapter 2, TASI's work is supplemented in certain functional areas by work undertaken directly by Caltrain staff or other contractors.

The contract in essence is a cost-plus or gross cost contract with performance incentives and penalties. The contract is quite comprehensive and outlines in detail TASI's responsibilities. Each year as part of the budget cycle, TASI prepares its projected costs to operate the service and the underlying manning plans, which are then reviewed and ultimately approved by Caltrain staff and the JPB as part of the annual budget. Caltrain staff oversee contractual performance. In addition, Caltrain staff may propose certain new programs that TASI will be directed to implement.<sup>28</sup>

The overall contract value is approximately \$110M annually<sup>29</sup> plus the opportunity to earn approximately \$4.5M in performance incentives. The incentive plan is defined carefully and provides incentives for: management/budget control; safety; on-time performance; customer service; equipment reliability; and infrastructure reliability. The incentive plan also includes specified penalties for certain clearly enumerated infractions.

With regard to finances, TASI has an incentive to remain within the budget but does not have an incentive to be more efficient or generate additional revenues. Caltrain owns the revenue risk, including the collection of revenue. TASI negotiates directly with the unions while Caltrain is responsible for paying the costs of the settlements. There are no formal gain-sharing provisions in the contract (i.e. programs that would reduce costs or increase revenues whereby the benefits are shared between TASI and Caltrain).<sup>30</sup>

Overall, Caltrain staff expressed general satisfaction with the agreement and TASI performance. Caltrain staff has identified areas of possible improvement including a revised performance incentive/penalty regime and defining a gain-sharing agreement(s) that could be potentially be included in a new contracting agreement. In addition, the internal need for sufficient resources and more effective contract performance oversight through the use of key performance indicators and revised processes was highlighted.

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<sup>26</sup> Prior to this, Caltrain contracted with Amtrak to provide the services for nearly 20 years. At the time of the transition to TASI operation, in compliance with the applicable federal labor law protection (13c) requirements, the Amtrak workforce, with the exception of senior management, was offered the opportunity to transfer to TASI. The wages and benefits negotiated by TASI largely replicated the preexisting Amtrak contracts and provided equivalent compensation.

<sup>27</sup> The differences between "bundled" and "unbundled" contracts is discussed in Chapter 3.

<sup>28</sup> As long as the Caltrain requests are consistent with labor agreements and fully reimbursed, Caltrain has full discretion in implementing these changes.

<sup>29</sup> This includes funding for operations (\$90M), capitalized maintenance (\$7M) and capital support and miscellaneous services (\$15M).

<sup>30</sup> Examples of this could involve the contractor suggesting a program to reduce energy costs with the savings shared between the contractor and Caltrain or the contractor identifying a new profitable revenue stream (i.e. WiFi), and the parties sharing the profits and, potentially, the related investment.

## C. OPTIONAL MODELS

### ANALYTICAL FACTORS

Prior to the discussion of different service delivery models, it is important to consider the factors or perspectives within which each model should be viewed. Key factors include:

- Degree to which the model helps achieve Caltrain corporate objectives;<sup>31</sup>
- Ability to accommodate the service vision outlined in the Business Plan with the significant expansion of service and the operation of electric trains;
- Flexibility to address possible future regional developments: service expansion, operation of HSR on the corridor, and development of regional rail governance models;
- Balancing of reputational and financial risk, control and cost;
- Anticipated market response and associated cost;
- Implications for labor agreements and federally mandated labor protection provisions commonly known as 13c labor protections; and
- Ease of transition and associated risk.

In addition, given the immediate need for Caltrain to develop a strategy for service delivery post June 2022, a few other factors need to be given particular consideration as part of the determination of the service delivery model for the period three to ten years out. These factors include:

- Organizational bandwidth during a period of significant transformational change (especially electrification, which will require major shifts in necessary skills, numbers of people and training);
- Transition requirements;
- Length of time needed to negotiate a new contract with TASI or another provider;
- Degree of risk to on-going service delivery; and
- Current contractor market conditions.

### ALTERNATIVE SERVICE DELIVERY MODELS<sup>32</sup>

#### Extension of TASI Contract with Modifications

This option would entail Caltrain providing notice to TASI that it is interested in engaging in negotiations to extend and modify the contract through 2027 with the proviso that FTA approval may be required. It should be noted that the TASI contract has been in place during a period when the amount of service (number of trains, number and type of rail cars and extent of system) has remained relatively constant. Caltrain is entering a period of significant transformation and expansion. In the negotiation, the contract structure and terms will need to be analyzed to ensure that they match the situation over the next eight years. Modifications could center on those areas that have been identified for possible improvement including gain sharing agreements, revised performance incentives/penalties and other items identified by Caltrain staff as well as modifications needed to transition into and operate an expanded electric service. As part of this, Caltrain would review its internal contract management processes and resources to ensure adequate oversight.

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<sup>31</sup> For example, in the event that financial goals are most critical, a model that incorporates greater private sector involvement, higher risk and profit motives would be preferred. Conversely, if social benefits (reduced pollution, enhanced land use) are most critical, a model that maximizes public sector control would be preferred because a higher degree of public support will be needed.

<sup>32</sup> The option of full privatization is discussed in the Governance Section of this chapter.

To implement this strategy, Caltrain would organize an internal interdisciplinary task force with the possible inclusion of external consultants to carry out this negotiation. Based on previous Caltrain experience, it is estimated that this entire process would take approximately two years.

### **Solicitation of a Service Provider through the Standard Procurement Process**

In this instance, Caltrain would go to the market to solicit a service provider effective June 2022 or June 2023 (dependent upon a decision to exercise the TASI option or not). Initially, Caltrain would have to determine the model structure that is desired. Once this was done, Caltrain would initiate the procurement process and develop an appropriate Request for Information / Qualifications or Proposals as needed, evaluate proposals, select a vendor and possibly manage a transition period if TASI was not selected.

Alternative model structures for this approach are discussed below.

#### **1. Bundled or Unbundled Contract**

In the event of a bundled contract, Caltrain would award a single contract for all rail operations. In the case of an unbundled contract, Caltrain would award separate contracts for different functions. Likely this would entail a Maintenance of Way contract, a Maintenance of Equipment contract<sup>33</sup> and a Train Operator contract. Train dispatching would either be part of the Maintenance of Way or Train Operator contract. A variant of this would be for an additional contract for catenary/power system maintenance as this requires extremely specialized skills. Caltrain staff would be responsible for managing the interfaces between the different contractors; these are likely to require significant resources.

The unbundled model is used more frequently in Europe than in the US.<sup>34</sup> In the US, it is usually used when the commuter railroad is operating on infrastructure owned by another railroad (i.e. the host railroad) and the host railroad insists upon maintaining its own infrastructure and dispatching trains. This instance does not apply to Caltrain. Metrolink has used this model, though it is now changing to a fully bundled contracting approach.

Another variant of this model would be to include the design and construction of selected capital improvements (known as a design/build/operate/maintain or “DBOM” contract). A more complicated version would add financing to the contract; i.e. “DBOMF.” Given the massive capital requirements outlined in the Business Plan as well as the lack of an identified funding source, these models are best viewed as long-term possibilities.

Key factors to consider in choosing whether the bundled or unbundled model is best for Caltrain at this time are:

- Benefit of specialized expertise;
- Anticipated private sector market response;
- Extent of required management of interfaces; and
- Need for negotiation and administration of multiple contracts.

Caltrain needs to balance the relative merits of these factors. For example, an unbundled contract would provide greater specialized expertise (eg, rolling stock maintenance); however, it would require Caltrain to devote significant resources to manage the interfaces between contractors with different priorities (e.g. infrastructure maintenance and train operations). Caltrain would also need to administer multiple complex contracts in the unbundled model. Finally, Caltrain would need to assess the expected response of the private sector to either of the contracting approaches.

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<sup>33</sup> This is often given to the manufacturer of the rolling stock. Caltrain had this option with Stadler but declined to exercise the option due to its high costs.

<sup>34</sup> As outlined in Chapter 3, the UK, with Network Rail handling infrastructure, franchises managing operations, and the ROSCOs furnishing rolling stock, is an example of a totally unbundled system.

It is estimated that the procurement of a new contract and the associated transition period would take two to three years depending upon the selected contracting model with the bundled contract likely requiring the shorter time implementation period.

## 2. Gross Cost or Net Cost Models

A second basic decision is which of these two structures is preferred. In the gross cost model (also referred to as the cost-plus model), the service provider has its approved costs fully reimbursed and is typically paid an additional profit and/or accepts an incentive regime. This is basically the current TASI contract cost model. The other model is the net cost model where the operator takes on a portion or the entire amount of the revenue and cost risk. This type of contract has sometimes been used in Europe (as was discussed in the Chapter 3 example of Chiltern Rail) but has not been used in the US.<sup>35</sup>

The net cost model could have the benefit of certain kinds of gainsharing but would require Caltrain to undertake extensive analysis and negotiation, especially surrounding future passenger revenues and control of fares. Applying it to an unbundled set of contracts would greatly add to the complexity. Given the degree of transformation occurring at Caltrain over the next five years, consideration of the net cost model would be best done at a future date.

### Provision of Services with In-House Forces

Another alternative service delivery option could be to reverse the policy of contracting-out and adopt the use of in-house Caltrain employees to provide rail service. As noted in Chapter 3, this model is used by a number of US railroads, including the large legacy operations in Chicago, New York, New Jersey and Philadelphia. Two new recent operators, SMART and Utah Transit Authority, also have selected this model. Given the magnitude of this change, careful analysis would be required. Issues to be examined would include the financial cost (including participation in the federal Railroad Retirement System), development of necessary organizational bandwidth and associated restructuring of the organization, need for a direct role in the collective bargaining process, management of a transition plan and the degree of incremental control (and associated benefit) that would be gained. As with the net cost model above, given the amount of transformation over the next five years, this would best be considered at a future date.

## D. OTHER CONSIDERATIONS

As part of the selection of the desired contracting model, there are a few other factors for Caltrain's consideration:

### Contract Term

As part of either a new solicitation or an extension of the TASI contract, Caltrain will have to decide the length of the contract term, the periods of performance and the determination of options. While the contract must be consistent with FTA guidelines, there is a balancing between the scope of services and degree of risk that a contractor will accept and the length of the contract. Contractors will usually accept more risk if there is a longer contract term as this provides them with greater certainty and with the period of time needed to recover their investment.<sup>36</sup> Further, this provides greater price stability and reduced transaction costs. There appears to be a trend towards longer contracts throughout the US.<sup>37</sup>

Caltrain will also have to determine its solicitation process. In particular, it will have to determine how to structure the process (exact use of an RFI, RFQ and RFP) and the extent of market soundings that would be conducted. Typically, the more complex the agreement, the greater the use of market soundings and intermediate steps such as RFIs and RFQs. As an example, HSRA issued a Request for Expressions of Interest (RFEI) to potential investors in the HSR system. There were

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<sup>35</sup> An example of an operator taking revenue risk is the case of the Buenos Aires Metro. In this instance, the concession is for 30 years and the concessionaire was required to project demand, revenue (with fares specified), operating costs, and the timing and cost of a specified investment program. The government chose the combination of required operating support and capital costs that minimized the total public cost.

<sup>36</sup> An example of this is in the UK where the government wanted to keep the franchises relatively short (5-7 years) in order to enhance public oversight. It was then necessary to create the ROSCOs and Railtrack/Network Rail in order to give the equipment and infrastructure providers enough time to recover their investments.

<sup>37</sup> TCRP Research Report 200, Contracting Commuter Rail Services, pg. 6.

over 60 responses and they were valuable in establishing the terms under which private investors would actually be interested; this has had a significant impact on subsequent HSRA financial plans.

### **Development of Strategy/Desired Result**

As a first step, Caltrain must have clear priorities, with the first step being the development of a corporate strategy. This would include such issues as the scope of services that it will want to contract out and the degree to which Caltrain wants the contractor to take risk (revenue and/or cost) and furnish investment. For example, does Caltrain desire the contractor to be responsible for additional construction work or play a greater role in certain functional areas? Relatedly, what type of incentive/penalty regime is desired as compared with the system today?

### **Organization of the Negotiating Team**

Caltrain will have to develop this team using internal resources possibly supplemented by outside expertise. To obtain an optimal result, the team needs to be interdisciplinary and involve numerous departments (legal, finance, operations, planning) with clear delineations of responsibility. Accurate and detailed cost and revenue information will be critical; the integrated business model developed by First Class Partnerships for the Business Plan will be extremely valuable. Senior staff must be significantly involved as numerous trade-offs will be required throughout the negotiations. Given the importance of this negotiation, Caltrain may also want to form an Ad Hoc Board Committee to oversee this process.

## **E. SUMMARY OF SECTION V**

This section has outlined the current service delivery method and has analyzed alternative models. In Chapter 5, a recommended path forward for delivering Caltrain service is outlined for JPB and member agency consideration.

# **VI. INTERNAL ORGANIZATION**

This section of Chapter 4 addresses the issues of internal organization. It is organized as follows:

- Section A: Overview
- Section B: Resource Requirements
- Section C: Areas for Future Focus
- Section D: Summary

## **A. OVERVIEW**

As outlined in previous chapters, Caltrain is the seventh largest commuter rail system in the US and is growing rapidly. It is an efficient and complex organization which, despite limited resources due to funding constraints, has had significant success providing high-quality services to a growing ridership base, implementing major capital programs, and undertaking a comprehensive business planning process.

At the same time, many of its staff members identified its limited resources as a major and pressing problem. In addition to this, it is facing a series of major immediate challenges in a rapidly evolving environment including the introduction of expanded electrified railroad service and the need to determine the future structure of its third-party operating contract. In the slightly longer term, there will likely be major changes in the corridor including the implementation of a significant grade separation program, the total reconstruction of the two terminals and the possible blending of service with High Speed Rail. To address these challenges, the organization must grow and will need to identify the funding and resources to do so. Note that this situation is common across every long range growth scenario contemplated in the Business Plan and is an issue regardless of the specific long range service vision selected by the Board.

The critical issue of internal organization and resourcing is discussed in detail below. Following this, a series of important complementary supplemental actions are outlined and discussed.

## B. RESOURCE REQUIREMENTS

A constant theme throughout discussions with Caltrain and external agency staff is the extent to which the railroad, due to financial limitations, does not have adequate organizational resources to fulfill and sustain its current mission, let alone the greatly expanded one outlined in the Business Plan.

A very high-level analysis, shown in **Table 8**, comparing Caltrain to the six largest US commuter railroads, found that Caltrain is the most productive major US railroad as measured by the amount of, car miles operated per employee and passenger miles carried per employee. In addition, it produces 22 percent more car miles per employee and 107 percent more passenger miles per employee than the average of all the other systems.<sup>38</sup> This illustrates the degree to which Caltrain's staffing is beneath the industry norm. As an illustration, if Caltrain were to meet the average staffing level of the other railroads, it would add at least 100+ positions.<sup>39</sup>

In summary, it is clear that Caltrain is significantly under resourced for today's work outputs, let alone to address its upcoming transformation, its projected growth, its need to expand many functional areas (discussed later in this section), and the implementation of a long range service vision. A more detailed analysis that looks at resource needs by function is required to determine the correct number of additional positions for each department and for the entire railroad. From this a determination of future funding requirements to adequately staff the railroad needs to be determined.

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<sup>38</sup> This actually understates the difference, as all the other major railroads except Metro North and Metra have certain major maintenance and station functions performed by Amtrak, whose staffing is not included in these numbers.

<sup>39</sup> This is the most conservative calculation as it is based on car miles per employee and does not account for the significant number of Amtrak staff that perform infrastructure and station maintenance on the Northeast Corridor.

**Table 8: Comparison of Caltrain to Large US Commuter Rail Properties**

<b>Agency Name</b>	<b>Total Employees</b>	<b>Car Miles</b>	<b>Car Miles Per Employee</b>	<b>Passenger Miles</b>	<b>Passenger Miles Per Employee</b>	<b>Footnote</b>
NJ Transit	4,850	61,500,000	12,700	2,077,100,000	428,300	1
Long Island Rail Road	7,331	67,100,000	9,200	2,996,900,000	408,800	4
Metro-North Railroad	6,461	68,600,000	10,700	2,271,000,000	351,500	
Metra	4,797	43,700,000	9,200	1,577,400,000	328,900	3
MBTA	2,394	25,000,000	10,500	697,700,000	291,500	5
SEPTA	1,921	19,500,000	10,200	426,200,000	221,900	2
<b>Average</b>	<b>4,626</b>	<b>47,600,000</b>	<b>10,400</b>	<b>1,674,400,000</b>	<b>338,500</b>	<b>6</b>
<b>Caltrain</b>	<b>580</b>	<b>7,400,000</b>	<b>12,700</b>	<b>406,100,000</b>	<b>700,000</b>	<b>7</b>

**Caltrain Performance vs. Average** **+22%** **+107%**

Sources:  
 Metrics and Service Data Tables, National Transit Database, 2017, Federal Transit Administration.  
 Employees Data Tables, National Transit Database, 2017, Federal Transit Administration.  
 MBTA Commuter Rail Fact Sheet.

- Notes:
1. Staffing excludes Northeast Corridor and Penn Station Infrastructure Maintenance.
  2. Staffing excludes Northeast Corridor, 30th Street Station, and Harrisburg Line Infrastructure Maintenance.
  3. Staffing excludes services not directly operated by Metra (BNSF and UP).
  4. Staffing excludes Penn Station Infrastructure Maintenance.
  5. Staffing excludes Northeast Corridor and South Street Station Infrastructure Maintenance.
  6. Average excludes Caltrain.
  7. Caltrain includes both TASI employees and Caltrain employees working on the railroad.

**C. ADDITIONAL AREAS OF ORGANIZATIONAL FOCUS**

Beyond the general need to fund additional positions, there are a number of other organizational issues that will require immediate attention. While some of the organizational issues are related to final governance and service delivery decisions, there are a number of changes that can be de-coupled from these larger issues. This section details key organizational elements that need to be addressed now.

1. Shared Services
2. Critical Interfaces
3. Functions
4. Attracting and retaining talent and skills

**SHARED SERVICES**

As noted in Chapter 2, Caltrain has a significant amount of bifurcated responsibility due to the use of a third-party contractor to provide rail operations as well as the historical arrangements between the member agencies. This has led to a large amount of shared services between the Caltrain Rail Division and TASI as well as those shared between the Rail Division and the San Mateo County Transit District.<sup>40</sup>

<sup>40</sup> These are delineated in detail in Chapter 2. An example of the former sharing is Human Resources or Budget; an example of the latter is maintenance of way or operations planning.



Note that the discussion below is viewed through the lens of what is needed to fulfill the railroad’s mission and is presented independent of the tie-in between shared services and governance.<sup>41</sup> This information could then be used to provide guidance to the broader governance conversation between the member agencies.<sup>42</sup>

The determination of the optimal extent of shared services from an internal organizational perspective would reflect the following factors:

- The degree to which specialized railroad skills are necessary
- The financial savings or cost
- Clear lines of authority and priority setting
- The selected service delivery model

The first factor is critical as shared services are most effective when the skills needed for the different modes are transferable. Within Caltrain, there seems to be a consensus that certain functions such as budget, accounting, treasury, and marketing/communications are working well. There are differences of opinion as to the effectiveness of other shared services, in particular information technology (IT), procurement, human resources (HR), and safety. A more detailed analysis is needed to determine the underlying problem and recommended solution.<sup>43</sup>

The second factor is the financial impact of sharing services. This is a complex issue as it involves specification of alternative organizational options, allocation of costs, and determination of overhead, amongst other factors. In addition, modifications may involve resolution of a variety of historical issues between the parties (eg, pension liabilities). A detailed analysis of this issue is needed.

If services are shared, there need to be clear lines of responsibility and authority whereby both the user department and the one fulfilling the request understand each other’s roles, as well as a process to determine priorities in the shared service department.

Finally, with respect to the service delivery model, if the current use of a third-party operator is maintained, the organization should be structured so as to provide the most effective oversight of the contractor with clarity as to the relative responsibilities of Caltrain and TASI staff. This may entail re-thinking both the processes used as well as the resources needed to manage the contractor.

In summary, the issues of which services should be shared and with whom is intertwined with decisions on governance and service delivery. At the same time, some of these issues need to be addressed immediately while the larger governance conversation is evolving. The analysis of shared services would fit within the resource analysis outlined above and would, to the extent practical, be coordinated with the selected governance and service delivery path.

## **CRITICAL INTERFACES**

A second area of focus is the extent to which different departments and individuals have clearly defined lines of authority and responsibility and how well key interfaces are working. As noted in Chapter 1, the following critical interfaces have been identified as worthy of examination:

- Interface between operations and construction;
- Interface between operations and administrative staff;
- Construction oversight;

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<sup>41</sup> This is discussed extensively in the governance section of this chapter.

<sup>42</sup> It should be noted that some of the governance models outlined in the governance section would, by definition, result in a change in shared services. For example, if a new structure such as a district form of governance is selected, the provision of shared services would have to change.

<sup>43</sup> For example, the need to improve and expand HR’s hiring process for rail positions could be resolved either through a separate HR rail department or a specialized group within the current department.

- Design standards;
- Budget development; and
- Capital planning.

To ensure successful outcomes, the organizational infrastructure (i.e, reporting responsibilities, decision-making processes, etc.) needs to be well defined and each part of the organization needs to understand and follow its role.

### **FUNCTIONAL AREAS**

Directly related to the above is the fact that Caltrain will require a different type and level of output from certain key functional areas, regardless of its governance structure, to accommodate its major transformation. Based on numerous discussions with Caltrain staff, the following areas are highlighted for future focus:

1. Planning Department – The growth and transformation of Caltrain mandates the need for a department with the resources, accountability, and authority to set the corporate vision and then drive its implementation. Once completed, the reorganization that the Chief Railroad Officer is in the process of implementing will meet this need.
2. Contracts/Agreements – Caltrain will, in all likelihood, be negotiating a number of major agreements and contractual relationships with a number of external parties, including:
  - Agreements related to the San Francisco Terminal, including both potential development at the Fourth & King Yard as well as pertaining to the construction and operating of the DTX;
  - Agreements related to the construction and development of Diridon Station;
  - Future operating and business agreements with HSRA; and
  - Other development agreements with municipalities.

To successfully complete these agreements, organizational re-alignment will likely be necessary, including additional staff and consultant resources, restructuring of internal processes to include a wide range of departments and re-alignment of the organizational structure with clear lines of responsibility.

3. Rail Activation Plan – There is an immediate need to put together a multi-functional team to support the seamless introduction of expanded electric service in 2022. This would be an integrated plan that ties together the construction and operation of the new facilities, new cars, positive train control system, and the constant warning grade crossing system. Specific areas of focus would include testing, maintenance procedures, training, safety programs, operating protocols, and schedule development. This would involve all aspects of the organization with possible consultant assistance. TASI may also be involved dependent upon the service delivery decision made by the JPB.
4. IT – With its increased dependence on complex technology, Caltrain will need both greater IT capacity and bandwidth, as the focus of the IT work expands to include more front-line customer facing systems (i.e., passenger information and ticketing systems) as well as new operational systems (i.e., positive train control and new power monitoring systems). In addition, the approach to this function as a shared service, a separate railroad function or a hybrid needs to be resolved.
5. Procurement and Human Resources – As the railroad organization grows, Caltrain will need these departments to have the necessary rail specific knowledge and experience as well as the resources and processes to be significantly faster and more nimble in providing support. This is the case regardless if these are provided as shared services or become separate departments supporting the railroad.
6. Real Estate/Commercial Activities – In addition to the major terminal projects noted above, it is likely that in conjunction with ridership and service increases and the continuing housing crisis in the Bay Area that station area development will become a more important function for Caltrain. Furthermore, there will likely be a continued

and intensified push for Caltrain to monetize its assets to the extent practical as a possible fund source for operations and/or capital investment. This will entail expanding the capacity of the current department.

7. Performance Management – With the growth of Caltrain, the development of a robust and sophisticated set of performance measures (KPIs) to assist and expand senior staff’s ability to manage overall corporate performance will be needed. In addition, a new third-party operator agreement could well include new performance measures. Relatedly, an expanded ability to analyze and use “big data” and perform root cause analysis for any number of functions (operational performance, asset management) would be valuable.
8. First Mile/Last Mile – With the anticipated large increase in ridership, new arrangements will be required to enable people to both access Caltrain and reach their destinations. Further technical analysis of this issue will be conducted in the Business Plan process. Ultimately, addressing first- and last- mile needs will likely involve a menu of different actions: parking, publicly-operated feeder services, private employer buses, bicycles, pedestrian access, and agreements with mobility companies. Additional staff resources and processes will be required to manage this complex and highly political process.
9. Capital Project Implementation – As future capital programs are developed, a decision will have to be made as to how best implement and manage major construction projects. This could be done by the Rail Division, a Caltrain Special Construction Division (an organizational unit similar to CalMod) or an outside entity such as a special purpose district or a regional construction authority.<sup>44</sup> The decision as to the path forward may well involve external parties and will likely develop over a period of time. From a Caltrain perspective, the key issues will be governance, project scope, funding, organizational capability/reputation, and ensuring that the operational and service needs of the railroad are met by the implementing group.

A detailed review of these functional areas is needed, will identify needed resources and should be integrated with the resource analysis noted above.

## **TALENT AND SKILL RETENTION**

Another common theme that was raised by Caltrain staff is the need to attract and retain talent. There are many very talented people at the senior levels of the organization, however there is also a high vacancy rate. Using the Rail Division as an example, there is a 21 percent vacancy rate. This is undoubtedly due in part to the high cost of living in the Bay Area,<sup>45</sup> however, there may be additional issues that are making it hard to attract and retain talented people: lengthy and complicated hiring processes, organizational cultural reputation, wage and benefit scale, lack of participation in the railroad retirement system, internal training and development programs, etc. An analysis of this situation needs to be undertaken to determine and address the underlying causal factors.

A second issue is that there are a large number of seconded consultant staff. Again, using the Rail Division as an example, 25 percent of all filled positions are full time consultants. This strategy is typically most effective when an organization has a known “bump” or increase in needed resources for a set period of time and then will reduce the organization to its prior size. However, this situation does not apply to Caltrain as it will be needing to increase its staff over the next decade to achieve its mission. The downside of using seconded consultants in lieu of staff is that it brings an inherent lack of stability. This situation also needs to be evaluated and a clear approach delineated and implemented.

A final issue is the need to attract the necessary skill-based workforce to deliver the kinds of services and projects that will be needed to plan and support an increasingly complex railroad, as well as, ultimately, the long range service vision selected by the Board. The following skill sets will be critical:

- Analytical and financial skills to negotiate a new operator agreement as well as possible external agency agreements;

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<sup>44</sup> Both of these are discussed in detail in the governance section of this chapter.

<sup>45</sup> In certain departments such as IT, there is also the significant competition with Silicon Valley employers.

- Financial skills to develop and implement asset management systems;
- Operational and maintenance skills to run and manage, for the first time, an electrified railroad (a portion of which will be housed by the third-party contractor);
- Capital planning skills to develop long term investment plans and interface with other regional rail operators;
- Operational planning skills to develop expanded schedules that will likely be frequently changing to accommodate construction projects;
- Facility planning and business skills to represent Caltrain in complex projects, such as DTX, Diridon Station and Dumbarton;
- Real estate/business skills to assist in the above major developments as well as to monetize other Caltrain assets;
- Administrative skills in the areas of human resources and procurement to support the Business Plan vision;
- Technological skills to support the new electrified railroad (including new power and signal systems) as well as customer facing services (ticketing, information); and
- Community interface/political skills to assist in program and project definition, funding and implementation.

A determination needs to be made as to the extent that these skills currently exist in the organization and at what resourcing levels, which skills are best provided by external consultants and the optimal process to obtain the missing skills.

#### **D. SUMMARY OF SECTION VI**

This section has reviewed and analyzed Caltrain's internal organizational structure. In Chapter 5, a recommended path forward addressing both the need for additional resources as well other critical organizational issues is outlined for JPB and member agency consideration.

## VII. GOVERNANCE OPTIONS

This section of the chapter addresses the issue of governance options. It is organized as follows:

- Section A: Overview
- Section B: General Description of Joint Powers Authorities
- Section C: History of Caltrain Governance Structure
- Section D: Description and Analysis of Core Governance Options A through E
- Section E: Description and Analysis of Parallel Governance Options F through I and Considerations
- Section F: Summary

### A. OVERVIEW

As noted throughout the chapter, Caltrain is facing significant opportunities and challenges. As part of this, consideration of governance options for policymaking and oversight for the rail system is an integral component of the Organizational Assessment study. In this section, a range of preliminary governance structures for Caltrain are identified, including projected timelines associated with the effectuation of governance changes and delineation of high-level implications of each option. Lessons learned from the case studies of other US and international railroads in Chapter 3 have been incorporated in this analysis.

It is important to emphasize that the opportunities presented in this section should be viewed as preliminary in nature. Implementation of structural governmental changes involves a wide range of considerations including service and project delivery, personnel impacts, financial impacts and political acceptability and feasibility at a level of detail beyond this study.

Importantly, underlying the assessment of the various models that follows is the common assumption that a dedicated source of revenues will become available via a regional sales tax measure or by other means to enable implementation of the service vision to be adopted through the Business Plan. Accordingly, the enumeration of modified or new governance models is not pegged to the premise that a new source of revenues to support Caltrain will emerge inherently from the selection of any one of them. Otherwise stated, any modification of the existing Caltrain governance structure will not alone solve the financial challenges faced by the organization or the organizational issue of limited resources. From a legal standpoint, governance and finance are separate considerations, although it is recognized that from a political standpoint there may be a propensity to tie the two together.

The following governance structural options will be discussed in the sections that follow:

#### Core Governance Options

As defined earlier, these are alternative structures by which the Caltrain organization could be governed by the JPB and JPA members or, in some options, by a potential successor agency. This is further divided into those options that are self-directed as they can largely be implemented by the JPB or JPA member agencies and those that are not self-directed as they require significant participation of parties external to the JPB and member agencies.

#### Self-Directed Options - Three Basic Types

1. JPB as currently structured and administered - **OPTION A**
2. Various configurations of the JPB:
  - a. JPB as currently structured, coupled with modifications relative to governing board oversight and the provision of managerial services by San Mateo County Transit District (SMCTD) - **OPTION B**
  - b. JPB as currently structured, but reorganized as a railroad authority that hires its management and administrative employees directly - **OPTION C**

- c. JPB as currently structured, but reorganized as a railroad authority that hires its management and administrative employees directly and supplements on an as-needed basis with expertise from JPA member agency staff - **OPTION D**
3. Creation of a Special District, the Peninsula Rail Transit District (PRTD), to govern and administer Caltrain - **OPTION E**

**Non-Self-Directed Options** - Regional integration in various configurations:

1. Existing agencies with expanded regional cooperation - **OPTION F**
2. Existing agencies with regional integration of key functions –**OPTION G**
3. Consolidated regional authority with subsidiary railroads – **OPTION H**
4. Fully consolidated regional railroad – **OPTION I**

**Parallel Governance Considerations and Structures**

These include several governance issues and structures that the JPB and its partner agencies may wish to address independent of (or in combination with) the core governance structure. They include:

- Megaproject delivery by new organizations:
  - Construction Authority to deliver megaprojects such as the Downtown Extensions (DTX) and Diridon Station
  - Grade Separation District to manage grade separations
- Geographic expansion/integration with other railroads to include new arrangements with:
  - High Speed Rail Authority
  - Other rail carriers
- Increased Private Sector Role

**B. GENERAL DESCRIPTION OF JOINT POWERS AUTHORITIES**

Joint powers authorities (JPA) represent a common form of local and regional governance in California. Such an authority is created when two or more public agencies agree by contract to the exercise of powers that are held in common by the contracting parties. The general enabling statutes that delineate the authority for creation of JPAs is codified in the California Government Code commencing at Section 6500.

In practice, JPAs have been created to perform a wide range of governmental services such as fire protection, library resources, recreation and congestion management and transportation. Notably, insofar as intercity and regional railroads are concerned, JPAs have been the form of governance structure selected by Caltrain as well as the Capitol Corridor, Metrolink and ACE. The range of powers exercised by these JPAs is comprehensive and fundamentally similar to those of transit authorities, such as VTA and SMCTD, that are created pursuant to State enabling statutes in the form of special districts.

**C. HISTORY OF CALTRAIN GOVERNANCE STRUCTURE**

The acquisition of the peninsula rail corridor was facilitated by a JPA created in 1988 known as the Peninsula Corridor Study Joint Powers Board. This agency initially limited its powers and purposes to the undertaking of planning studies for the eventual takeover of the Caltrain system governance from the State of California, the agency that had overseen and

managed the system pursuant to a contract with the Southern Pacific Transportation Company (SP) that commenced in 1980. Among the planning objectives of the JPA was the acquisition of the rail corridor then owned by SP.

It was upon the successful acquisition of the rail corridor in 1991 that the member agencies of the JPA reached a new agreement which, among other things, transformed the agency from one limited to planning to one that assumed operating authority and responsibility. This entity has remained intact since its establishment in 1991 although the joint powers agreement has been amended for various purposes on a few occasions, most recently in 1996.

The Caltrain JPA is governed by a 9-member appointed board (JPB or Board) as follows:

- Santa Clara Valley Transportation Authority (VTA) board appoints three representatives: (1) one must be a member of the VTA board representing the City of Santa Clara or the County of Santa Clara; (2) one must be a member of the VTA board representing the County of Santa Clara or a city other than San Jose; and (3) a member who represents the County on the Metropolitan Transportation Commission (MTC), or if that person declines to serve, by the MTC representatives appointed by the Cities Selection Committee or if that person declines to serve, a member of the VTA board appointed by VTA;
- SMCTD has three representatives who serve as SMCTD board members and who are appointed, respectively, by the SMCTD board, the San Mateo County Board of Supervisors and the Cities Selection Committee; and
- San Francisco has three representatives, one of whom is appointed by the Mayor, another by the Board of Supervisors and another by the San Francisco Metropolitan Transportation Authority.

The JPB possesses a vast array of powers that may be exercised by JPAs under applicable laws, including the power to contract, to own property, to employ agents and employees and to incur debt. Currently the JPA does not itself possess the power of eminent domain. When it has been necessary on rare occasions, the JPB has relied upon a member agency to acquire property on its behalf by exercise of the member agency's eminent domain authority. If desired, the JPA could be amended by the member agencies to include eminent domain authority.

The JPB has been managed by SMCTD since its inception per agreement of the member agencies codified in Section 6(B) of the JPA. A number of factors led to the selection of SMCTD by its partner JPB members. Among them was the premise that reliance on a JPB member agency with existing managerial capabilities would meet the needs of the JPB, thereby avoiding the creation of a new bureaucracy with attendant supplemental administrative costs. Additionally, the role played by SMCTD over a period of years in leading the effort to prevent abandonment of the rail service in the corridor sought by SP and later in leading the negotiations for acquisition of the rail corridor rendered SMCTD the consensus choice of the member agencies to manage the railroad.

In addition to the JPA provisions, the member agencies entered into a separate Real Property Ownership Agreement (RPOA) in December 1991 to address the subject of local funding for acquisition of the rail corridor from SP. In order to close the \$202 million transaction, funding from local sources totaling approximately \$81 million was necessary to supplement \$120 million of funding that had been allocated by the State of California. Due to the inability of VTA and San Francisco to provide their respective shares of approximately \$34.7 million and \$8.3 million, SMCTD agreed to advance those amounts on their behalf. In the RPOA, VTA and SF agreed to make best efforts to repay the SMCTD advance with interest. To protect its interests, SMCTD was made a co-owner of the rail corridor in San Mateo County and was granted an equitable lien interest in the right of way in SF and Santa Clara Counties.

Subsequently, in 2008, with the assistance of the Metropolitan Transportation Commission, the JPA members reached an agreement memorialized in an amendment to the RPOA that addressed repayment of the SMCTD advance. Per the terms of the amendment, SF and VTA agreed to repay the principal amounts that had been advanced by SMCTD. SMCTD, in turn, agreed to forego payment of interest that had accrued since 1991 on those advances in return for which SMCTD was granted the contractual right to serve as the JPB's managerial and administrative arm as long as it wishes to do so. The significance of the RPOA in the context of consideration of potential governance changes is the fact that implementation of fundamental changes to the current JPB management structure would require the consent of SMCTD.

The JPA includes provisions requiring financial support derived from the JPB's member agencies:

- Annual operating costs (including SMCTD's administrative costs) not covered by fares, grants or other sources of revenue are largely allocated to each member agency on the basis of county of origin boards of passengers at stations within their respective counties, adjusted annually pursuant to a ridership survey. For the 2018-2019 fiscal year, the member agency respective shares of the JPB's net operating deficit are 27.6 percent for SF, 30 percent for SMCTD and 42.4 percent for VTA. For the 2019-2020 fiscal year, the percentages based on the most recent ridership survey conducted earlier this year will be 27 percent for SF, 30.6 percent for SMCTD and 42.4 percent for VTA. In actual dollars the anticipated financial contributions of the member agencies during the 2018-2019 fiscal year will be approximately \$7 million for SF, \$7.6 million for SMCTD and \$10.8 million for VTA.
- Systemwide capital replacement and enhancement project costs are provided by JPA members in addition to the contributions set forth above and are shared equally among the member agencies. Examples of projects falling in this category are track and ballast replacement and rolling stock overhauls. The FY 2018-19 capital budget totals \$42.7 million. Of that amount, the member agency shares are \$7.5 million each with the remainder coming from outside grants.
- Costs of certain capital projects such as station upgrade projects and grade separation projects that are local rather than systemwide in character are not shared by all of the JPB members. Rather, those projects are undertaken by and financed by the member agency in whose county the particular project is located.

The development of the JPB's annual operating and capital budgets involves multiple steps and approvals of member agency operational and capital contributions by multiple governing boards. The process begins with the preparation of preliminary budgets by SMCTD for initial review by the Staff Coordinating Council, a body comprised of staff members of the three JPB member agencies. Thereafter the preliminary budgets are presented as informational items at one or more JPB governing board meetings. The budgets then are reviewed by the member agencies of the JPB each of which then advises the JPB whether it is able to afford the projected costs allocated to it in the proposed budgets. There then typically ensues a process of budget revisions to accommodate what the member agencies indicate they are able to pay. In some years that process results in the need to effect service modifications and/or fare adjustments. The need to defer undertaking certain capital projects also results relatively frequently. Ultimately the final budgets must be formally approved by the JPB and the governing boards of each member agency.

In connection with the rail corridor acquisition from SP, the JPB acquired trackage rights rather than fee title from SP to permit operation of limited service in the then SP and now Union Pacific Transportation Company-owned rail corridor between the city of Gilroy and the southern terminus of the JPB's ownership rights in San Jose. The trackage rights that were acquired for the sum of \$8 million, \$4 million of which was derived from the State of California and \$4 million from VTA's predecessor, the Santa Clara County Transit District, allowed operation of four round-trip trains per day between Gilroy and the San Jose Diridon Station. The JPA provides that the net operating costs of the Gilroy service as well as all capital improvement costs are the responsibility of VTA. Since 2001, however, it has been the practice to include the Gilroy costs in the systemwide Caltrain operating budget such that those costs are borne by the three agencies.

The JPB has the right to assign its interest in the Lick-Gilroy Trackage Rights<sup>46</sup> Agreement (TRA). Specifically, JPB has the right to assign, without having to obtain UP's prior consent, to a successor agency, to one or more of the JPB member agencies or counties, to the Peninsula Rail District, to the State of California Department Of Transportation (DOT) or to an existing or to be formed public, quasi-public or nonprofit entity formed or authorized to own JPB's interests provided the successors or assignees have the legal power and authority to assume all of the rights and obligations of the JPB.

With regard to freight trackage rights in the main line corridor, UP holds easement rights to carry out its common carrier freight service obligations. Currently UP operates three freight trains per day Monday through Friday to and from its freight yard in South San Francisco as well as one train on Sundays. Crushed granite and marble comprise approximately two-

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<sup>46</sup> Control Point Lick is two miles south of Tamien Station.



thirds of the cargo transported on the line. As in the case of the Gilroy corridor discussed above, a TRA governs the relationship of the parties in areas such as maintenance cost allocation, construction of capital improvements and liability risk allocation. The TRA also addresses hours of freight service operations on the main line. Freight may operate in the corridor whenever there is a period of at least 30 minutes headway between passenger trains with the understanding that between midnight and 5:00 a.m. at least one main line track must be made available for freight service. The main line corridor TRA contains an identical provision allowing JPB to assign its rights in the agreement as described above with regard to the Gilroy line.

In addition to freight operations that currently are operated by UP, the JPB has entered into a series of agreements with the HSRA in anticipation of future high speed rail operations in the corridor by or on behalf of HSRA. More particularly, the JPB and HSRA have entered into contracts pursuant to which HSRA has agreed to allocate \$713 million of State of California Proposition 1A bond funds to the JPB to be applied toward the cost of construction of the Caltrain corridor electrification project. The corridor electrification infrastructure has been designed and currently is being constructed in a manner that will enable HSRA to utilize the electrification infrastructure when it commences rail operations in the JPB rail corridor. Additionally, the JPB/HSRA agreements confirm that corridor electrification will enable a minimum of eight electric train slots per hour per direction to be created, two of which will be guaranteed to HSRA with the understanding that HSRA will be allocated an additional two train slots per direction per hour subject to the parties jointly determining additional capital investments and/or alternative operating patterns necessary to accommodate that addition. To enable HSRA to operate its high speed rail service, the JPB will grant HSRA an easement interest in the rail corridor pursuant to which requisite possessory rights will be conveyed to HSRA. Existing agreements between the parties also contemplate the undertaking of joint blended system planning and execution of future agreements required to address a wide array of issues whose resolution will be essential to enable future shared use of the corridor by the JPB and HSRA.

Federal, state and regional funding agencies have determined that the JPB qualifies as an eligible recipient of grant funds allocated by such agencies. The JPB also has the authority to issue debt and has done so on multiple occasions. The assets of the system, including the right of way and rolling stock, are owned by the JPB; however, as noted above, by reason of the local funding advances provided by SMCTD on behalf of the other member agencies at the time of acquisition of the peninsula rail corridor, SMCTD is a co-owner of that portion of the rail corridor situated in San Mateo County and holds lien rights on the rail corridor in San Francisco and Santa Clara counties.

## **D. DESCRIPTION AND ANALYSIS OF CORE GOVERNANCE OPTIONS**

### **ANALYTICAL FACTORS**

Prior to discussion of different governance models, it is important to outline the factors or perspective within which each model should be considered. Key factors include in no particular order:

- Ability to deliver Caltrain's 2040 service vision;
- Ability to maintain high quality service while transitioning the organization through potential transformation;
- Ability to implement major construction projects as well as integrate Caltrain with other regional and local projects;
- Transparency of finances;
- Clear lines of authority and responsibility;
- Ability to address concerns that the interests of one of the member agencies has precedence;
- Impact on Caltrain finances and its ability to attract needed new funding;
- Political acceptability;
- Flexibility to respond to change (i.e. not to preclude certain future possibilities);
- Impact on Caltrain personnel;
- Regulatory impacts (if any); and

- Extent of risk that Caltrain wants to take both during the transition period and long term.

## **SELF-DIRECTED OPTIONS**

This section presents the range of options that are self-directed, as they can largely be implemented by the JPB or JPA member agencies. It includes the following options:

1. JPB as currently structured and administered - **Option A**
2. Various configurations of the JPB:
  - a. JPB as currently structured, coupled with modifications relative to governing board oversight and the provision of managerial services by San Mateo County Transit District (SMCTD) - **Option B**
  - b. JPB as currently structured, but reorganized as a railroad authority that hires its management and administrative employees directly - **Option C**
  - c. JPB as currently structured, but reorganized as a railroad authority that hires its management and administrative employees directly and supplements on an as-needed basis with expertise from JPA member agency staff - **Option D**
3. Creation of a Special District, the Peninsula Rail Transit District (PRTD), to govern and administer Caltrain - **Option E**

### **Option A: Retention of the Status Quo**

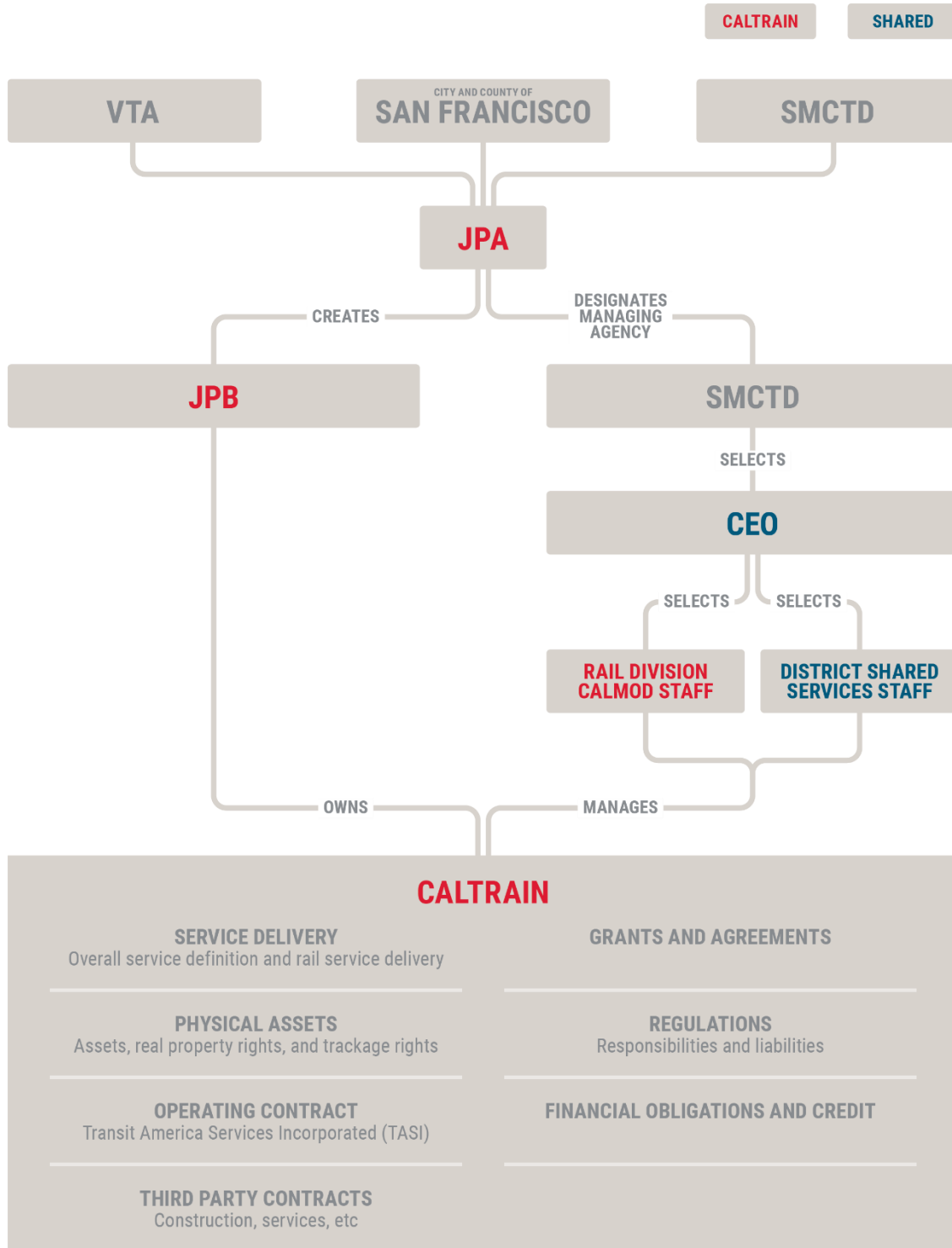
This maintains the current situation whereby the JPB constitutes the entity that is responsible for all aspects of the Caltrain rail system, including planning, operations and maintenance oversight and undertaking of major capital improvement projects. As discussed above, actual rail operations and maintenance has been provided since inception of the JPB by third party contractors pursuant to contractual arrangements with the JPB. This could continue or an alternative service delivery method utilized as outlined in the service delivery section of this chapter. SMCTD would continue to serve as managing agency of the JPB and in that capacity, through employees and consultants it hires, SMCTD would oversee and administer the Caltrain operations and maintenance contract and be responsible for the day-to-day management of the agency.

In that SMCTD manages multiple agencies (Caltrain, SamTrans bus and Redi-Wheels paratransit service, and the San Mateo County Transportation Authority), many of the services performed by SMCTD, such as in the areas of procurement and human resources, are carried out by SMCTD staff on a shared services basis. Similarly, SMCTD's executive management team, including its General Manager/CEO, oversee Caltrain along with two other agencies, although in recent years the preponderance of their time has been devoted to Caltrain. At the present time, approximately one-half of the total Caltrain workforce is in the Rail Division and work 100 percent of their time on Caltrain, and the remainder are shared with SMCTD and SMCTA.<sup>47</sup> Overall, this arrangement allows for the sharing of employment costs among multiple agencies, although challenges can arise from time to time in obtaining resources in a timely manner in light of competing demands for services of various personnel whose expertise is made available to multiple agencies. The lack of adequate financial resources to the JPB also can be a constraint relative to enabling SMCTD to hire a sufficient number of individuals with specialized skill sets associated with running a railroad. **Figure 1** illustrates the relationships of the different organizational entities under Option A.

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<sup>47</sup> As measured by Full Time Equivalents.

FIGURE 1: OPTION A  
**CURRENT CALTRAIN ORGANIZATION**



In addition to the rights, powers and commitments described above, the JPB in its current form possesses the requisite authority to expand its service within as well as outside of the area currently being served, and to meet the future service objectives for the Caltrain rail system to be established pursuant to the Business Plan. Subject to reaching an agreement to obtain requisite rail corridor ownership or trackage rights, the exercise of JPB's power to enlarge its rail service area (e.g. expansion of service to Santa Cruz and expansion of service to areas of Alameda County accessed via the Dumbarton rail corridor) can be implemented by a Board resolution accompanied by an amendment to its fare tariff. Additionally, the JPB was granted authority to levy a 0.125% sales tax for Caltrain operating and capital purposes pursuant to legislation enacted in 2017 (Chapter 653, codified in the California Revenue and Taxation Code commencing at Section 7286.65) subject to satisfaction of various procedural requisites and the obtaining of approval by 2/3 of all of the voters in the member agency counties.

At the same time, questions have been raised as to whether the existing governance and associated staffing structure is the best way to meet Caltrain's future service goals and needs.<sup>48</sup> Alternative self-directed potential governance models are described below.

**Option B: Retention of the JPA as currently structured coupled with modifications relative to governing board oversight and the provision of managerial services by SMCTD**

Based upon interviews that have been conducted with Board members, staff, and other interested parties, a number of refinements to the way in which the JPB currently operates have been suggested for consideration. **Figure 2** illustrates the relationships of the different organizational entities under Option B.

Among the proposals that have been identified as worthy of discussion are the following:

- Establishment by the Board of Standing Committees

Creation of a committee system would be designed to facilitate more in-depth connection between the governing board and managing agency staff on key policy issues and to enable broader engagement with the public by providing sufficient time for discussion of critical items. A committee process also is envisioned as a potential means to streamline the conduct of the meetings of the full board. The Board is in the process of implementing two committees: Finance/Budget and Planning. In the future, potential committees could be formed to review and oversee high priority items such as major capital improvements, the strategy to procure rail services post the current TASI contract term, or the implementation of new railroad service.

**Means of Implementation:** By action of the JPB.

- Board Evaluation of SMCTD as Caltrain Manager and Administrator

Ideas worthy of consideration in this regard include the following:

1. The preparation of annual goals and objectives by the Executive Director in consultation with the Board, coupled with annual evaluation by the Board regarding the managing agency's performance pegged to adopted goals and objectives.
2. Formalizing the process for recruitment of the Executive Director to include representatives of the JPB participating actively with the SMCTD board in the selection process, in a manner akin to the informal process that was followed during the most recent recruitment process in 2014.

**Means of implementation:** By agreement between JPB and SMCTD.

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<sup>48</sup> Note that other issues related to organizational resources and internal structure have been discussed in previous sections of this report.

A variant of item (2) would involve creation of a structure whereby SMCTD in agreement with the JPB would select the Caltrain chief executive officer employed by SMCTD.<sup>49</sup>

**Means of implementation:** By agreement between JPB and SMCTD.

- Creation of a Member Agency CEO Executive Council

As an additional method to promote communication on key Caltrain matters and to engender organizational cohesiveness, establishment of regular meetings among the CEOs of the member agencies might be considered. Through this vehicle, JPB's Executive Director would be able to keep his CEO colleagues directly informed of key issues facing the organization and to obtain their suggestions and advice on an as-needed basis. Financial issues, including those necessitating member agency contributions, would be among issues routinely addressed.

**Means of Implementation:** By action of JPB's Executive Director with the consent of the San Francisco and VTA CEOs.

- Resource Sharing Among the Member Agencies

Recognizing the challenges periodically encountered in recruiting specialized railroad experts to perform various functions (e.g., procurement, engineering/construction oversight), the JPB through SMCTD might turn to VTA and San Francisco agencies from time-to-time to provide supplemental administrative support on an as-needed basis.

**Means of implementation:** By actions of the JPB and its member agencies.

- Internal Processes to Address Specialized Expertise Required for Management of Caltrain

Ideas that have been offered include modifying the current shared services structure to provide specialized rail expertise. This topic is discussed in detail in the organizational section of this chapter.

**Means of implementation:** By action of the JPB.

- More Extensive Engagement of the Private Sector Partners in the Corridor

Among ideas that have surfaced include supplementing the increased efforts in recent years to connect with the private sector (as evidenced by their financial support for the Business Plan) by creating a Caltrain Business Task Force. Additional private sector connectivity options might include (1) provision of private sector funding for planning and capital project design/construction projects and (2) provision of specialized expertise to assist Caltrain in areas such as real estate development projects.

**Means of implementation:** By action of the JPB and private sector partners in the corridor.

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<sup>49</sup> An alternative option of having the JPB approve and hire the Executive Director while keeping SMCTD as the managing agent was considered. However, this option would blur the lines of authority and decision-making between the SMCTD General Manager and the Executive Director position, and neither would have a clear set of responsibilities. Questions would almost certainly arise as to which position would be responsible for making different decisions. For example, there would be basic questions, such as who determines what decisions should be brought to the JPB for action; who would have hiring and firing authority over SMCTD employees working either full or part-time for Caltrain; and who would decide how future organizational changes would be structured (including those related to shared services). In summary, it would be exceedingly difficult to distinguish and clearly define the roles of the two positions, and this would likely lead to internal confusion and conflict over time. For this reason, this option is not recommended for further consideration, and the broadening of the role of the JPB in the selection and evaluation of the Executive Director in concert with the SMCTD Board is thought to be a better option.

- Creation of Fixed Terms of Office for Board Members

Currently Board members serve at the pleasure of their appointing authorities. Suggestions have been made that establishing fixed terms of office for Board members would better assure continuity of knowledge and familiarity with the goals, objectives and purposes of the JPB and would mitigate turnover on the Board that has taken place increasingly frequently in the recent past.<sup>50</sup>

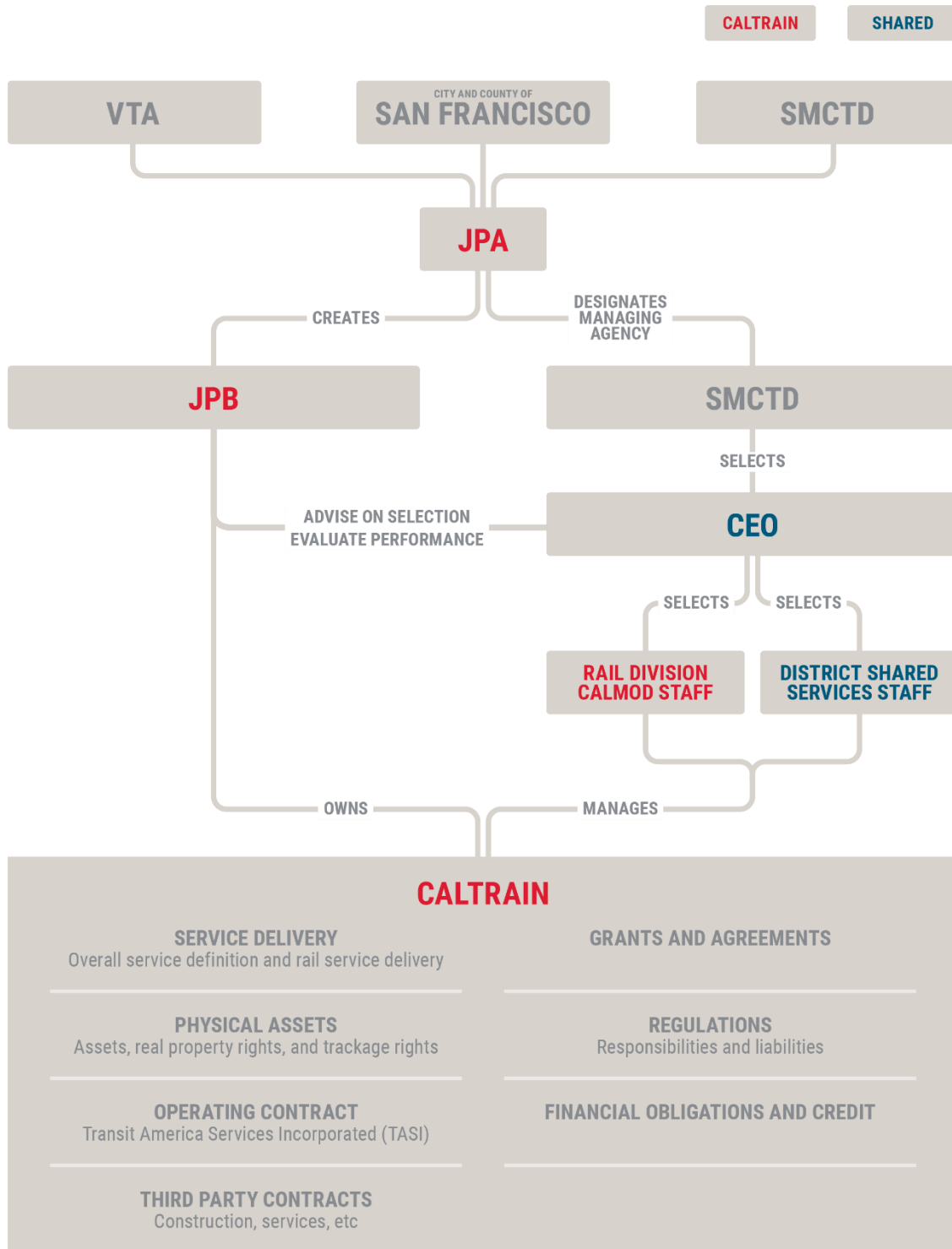
**Means of implementation:** By amendment of the JPA, which would require agreement by the governing boards of the member agencies of the JPB.

**Time to implement from decision to proceed with this option:** Given that these options are self-directed and thus can be implemented by action of the JPB or member agencies, one year or less should be sufficient to affect the type of changes described in Option B.

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<sup>50</sup> Of the cases studied in Chapter 3, this is done by SMART, San Joaquin Regional Rail Commission, and MBTA.

**FIGURE 2: OPTION B  
 JPA MODIFICATIONS**



**Option C: Retention of the JPA as currently structured, but reorganized as a railroad authority that hires its management and administrative employees directly**

This option builds upon the previous option by retention of the JPA structure as the form of governance but is coupled with an internal reorganization process by which the JPB would hire its own staff or railroad employees in lieu of reliance upon the SMCTD organization exclusively.<sup>51</sup> **Figure 3** illustrates the relationships of the different organizational entities under Option C.

Retention of its own staff would establish a direct hiring, reporting and evaluation relationship between the Board and its executive director. Hiring of personnel directly would ensure that the focus of the management team would be exclusively on the rail system. This structure would also improve financial clarity as the costs and revenues of the railroad would be separate from SMCTD.<sup>52</sup> In addition, JPA hiring of staff would address any concerns arising from staff serving two agencies that may not always share the same interests, or any perception that at times the objectives of one party would be favored over the other.

A similar model is used by Metrolink and ACE, which are organized as commuter railroad authorities managed by staff that are hired by and directly reportable to their governing boards.

An area requiring additional study is the cost implications to the JPB and to SMCTD as well if the JPB were to decide to hire its own independent management team. Specifically, the JPB would need to pay for 100 percent of the costs of its CEO, COO and all other administrative positions in contrast with the existing arrangement by which only a portion of the costs of shared positions is allocated by SMCTD to the JPB. Consideration of this option will necessitate an in-depth analysis and assessment of personnel costs in the areas of wages and benefits, particularly pension benefits, associated with hiring railroad employees directly as compared with the existing managerial and staffing relationship.

In addition to the future costs of wages and benefits to be paid to railroad employees, currently unfunded CalPERS pension and retiree health costs benefits liabilities attributable to SMCTD employees who serve Caltrain will warrant evaluation in conjunction with the transformation of the current organization to a railroad authority. An actuarial assessment process and potential cost allocations associated with these issues to JPB member agencies will be needed. This may add a level of complexity to a transition plan but is not expected to constitute an insurmountable obstacle per se to effecting change in the governance structure. These issues pertain equally to consideration of the special district creation option discussed in the next section of this analysis.<sup>53</sup>

A change of this order of magnitude should not affect the JPB's status as an eligible grantee of funds from federal, state and regional funding agencies. It would not require Caltrain to join the Railroad Retirement System as long as operations continue to be performed by a third-party contractor. Nor would it affect the statutory eligibility of the JPB to seek voter approval to implement the sale tax measure described above.

One of the key issues requiring study associated with a governance change of this order of magnitude involves risk assessment. Successful implementation of this option would necessitate special efforts to assure that the day-to-day operation of Caltrain and administration of ongoing capital projects are attended to safely and reliably while concurrently transitioning the JPA into to an entirely new form of Caltrain management.

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<sup>51</sup> Note that in this option, it is likely that employees of the railroad authority would consist of both existing staff transferring to the new authority and newly hired staff.

<sup>52</sup> Allocation of costs would only occur for those shared services that are retained.

<sup>53</sup> As noted previously, in 2008 the JPA members entered into an amendment of the RPOA whereby SF and VTA agreed to repay principal amounts previously advanced by SMCTD on their behalf to facilitate purchase of the peninsula rail corridor. At the current time, \$19.7 million of the repayment commitment attributable to VTA remains unpaid. It is reasonable to anticipate that an agreement to restructure the JPB in a way that would involve replacement of SMCTD as Managing Agency would likely include addressing this outstanding monetary obligation.



Considering the financial as well as political implications associated with this kind of change, it is reasonable to anticipate it would take at least one to two years to obtain the requisite understandings and agreements among the JPB's member agencies. The implementation phase, involving recruitment of personnel to serve the JPB and rearrangement of the SMCTD forces, together with orderly transition of on-going capital project oversight, would require additional time.

**Means of Implementation:** Agreement of and vote by member agencies to amend the JPA agreement

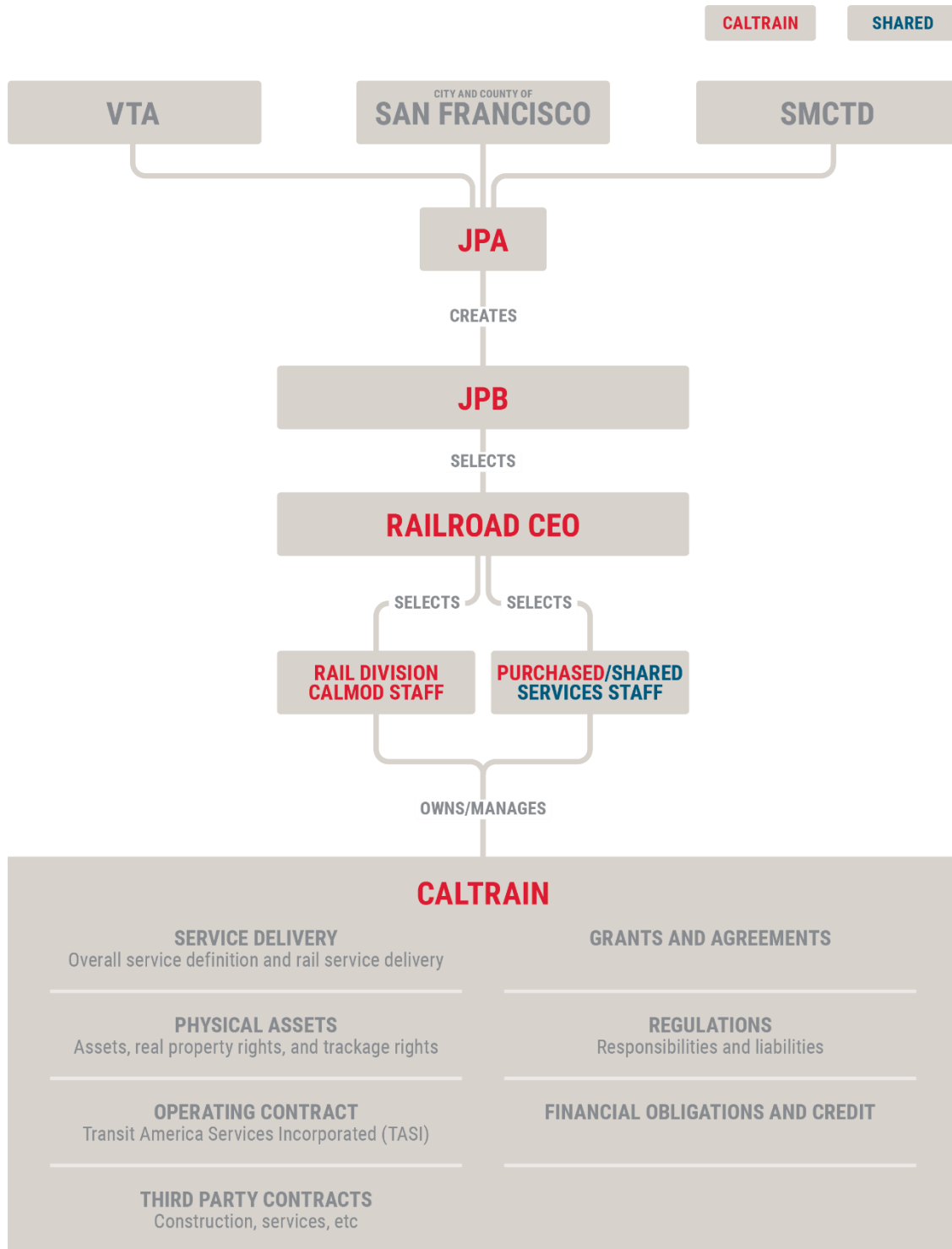
**Time to implement from decision to proceed with this option:** 18 months to three years

**OPTION D: Retention of JPA as currently structured, reorganized as a railroad authority that hires its management and administrative employees directly; supplemented on an as needed basis with expertise from JPA member agency staff**

This is a minor variation of Option C. A possible means of mitigating cost impacts would be for the JPB to engage certain positions directly while relying on member agency staff to fulfill or to supplement the provision of various functions. Either an upfront agreement with one or more member agencies, or contracts on an as needed basis, would represent a means for implementation of this framework. **Figure 3** shows this relationship.

The project implementation time frame and risk analysis for this option fundamentally would replicate the assessment of these issues as set forth in the Option C analysis.

**FIGURE 3: OPTION C AND D**  
**RAILROAD AUTHORITY**



**Option E: Creation of a Special District, Peninsula Rail Transit District (PRTD), to govern and administer Caltrain**

Another future governance option is transforming the JPB into a statutorily authorized special district. The provision of local and regional governmental services in California often is undertaken pursuant to a special district form of governance. In the public transportation industry, in particular, special districts represent the norm for single county transportation authorities, such as SMCTD and VTA. There also are examples of multi-county multi-modal transportation authorities created by special district legislation, including the Golden Gate Bridge, Highway and Transportation District, BART and SMART.

Special district enabling legislation typically addresses the following key elements:

- Agency purpose;
- Governing Board composition, including the appointment process and terms of office;
- Duties and responsibilities of the Board and the CEO/General Manager;
- Designation of officers of the district;
- Fiscal powers, including borrowing and taxation authority;
- Personnel provisions, including collective bargaining rights and retirement system; and
- District powers in various areas such as procurement, real estate and construction.

As discussed above, these powers would not differ substantively from the powers held by the JPA, however, some functions may be streamlined. In particular, absent an amendment of the existing JPA, eminent domain authority would reside with the special district rather than having to rely upon its member agencies to exercise that power. In addition, a district is seen by some as providing greater institutional stability.<sup>54</sup>

It is noteworthy that shortly before the member agencies of the JPB agreed to assume rail operating authority, legislation was enacted that would authorize creation of a Peninsula Rail Transit District (PRTD). More particularly, in 1988, the Legislature expressly authorized the JPB's member agencies to elect to be governed by a special district. Among other things, this legislation prescribed the composition of the governing board (nine appointed members, with three from each of the counties comprising the Caltrain existing service area) and delegated various powers to the district. Fundamentally, this legislation was intended to serve as a placeholder to cover the contingency of the JPB deciding to opt for a special district governance structure. However, at that time, there was no impetus by the parties to create a special district. As a placeholder, the PRTD legislation is limited in scope when compared with the customary delineation of powers and duties common to the enabling legislation of other transit agencies in California.

A decision to convert the JPB from a JPA to a special district would necessitate amending the Peninsula Rail Transit District enabling legislation in a number of respects, including amending the above referenced legislation authorizing the JPB to seek voter approval of a sales tax measure to confer that authority on the special district.

A special district would, in theory, anticipate a more streamlined budget approval process falling within the sole province of the special district governing board, in contrast with the existing JPA structure that necessitates member agency action to approve annual operating and capital budgets. That outcome, however, would come about only if funding directly available to the agency were obtained in amounts sufficient to cover costs of operation and capital improvements such that dependency on annual funding from the current members of the JPB or their constituent counties would not be required. As noted previously, a mere change in the governance structure would not obviate the need for ongoing financial support from SF, SMCTD and VTA. As a result, the budget approval process would not necessarily be more streamlined than the current one.

Similar to Option C above, the transformation to a special district would warrant evaluation of the currently unfunded CalPERS pension and retiree health costs benefits liabilities attributable to SMCTD employees who serve Caltrain, as well

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<sup>54</sup> The experience of SMART executives was that the change from a JPA to district governance has been beneficial, as it has provided organizational stability, better allowed for long-term decision making, better enabled them to raise funding and compete for Federal and State monies and has reduced competition with other County services for funding.

as the future costs of wages and benefits to be paid to railroad employees.<sup>55</sup> Additionally, to transform the JPA to a special district would require an agreement to be negotiated with SMCTD addressing its ownership and lien rights in the rail corridor as discussed in Option C.

As respects debt issuance and access to capital markets, according to the JPB's CFO, the process for issuing debt by a special district would be less cumbersome than is the case under a JPA. That is because it is necessary under a JPA model for the governing boards of the member agencies of a JPA to take action approving the issuance of debt, a process that adds time and effort to the process. Additionally, from a credit risk perspective, the JPB's CFO believes that rating agencies would find the credit of a special district to be more secure than a JPA, based on the greater theoretical risk of dissolution of a JPA by action of one or more of its members, than would be the case with a special district. In turn, he has opined that interest costs likely would be slightly cheaper under the special district model.

As respects the matter of liquidity, it should be noted that the JPB currently is supported by SMCTD from time to time to meet Caltrain's cash flow needs. Ongoing support in this area by one or more member agencies or constituent counties may well be necessary for effective implementation of this option or Option C.

Once the requisite legislative authority is in place, several actions would be required by the newly formed special district and the existing JPB to effectuate the actual transfer of power. Among the required actions would be:

- Agreements with the JPB and member agencies to effect transfer of the JPB's assets and liabilities, including trackage rights;
- Obtaining certification from funding agencies at federal, state and regional levels relative to the capacity and financial viability of the new special district; and
- Likely need to obtain agreements with the member agencies of the JPB to provide ongoing financial contributions toward operations and capital improvements.

**Means of Implementation:** passage of specific legislative authority, agreements to transfer assets and liabilities to District including agreements addressing SMCTD ownership and lien rights in the rail corridor, and funding agreements as described above.

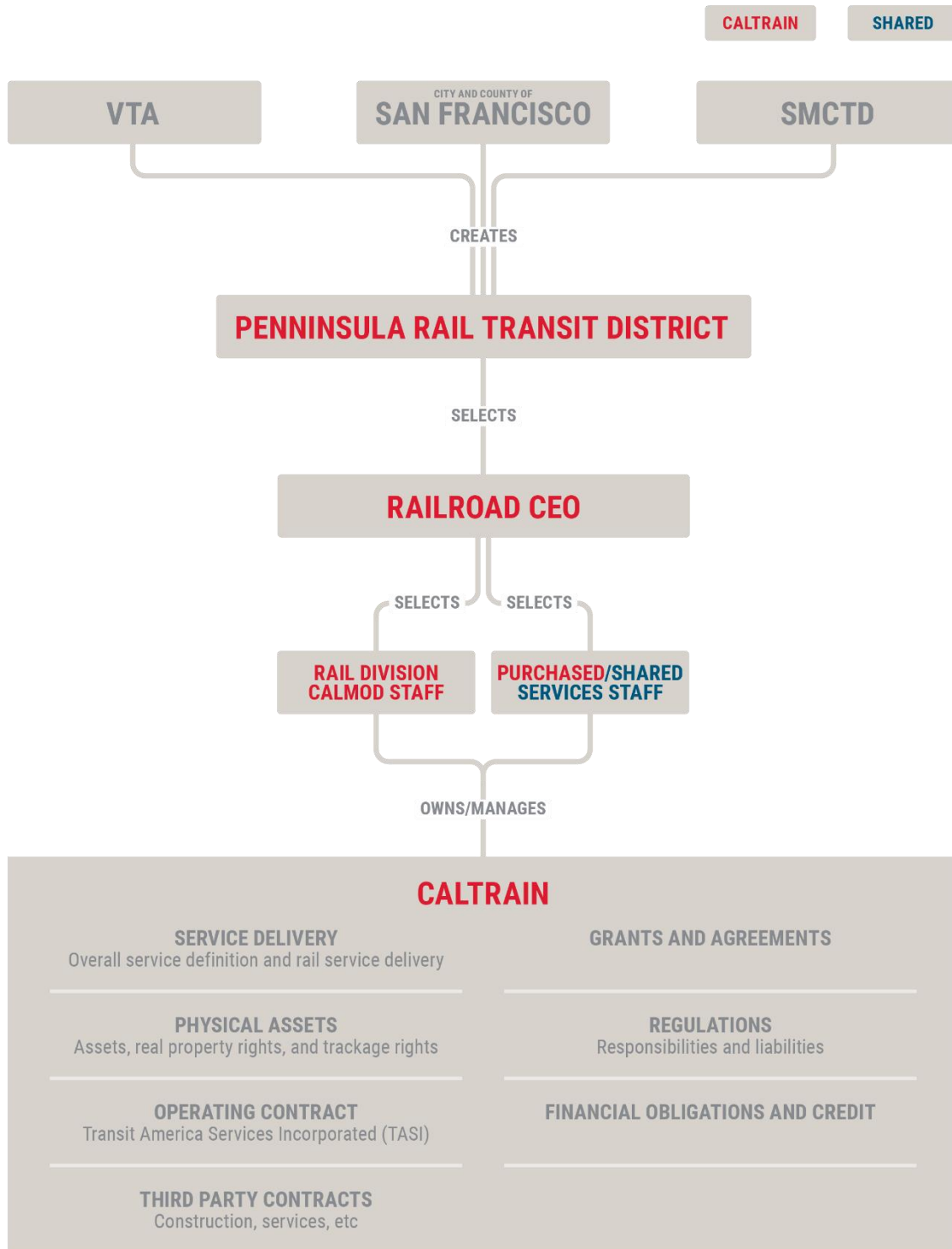
**Time to implement from decision to proceed with this option:** The time period to reach agreement among the JPB's member agencies on a special district governance system, to effect necessary action by the California Legislature, and to enter into various ancillary agreements described above is projected to take two to three years from the time that the JPB's member agencies reach agreement to transform the JPA into a special district. Consensus among the member agencies concerning amendment specifics would constitute an important prerequisite to seeking such legislation.

**Figure 4** illustrates the relationships of the different organizational entities under Option E.

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<sup>55</sup> Formation of a special district would not require Caltrain to join the Railroad Retirement System as long as rail operations continue to be performed by a third-party operator.

**FIGURE 4: OPTION E  
 PENNINSULA RAIL TRANSIT DISTRICT**



**SUMMARY AND COMPARISON OF THE SELF-DIRECTED GOVERNANCE OPTIONS**

**Table 9** summarizes the different functionality of the self-directed options. The determination of the most advantageous self-directed model for Caltrain at this point in time is quite complex and will require a balancing of a number of the different factors identified above. Additional study will be required to quantify the impacts of the different models and extensive dialogue required for a consensus approach to be reached. Ultimately, this is a political decision that will be made by the decision-makers. Again, it is important to emphasize that none of these options addresses the critical need for additional resources.

**TABLE 9: FUNCTIONALITY OF ALTERNATIVE SELF-DIRECTED GOVERNANCE STRUCTURES**

	<b>Existing Joint Powers Authority (JPA) (Option A)</b>	<b>Existing JPA with Proposed Changes (Option B)</b>	<b>Existing JPA with Railroad Staff (Options C, D)</b>	<b>Special District - Peninsula Rail Transit District (Option E)</b>
<b>Governance Authority</b>	Current JPA agreement as amended in 1996	May require or warrant some amendment of JPA	Requires amendment of JPA	Peninsula Rail Transit District legislation must be amended
<b>Flexibility for Future Changes to Governance</b>	By agreement between JPB and SMCTD	By agreement between JPB and SMCTD	By Agreement between JPB and SMCTD	As provided for in legislation
<b>Time/Steps to Implement Change</b>	None needed	Within a year by agreement of JPB	1.5 - 3 years	2.5 - 3 years
<b>Asset Ownership*</b>	JPB	JPB	JPB	Transfer to special district
<b>Service Area</b>	By agreement of JPB	By agreement of JPB	By agreement of JPB	To be determined by legislation
<b>Effect on Existing Caltrain Agreements</b>	None	Minimal if any	Some changes needed	Amendment of agreements to substitute special district
<b>Financial Support by Source:</b>	Existing Joint Powers Authority (JPA) (Option A)	Existing JPA with Proposed Changes (Option B)	Existing JPA with Railroad Staff (Options C, D)	Special District - Peninsula Rail Transit District (Option E)
<b>Member Agency Financial Support</b>	By agreement of JPA members	By agreement of JPA members	By agreement of JPA members	By new agreement of counties and/or transit agencies in service area
<b>Authority to Incur Debt and Encumber Assets</b>	Yes	Yes	Yes	Yes
<b>Eligible to receive SB 797 or other sales tax proceeds</b>	Eligible	Eligible	Eligible	Statutory amendment likely needed to direct tax proceeds from JPA to special district
<b>Federal Funding</b>	Eligible	Eligible	Eligible	Special district must establish eligibility
<b>State and Local Funding</b>	Eligible	Eligible	Eligible	Special district must establish eligibility

\* Until repaid as provided for by the 2008 RPOA amendment, SMCTD holds a co-ownership interest in the peninsula rail corridor situated in San Mateo County.

### **NON-SELF-DIRECTED OPTIONS**

An alternative governance model for the Caltrain system could involve either the full or partial integration of the Caltrain corridor and service into a larger regional (or mega-regional) governance framework.<sup>56</sup> Unlike the other options discussed previously, this approach could not be self-directed by the existing JPB and its member agencies and other parties will play significant roles.

Note that the term “regional” is used as shorthand to describe systems and governance structures that extend beyond the existing three counties that currently participate in the JPB. At this time, the potential geography of a regional or megaregional governance system for rail is not clear. Such a system could be aligned to the 9-county Bay Area or could be structured to include the participation of the full northern California Megaregion (including both the Sacramento region as well as the Northern San Joaquin Valley). No specific geography is assumed or implied in the discussions below. Similarly, a new regional entity could be a wholly new institution or could be attached to a modified version of an existing regional or state organization - again, no assumption or implication is made or implied at this time.

The options described below are:

- Existing agencies with expanded regional cooperation – **Option F**
- Existing agencies with regional integration of key functions – **Option G**
- Consolidated regional authority with subsidiary railroads – **Option H**
- Fully consolidated regional railroad – **Option I**

The process to implement such outcomes would be significantly more complex and more time consuming than the self-directed options. At the same time, such options may be intrinsically tied to the funding and implementation of key portions of the Business Plan and initiatives being undertaken by other agencies. Prior to implementing these options, very careful and comprehensive analysis needs to be done to understand the pros and cons as well as the implications with regard to transferring authority and decision-making, funding, cost and service delivery among other functionality.

At various points in the region’s history, different models for the consolidation of Bay Area rail and transit agencies, either in their entirety or by specific function, have been proposed or studied. Most recently, the idea of “regionalizing” different aspects of the Bay Area’s rail and transit systems has been promoted through the efforts of advocacy groups like SPUR, Seamless Bay Area, and others with a near term focus on regional fare integration and schedule coordination and a longer term focus on regional funding measures. The impetus to think about consolidating rail services and projects under a regional or mega-regional structure has also been prompted by the ambitious vision for rail expansion articulated in the 2018 State Rail Plan as well as questions around the planning and delivery of major shared infrastructure projects like the Downtown Extension (DTX), the rebuilding of Diridon Station, the Dumbarton rail bridge, the Bay Area segment of the California High Speed Rail System, and a potential second transbay rail crossing.

Discussion of a regional governance approach is inherently more speculative than the self-directed options presented previously. This chapter describes several, highly generalized, “illustrative” approaches to reorganization of rail serving the Bay Area. These models have been presented to illustrate various possibilities and options to consider should the Caltrain Board, its partner agencies, and other external agencies wish to promote and participate in the development of a more regionalized form of governance and organization for rail. These approaches are not mutually exclusive and can be seen as a potential progression or an evolution over time based on the specific circumstances, choices and needs of the region at a specific point in time. They could also be advanced in parallel with the self-directed governance changes discussed previously in Options A-E.

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<sup>56</sup> Note this paper focuses on rail only. Variations could include regional multimodal agencies.

**Option F: Regional Cooperation**

This option describes a “sub governance” approach to regionalization that could be initiated directly by existing railroads and transit entities on either a bilateral or multi-lateral basis. Under this model, operators would agree, through MOUs or other agreement mechanisms, to coordinate key functions. Examples of this kind of direct, agreement-based coordination are extremely common for commuter railroads throughout the United States where operators agree to share certain facilities and functions, cooperate on joint projects, or share tracks. In the Bay Area, existing examples include: (1) Caltrain/BART agreement to coordinate maintenance of the Millbrae station; and (2) Caltrain/Capital Corridor/ACE agreement to govern trackage rights and the use of Diridon Station.

The regional coordination model could be applied to a number of other issues and functions including schedule coordination, operations on different railroad’s infrastructure, sharing of certain functions, and fare coordination and ticketing system implementation.

**Option G: Regional Integration of Key Functions**

Building from Option F is Option G, which is a regional approach where individual railroads and transit agencies would remain in place but where key organizational responsibilities would be “evolved up” to one or more regional entities. At the most basic level, this option could simply include the extraction of certain specific activities from the purview of individual railroads or transit agencies (for example, the creation of a regional construction authority to assume responsibility for the delivery of major capital projects, or the establishment and management of a regionally coordinated fare system). Structured in a more comprehensive manner, however, this approach could significantly remake the institutional landscape of rail and transit in the region by creating different layers of functionality and responsibility operating in coordination across the region while still providing for the existence of many individual operators.

The Verkehrsverbände or “transport alliances” found in Germany, Austria and Switzerland represent examples of this striated approach to coordinated services. The BLS case is similar. In these examples, the regional transport alliance typically assumes responsibility for a range of planning, contracting, and coordinating functions including, critically, fare integration and ticketing, setting detailed standards and performance metrics, and distributing revenues and subsidies among operators. Individual transit operators continue to have the responsibility for day-to-day operations and maintenance.

Implementation of this option would be more complex than Option F as it significantly modifies and transfers existing arrangements of authority, decision-making, and financing. Key questions such as Board representation, risk transfers between authorities and dispute resolutions would have to be negotiated and resolved. Conversely, such a model may be a pre-requisite to achieve both regional goals as well as implement the Caltrain Business Plan. For example, regional fare integration and statewide integrated ticketing are topics of active discussion at different levels of government that may soon develop into formalized proposals. Similarly, a regional construction authority may be critical given the number of large, multi-operator projects in the Bay Area, including both the Downtown Extension project (DTX) and the rebuilding of Diridon Station. (The topic of a regional construction authority to be established by State legislation is also discussed separately later in the chapter).

This approach could be pursued either as a stand-alone option or be a step towards Options H and I discussed below. In either case, a transition plan would need to be developed to ensure minimal impact as key individuals would be changing their agency and position.

**Option H: Consolidated Regional Authority with Subsidiary Railroads**

Option H, a consolidated regional authority with subsidiary railroads, is the next step toward increased consolidation and regional control. In this option, individual railroads would be governed and organized under a single regional authority. The regional authority would be responsible for the oversight of the subsidiaries, make critical decisions impacting the subsidiaries, be responsible for funding the subsidiaries, and provide broad governance. It would also provide critical coordinating, administrative and shared service functions. Underneath this umbrella authority, subsidiary railroads would retain a level of individual organizational integrity and autonomy, allowing them to manage their organizations, corridors and services directly.



The New York Metropolitan Transportation Authority (MTA) is an example of a regional authority with subsidiary and affiliate railroads and services organized similarly to the generalized description provided for Option H. Under the MTA, there are individual subsidiaries including: New York City Transit (buses and subways), Metro North, the Long Island Railroad, a capital construction agency and a Bridge and Tunnel toll authority. Importantly, the entire MTA and its subsidiary agencies are governed by a single Board of Directors, with Board committees providing governance oversight of individual subsidiaries. It should be noted that this model includes different labor agreements for the individual agencies.

Implementation of Option H would likely be more complex given the expanded transfer of responsibility from the individual operators to the regional authority. As with Option C, a comprehensive transition plan will be required. One key difference from Option C is that once such an authority is formed, there is a clearer delineation of authority and responsibility.

### **Option I: Fully Consolidated Regional Railroad**

The most extreme approach to regional governance of rail would be through the direct and total consolidation of multiple railroads and their constituent functions into a single, regional organization which would be overseen by a single Board of Directors. While such an approach could be structured in different ways, it would fundamentally involve the transfer of all of Caltrain's existing responsibilities, services and assets to a larger entity operating at either a regional or mega-regional scale. This entity would combine and integrate any number of rail services and properties such as ACE, Capitol Corridor, or even BART into a consolidated organization operating under a single governance structure. In addition to the delivery of rail services, a consolidated agency of this scale would presumably also be well positioned to take on a major role in other regional transportation and project delivery services including the planning and delivery major capital infrastructure, the provision of access and feeder services, and pursuit of joint development opportunities at stations.

Many examples of powerful, consolidated rail agencies operating at a regional scale can be found around the world. Metrolinx, the regional transportation agency for the greater Toronto Area, provides a particularly relevant example since it was recently created by the province of Ontario in 2006. It directly oversees the operation of a major regional railroad and bus network (GO Transit) as well as a regional fare payment system (the Presto Card). It is also charged with planning and delivering a massive and transformational expansion of the region's transit network, including new light rail lines, new subways, station area developments and, most applicable to Caltrain, the Go Expansion project. This is a multibillion-dollar program to electrify and greatly increase service frequency and ridership on the GO railroad system.

This would be the most complex option to implement as it would involve enabling State legislation, and a series of complex negotiations and transactions that would address the transfer and transition of governance, decision-making, funding, and agency responsibilities into a single, consolidated organization. A key issue for Option I compared to Option H is that existing and future labor agreements would be impacted and may become a central issue. A comprehensive transition plan would again be critical. As with Option H, post implementation, the lines of responsibility and authority would be clear.

CALTRAIN BUSINESS PLAN  
**RAILROAD ORGANIZATIONAL APPROACHES**  
 1 OF 2

**TODAY**

**Separate Railroad A**

Service Planning  
 Fares & Information Systems  
 Stations  
 Major Capital Projects  
 Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services

**Separate Railroad B**

Service Planning  
 Fares & Information Systems  
 Stations  
 Major Capital Projects  
 Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services

**OPTION F  
 REGIONAL  
 COOPERATION**

**Separate Railroad A**

Service Planning  
 Fares & Information Systems  
 Stations  
 Major Capital Projects  
 Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services



**Separate Railroad B**

Service Planning  
 Fares & Information Systems  
 Stations  
 Major Capital Projects  
 Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services

**OPTION G  
 REGIONAL  
 INTEGRATION  
 OF KEY  
 FUNCTIONS**

**Regional Entity**

Service Planning, Fares & Information Systems, Stations, Major Capital Projects

**Separate Railroad A**

Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services

**Separate Railroad B**

Infrastructure Maintenance  
 Train Operations  
 Access & Egress  
 Commercial Activities  
 General Admin Services

*Discrete Governance Entities*

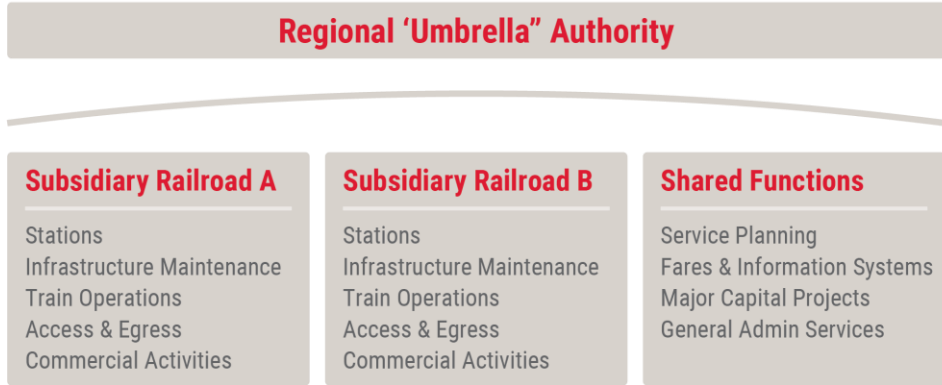
**Regional Organization**

**Sub-Regional Organization**

*Organizational functions listed are illustrative only. They do not reflect Recommendations or specific proposals*

CALTRAIN BUSINESS PLAN  
**RAILROAD ORGANIZATIONAL APPROACHES**  
 2 OF 2

OPTION H  
**CONSOLIDATED  
 REGIONAL  
 AUTHORITY  
 WITH  
 SUBSIDIARY  
 RAILROADS**



OPTION I  
**FULLY  
 CONSOLIDATED  
 REGIONAL  
 RAILROAD**



*Discrete Governance Entities*



*Organizational functions listed are illustrative only.  
 They do not reflect Recommendations or specific proposals*

## **E. PARALLEL GOVERNANCE OPTIONS AND CONSIDERATIONS**

This is a discussion of several governance-level issues, considerations and structures that the JPB and its member agencies may want to address regardless of (or in combination with) the core governance structure of the railroad, which are discussed previously in Section D. Generally, these relate to specific major issues or projects and would require extensive external agency involvement and support. In certain specific cases, especially with regard to the delivery of megaprojects, these options may be needed for a successful outcome.

Some of the issues discussed could be effectively addressed at a “sub-governance” level (in some cases through direct agreements and MOUs, in others through particular decisions or strategies around contracting and delivery choices) but all are issues of great significance that have the potential to fundamentally shape the scope of Caltrain’s organizational mission, the domain of activities under its control, and its future success.

The key issues addressed in this section include:

- The delivery of megaprojects on and surrounding the Caltrain corridor including the construction of the Downtown Extension (DTX) to the Salesforce Transit Center, the reconstruction of Diridon Station and surrounding rail infrastructure, the upgrading of the corridor to accept 110 mile per hour (mph) service, and the delivery of a multibillion-dollar program of grade separations.
- Caltrain’s relationship to other railroads and train operators including the future sharing of the Peninsula Corridor with HSRA and other operators as well as the potential geographic expansion of Caltrain service onto corridors not owned by the JPB (including expanded service to Gilroy, the potential extension of services to Monterey County, the potential use of the Dumbarton Bridge, and the potential for service expansion through a second Transbay Tube).
- Caltrain’s relationship to the private sector including the potential for direct engagement with private sector entities around complex development projects, the incorporation of private sector actors and competitive tensions into the delivery of services and projects (also covered in the service delivery section of this chapter), and the potential for commercialization of certain aspects of the railroad’s business.

### **MEGAPROJECT DELIVERY**

As noted throughout the paper, there are a number of major complex capital projects on or adjacent to the Caltrain corridor that will have major impacts on Caltrain service. In each case, there are many different agencies involved in the project. By illustration a non-exhaustive listing includes:

- DTX: JPB, HSRA, Transbay Joint Powers Authority (TJPA), San Francisco County Transportation Authority (SFCTA), City and County of San Francisco.
- Diridon Station and Adjacent Infrastructure: JPB, HSRA, VTA, Capital Corridor, San Joaquin Regional Rail Commission (SJRRRC), ACE, Union Pacific, BART, City of San Jose.
- Grade Separations: JPB, HSRA, VTA, affected counties and municipalities, and California Public Utilities Commission.
- Corridor Infrastructure Improvements needed to deliver the Business Plan Service Vision: JPB, HSRA, municipalities.
- Dumbarton: JPB, HSRA, ACE, SMCTD, UP, Crossbay Private Partners.

In addition to the agencies listed above, both the State and the Metropolitan Transit Commission would be major partners. Federal agencies such as the Federal Railroad Administration and the Federal Transit Administration may participate, as well.

Given the magnitude of coordination required, the feasibility of creating agencies for the sole purpose of planning, funding and constructing large capital projects is worthy of consideration. These would constitute independent authorities created

for the performance of auxiliary functions under circumstances in which a special purpose district would be in a better position than Caltrain (or another existing entity) to implement the project. This could be for financial, resource availability, organizational capacity, service priority or other reasons. If formed, the relationship between the Special District and Caltrain (and other agencies as warranted) would have to be carefully defined and specified.

This interface between construction and operations must be tightly controlled with clear understanding of outcomes, project scope and schedule. This is true for both “green field” projects and those being constructed on an active operating railroad. In addition, the Construction District would need to have staffing with expertise in railroad operations and maintenance.

Two forms of governance created for the purpose of building major capital projects have been identified for which the California Legislature has provided requisite enabling authority. These are Special Construction Authorities and Grade Separation Districts. Each of these forms of governance are addressed in the paragraphs that follow.

### **Special Construction Authority**

A Special Construction Authority is an independent agency authorized by legislation to plan and construct specific projects. The most relevant example is the Foothill Gold Line Construction Authority (Gold Line Authority or Authority) created in 1998 by the California State Legislature, SB 1847 (later updated in 2011-AB706 and 2012- AB1600). This agency was created to resume design and construction of the Los Angeles to Pasadena Metro Gold Line project (Gold Line), which had been suspended by the Los Angeles County Metropolitan Transportation Authority (Metro) earlier that same year. Strong community interest in completing the Gold Line was the impetus for the creation of the Gold Line Authority. Transferring the project to a low-overhead construction authority was thought to reduce project costs and expedite the project schedule.

Upon completion and testing of each segment, the Gold Line Authority is required to transfer the project to Metro to operate. Metro then becomes the responsible agency and owner. This relationship is formalized in a Master Cooperative Agreement approved by both the Gold Line Authority and Metro Boards.

The Gold Line Authority is governed by a nine-member board (five voting and four non-voting). Responsibility for appointing the Board was designated in the legislation forming the district. Members are appointed by municipalities served by the line, the LA Metro, the San Gabriel Valley Council of Governments, and the Governor.

As a sole purpose entity, the Gold Line Authority is a lean agency with less than a dozen permanent staff members. To augment the permanent staff, the agency contracts for major functions such as planning and program management.

The Authority completed the first segment of the Gold Line from Los Angeles to Pasadena in just under three years, and the 13.7-mile line opened in 2003. Upon completion, the Authority transferred Phase 1 to Metro to operate. The legislation creating the Authority also authorized the planning and construction of any “fixed mass transit guide way eastward to Claremont” (later amended to extend to Montclair). The Authority broke ground on the second segment from Pasadena to Azusa in June 2010, which was completed in September 2015. The 11.5-mile, six station extension was then turned over to Metro to operate in 2016. A third segment from Glendora to Montclair to extend the Gold Line 12.3 miles and add six stations began construction in 2017.

A substantial portion of the Gold Line extensions are built along the BNSF right-of-way, which was purchased by Metro in the early 1990s for the project. In 2011, the railroad shared-use agreement was amended when BNSF agreed to abandon their rights to use a portion of the corridor.

Factors to consider in evaluating the Gold Line Authority experience:

- Construction of the Gold Line was situated substantially within railroad right-of-way acquired by Metro and as originally planned by Metro. As a result, Gold Line project costs and construction complexity were reduced, especially in contrast to projects requiring property rights acquisition and urban construction.

- The Authority's role in construction of the Gold Line extensions is concurrent with Metro's execution of a massive and unprecedented construction portfolio in the region, particularly accelerated since 2009 with passage of Measures R and M. One factor in the execution of the Measure R projects has been Metro's capacity to construct megaprojects concurrently while also functioning as a regional programming and operating agency. This situation provides an example of the utility of a special construction authority to execute discrete projects and thereby reduce the strain on the regional transportation agency or agencies undertaking construction of concurrent megaprojects.

Should Caltrain or other regional agencies contemplate the creation of a Construction Authority for execution of a major project(s), specific legislative authority including the composition of the governing Board would be required. In addition, comprehensive agreements addressing funding mechanisms, planning and construction requirements, technical specification reviews, and operational agreements would be needed. Consideration of a Construction Authority for the region should include an evaluation of the pros and cons, including an in-depth understanding of the Gold Line project experience.

### **Grade Separation District**

A grade separation district is an independent agency formed pursuant to legislation codified in the California Streets and Highways Code commencing at Section 8100. This statutory framework permits the board of supervisors in any county, upon a finding that the safety and welfare of the residents of contiguous areas within the county require the formation of a district to provide for a separation of grade, to so declare by resolution. If two or more cities are involved in the proposed project without any unincorporated territory included in the project, the board of supervisors may adopt the resolution only if the interested city councils so request. The enabling legislation delineates the process for creation of a grade separation district including the necessity for the holding of an election. The district is created upon the affirmative vote of a majority of the voters in each city and a majority of voters in the unincorporated area included within the proposed district.

The subject legislation provides for a 5-member governing board and confers broad powers to the agency, including the power to plan, design and build the project and to exercise the power of eminent domain. A grade separation district also has the power to issue bonds and to levy property taxes subject to obtaining approval from 2/3 of those who cast ballots in a duly called election.

Although implementation of grade separation projects to date within the Caltrain rail corridor have been designed and constructed by means other than a grade separation district (e.g., contractual arrangements between local funding agencies, the JPB and the cities or county in the jurisdiction of the project), there is precedent for the creation of such districts elsewhere in California. In 1954, the Kern County Board of Supervisors invoked the grade separation district enabling authority, resulting in the creation of the Greater Bakersfield Separation of Grade District whose duties were to separate dangerous at-grade intersections of roadways and railroads by means of underpasses or overpasses.

Considering the large number of at-grade crossings that remain along the Caltrain rail corridor, the grade separation district legislation offers opportunities for the three counties and the cities within those counties to address elimination of crossings and tie to local community design plans. Any such undertaking would of necessity require execution of an agreement with the Caltrain governing board in light of the JPB's ownership of property rights in the intersections and taking into account impact on Caltrain's then-existing and planned future operations in the area.

### **GEOGRAPHIC EXPANSION/INTEGRATION WITH OTHER RAILROADS**

While currently Caltrain is the only passenger operator serving its system from San Jose to San Francisco (and the predominant user between San Jose and Gilroy),<sup>57</sup> there are a variety of potential ways in which it would participate in a regional rail system. It should be noted that currently ACE, Capitol Corridor and the Union Pacific (freight service) have relatively limited tenant relationships with Caltrain. The two most basic options are for (1) Caltrain to coordinate its services with HSRA and (2) for Caltrain to become more of a corridor manager as well as expand its services beyond the three-county region.

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<sup>57</sup> It should be noted that both ACE and the Capitol Corridor trains utilize a small portion of the corridor north of San Jose.

**Coordination with High Speed Rail**

In 2012, HSRA and Caltrain adopted the concept of “blended service” on the Peninsula, which basically meant that high speed trains will operate jointly with Caltrain over the existing Caltrain corridor. Proposition 1A allocated \$600 million for electrification of Caltrain and HSRA added another \$120 million to finance the added capacity for the HSRA electric trains.

The inception of HSRA service on the Caltrain corridor, at such time as it happens, will have a profound impact on Caltrain’s management and operations. HSRA has a right to 4 train paths running at 110 miles per hour, which will have to operate in conjunction with between 6 and 12 Caltrain trains (the low growth and high growth scenarios outlined in the Business Plan). While much service planning has been done in the Business Plan, given the existing track capacity, there is significant potential for conflicts between the services. In addition, a significant capital expense beyond the current electrification project will be required, including: a new signal system, new platforms, grade separations, and new trackage. Agreements will be needed to fund and implement these projects. In addition, agreements will be needed to cover joint operation: scheduling, right of way maintenance, train dispatching, station activities, joint ticketing, etc. There are many different variations of such agreements around the world, but the key factor is that before HSRA begins service on the corridor, these types of agreements are both required and inevitable.<sup>58</sup>

Joint investment and operation on the same line by several railroads that compete for capacity and possibly for some of the same customers is never easy. Caltrain will need to determine the nature of the relationship it desires with the HSRA and then negotiate to reach an agreement. Absent an external mandate, this will involve balancing control, funding and risk to determine the optimal solution.

The following outlines the basic range of governance options in ascending order of complexity:

- Agreement where each party’s responsibility is defined and the operations are basically kept separate. In this case, Caltrain would continue to maintain the corridor, operate its own service, dispatch the line and be reimbursed by HSRA for their use of the corridor.
- Agreement as above except that the parties agree to share certain services. Examples could be shared equipment maintenance or shared dispatching. This could involve shared facilities or include a shared workforce.
- Agreement similar to the above except that the parties also agree to share certain revenues.
- Agreement whereby each of the parties agrees to franchise its services to the same rail operator with the intent to maximize coordination and efficiency. This is by far the most complex and difficult option.

In addition, looking beyond the current system to the south, HSRA has proposed to pay for electrifying the Union Pacific (UP) line from Gilroy to San Jose on which UP, HSRA and Caltrain would operate jointly.<sup>59</sup> HSRA service on the Peninsula would have the effect of extending the reach of the regional commuter system south into the Central Valley. Again, agreements would have to be reached between HSRA and Caltrain. However, in this section of the corridor, HSRA or the State would be the owner and operator of the line and Caltrain would be the tenant railroad.

In summary, given the degree of uncertainty regarding the future of HSRA, the re-definition of the relationship between the parties is a long-term consideration. However, if HSRA does ultimately operate over the corridor, this re-definition will be absolutely necessary. Such a negotiation will require that Caltrain have a comprehensive and detailed understanding of the costs of providing its service – in particular, the costs to operate and maintain the trains as compared to the infrastructure. The integrated business model developed by First Class Partnerships for the Business Plan will be valuable in this instance. Finally, in the event that funding for corridor improvements becomes available in the next few years, a short-term action would be to go beyond the current project agreements and develop a more comprehensive global agreement with HSRA.

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<sup>58</sup> Examples of questions that will need to be addressed include does anyone have schedule priority; are there incentives/penalties for train performance; who performs which maintenance activity.

<sup>59</sup> The State is separately negotiating the purchase of the right of way from the Union Pacific.

### **Corridor Manager/Expanded Operator**

Caltrain has the opportunity to consider modifying its role to become a corridor manager as well as a service provider for a larger regional geography. This would largely mirror the BLS case in Switzerland. As a corridor manager, it would be responsible for maintaining the railway between Tamien and San Francisco, coordinating schedules over the line (in accordance with HSRA and other signatory agreements), and operating trains in the corridor and possibly beyond to the East Bay (via the Dumbarton Bridge) and Monterey County.

In the event that a second transbay crossing is built to connect with Caltrain, a new governance structure would undoubtedly be formed to enable operation of a regional rail network from Sacramento to San Jose. On a lesser scale, the initiation of service over the Dumbarton Bridge could result in significant governance change as well.

### **INCREASED ROLE OF THE PRIVATE SECTOR**

The private sector currently plays a relatively minor role in Caltrain with the exception of the third-party contracts with TASI, Balfour Beatty, Stadler and various construction entities. There are also a variety of leases, concession agreements, and possible naming rights, but no major revenue sharing agreements at this time.

Needless to say, the most dramatic governance change for Caltrain would be to fully privatize the railroad. This would entail the sale of the track and rolling stock as well as possibly the right-of-way and stations to a private investor.<sup>60</sup> Given Caltrain's current high fare recovery ratio<sup>61</sup> and its growth opportunities, Caltrain is one of the few passenger railroads in the US that could realistically be considered for privatization.

As was discussed in Chapter 3, privatization of the national rail network was commenced in Japan in 1987, when Japanese National Railways (JNR) was split into six private passenger railroads and has been extremely successful. In contrast, it was also tried in the UK with the formation of Railtrack, which failed and was re-nationalized into Network Rail. Of course, the inability of the private sector to operate the peninsula railroad profitably led in the 1970s to the abdication of responsibility by Southern Pacific and attendant transfer of financial responsibility to support railroad operations and capital investment by the public sector. Of note is that in the last few years, Virgin America, the only private inter-city passenger service in the country, initiated passenger service in Florida.

Privatization would raise a number of complex issues including:

- Determining the appropriate balance between the public interest (accessibility, environmental benefit, safety, etc.) and the private interest (fare revenues, profit, etc.);
- Extent of public control over the railroad's operation (including service levels, fares, etc.);
- Identification of the funding for the capital investment needed in the corridor;
- Valuation of the railroad's assets;
- Treatment of sales proceeds (if any) including the possibility that the federal and state governments may have a financial interest in the right-of-way and rolling stock; and
- Extent of private sector interest.

Given the magnitude of this change, it is unlikely to be pursued at this point in time. However, there are a multitude of ways in which the private sector can become more involved in Caltrain:

- Through a new operator agreement that re-balances risks and rewards (as discussed in the Service Delivery section);

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<sup>60</sup> A variation of this model is to sell the assets to a non-profit corporation. An example of this is the Presidio Trust, though no major passenger railroads follow this model.

<sup>61</sup> With the exception of BART, this is the highest fare operating ratio for a regional passenger railroad in the US.



- Joint station development in San Francisco, San Jose and select major intermediate stations;
- Monetization of railroad assets and right-of-way without impacting current or future provision of rail service; and
- Provision of first mile/last mile services.

All of these potential partnerships will be extremely complex transactions and will require that Caltrain have the organizational bandwidth and skills to negotiate these agreements.

## **F. SUMMARY OF SECTION VII**

This section has outlined and reviewed a number of different governance options, including those that can be implemented by the JPB members or the member agencies as well as those that involve external parties. In Chapter 5, a recommended approach to the different governance options is outlined for JPB and member agency consideration.

# CHAPTER 5: ORGANIZATIONAL ASSESSMENT RECOMMENDATIONS

## I. OBJECTIVE AND ORGANIZATION

This final chapter includes a recommended path forward for each of the three critical organizational areas:

- Service Delivery – The manner in which Caltrain operates and delivers its service
- Internal Organization – The manner in which Caltrain has organized itself
- Governance – The manner in which Caltrain is overseen

For each of these areas, the recommendations are framed by the answers to the questions posed in Chapter 4:

- Timing - Is this the right time to be having this discussion? What are the implications if no decisions are reached?
- Recommendations - What are the recommendations or key focus areas
- Implementation plan - What additional work is needed?

## II. SERVICE DELIVERY

### A. TIMING

The time is right to address this issue and to immediately initiate development of a strategy for future service delivery for the next five to seven years,<sup>62</sup> as the end of the basic term of the TASI contract is rapidly approaching. The contract will end in June 2022 and includes a one year extension option for Caltrain. There is a further opportunity to negotiate a five year extension (through 2027) pending FTA approval. Both contract extensions will follow the scheduled completion of the PCEP project and will have to include new provisions for the expanded electrified service as well as possible construction support of major infrastructure improvements outlined in the long term service vision recommended through the Business Plan. This differs from the current contract, which has been in effect during a time of relative stability. In addition, a number of contractual improvements have been suggested and could be included in either extension. All of this will increase the complexity of the contract as well as the time it will take to negotiate the agreement.

The longer Caltrain waits to develop a strategy, the less leverage it has in discussions with TASI or another operator as the calendar will become a constraint. Implementation of a procurement process to identify a new operator will take two to three years. Starting work now maximizes Caltrain's flexibility and provides the widest range of options on a contract that is critical to the railroad's customer service and financial outcomes.

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<sup>62</sup> At this time, there are too many unknowns to determine the optimal strategy to deliver the 2040 service vision. The options have been delineated in Chapter 4 and a long term decision is best made in the future in conjunction with progress on implementing key projects and services outlined in the vision.

## **B. RECOMMENDATIONS**

It is recommended that Caltrain should develop a comprehensive strategy to obtain a third-party operator (either TASI or another operator) using a bundled contract whereby the operator provides the primary operations and maintenance functions (similar to what TASI does today). This is the most direct approach and has been successful to date. The options of bringing the work in-house or procuring a series of unbundled third-party contractors should be eliminated from consideration as near-term options as it is unclear that these approaches will yield significant benefit and pursuing either of them will require large amounts of additional organizational bandwidth. This is at a time when the railroad has limited resources and is stretched to complete the PCEP, initiate work on the Business Plan, and engage in discussions regarding major projects (San Francisco Terminals, Diridon Station, etc.) whose schedule will be driven by external parties.

The strategy needs to ensure that Caltrain can achieve its goals with the minimum amount of disruption to the organization. Time must be initially dedicated to a comprehensive internal prioritization of the desired elements in the new agreement. These would include addressing such issues as how to develop contract terms for a dynamic situation where electrification will be introduced and service levels will be likely changing during the duration of the contract; how to maximize Caltrain's future flexibility; the extent of duties to be performed by the contractor; the internal organization structure to monitor contract performance; the extent of risk and gain-sharing between Caltrain and the third party contractor; the incentive and penalty regime; and the length of contract and procurement process (degree of market soundings, use of RFQs and RFPs if direct negotiations with TASI are not successful). Additional dialogue with FTA as to their opinion on a five year extension with TASI is also critical.

Once the above work is completed, a time-frame would be identified within which negotiations with TASI on an extension would take place. This time-frame would set a date certain to complete the negotiations so that Caltrain would have adequate time to procure another operator if negotiations are not successful.

## **C. IMPLEMENTATION PLAN**

To manage this process, it is recommended that Caltrain immediately form an interdisciplinary task force of senior staff (including legal, finance, and operations staff, among others) that would be responsible for developing and implementing the strategy to procure an operator post June 2022. Clear assignment of responsibilities and leadership roles would be defined, a work plan specified and budgets developed.<sup>63</sup> Consultant assistance would likely be useful. An appropriate level of Board involvement would be identified.

# **III. INTERNAL ORGANIZATION**

## **A. TIMING**

Given the magnitude of challenges facing Caltrain staff, this issue needs to be addressed immediately by initiating a series of actions that address current deficiencies as well as prepare for the major changes coming within the next five years. The agency's financial limitations mean that Caltrain is already resource constrained, an issue that has been noted by a number of Caltrain staff. This issue is combined with the impending transition to an electrified railroad, Caltrain's commitment to participate in major local, regional and state projects, and the larger changes contemplated in the Business Plan; together they mandate organizational change and expansion. In fact, this has already started with the reorganization in the Chief Railroad Officer's division and the specification of an expanded Planning Department.

Maintaining the status quo is not a realistic option, as it will make it impossible for Caltrain to provide high quality existing or expanded rail service, participate constructively on major regional projects, and implement its Business Plan, given current levels of resourcing.

## **B. RECOMMENDATIONS**

It is recommended that Caltrain address this issue on three separate but related paths:

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<sup>63</sup> The integrated business model developed by First Class Partners will be an important tool available for use by the Task Force.

- Address vacancies immediately. To do this, Caltrain would undertake a 30 day review of budgeted, vacant positions to confirm that they are critical or can be exchanged for other pressing needs and develop a strategy to fill the positions. Subsequent to that, the strategy would be implemented immediately.
- Undertake a three to six month study that would evaluate the current organization and identify specific modifications that are recommended over the next two to five years.<sup>64</sup> The study would be completed so that its results could be included in the FY2020-21 Budget. The study would provide recommendations on the following interrelated topics:
  - Balance of available and required resources and determination of additional needed positions by department and by year;
  - Review of shared service functions with respect to functional output, prioritization of user department needs, and financial implications among other factors, with proposed path forward by function (this would be coordinated with any on-going governance discussions);
  - Modifications as necessary of the Rail Division to better monitor third party contracts, whose cost and complexity will grow over the next few years;
  - Mapping and analysis of key interfaces and processes outlined in Chapter 4;
  - Review of key functions outlined in Chapter 4;
  - Talent attraction/retention and use of seconded consultants;
  - Identification of critical skills needed and methods to attract them to Caltrain including, but not limited to, those outlined in Chapter 4;
  - Detailed projection of costs by year for the proposed next steps; and
  - Develop a strategy to provide the resources that will be necessary to fund the additional positions identified as part of the above study.

A study of this nature is best undertaken by an external consultant. However, for it to be successful, it needs to be led and supported by the senior team at Caltrain and coordinated with any ongoing governance discussions. The Caltrain organization is extremely complex and such an effort could easily go astray without the proper leadership. Furthermore, this type of study invariably results in differing opinions and conflicts between people; the role of the senior leadership team is to ensure productive dialogue.

### **C. IMPLEMENTATION PLAN**

To undertake the vacancy review, it is recommended that Caltrain identify a senior executive to oversee the review. In addition, supplemental HR resources may be required to fill the vacant positions.

To initiate the resource study, it is recommended that Caltrain appoint a multidisciplinary task force led by a senior staff member. The task force would first develop a scope of work and accompanying budget, work with the Procurement Department to solicit and select the best consultant and then serve as the steering committee for this effort.

Finally, to develop the funding strategy, it is recommended that Caltrain have its Chief Financial Officer coordinate with the study team to calculate required funding and then work to identify fund sources that would be available for the FY2020 to FY2021 budget. Absent a new fund source, Caltrain will likely need to engage in transparent discussions with partner agencies and stakeholders about the ability of the railroad to realistically support certain services and projects.

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<sup>64</sup> This work ought to be updated on a regular basis to reflect the rapidly changing conditions that Caltrain will be encountering over the next two decades.

## IV. GOVERNANCE

### A. TIMING

The issues of governance are wide-ranging and complex, but in all cases, it is in Caltrain's interest to address the issues, the alternative approaches, and the next steps at this point in time.<sup>65</sup> The railroad is at a transformational moment and faces a complicated future. Addressing issues of governance in a proactive and constructive manner will help ensure that the interests of the system and its riders are best represented. As outlined in Chapter 4, the major governance options facing Caltrain can be put into two, non-exclusive, groupings<sup>66</sup>:

- Self-directed governance options that can be resolved between either JPB members or the JPB member agencies. These include various configurations of the JPB:
  - Maintained in the current structure;
  - Maintained in the current structure with modifications;
  - Reorganized as a railroad authority hiring its own staff;
  - Reorganized as a railroad authority hiring its own staff and using select shared services; and
  - Reorganized as a district.
- Governance options or governance-related considerations that involve external parties. These include:
  - Maintain existing agencies with expanded regional cooperation;
  - Maintain existing agencies with regional integration of key functions;
  - Develop a new, consolidated regional authority with subsidiary railroads;
  - Develop a new, fully consolidated regional railroad;
  - Develop a new regional authority implementing megaprojects (grade separations, Diridon Station, SF Terminal, or others);
  - Integration and agreements with High Speed Rail Authority and/or other railroads; and
  - Expanded involvement with the private sector.

With regard to the self-directed options, the timing is right to engage in a structured dialogue between the JPB member agencies. An agreement on a path forward with respect to the self-directed options would remove a source of potential discord and enable the organization to focus on its critical issues of completing the PCEP, transitioning to an expanded electrified railroad, initiating the implementation of the Business Plan, identifying a service provider post-2022, and reviewing and modifying the organizational structure. Failing to address this question will result in these issues lingering and will make it more difficult for the organization to successfully address its core challenges and goals.

It is also in Caltrain's interest to constructively and actively engage in discussions related to the second group of governance options involving external parties. In all cases, the option of not partaking in these discussions can only hinder Caltrain and reduce its ability to influence larger regional issues in a manner that supports the needs of the system and its riders.

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<sup>65</sup> As with the other two organizational areas, these discussions and Caltrain's positions will evolve over time as Caltrain and other external parties progress different projects, funding plans and implementation measures.

<sup>66</sup> These options are discussed in great detail in the governance section in Chapter 4.

## **B. RECOMMENDATIONS.**

For the self-directed governance options, it is recommended that Caltrain convene a structured dialogue amongst the member agencies to discuss next steps and a path forward. Chapter 4 has laid out different viable options in great detail. While it is within the direct purview of the JPB to direct smaller procedural changes to Caltrain’s governance most of the changes described require the amendment of the JPA, meaning that the JPB member agencies have the sole authority and responsibility to direct and enact these changes.

One suggested approach to address this would be for the general managers (GMs) of the member agencies to form a small task force, consisting of themselves or a senior staff person who can represent and speak for the agency.<sup>67</sup> The task force would manage a process that would use the information in Chapter 4 as a starting point, agree upon mutual goals for Caltrain, conduct additional analysis as needed, and fully socialize the options. They would be charged with attempting to reach consensus as to which governance option is desired and providing a recommendation to their member agency. They would be given a strict timeframe for this effort. The most important point is to develop a structured process that directly involves the agencies who have the authority to enact any desired changes.

For the second group of options, each approach is slightly different:

- Formation of a New Regional Railroad Authority or other Regionalized Structure – It is critical that Caltrain be involved in these discussions, even if they are in early stages. While the regional concepts reviewed in Chapter 4 are long term in nature, they could form the basis for significant change in how rail services are managed in the Bay Area, including the future of the JPB and the Caltrain service. Further, they may become the nexus for the formation of future regional funding measures. Caltrain’s constructive participation would only increase its influence and has no downside.
- New Regional Construction Authority to Plan, Fund and Implement Megaprojects - It is also critical that Caltrain be involved in the discussion of a potential regional construction authority, and, over time, develop clear positions on the significant issues surrounding these projects. This authority would potentially be involved in projects (terminal stations, grade separations) that directly affect Caltrain’s operations and finances. Furthermore, absent such an authority, it is not evident how these projects would be financed or implemented by Caltrain.
- Development of Agreements with High Speed Rail Authority or Other Railroads– Caltrain should remain involved in the dialogue with HSRA given that their futures are intertwined. In particular, Caltrain should work with HSRA and the State to understand which additional agreements should be negotiated, while also observing how HSRA’s plans and timeline for implementation are clarified over the next few years.
- Private Sector – As Caltrain reviews its financial needs and future projects, it may need to more deeply engage the private sector to help monetize its assets and deliver services. The nature of the dialogue will evolve dependent upon Caltrain’s financial requirements and will be clarified through further funding and financial analysis anticipated as part of the Business Plan.

## **C. IMPLEMENTATION PLAN**

With regard to the self-directed options, if the member agencies agree with the approach outlined above or develop an alternative approach, the next step is for the parties to initiate the process.

With regard to the external party discussions, the next step is for Caltrain to continue and expand its current engagement in certain projects (San Francisco Terminal, Diridon Station in particular) as well as determine the extent to which it wants to advocate for some of the other institutional options (such as a regional construction authority or grade crossing district). For other regional options not driven by Caltrain (e.g. regional rail authority), Caltrain would continue to be a participant in the discussion. As part of this, Caltrain needs to identify the resources and analyses required for these different streams of work.

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<sup>67</sup> For the City and County of San Francisco, the signatory agency is the City of San Francisco and the JPA was signed by the Mayor. It is assumed that the different officials in SF would determine the appointment of their representative to this committee.

# APPENDIX

## I. PARTICIPANTS IN INITIAL STAKEHOLDER INTERVIEWS

The following individuals were interviewed by Howard Permut during the summer and fall of 2018. These interviews served as a basis for the development of Chapter 1 as well as subsequent work.

### **CALTRAIN**

Jim Hartnett

Michelle Bouchard

Carter Mau

Rafael Bolon

Stacy Cocke

Dave Couch

Brian Fitzpatrick

Casey Fromson

John Funghi

Lin Guan

Derek Hansel

Liria Lirano

David Miller

Seamus Murphy

Sebastian Petty

Joe Navarro

Melissa Reggiardo

Liz Scanlon

Danielle Stewart

Matt Verhoff

## **JPB AD HOC COMMITTEE**

Jeanie Bruins

Gillian Gillett

Charles Stone

Cindy Chavez

## **JPB MEMBERS**

Cheryl Brinkman

Dev Davis

Jeff Gee

Dave Pine

Monique Zmuda

## **OTHER REGIONAL TRANSIT AND TRANSPORTATION AGENCIES**

Alix Bockelman, MTC

Tilly Chang, SFCTA

Nuria Fernandez, VTA

Steve Heminger, MTC

Ed Reiskin, SFMTA

## **STANFORD**

Bob Reidy

Lesley Lowe

## **PRIVATE FUNDERS**

Carla Boragno, Genentech

Winsome Bowen, Facebook

Mark Golan, Google

Mark Hansen, Prologis

Brendon Harrington, Google

John Tenanes, Facebook



## **HIGH SPEED RAIL**

Brian Kelly

Frank Vacca

Boris Lipkin

## **CALTRANS AND CALSTA**

Chad Edison, Deputy Secretary, Transportation

Kyle Gradinger, Caltrans Division of Rail

## **REGIONAL ADVOCACY AGENCIES (NGO)**

Ratna Amin, SPUR

Adina Levin, Friends of Caltrain

## **REGIONAL BUSINESS GROUPS**

Carl Guardino, SVLG

Rosanne Foust, SAMCEDA

## **OTHER KEY INDIVIDUALS**

Michael Burns

Lou Thompson

## II. KEY REPORTS REVIEWED

### AGREEMENTS AND CONTRACTS

JPA Agreement and Amendments  
TASI Agreement and Amendments  
HSRA Agreements and Amendments  
HSRA PMFA (March 2018)  
FTA Full Funding Grant Agreement UP Agreement  
Stadler Contract  
Balfour Beatty Contract Stanford/Caltrain MOU  
Project Partner Committee Charter (Draft)

### CALTRAIN PUBLIC DOCUMENTS

Business Plan Presentations to the JPB Board  
Minutes regarding the Business Plan  
Peninsula Corridor Electrification Project Monthly Report (April 2018)  
Business Plan Presentations to External Groups (LPMG; County Staff Coordinating Group) Caltrain Strategic Plan FY 2015 - 2024  
Caltrain Short Range Transit Plan FY 2015 - 2024

### CALTRAIN INTERNAL DOCUMENTS

Operating and Capital Budgets (FY2018, FY2019) Organization Chart  
Train Schedules/Equipment Cycles  
Ridership Counts  
Track Charts  
Operating Reports  
Valuation Reports  
Right-of-Way Video  
TASI Organization Chart  
TASI Performance Reports  
TASI Performance Fee Report  
Various in-progress Studies and Analyses

**CALTRAIN BUSINESS PLAN**

ORGANIZATIONAL ASSESSMENT – *DRAFT REPORT*

**OTHER PUBLIC AGENCY PLANS**

2018 State Rail Plan

HSRA 2018 Business Plan

**ADVOCACY GROUP PLANS**

Caltrain Vision (SPUR)

Moving San Mateo County Forward (Transform)

**OTHER**

Caltrain Grand Jury

### III. HOWARD PERMUT PERSONAL VITA

Howard Permut is an experienced independent management consultant providing advice to both public and private US and international clients. He has over 40 years of experience in the public transit field.

After starting his career in Chicago with the Chicago Transit Authority and the Regional Transportation Authority, Mr. Permut was part of the original team that formed Metro North Railroad in 1983. He held a series of progressively more senior executive positions culminating in his appointment as President from 2008 until his retirement in January 2014.

Mr. Permut's work was instrumental in Metro North's transformation to a leading transit agency. His initiatives expanded ridership, improved safety and customer service, increased financial efficiency, implemented new fare and revenue generating strategies, redeveloped Grand Central Terminal and rebuilt the railroad's infrastructure. As President, he led the railroad during a time of critical economic, weather, safety and operational challenges. During his tenure, Metro North was the first and only American railroad to receive the International Brunel Jury Award for best design and engineering among global railroads.

Mr. Permut has been a leader in strategic transit industry activities involving the American Public Transportation Association, Federal Railroad Administration, Transit Center, and the Transportation Cooperative Research Program. He has lectured on transit management and leadership topics at universities throughout the world, including Curtin University (Perth), National Defense University, the University of Pennsylvania, Yale, and Northwestern University. He was part of the team that developed and launched the National Transit Institute's Senior Leadership Program. He currently works with the Eno Center for Transportation leadership in both developing and delivering executive educational materials.

He currently is a member of the Metrolinx Capital Oversight Committee, is Board Chair of Teatown Lake Reservation, a major environmental organization in Westchester County and is a member of the Sustainable Westchester Board of Advisors. Previously he has been a member of the Eno Board of Advisors and a Senior Fellow at the Regional Plan Association.

He has a bachelor's in geography from SUNY Binghamton, a master's in transportation from Northwestern University, and attended the Harvard University Kennedy School Senior Executive in State and Local Government Program.

# Choosing a Long Range Vision

Caltrain Business Plan

JPB

August 1, 2019



# Agenda for Today



## Executive Director Remarks



## A Long Range Vision for Caltrain Service

Why Do We Need a Vision and  
What Are We Deciding?

Developing Scenarios

Weighing Caltrain's Choices

Staff Recommendation



## From Vision to Business Plan - Next Steps



## Organizational Assessment

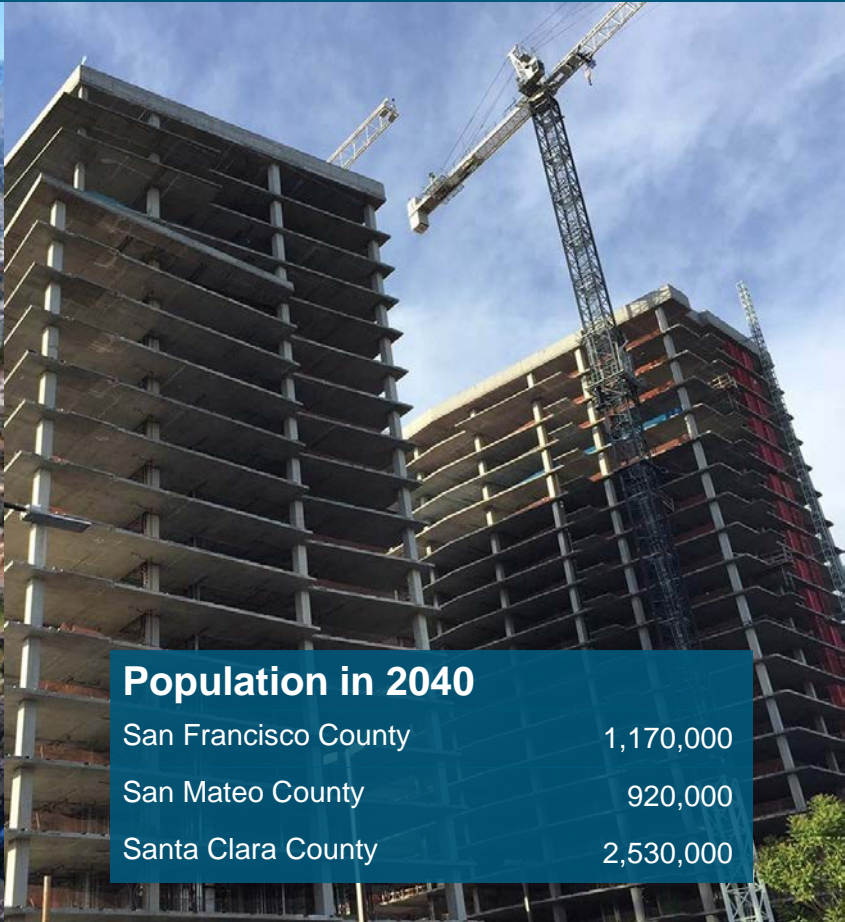
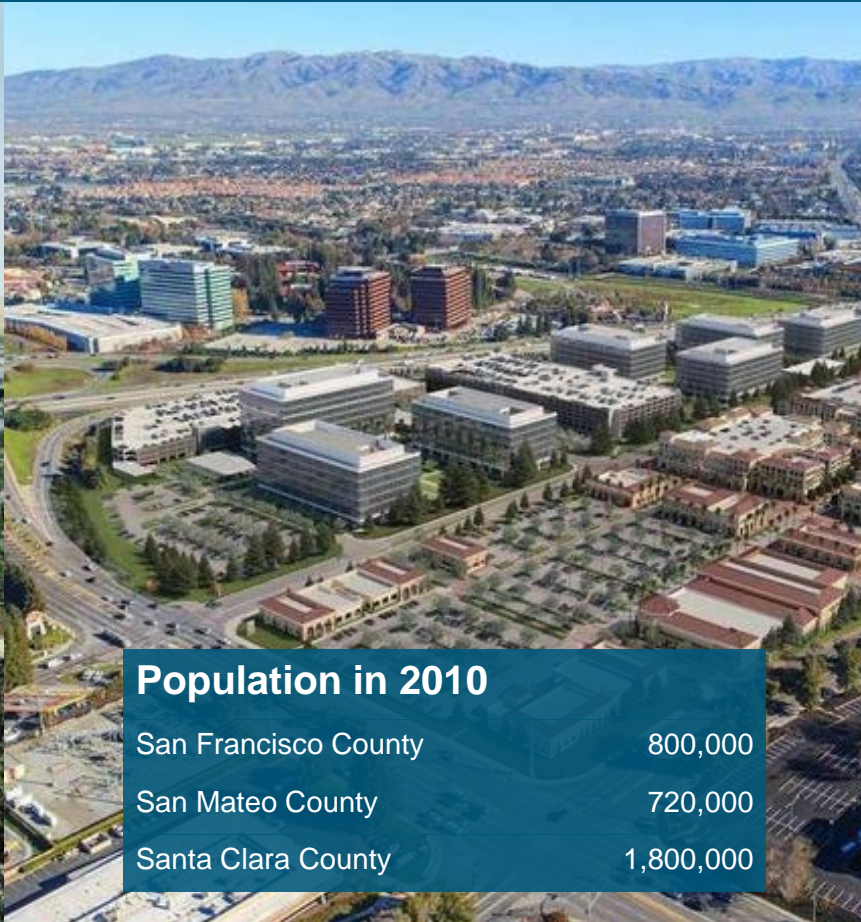
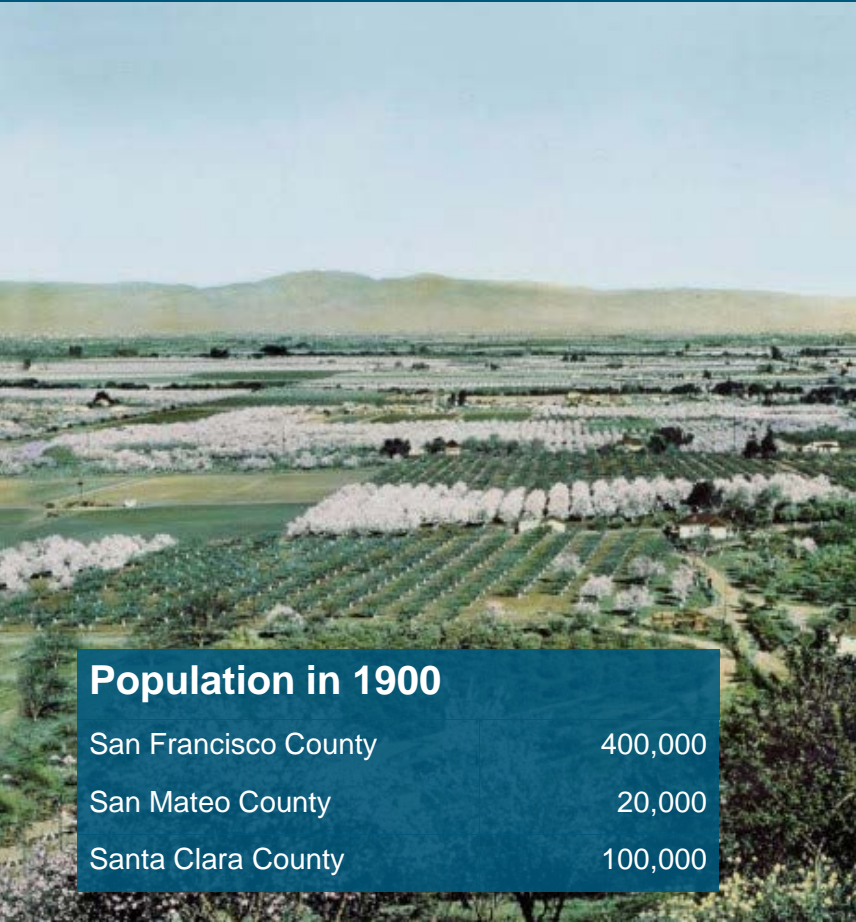
# Executive Director Remarks

# A Long Range Vision For Caltrain Service



# Why Does Caltrain Need a Vision?

# Caltrain is part of a dynamic corridor



## Population in 1900

San Francisco County	400,000
San Mateo County	20,000
Santa Clara County	100,000

## Population in 2010

San Francisco County	800,000
San Mateo County	720,000
Santa Clara County	1,800,000

## Population in 2040

San Francisco County	1,170,000
San Mateo County	920,000
Santa Clara County	2,530,000

# Connecting many different communities



# Within a growing and challenged region

Only 18% of Bay Area households could afford a median-priced home

California releases air quality guidelines for schools dealing with wildfire smoke

Recommendations available 'just in time for fire season,' coming school year

Map: Here's how much time, money you lose commuting in the Bay Area

Depending on your income, it could be enough for a down payment on a house within five years

# Urban growth is a global phenomenon.



London, England



Buenos Aires, Argentina



Toronto, Canada

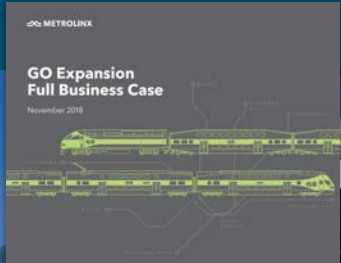
# Rail investments remain an essential tool to shape and manage growth.



London, England



Buenos Aires, Argentina



Toronto, Canada

The future of rail in the Bay Area is still coming together, with many different plans and projects underway.



**Caltrain will be the first, modern electrified railroad in California. The Vision we choose will shape the future of rail in the region and the state.**





And our success will mean that we make every day life easier for the people who live and work in our communities.



# What is a Long Range Service Vision?

A Long Range Service Vision describes an achievable “End State” for the Corridor in 2040



## Train Service

- Frequencies
- Stopping patterns
- Service types
- Number of trains



## Infrastructure Needs

- Fleet
- Systems
- Infrastructure
- Support facilities



## Costs

- Operating
- Maintenance
- Capital



## Outcomes

- Ridership
- Mobility benefits
- Revenues

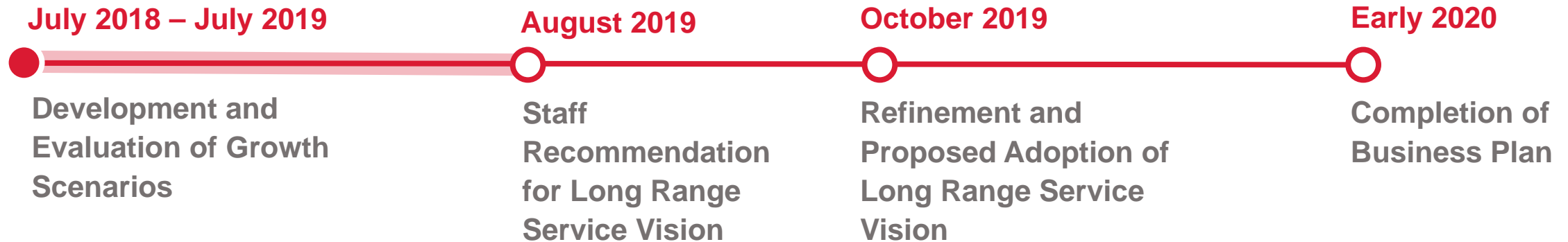
# Choosing a Long Range Service Vision is a key step in developing the Business Plan

The Long Range Service Vision sets a target for the future that we and our partners can grow towards incrementally

## A *successful* Long Range Service Vision:

- Is rooted in thorough and credible analysis
- Respects, integrates, and supports the existing plans and commitments that Caltrain and its partners have made
- Is detailed enough to provide actionable guidance to the agency as it develops its own plans and engages with local, regional, and state partners
- Is sufficiently flexible to remain relevant even as the details, timing, and costs of individual projects change or evolve

# Board Guidance and Timeline



# Baselining the Vision

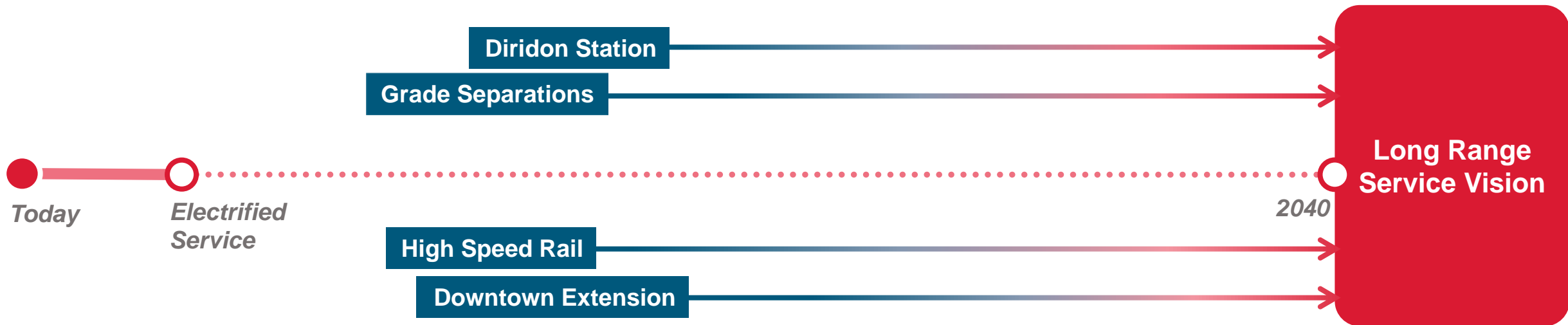
What state, regional, and local projects have already been built or planned in the Caltrain Corridor for 2040?

What kind of service has been contemplated previously?

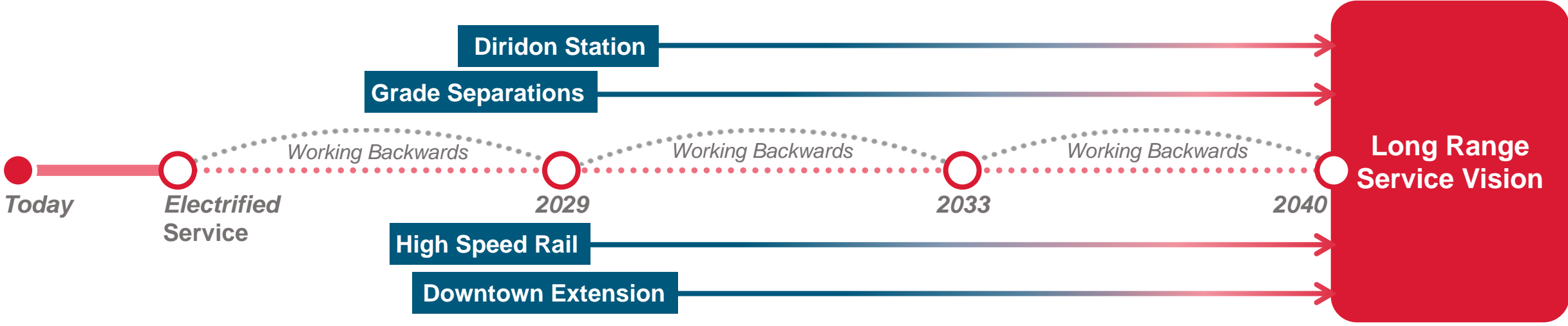
How do they fit together and what do they cost?



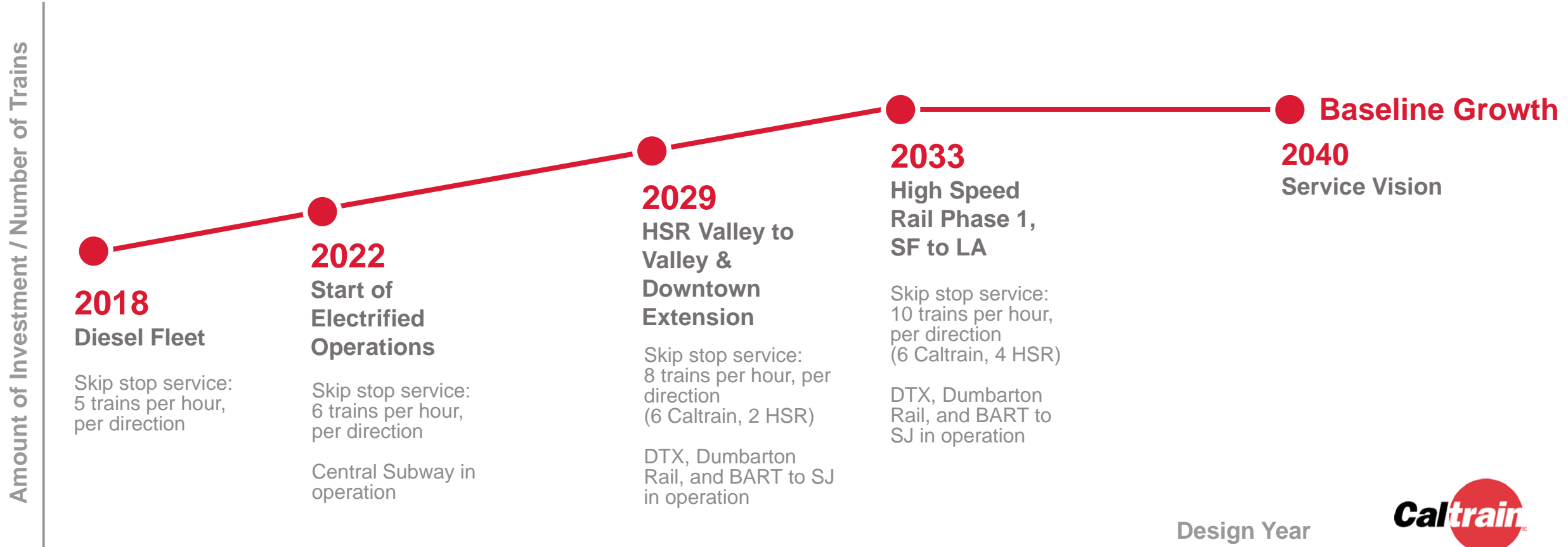
# The vision must account for and integrate a complex set of plans and projects across many timeframes.



# Once we've chosen the "big" vision, we can work back to define the best path to get there.

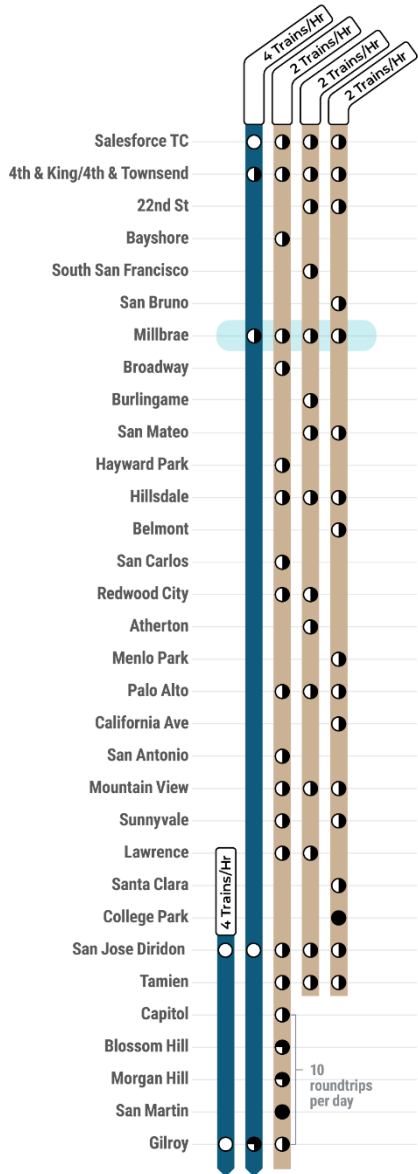


# Getting to a Baseline





# 2040 Baseline Growth: Service Details

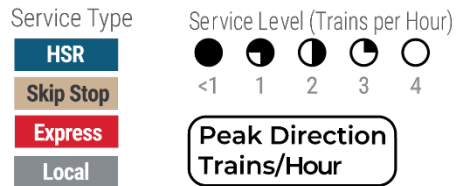


## Today

### 2022-2033

### 2040 Baseline

- Caltrain runs a maximum of **5 trains per peak hour per direction** with limited service outside of peak, weekday commute hours
- With the completion of electrification in 2022, Caltrain will run **6 trains per peak hour per direction** and will improve its off-peak service
- Previously, long range planning has not looked at increasing Caltrain’s maximum service beyond 6 trains per hour per direction
- Instead, Caltrain’s long range plans have focused on the “blended system” – sharing the corridor with up to 4 HSR trains by 2033
- Skip stop service with **6 trains per peak hour per direction** and 4 HSR trains
- New passing tracks at Millbrae
- Bunched service results in irregular Caltrain headways; each pattern arrives over span of 10 minutes, then a 20-minute gap between trains
- Three half-hourly skip stop patterns each with similar travel times
- South of Tamien, peak-direction skip stop service with 10 round trips per day
- This “baseline” service is consistent with HSR’s ongoing environmental process



Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.

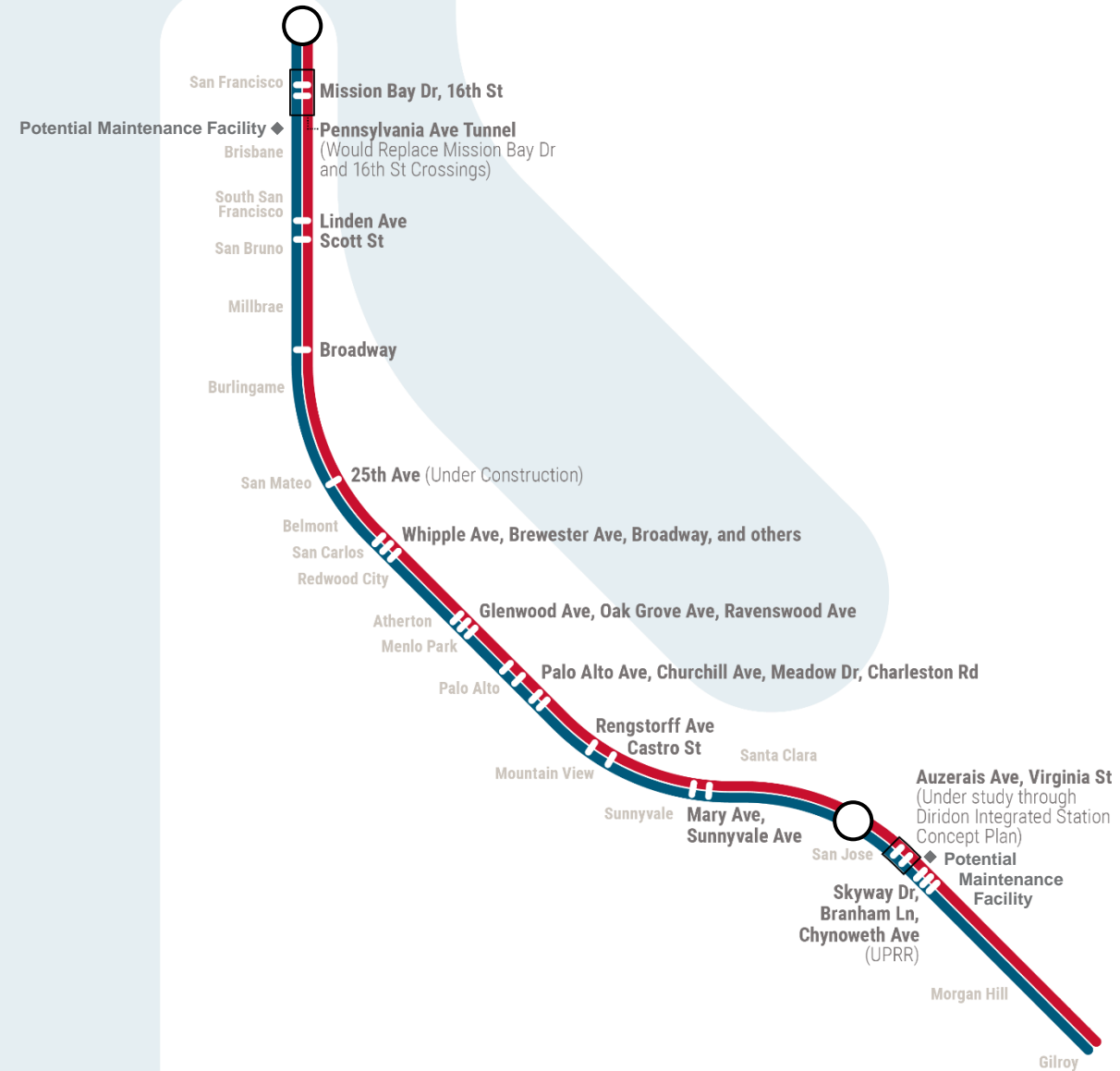
# Baseline Investments

While the “Baseline” for the 2040 Service Vision contemplates only modest increases in Caltrain service beyond electrification, there are many other investments planned for the Caltrain corridor before 2040.

Some of these projects are directly required to enable the baseline level of service while others reflect the goals and commitments of Caltrain’s local, regional and state partners.

## Baseline investments include:

1. Caltrain projects already underway
2. Local, Regional & State partner projects that directly influence Caltrain
3. Additional Caltrain investments needed to fill out the baseline and support blended operations



# The Baseline Costs \$22.1 Billion

**\$2.3B**

Caltrain Work Underway

\$2.3B



**\$16.2B**

Investments Planned and Proposed by Caltrain Partners

\$3.3B

Downtown Extension to Salesforce Transit Center

\$3.4B

Diridon Station and Surrounding Rail Infrastructure\*

\$2.6B

High Speed Rail Investments

\$6.9B

City-led Grade Separations

**\$3.6B**

New Caltrain Investments to Support Baseline Growth Scenario

\$3.6B

\* Placeholder cost pending detailed cost estimate to be developed through Diridon Integrated Station Concept Plan

# Baseline Investments by Investment Type



## Track & Rail

- Curve straightening & track upgrades to achieve 110mph
- 4-tracking for Millbrae Station
- SJ to Gilroy corridor rebuild to three tracks



## Systems

- New signal systems (Caltrain and HSR)
- Additional communication systems
- SJ to Gilroy OCS/TPS system



## Stations and Platforms

- Station access improvements
- Platform extensions for 8-car trains
- Level boarding
- 22nd Street station improvements
- HSR station at Gilroy
- SJ to Gilroy rebuild of all Caltrain stations

# Baseline Investments by Investment Type



## Grade Crossings & Separations

- Grade separation investments including all City-led plans and projects



## Terminals & Yards

- Completion of DTX
- Diridon Station project
- North LMF and CEMOF relocation

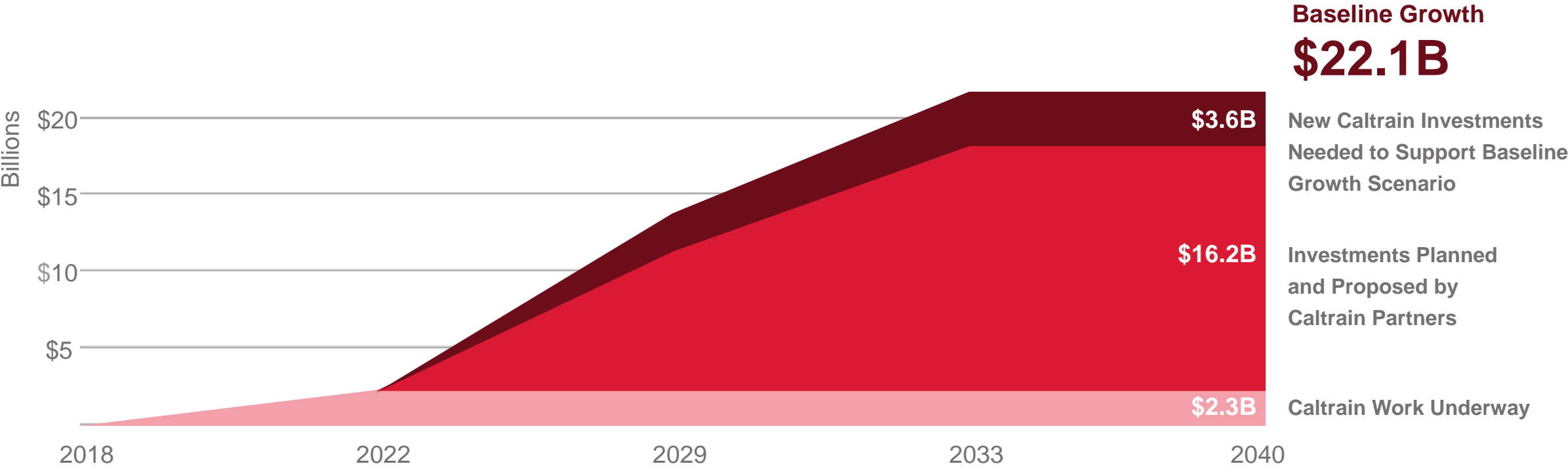


## Fleet

- PCEP fleet costs
- Fleet upgrades for Baseline service

# Building the Baseline

## Total Corridor Investment Over Time to Achieve the Baseline



**Baseline Growth**  
**\$22.1B**

New Caltrain Investments Needed to Support Baseline Growth Scenario

Investments Planned and Proposed by Caltrain Partners

Caltrain Work Underway

# What does it mean for Caltrain to Choose a Long Range Vision?

## Caltrain's 2040 Service Vision needs to be a "Big Tent"

- The Caltrain corridor is a key regional transportation asset and many of our partner cities and agencies have major commitments or planned investments (Projects) in the corridor. The vast majority of these are substantially unfunded.
- The "Baseline Vision" incorporates these investments, as well as the basic improvements that Caltrain will need by 2040 to operate a fully modernized blended system at "baseline" levels of frequency.
- Building from this "baseline," Caltrain has assessed options for incremental expansion of service

**Caltrain's core question as it considers a Long Range Service Vision:**

**How Much Service Should We Provide?**

# Developing Scenarios



# Market Demand

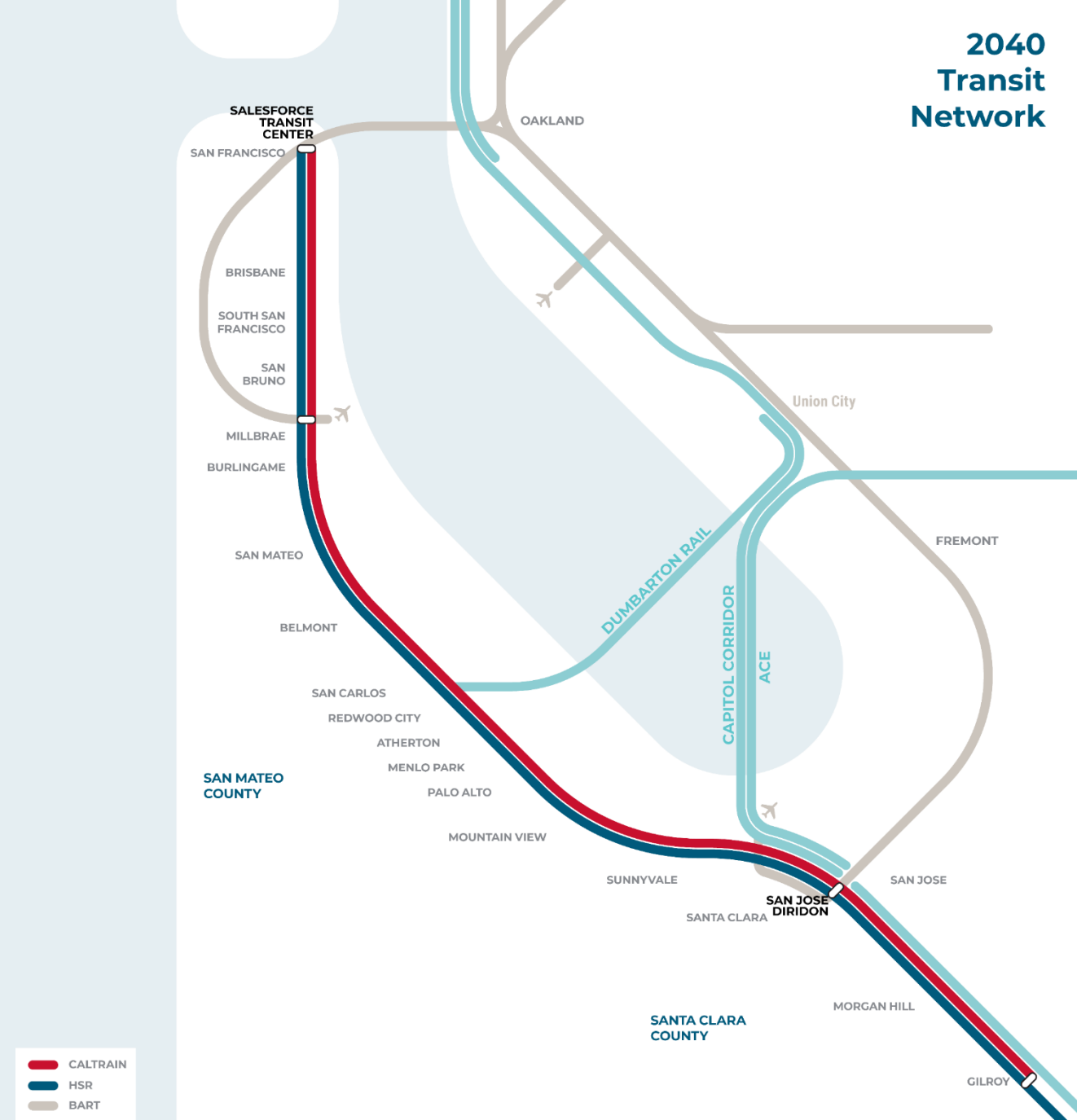
## Today, Caltrain serves bidirectional and polycentric ridership demand

- ~60,000 daily boardings
- Highly concentrated around stations with fastest & most frequent service
- One-third of trips occur in reverse-peak direction
- Half of trips occur outside of San Francisco

## By 2040, Caltrain has the potential to serve a market of over 200,000 daily riders

- Corridor expected to add 1.2 million people and jobs within 2 miles of Caltrain (+40%)<sup>1</sup>
- Significant freeway congestion
- Major infrastructure projects further increase Caltrain demand
  - BART to Santa Clara County
  - Downtown Extension/Pennsylvania Avenue Tunnel
  - Dumbarton Rail

<sup>1</sup>Based on Plan Bay Area forecasts and approved projects by individual cities



# Service Planning Process

2018

2019

Stakeholder Engagement

Developed Service Planning Parameters & Goals

Identified Initial Service Approaches

Developed Detailed SF-SJ Peak Hour Concepts

Screened and Evaluated Detailed Service Concepts and Expanded to include Southern San Jose and Gilroy

Considered Off-peak and Weekend Service to Develop Complete Service Plans

Service Explorations and Operations Simulation; considered terminal planning

# Outreach Activities to Date

July 2018 – August 2019 Timeline

	2018						2019							
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
<b>Local Policy Maker Group</b>	●	●	●		●	●		●	●	●		●	●	●
<b>City/County Staff Coordinating Group</b>	●	●	●		●	●		●	●	●		●	●	●
<b>Project Partner Committee</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>Stakeholder Advisory Group</b>				●		●					●			●
<b>Partner General Manager</b>				●			●				●		●	
<b>Targeted Online Engagement</b> Website Launch, Data Visualization Challenge, Reddit/YouTube Live, Online Open House					●			●			●		●	●
<b>Community Meetings</b> SPUR, Friends of Caltrain, Station Outreach					●		●	●	●		●	●		●
<b>Sister Agency Presentations</b> SFCTA, SF Capital Planning, TJPA, SamTrans, SMCTA, CCAG, VTA, MTC, Diridon Station JPAB					●	●	●	●	●	●	●	●	●	●

# Outreach Activities to Date

As of July 20, 2019 - by the Numbers

## Stakeholders Engaged

21

Jurisdictions

26

Public Agencies

93

Organizations in Stakeholder  
Advisory Group

156

Stakeholder  
Meetings

## Public Outreach

51

Public Meetings  
and Presentations

1,000+

Survey Responses

14,300+

Website Views

258,200+

Social Media Engagements

# Public Engagement

## Community Meetings

**CALTRAIN IS A PART OF THE COMMUNITY**  
We'd love to hear from our neighbors. We recognize that Caltrain is woven into the diverse communities we serve and want to hear from you about your needs and what you'd like Caltrain service to look like in the future. Please check back regularly for updates and ways to get involved in the process.

**SIGN UP FOR UPDATES**

FIRST NAME\*

LAST NAME\*

EMAIL ADDRESS\*

RESIDENTIAL ZIP CODE\*

HOW OFTEN DO YOU RIDE CALTRAIN?

COMMENT (OPTIONAL)

**SUBMIT**

**EVENTS**  
Attend one of our regular meetings to learn more:

NOVEMBER 2018

SU	MO	TU	WE	TH	FR	SA
30	31	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	29	30	1

EVENTS FOR NOVEMBER

6:00 pm - 8:00 pm  
**CALTRAIN BUSINESS PLAN PUBLIC COMMUNITY MEETING**  
Mission Creek Senior Center

50+ public meetings, more scheduled here:  
[www.caltrain2040.org/get-involved](http://www.caltrain2040.org/get-involved)

## Online Open House

**Caltrain BUSINESS PLAN**

Welcome The Need Future Service Benefits Business Case Staff Recommendations Next Steps

**WELCOME**

**HOW TO USE THIS ONLINE OPEN HOUSE**

- Please click through the headers above to learn more about each section of the Business Plan.
- Look for section marked with to know where you can share feedback.
- Answer questions in each section to help us improve the Caltrain corridor.
- Expect to spend 20-30 minutes to fully review the content and respond to questions.

Online Open House Live on August 1st:  
[www.caltrain2040.org/openhouse](http://www.caltrain2040.org/openhouse)

## Variety of Engagement Tools



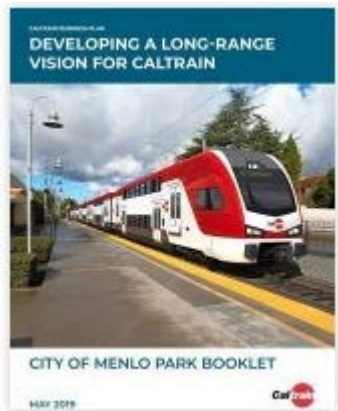
**Caltrain BUSINESS PLAN**

**DATA VISUALIZATION CHALLENGE**

USE YOUR CODING AND DESIGN SKILLS TO INFLUENCE THE FUTURE OF BAY AREA TRANSPORTATION

[www.caltrain2040.org/data](http://www.caltrain2040.org/data)

# Individual Jurisdiction Outreach City Booklets



**HOW CALTRAIN IN MENLO PARK IS USED TODAY**

Riders Living in the City	Riders Working in the City	Residents or Employees Riding 5+ Days Per Week	Resident Riders Per Capita
741	746	59%	2.2%

**STATION CHARACTERISTICS**

Station	Parking Spaces	Mode of Access	Top 3 Origins/Destinations
Menlo Park Local Limited	155/58 (VEHICLE PARKING OCCUPANCY %)	31% WALK, 30% BIKE, 11% TRANSIT DROP OFF, 22% TRANSIT PICK UP, 6% RAMP	San Francisco, Millbrae, San Jose

**THE CORRIDOR TODAY**

**CALTRAIN IN 2040**

The Caltrain Business Plan is asking the question "How should Caltrain Grow?" To do this we are considering what the corridor and region will look like in 2040, including how many people will want to live and work along the Caltrain corridor and what the role of the railroad should be in helping keep everyone moving.

The Business Plan team has developed three distinct, illustrative "growth scenarios" or "visions" for how Caltrain could grow to serve expanded demand for rail service. The following pages provide an overview of these "growth scenarios" and show what they could mean for communities along the corridor.

**CHANGING LAND USE**

**1/2 Mile Station Area**

1 million people and jobs within 1/2 mile of Caltrain stations

**2 Mile Station Area**

4.2 million people and jobs within 2 miles of Caltrain stations

**CONCEPTUAL PEAK HOUR SERVICE SCENARIOS**

Station	Baseline Growth (6 Caltrain Trains + 4 HSR Trains per Direction)	Moderate Growth (8 Caltrain Trains + 4 HSR Trains per Direction)	High Growth (12 Caltrain Trains + 4 HSR Trains per Direction)
Salesforce TC	1	1	1
4th & King/4th & Townsend	1	1	1
22nd St	1	1	1
Bayshore	1	1	1
South San Francisco	1	1	1
San Bruno	1	1	1
Millbrae	1	1	1
Broadway	1	1	1
Burlingame	1	1	1
San Mateo	1	1	1
Hayward Park	1	1	1
Hillside	1	1	1
Belmont	1	1	1
San Carlos	1	1	1
Redwood City	1	1	1
Albion	1	1	1
Menlo Park	1	1	1
Palo Alto	1	1	1
California Ave	1	1	1
San Antonio	1	1	1
Mountain View	1	1	1
Sunnyvale	1	1	1
Lawrence	1	1	1
Santa Clara	1	1	1
College Park	1	1	1
San Jose Diridon	1	1	1
Tamien	1	1	1
Capitol	1	1	1
Blossom Hill	1	1	1
Morgan Hill	1	1	1
San Martin	1	1	1
Gilroy	1	1	1

**Notes:** These service patterns and infrastructure projects represent illustrative concepts carried forward for business planning purposes. Actual service patterns and infrastructure may vary depending on corridor-wide and jurisdiction-specific feedback and will be refined and confirmed based on Board direction and subsequent planning and analysis. Ridership projections are derived from analysis of potential service patterns and land use changes included in Plan Bay Area or subsequently approved by local jurisdictions.

View the booklets at: [www.caltrain2040.org](http://www.caltrain2040.org)

# Individual Jurisdiction Outreach

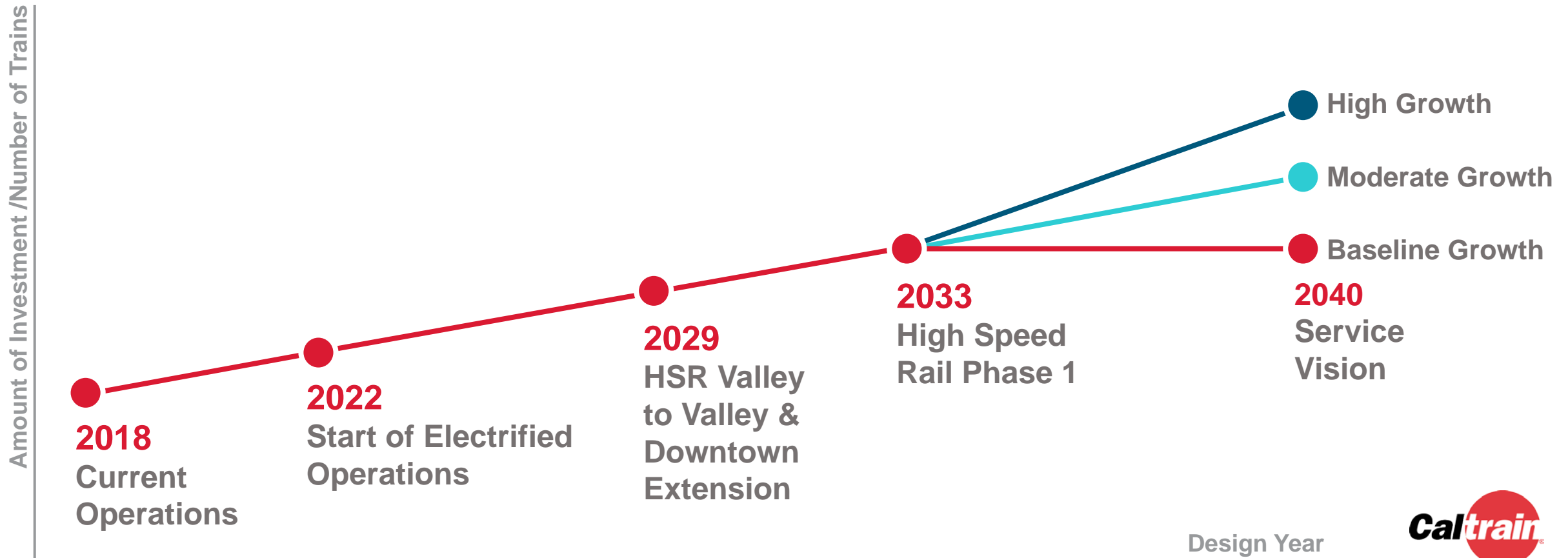
July 2018 – August 2019 Timeline

	Atherton	Belmont	Brisbane	Burlingame	Gilroy	Menlo Park	Millbrae	Morgan Hill	Mountain View	Palo Alto	Redwood City	San Bruno	San Carlos	San Francisco	San Jose	San Mateo	Santa Clara	South San Francisco	Sunnyvale
<b>Round 1: Fall 2018</b> Railroad-Community Interface Meeting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Round 2: Spring 2019</b> Railroad-Community Interface Meeting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>City Council Meeting</b> Scheduled or Completed		✓	✓	✓		✓	✓		✓	✓	✓		✓	✓*	✓	✓			✓

\*SFCTA

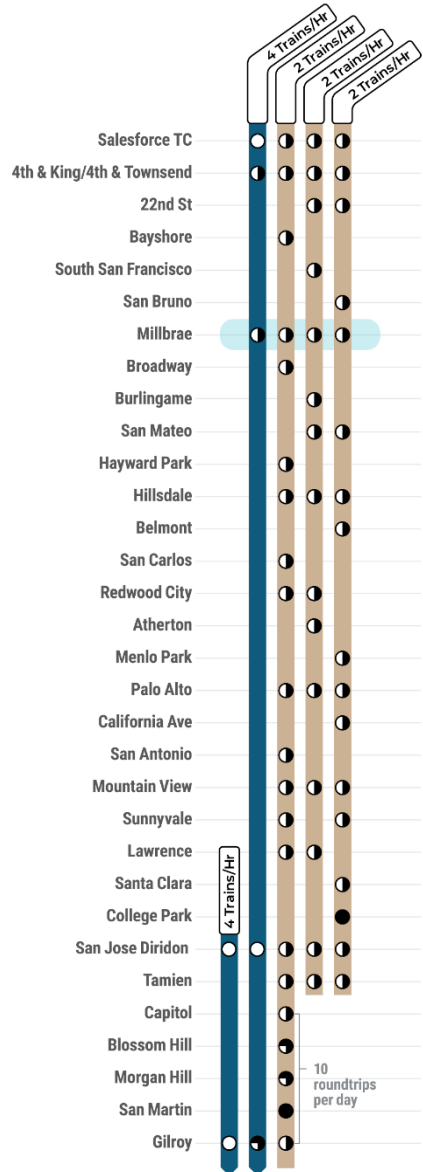


# How Much Service Should Caltrain Provide?





# 2040 Baseline Growth Scenario



## Trains per Hour, per Direction

Peak: 6 Caltrain + 4 HSR  
Off-Peak: 3 Caltrain + 3 HSR

## Stopping Pattern

Skip stop

## Travel Time, STC-Diridon

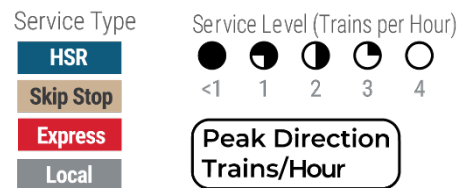
69-73 Min

## New Passing Tracks

Millbrae

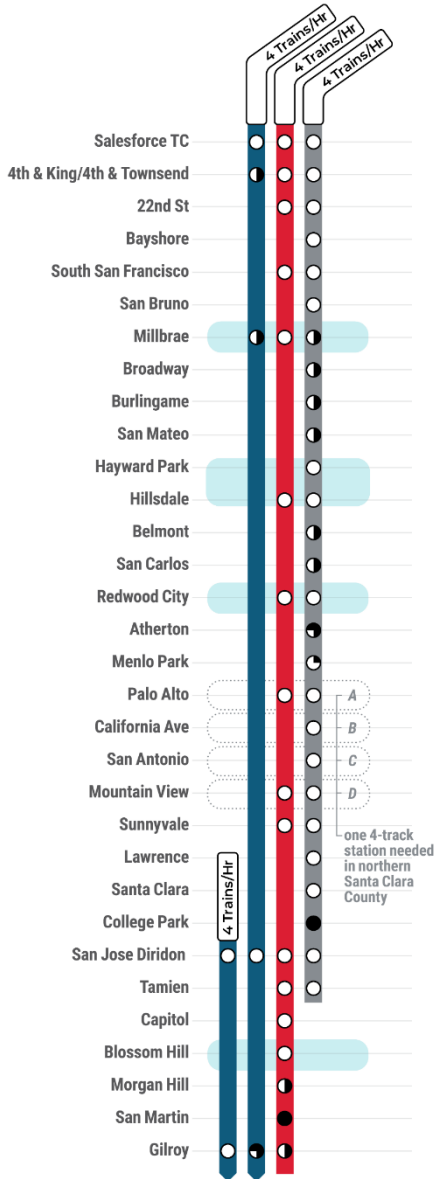
## Service Plan Description

- Bunched service results in irregular Caltrain headways; each pattern arrives over span of 10 minutes, then a 20-minute gap between trains
- Three half-hourly skip stop patterns each with similar travel times
- South of Tamien, peak-direction skip stop service with 10 round trips per day



Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.

# 2040 Moderate Growth Scenario



## Trains per Hour, per Direction

Peak: 8 Caltrain + 4 HSR  
Off-Peak: 6 Caltrain + 3 HSR

## Stopping Pattern

Local / Express with timed transfer at Redwood City

## Travel Time, STC-Diridon

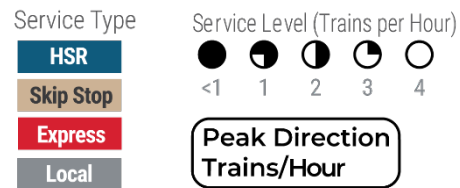
61 Min (Express)  
85 Min (Local)

## New Passing Tracks

Millbrae, Hayward Park-Hillsdale, Redwood City, Northern Santa Clara County, Blossom Hill

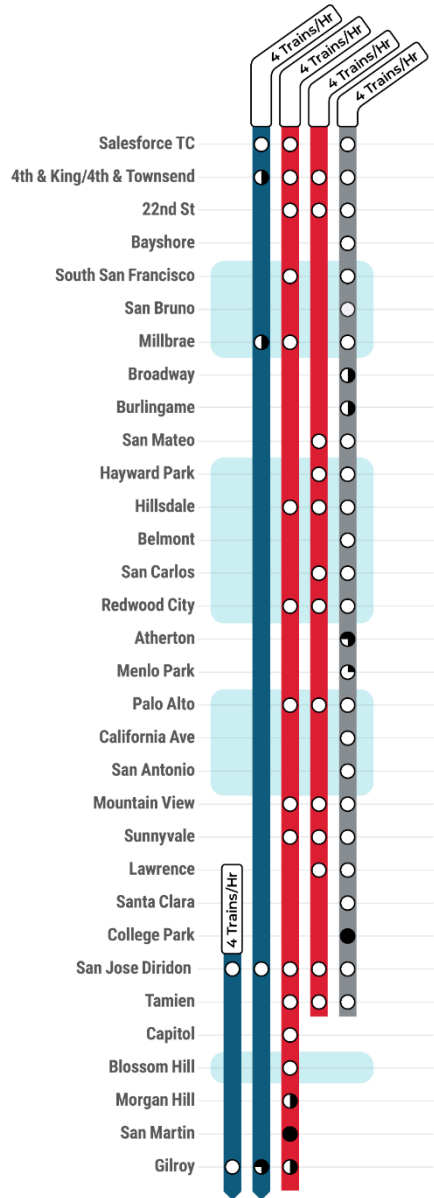
## Service Plan Description

- Local and Express trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City
- Skip stop pattern for some mid-Peninsula stations; some origin-destination pairs not served at all
- Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 minutes



Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.

# 2040 High Growth Scenario



## Trains per Hour, per Direction

Peak: 12 Caltrain + 4 HSR  
Off-Peak: 6 Caltrain + 3 HSR

## Stopping Pattern

Local / Express A / Express B with timed transfer at Redwood City

## Travel Time, STC-Diridon

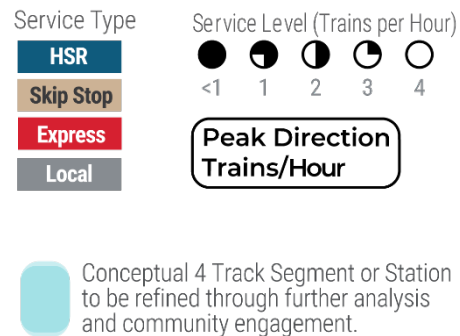
61 Min (Express A)  
82 Min (Local)

## New Passing Tracks

South San Francisco-Millbrae, Hayward Park-Redwood City, northern Santa Clara County, Blossom Hill

## Service Plan Description

- Local and Express A trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City
- Express B trains operate every 15 minutes between 4th & King and Tamien
- Local trains make nearly all stops
- Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 mins



# Weighing Caltrain's Choices

# What is a Business Case?

A **Business Case** is a decision-making framework used by transportation agencies around the world. They are intended to objectively assess whether an investment makes sense and provides long term value to the public. They can include different components that variously focus on the strategic, financial, economic, and deliverability elements of different projects or programs.



**MetroLinx GO**  
Toronto, Canada



**Brighton Main Line  
Route Strategy**  
London, England



**TransPennine Express  
Rail Franchise**  
Northern England



**High Speed 2**  
England

# Components of the Business Case Analysis

We have adapted a traditional Business Case Analysis to the specific, and complicated circumstances of the Caltrain corridor.

Collectively, this analysis helps provide guidance as to whether we should remain on the “baseline” course or if there is value in choosing a Long Range Service Vision for Caltrain that aims higher.

The following slides present and weigh analyses in each of the following areas.



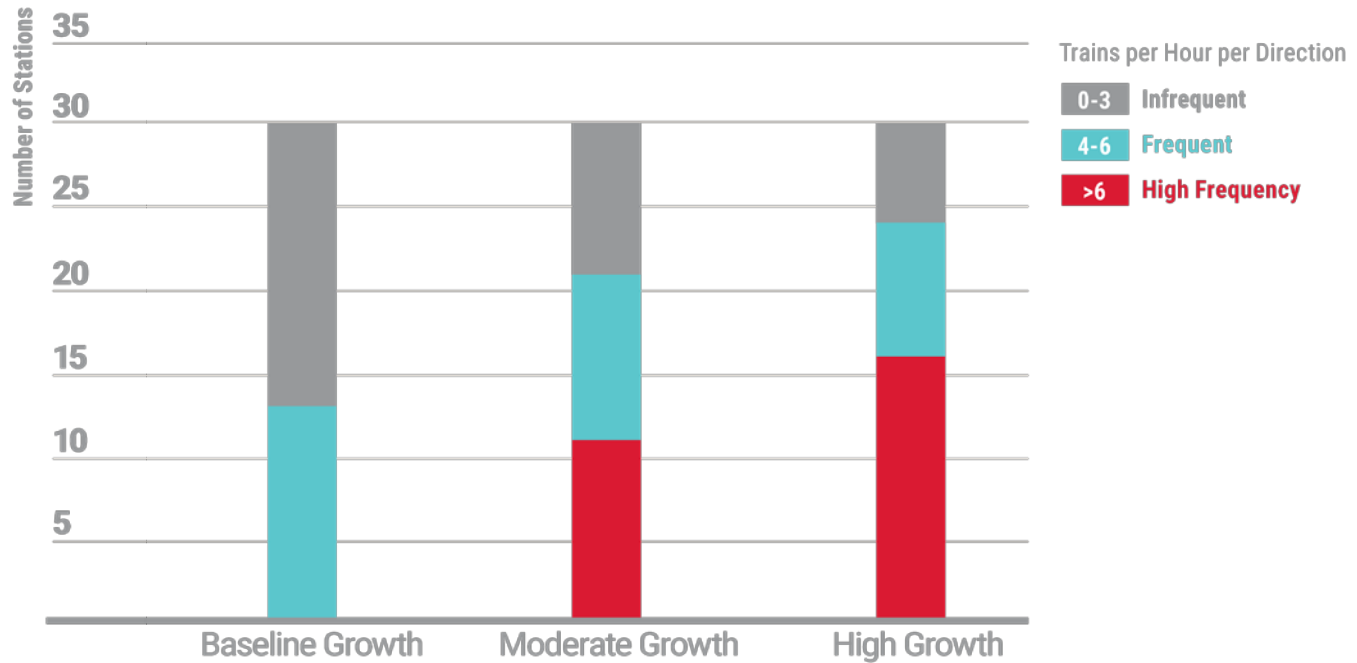
# Service Comparison


The following slides present a direct comparison of service-based performance metrics between the different 2040 Growth Scenarios.



# Peak Period Frequency

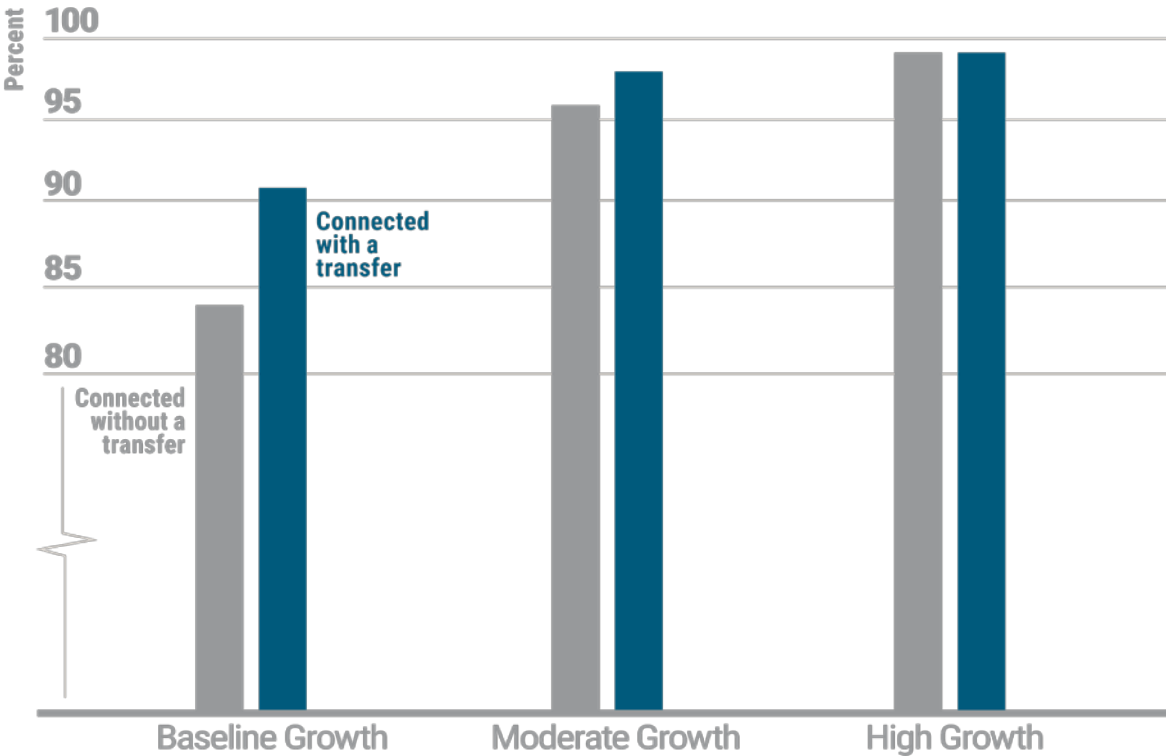
The **number of stations** receiving frequent or high frequency service increases substantially in the Moderate and High Growth Scenarios due to higher train volumes in the peak period.



	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Frequency</b>	Number of Stations Served by Frequent Service (>4 TPHPD)	13 Stations	21 Stations	24 Stations
	Longest wait times at major stations served by all trains	22 minutes	12 minutes	8 minutes



# Coverage and Internal Connectivity




The Moderate and High Growth Scenarios serve nearly all origin-destination pairs, while the Baseline offers less connectivity.

The **Baseline Growth** scenario operates three skip stop patterns. Sixteen percent of station pairs are not connected without a transfer, and nine percent of all station OD pairs (95 total) are not connected at all.

The **Moderate Growth** scenario operates a partially skip stop local pattern and an express pattern. Four percent of station pairs are not connected without a transfer, and two percent of station OD pairs (17 total) are not connected at all.

The **High Growth** scenario operates a local pattern and an express pattern that connects nearly all stations (99%) directly.

	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Connectivity</b>	Percentage of Station Pairs Connected Without / (With) a Transfer	84% (91%)	96% (98%)	99% (99%)
	Number of Station Pairs Not Connected at All*	95	17	2

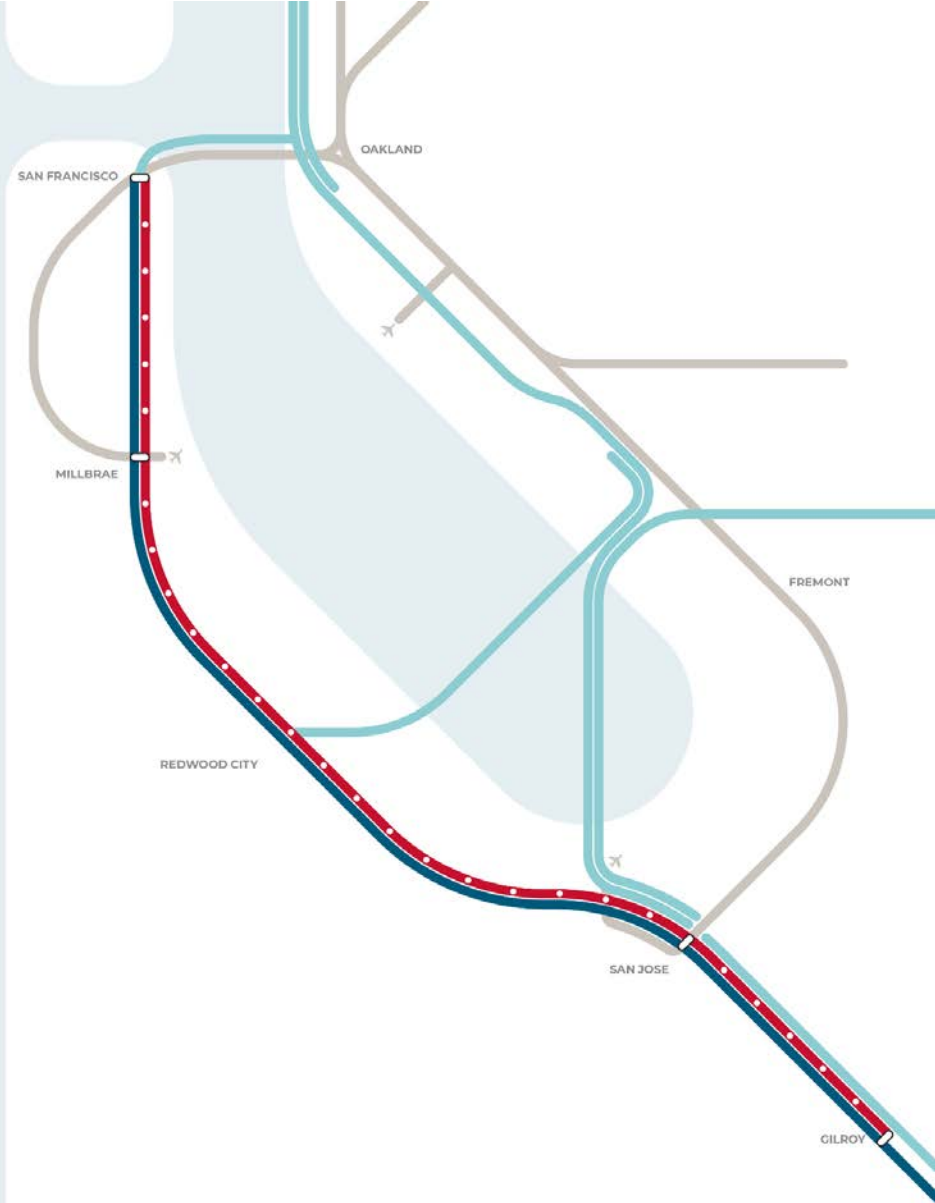
\*Defined as trips requiring out-of-direction travel or transfers in excess of 15 minutes


# Network Connectivity

The Moderate and High Growth Scenarios enable timed connections to the regional transit network.

The Baseline Growth Scenario's irregular wait times inhibit timed connections with other transit services.

The Moderate Growth and High Growth scenarios are highly structured, repeating patterns "pulsed" out of major terminals. These service patterns provide excellent opportunities for seamless, coordinated connections with other transit services.

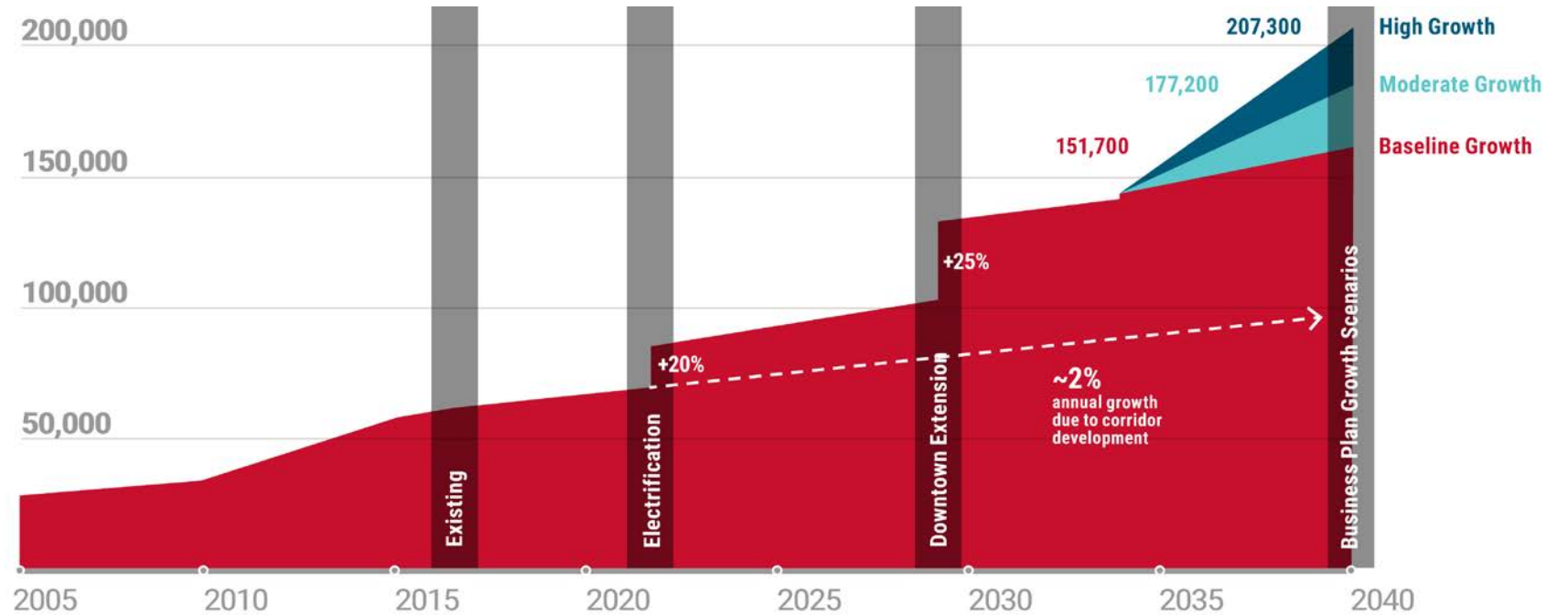



	Metric	Baseline Growth	Moderate Growth	High Growth
 Network Integration	Timed Connections at Regular Intervals	No	Yes	Yes

# Ridership

On its current **Baseline** path, Caltrain would experience a *demand* of 161,000 daily riders by 2040.

The **Moderate and High Growth** scenarios would increase *demand* to 185,000 and 207,000 riders, respectively, leading to ridership and VMT saving increases.



	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Ridership</b>	Daily Ridership*	151,700 Riders	177,200 Riders	207,300 Riders
	Comfortable Peak Hour Train Loads?*	No	Crowding on some trains	Yes

\*Crowd Constrained Ridership (135%)

# Travel Time

The **Moderate and High Growth** service plans provide the fastest travel times for major origin-destination pairs with express service, while the **Baseline** provides faster travel times for minor origin-destination pairs with skip stop service.

In-vehicle travel times are influenced by a range of factors, such as stopping patterns, signaling systems, locations of passing tracks, and rolling stock.


While maximum speeds on the corridor would increase from 79 MPH to 110 MPH by 2040 in all scenarios, travel time reductions are somewhat limited by increased levels of train traffic along a mostly two track corridor and increased density of stops served.

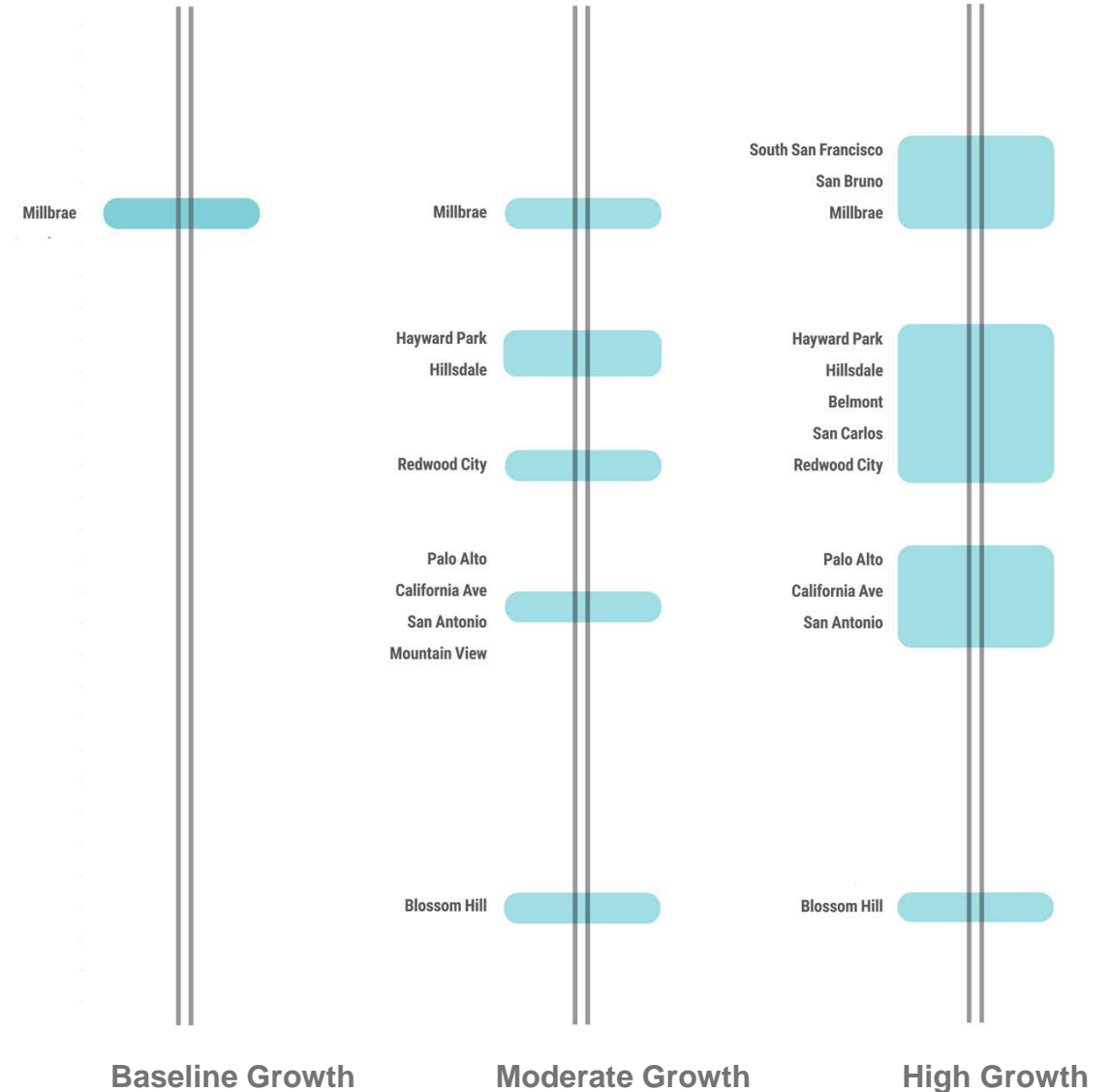



	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Travel Time</b>	Travel Time, San Francisco (STC) to San Jose (Diridon)	69-73 Minutes	61 Minutes	60 Minutes
	Average Travel Time per Rider, All Origin-Destination Pairs	33 Minutes	32 Minutes	31 Minutes

# New 4 Track Infrastructure Required

The **Moderate and High Growth** service plans require passing track infrastructure to support blended service with HSR, so that faster trains can pass slower trains at multiple points in the corridor

 Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.



	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Infrastructure</b>	Passing Tracks Needed	<1 Mile	<5 Miles	15-20 Miles

# Financial Analysis

The following slides analyze how Caltrain's financial performance would differ in each of the 2040 growth scenarios.



# Structuring the Investment Program

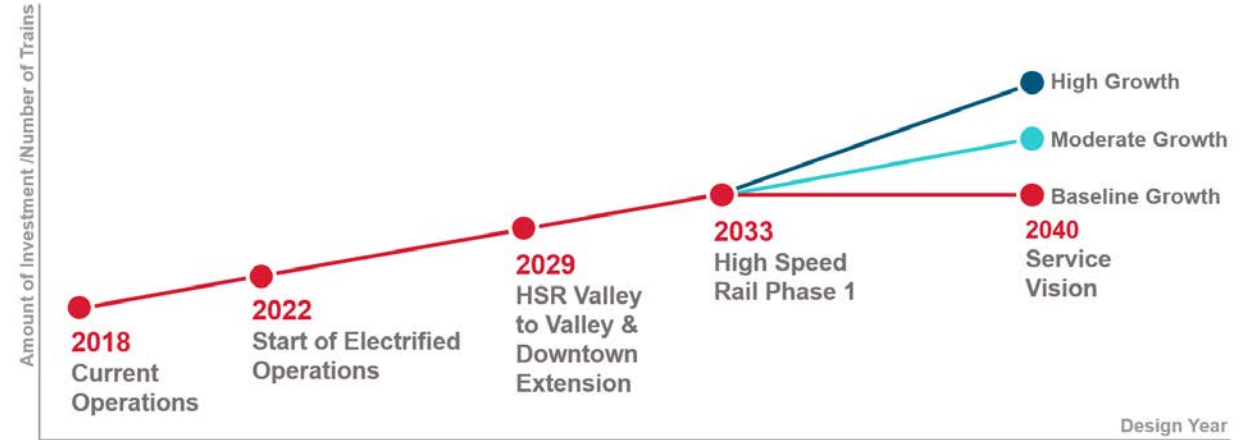
The Business Plan identifies a program of individual corridor investments that collectively support expanded rail service.

This program is categorized **functionally** by investment type:

- Track and Rail
- Systems
- Stations and Platforms
- Grade Crossings and Separations
- Terminals and Yards
- Fleet

And **temporally** structured by the assumed dates that key service changes and events are planned for the corridor:

- 2022 - Start of electrified service
- 2029 - Opening of DTX and initial HSR service
- 2033 - Full Phase 1 HSR service
- 2040 - Service Vision Build Out



**CALTRAIN BUSINESS PLAN**  
**CAPITAL INVESTMENTS: DESCRIPTION 1 OF 2**

INVESTMENT CATEGORY	BASELINE				GROWTH SCENARIOS		2 OF 2 GROWTH SCENARIOS	
	2022	2029	2033	2040	2040 MODERATE	2040 HIGH	2040 MODERATE	2040 HIGH
<b>TRACK &amp; RAIL</b>								
SF - SJ	• None	• Curve straightening & track upgrades to achieve 110 mph capability • 4 trackings associated with Millbrae HSR Station	• None	• None	• 4-track segment from Hayward Park to Hillside • 4 track Redwood City Station • 4-track station in northern Santa Clara County	• 4-track segment from South San Francisco to Millbrae • 4 track segment from Hayward Park to Redwood City Station • 4 track segment in northern Santa Clara County	• 1 additional grade separation	• 5 additional grade separations • 1 additional mitigated closure
SJ - Gilroy	• None	• Rebuilding of corridor to three tracks (two for 110 mph passenger service and one for freight)	• None	• None	• Addition of turn tracks at or past Blossom Hill Station	• Addition of turn tracks at or past Blossom Hill Station	• None	• None
<b>SYSTEMS</b>								
SF - SJ	• PTC Program • local broadband communications system	• New signal system to support 110 mph blended operations • Additional communications systems	• None	• None	• Allowance for traction power system upgrades	• Allowance for traction power system upgrades	• Incremental size increase to LMF	• Incremental size increase to LMF
SJ - Gilroy	• None	• New signal system to support 110 mph blended operations • Overhead catenary and traction power systems • Additional communications/systems	• None	• None	• None	• None	• Incremental size increase to HMF	• Incremental size increase to HMF
<b>STATIONS &amp; PLATFORMS</b>								
SF - SJ	• South San Francisco Station Rebuild • Hillside Station Rebuild associated with 25th Ave Grade Separation	• Platform extensions at all stations to accommodate 8-car trains • Platform modification to achieve level boarding at 22" • Station amenity/access allowance • 22nd Street Station rebuild • Removal of holdout side stations at Atherton and College Park (Broadway station rebuild included within grade separation category) • HSR station at Millbrae	• Allowance for improved station amenities & expanded access facilities	• None	• Incremental cost of extending platforms to accommodate 10-car trains • Allowance for improved station amenities and expanded access facilities	• Incremental cost of extending platforms to accommodate 10-car trains • Allowance for improved station amenities and expanded access facilities	• Increase to total of 350 EMUs	• Increase to total of 480 EMUs
SJ - Gilroy	• None	• HSR station at Gilroy • Total rebuild of all Caltrain stations from Capital to Gilroy (includes level boarding and platform extensions to accommodate 8-car trains) • Allowance for improved station amenities and expanded access facilities	• Allowance for improved station amenities & expanded access facilities	• None	• Incremental cost of extending platforms to accommodate 10-car trains • Allowance for improved station amenities and expanded access facilities	• Incremental cost of extending platforms to accommodate 10-car trains • Allowance for improved station amenities and expanded access facilities		



# Capital Investments

The following slides present projections of the total cost of investments required to support the different 2040 Growth Scenarios.

Many of these investments - particularly those included in the baseline - are not exclusively “Caltrain” projects. They are needed for a variety of reasons and serve multiple purposes and beneficiaries.





# The Baseline Costs \$22.1 Billion

**\$2.3B**

Caltrain Work Underway

\$2.3B



**\$16.2B**

Investments Planned and Proposed by Caltrain Partners

\$3.3B

Downtown Extension to Salesforce Transit Center

\$3.4B

Diridon Station and Surrounding Rail Infrastructure\*

\$2.6B

High Speed Rail Investments

\$6.9B

City-led Grade Separations

**\$3.6B**

New Caltrain Investments to Support Baseline Growth Scenario

\$3.6B

\* Placeholder cost pending detailed cost estimate to be developed through Diridon Integrated Station Concept Plan

# Moderate & High Growth Investments

The following additional investments are incremental to the “Baseline” Scenario and enable service levels and ridership levels contemplated in the “Moderate” and “High” Scenarios



## Additional Station Enhancements

- Moderate: +\$100M
- High: +\$300M



## Additional grade crossing investments

- Moderate: +\$500M
- High: +\$2.1B



## Additional Fleet

- Moderate: +\$700M
- High: +\$1.3B



## Expanded storage and maintenance yards

- Moderate: +\$300M
- High: +\$400M



## Moderate: Station overtakes: +\$900M

4 short overtakes needed to support express and HSR overtakes of local trains

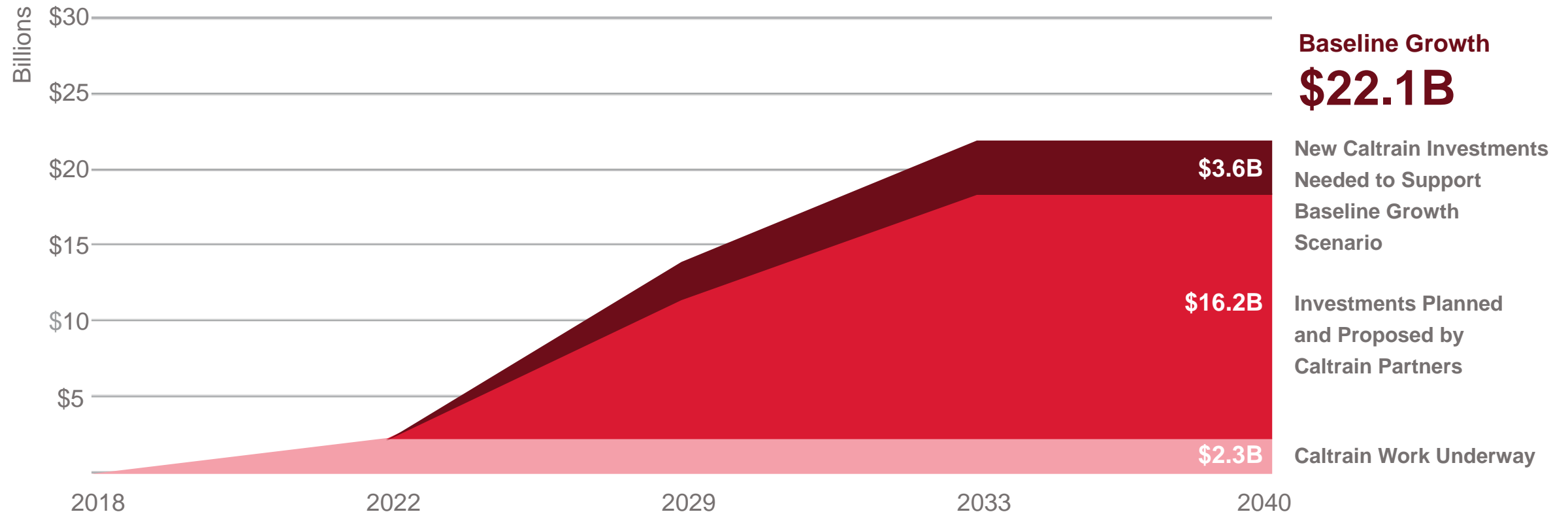


## High: Station and running overtakes: +\$3.2B

Up to 15 miles of passing tracks and station overtakes as needed to support express and HSR passing of local trains

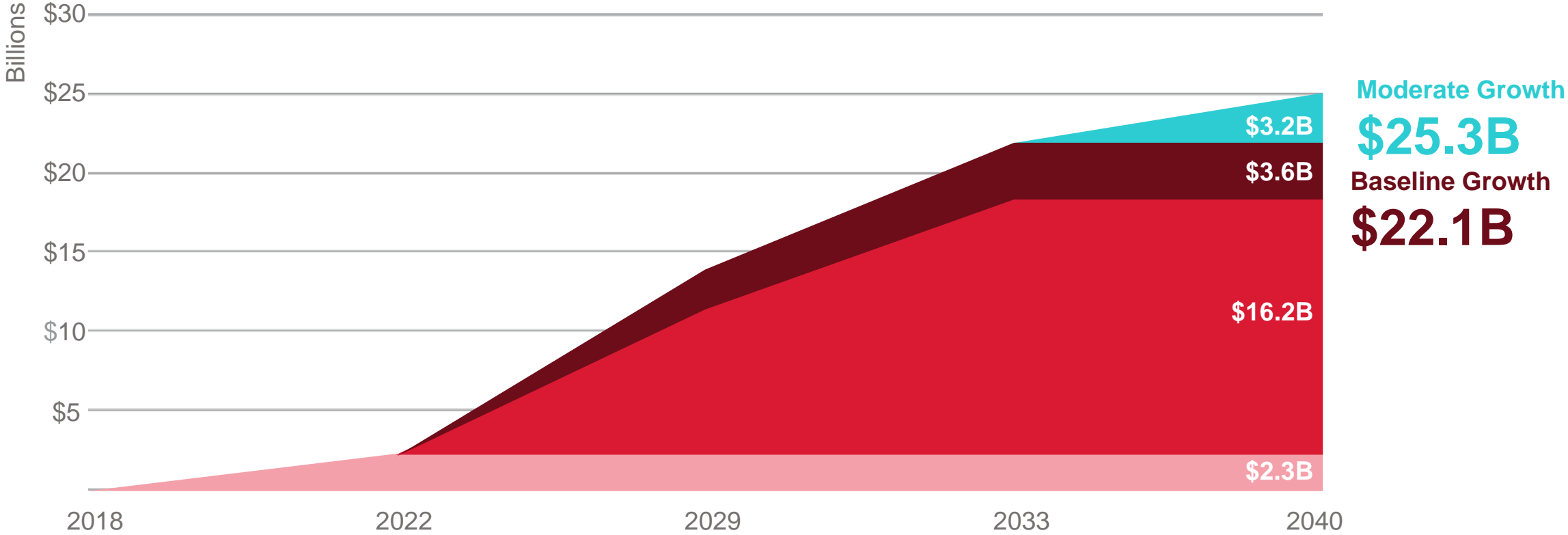
# Investing for Growth

## Total Corridor Investment Over Time by Growth Scenario



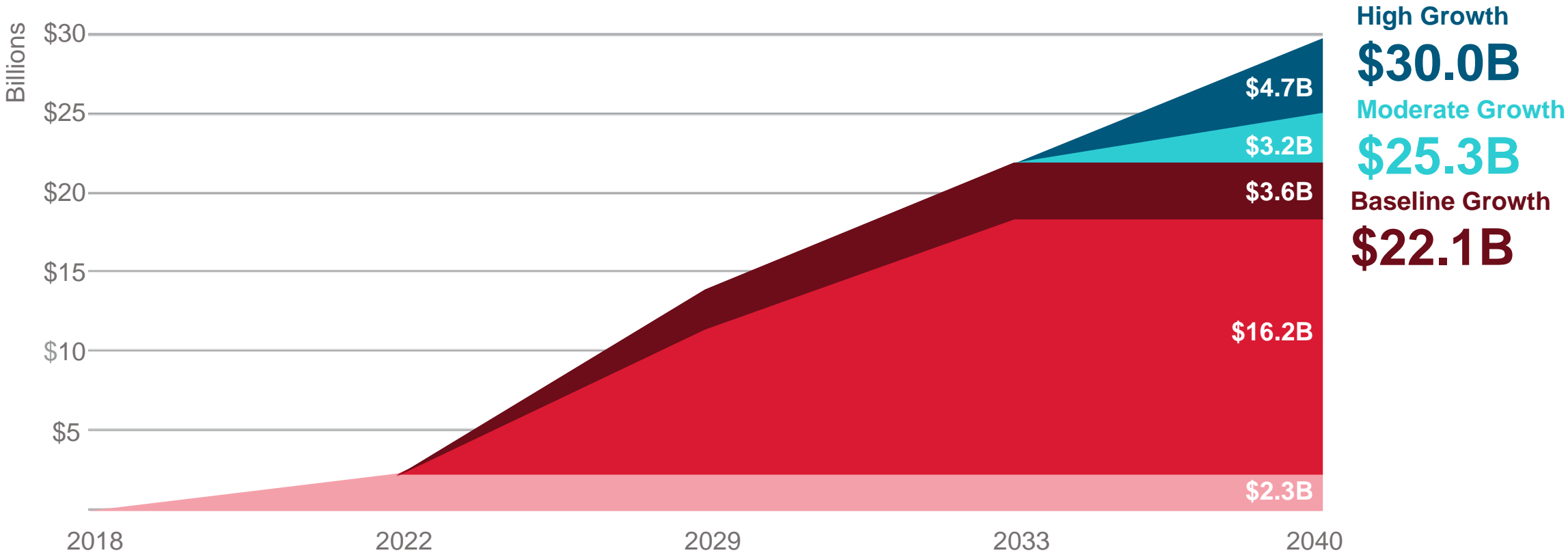
# Investing for Growth

## Total Corridor Investment Over Time by Growth Scenario



# Investing for Growth

## Total Corridor Investment Over Time by Growth Scenario



High Growth

**\$30.0B**

Moderate Growth

**\$25.3B**

Baseline Growth

**\$22.1B**

# Operating & Maintenance Costs

The following slides present projections of Caltrain's future operating and maintenance costs.

These projections have been developed through detailed modeling of Caltrain's existing operations and a projection of how costs will change over time with new investments and changes to service on the corridor.



# Current Operating Costs

Existing (2018) contractor and agency operating costs (in \$millions)

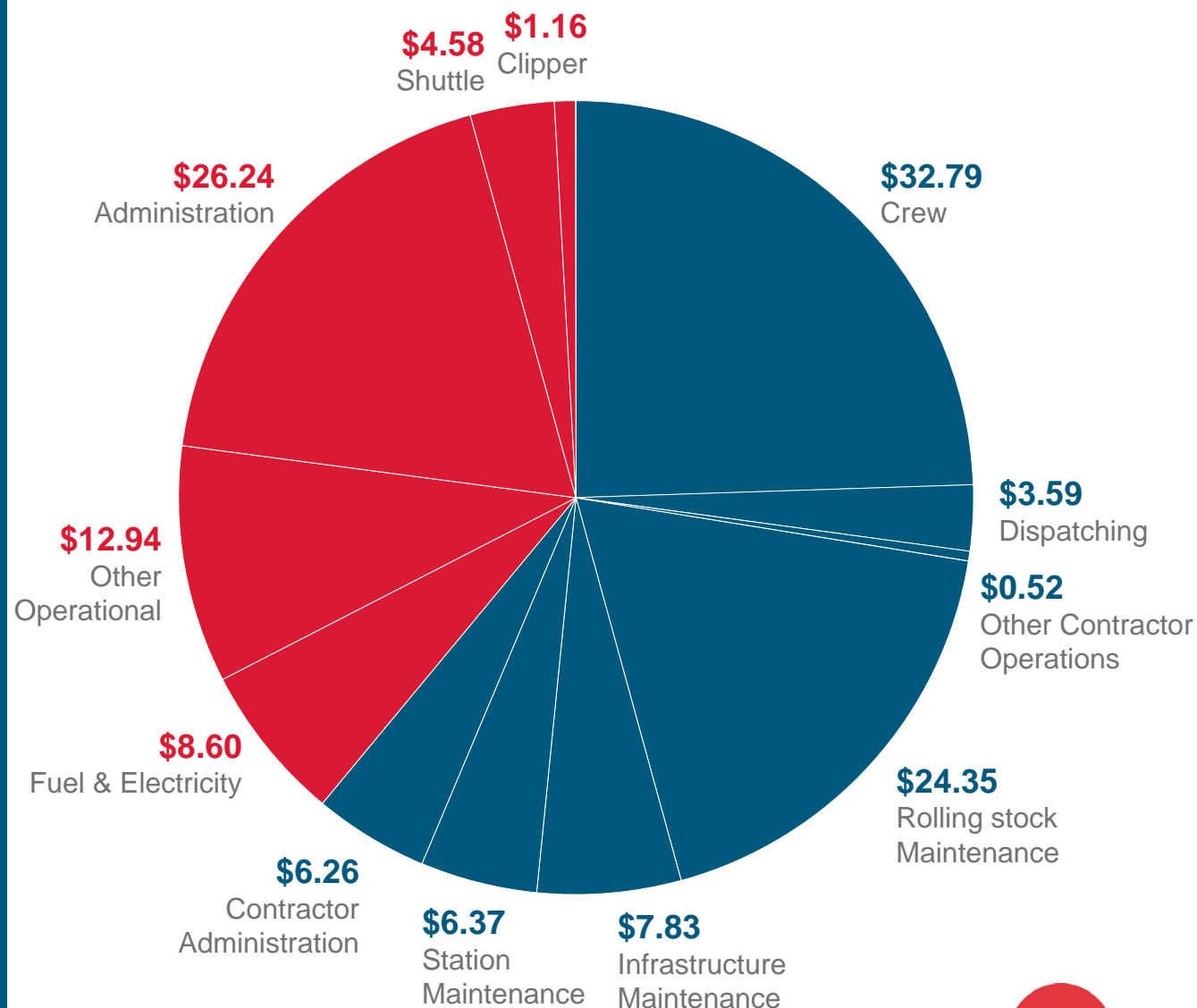
**Total 2018 Operating Cost: \$135.3 million**



Agency Costs



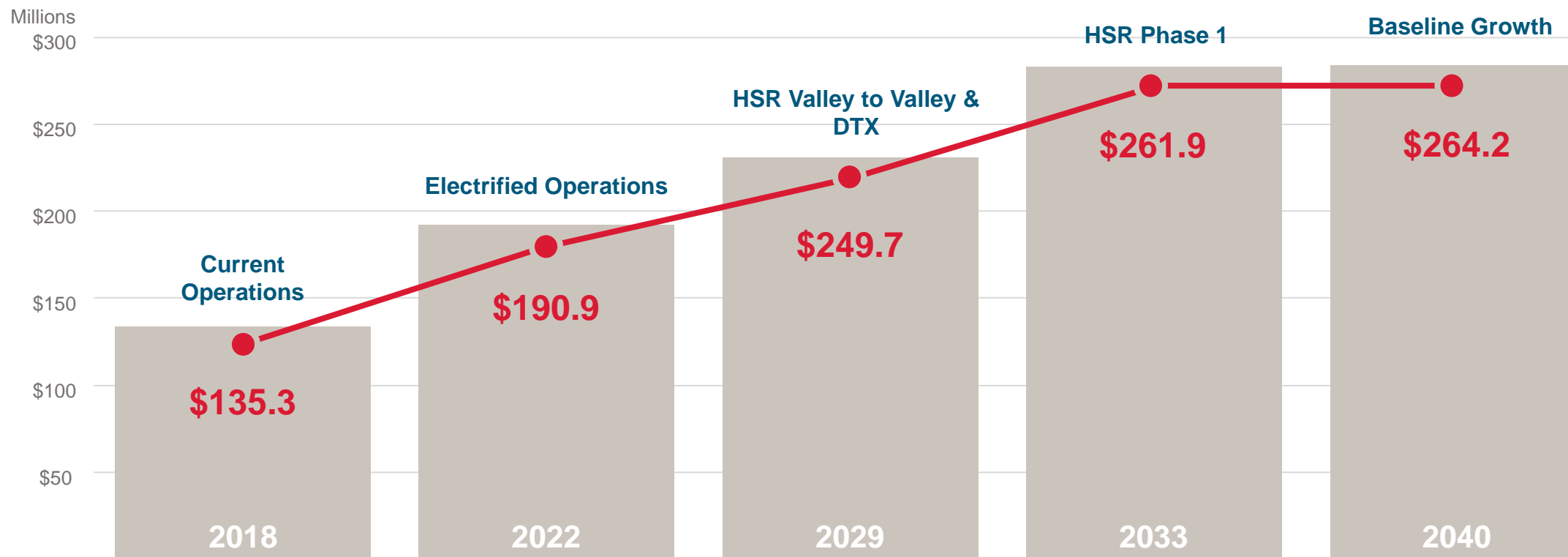
Contractor Costs



# A Changing System to Baseline Growth

The Caltrain service and corridor are changing. As the system grows and as the corridor serves more trains and riders, overall operating costs will increase.

Operating Cost by Design Year (Present Value)





# Key Drivers of Change

## Operating & Maintenance Costs

### 2017 to 2022

- Increased service levels require additional crew costs and traction energy costs (electricity/fuel)
- A ramp-up in administrative staff is required to manage the expanded operation and new capital commitments
- New OCS/TPS equipment requires maintenance

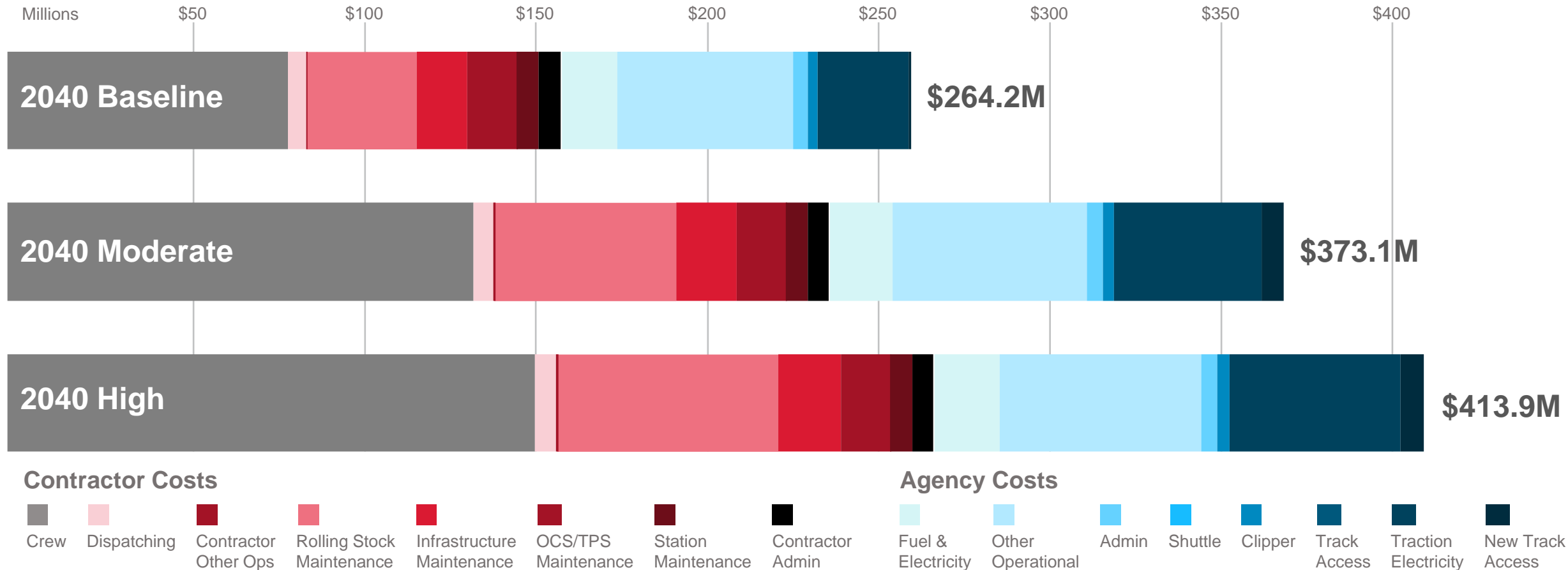
### 2022 to 2029

- Increased service levels require additional crew costs and traction energy costs (electricity)
- A further ramp-up in administrative staff is required to manage the expanded, blended operation
- Increase in service levels, fleet size and train lengths causes increase in fleet maintenance costs and infrastructure maintenance costs

### 2029 to 2033

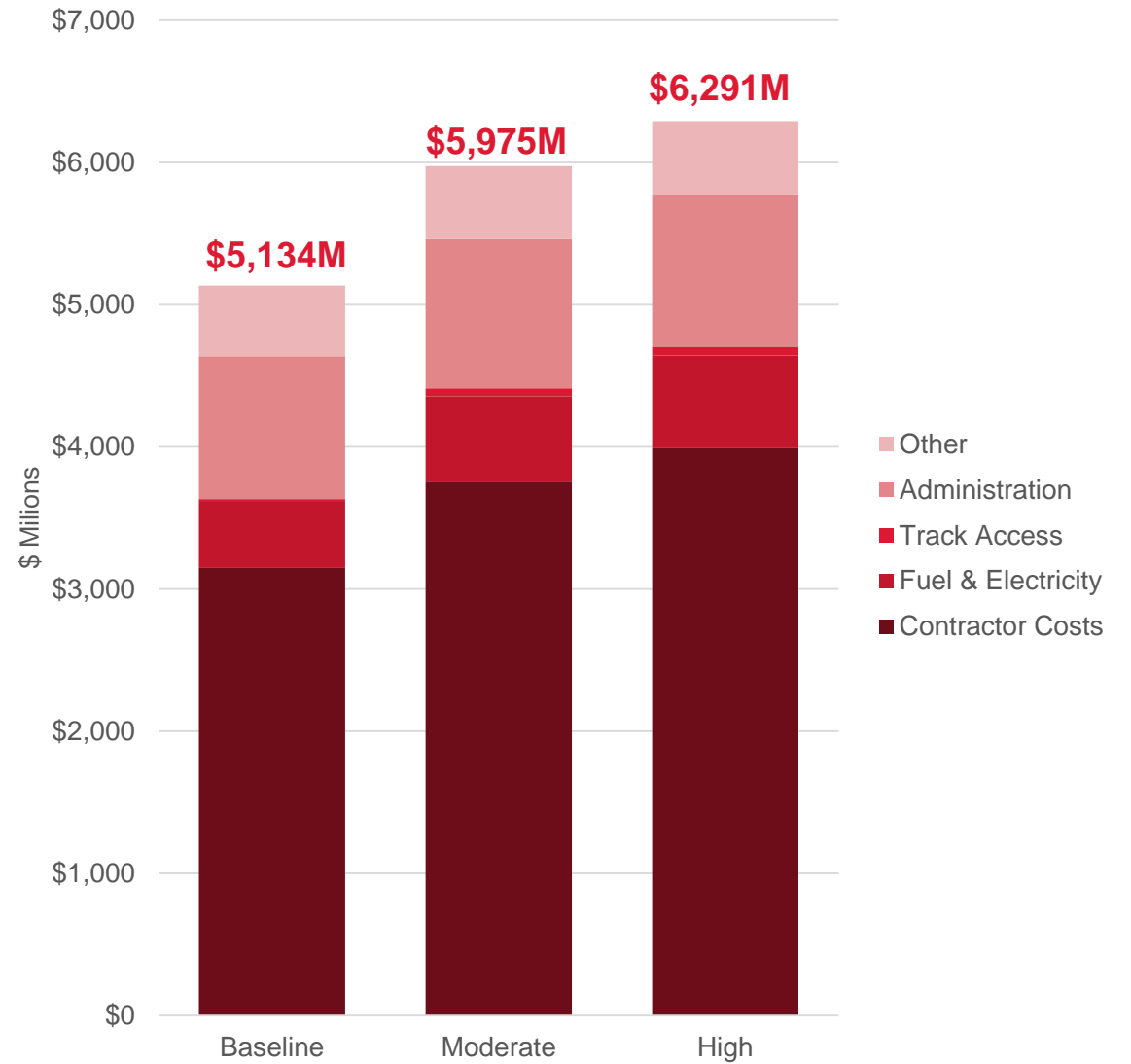
- Administrative staff continues to grow with the size of the operation
- Increased service levels require traction energy costs (electricity) and infrastructure and fleet maintenance costs

# Year 2040 Operating Costs



# Operating Costs Summary

Total Costs 2018 to 2070



Values shown are present (Year 2018) value using a discount rate of 4.0%



# Operating Revenue Summary

## Total Revenue 2018 to 2070

### Track Access Income

**Definition:** Income from railroads using JPB infrastructure

**Assumption:** HSR share of track maintenance + current small amounts

### Parking Revenue

**Definition:** Income from Caltrain drivers who pay to park

**Assumption:** changes in supply by growth scenario; existing occupancy and existing revenue per space remains constant

### Passenger Revenue

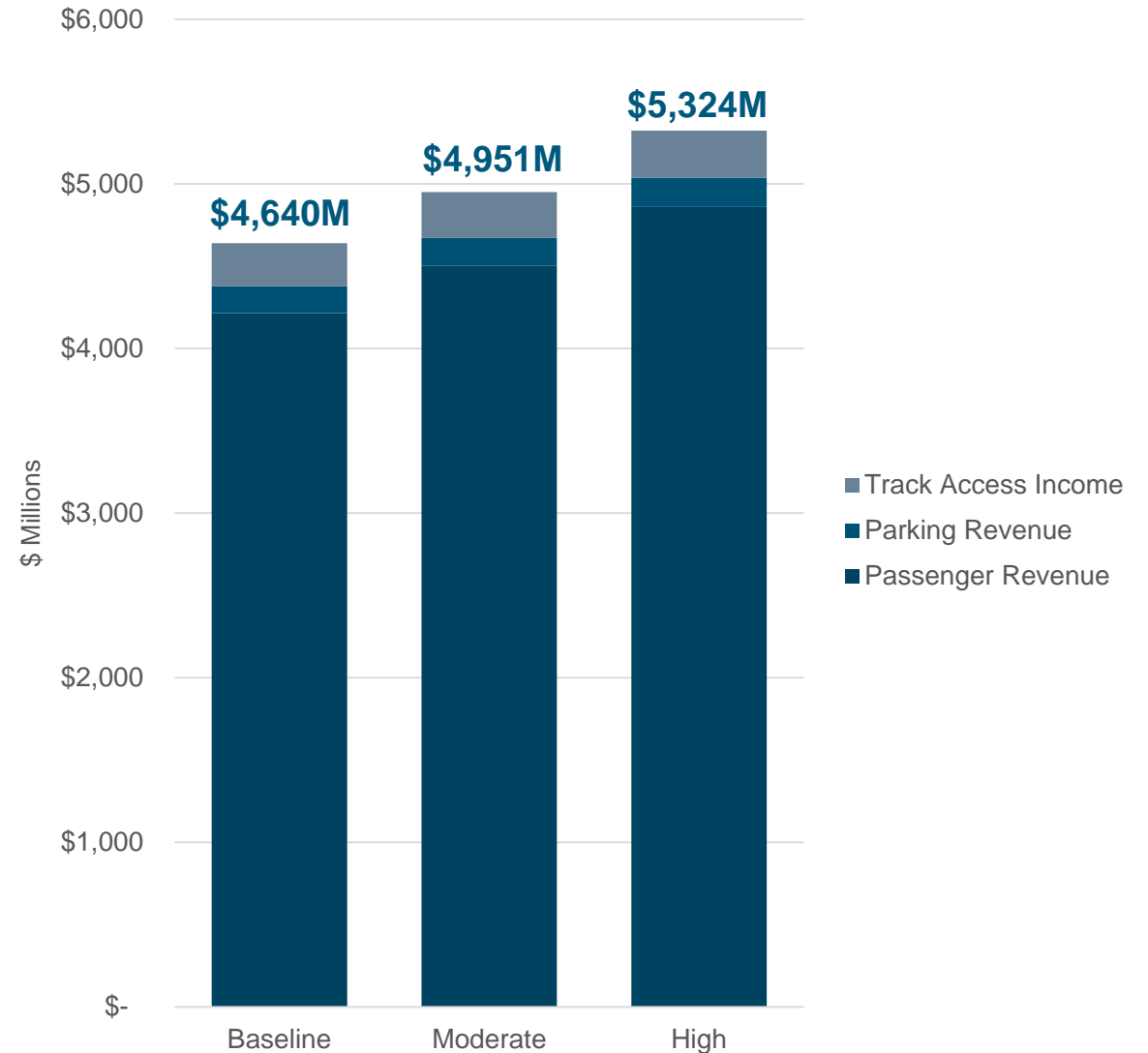
**Definition:** Fare revenue from Caltrain riders

**Assumption:** Average fares remain constant in real terms

### Revenues Not analyzed at this Stage

Shuttle Revenue and other incomes including real estate and advertising were not modeled at this stage of the Business Plan. Existing revenues were held constant and projected forward.

**These and other potential revenue sources will be analyzed in detail after the Board adopts a long range service vision.**

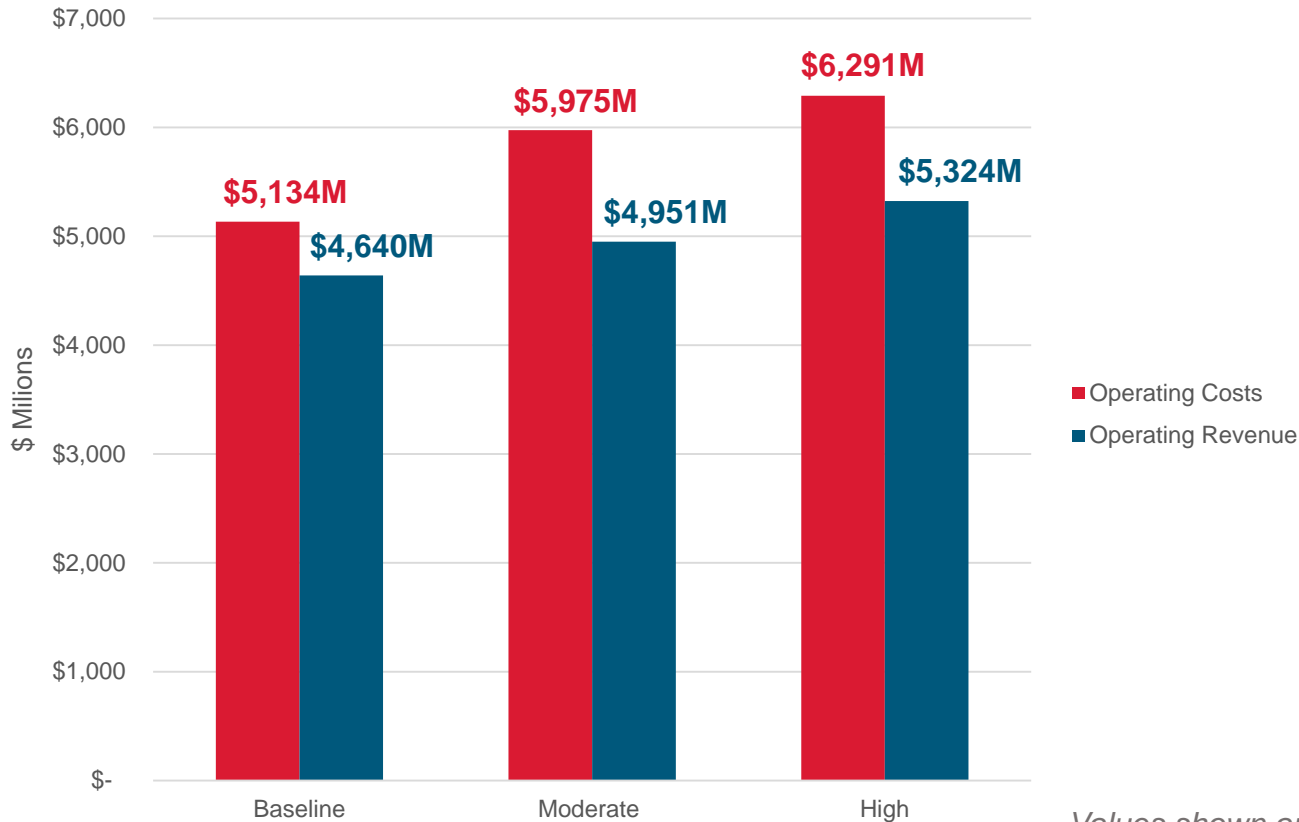


Values shown are present (Year 2018) value using a discount rate of 4.0%



# Total Operating Costs and Revenue

## Total 2018 to 2070



**Operating Deficit**  
2018-2070 PV

**(\$494M)**

**(\$1,024M)**

**(\$966M)**

**Farebox Recovery**  
**Average**  
(2018-2070)

**82%** Baseline Growth

**75%** Moderate Growth

**77%** High Growth

Values shown are present (Year 2018) value using a discount rate of 4.0%



# Cost Allocation

## Balancing Costs and Benefits



Overall corridor investment costs have been subcategorized and allocated so that we can more fairly and directly weigh the "costs" of expanded Caltrain service against the "benefits".

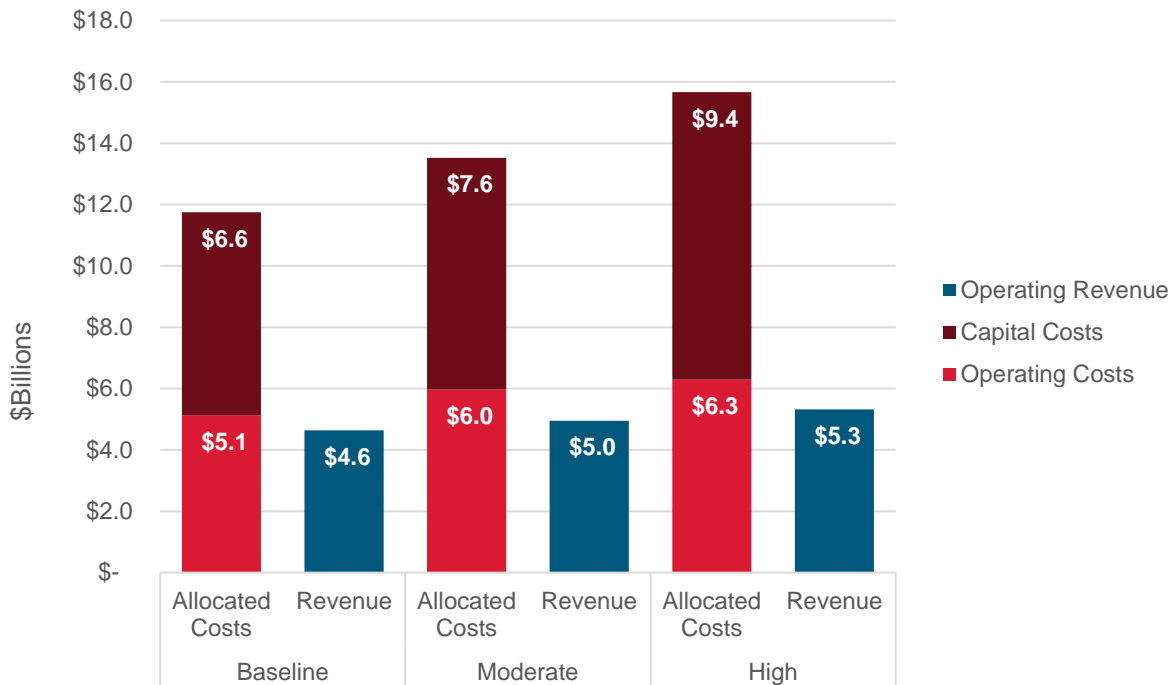
This process does not reflect project delivery or funding responsibility – it is simply a way to "disentangle" the costs of complex, multi-use investments so that we can assess the direct benefits of expanded Caltrain service relative to costs.

### Allocation By Category:

- **Track** – Overtakes allocated per prime user, maintenance of tracks shared on a usage basis
- **Terminals and Stations** – costs allocated to Caltrain based on platform usage
- **Grade Separations** – costs allocated to Caltrain based on legal requirements
- **Systems and Equipment** – capital costs allocation varies based on timing and system; maintenance generally shared
- **Maintenance Facilities** – Caltrain's own facility costs
- **Fleet** – Caltrain's own fleet costs

# Financial Analysis

## Total Caltrain Allocated Costs and Revenue 2018 to 2070



### Net Investment

2018-2070 Present Value

**(\$7.1B)** Baseline Growth

**(\$8.6B)** Moderate Growth

**(\$10.3B)** High Growth

### Incremental Investment over Baseline

2018-2070 Present Value

**(\$1.5B)** Moderate Growth

**(\$3.2B)** High Growth

Values shown are present (Year 2018) value using a discount rate of 4.0%



# Caltrain Economic Case

The following slides analyze the economic benefits of the different 2040 growth scenarios as they apply to existing and future Caltrain riders. These benefits are expressed relative to the baseline.





# Caltrain User Benefits:

The following user benefits were analyzed, quantified, and monetized as part of the Caltrain Economic Case.

These benefits are analyzed on an incremental basis.

## Existing Transit User Time Savings

**Definition:** improvements to travel times due to increased service levels and faster trains

**Assumption:** Number of existing transit trips; net travel time between station pairings; value of time

## New Transit User Time Savings

**Definition:** improvements in travel times for drivers that switch to Caltrain

**Assumption:** Number of new transit trips; net travel time between station pairings; value of time

## Auto Operating Cost Savings

**Definition:** reductions to auto operating and out-of-pocket costs for drivers who switch from driving to Caltrain due to improved service

**Assumption:** Fuel cost (excluding taxes); Non-fuel costs (maintenance, repairs, and tires; vehicle depreciation)

## Roadway Network Safety

**Definition:** reductions in collisions from fewer drivers on parallel roadways

**Assumption:** Reduced number of vehicles; accident rate by severity; accident costs by severity

## Public Health Benefits

**Definition:** Improvements to public health from new riders using active transportation modes (bicycles and walking) to access Caltrain stations

**Assumption:** Access mode share by station (bike/walk); avg absence per employee; percent of sick days reduced when active at least 30 min per day; avg. distance to access station by mode; value of reduced absenteeism; percent reduction in mortality per annual (bike/walk) miles; mortality rate (bike/walk); mortality reduction cost

Note: Revenue is not included as a benefit for the Caltrain Economic Case

# Caltrain User Benefits over Baseline

Total Benefits 2018 to 2070, Average Annual Benefits 2040 to 2070

Benefit	Unit	Moderate Growth		High Growth	
		Total*	Per Year Average	Total*	Per Year Average
Existing Transit User Travel Time Savings	hours	12.9M	0.43M	20.9M	0.70M
New Transit User Travel Time Savings	hours	27.7M	0.92M	40.4M	1.35M
Avoided Auto Trips (VMT Savings from New Transit Users)	vehicle miles	9,000M	300M	16,100M	540M
Roadway Network Safety Improvements	reduced fatal/injury accidents	7,300	240	13,000	430
Public Health Benefits (from Active Transportation Mode Access)	lives saved	70	2	150	5
	reduced absent days at work	30,000	1,000	67,000	2,200

\*Values rounded for presentation purposes

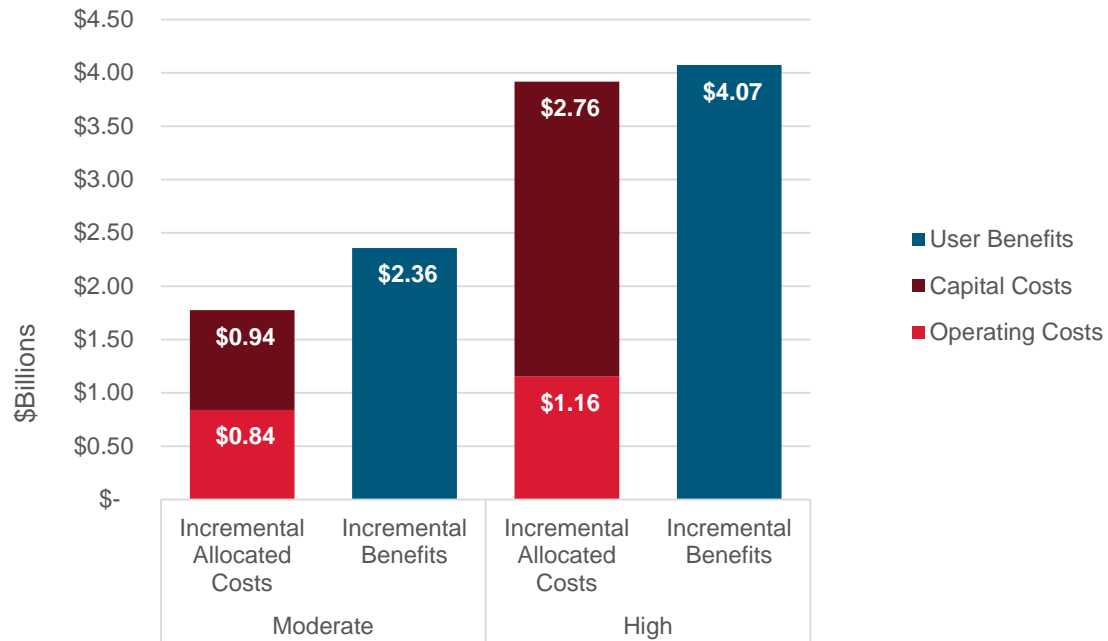
# Caltrain User Benefits and Costs

Present Value of Benefits and Incremental Costs from 2018-2070

	Moderate Growth	High Growth
Existing Transit User Travel Time Savings	\$0.65B	\$0.97B
New Transit User Travel Time Savings	\$0.18B	\$0.30B
VMT/Auto Operating Cost Savings	\$0.94B	\$1.68B
Roadway Network Safety Improvements	\$0.39B	\$0.70B
Public Health Benefits	\$0.19B	\$0.42B
<b>Total Benefits</b>	<b>\$2.36B</b>	<b>\$4.07B</b>
Incremental Capital Cost	(\$0.94B)	(\$2.76B)
Incremental O&M Cost	(\$0.84B)	(\$1.16B)
<b>Total Costs</b>	<b>(\$1.78B)</b>	<b>(\$3.92B)</b>
<b>Benefit-Cost Ratio</b>	<b>1.33</b>	<b>1.04</b>
<b>Net Present Value</b>	<b>\$0.58B</b>	<b>\$0.15B</b>

# Caltrain Economic Case by Scenario

## Incremental Benefits and Costs 2018-2070



**Net Present Value**  
2018-2070 PV

**\$0.58B**

**\$0.15B**

**Benefit Cost Ratio**  
2018-2070

**1.33** Moderate Growth

**1.04** High Growth

Values shown are present (Year 2018) value using a discount rate of 4.0%



# Regional Analysis

The following slides present analysis related to how the different growth scenarios could benefit the larger region.



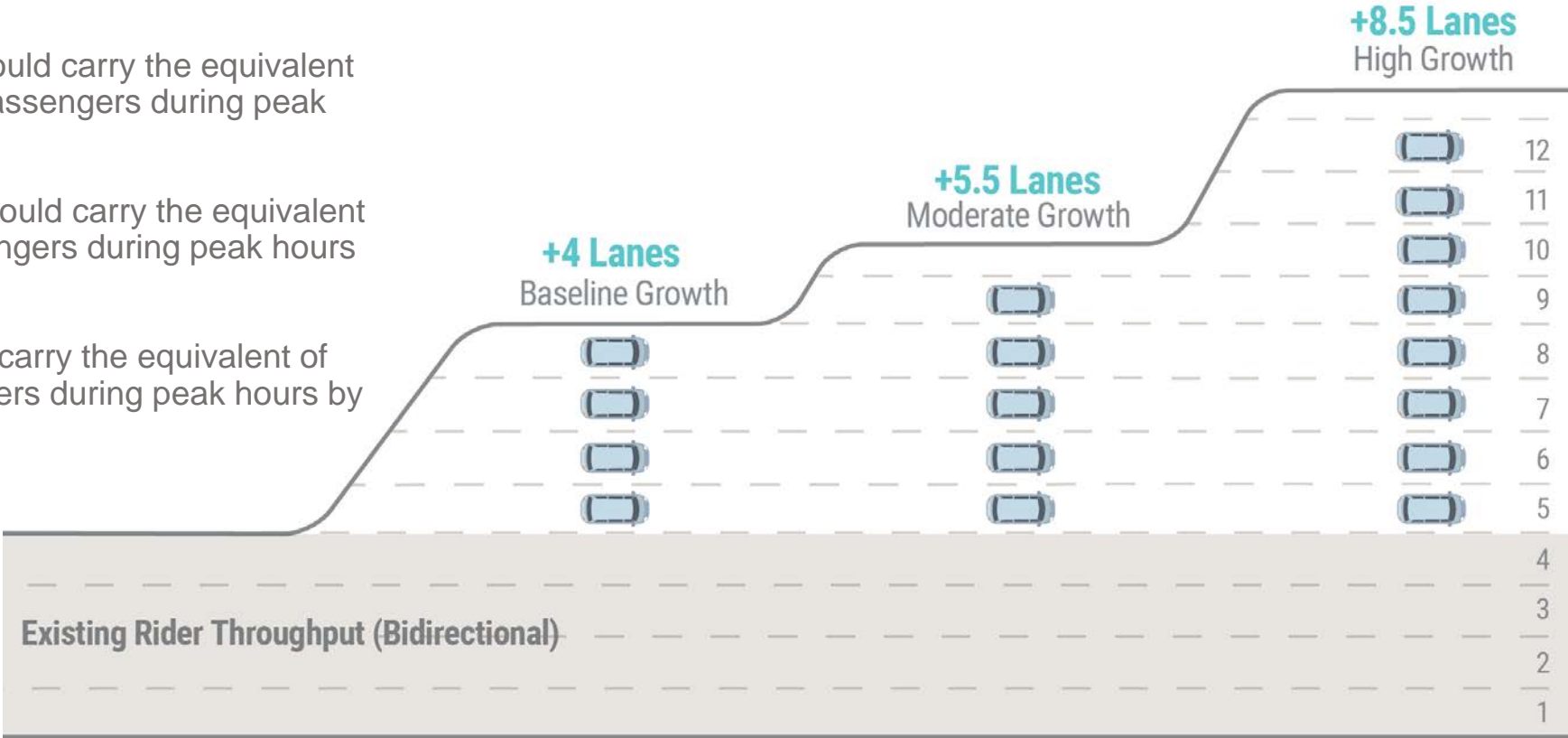
# Freeway Throughput

Today, Caltrain carries 4 freeway lanes worth of people during peak hours. By 2040, the proposed growth scenarios will carry an additional 4 to 8.5 freeway lanes worth of passengers.

The **Baseline Growth** scenario would carry the equivalent of 4 new freeway lanes worth of passengers during peak hours by 2040.

The **Moderate Growth** scenario would carry the equivalent of 5.5 new freeway lanes of passengers during peak hours by 2040.

The **High Growth** scenario would carry the equivalent of 8.5 new freeway lanes of passengers during peak hours by 2040.



\*Assumes vehicle occupancy of 1.1 persons/vehicle and lane capacity of 1,500 vehicles/hour.

# Regional Rail Integration

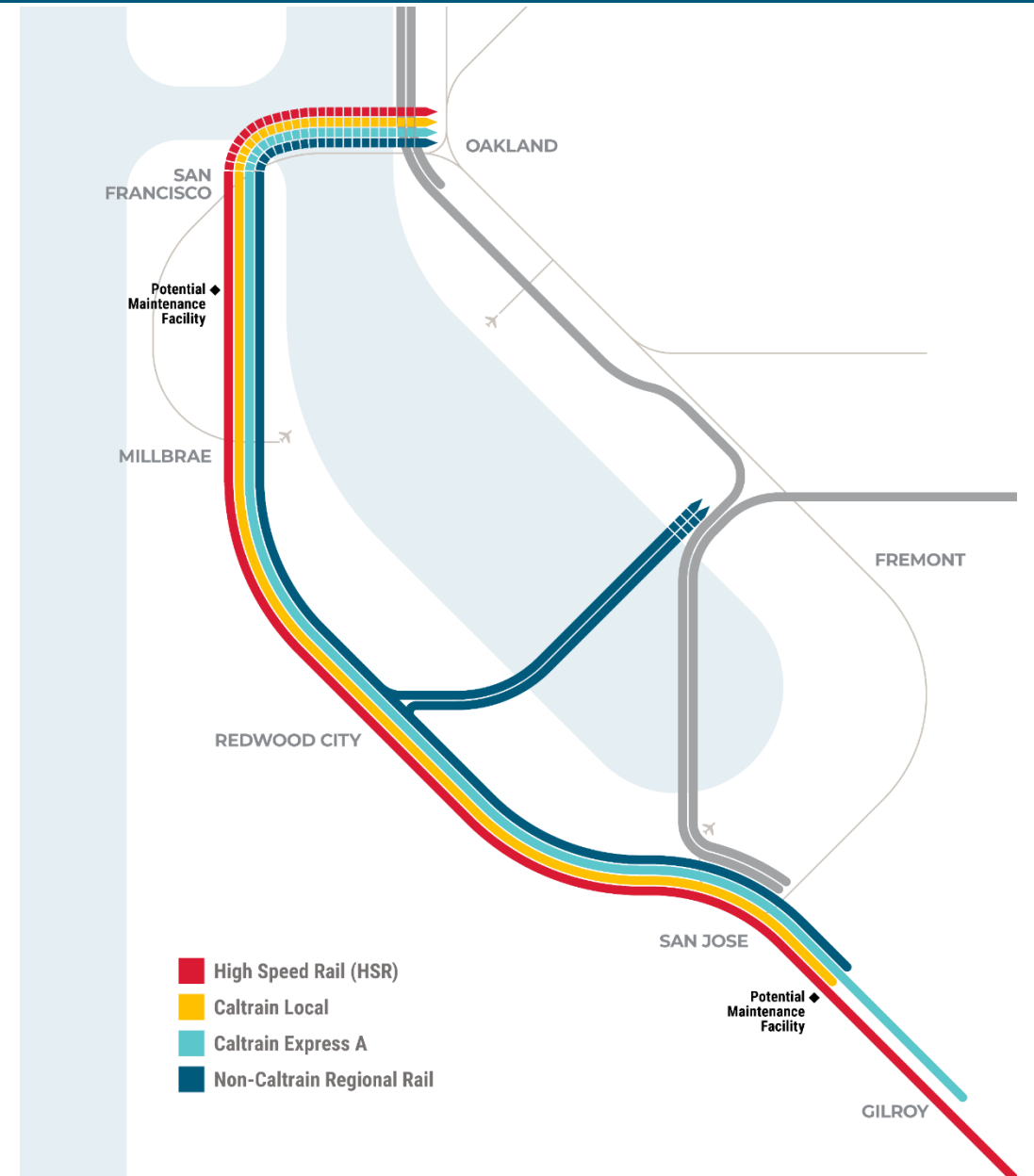
All service scenarios are compatible with regional rail needs.

**High Growth** anticipates large-scale corridor sharing, or “interlining” through investments in 4-track segments.

**Baseline & Moderate Growth** preserve the ability to scale up to large-scale corridor sharing but hold off on proactive investments until regional needs are better defined.

Examples of active studies and plans ongoing in the region that could advance the potential need for significant interlining onto Caltrain’s corridor include:

- A standard gauge transbay crossing connecting San Francisco and the East Bay
- The reactivation of the Dumbarton rail bridge
- The development of expanded, “visionary” levels of service by ACE or Capital Corridor into San Jose



# Environmental Benefits

## Emissions Reductions 2022 to 2070

All scenarios deliver significant environmental benefits - both through the elimination of remaining diesel train service and the diversion of a substantial number of auto trips.

	<b>GHG Savings (MTCO2e)</b>	<b>ROG Emissions Reductions (lbs)</b>	<b>NOx Emissions Reductions (lbs)</b>	<b>PM2.5 Emissions Reductions (lbs)</b>	<b>Diesel PM Emissions Reductions (lbs)</b>
<b>Baseline</b>	1,108,045	426,970	7,065,695	247,750	264,588
<b>Moderate</b>	1,898,330	450,131	7,199,666	251,535	269,889
<b>High Growth</b>	3,006,028	482,662	7,387,824	256,854	277,336

*Assumes conversion to 100% renewable power starting in 2029, consistent with CHSRA goals. Analysis conducted using the California Air Resources Board Quantification Methodology for transit and intercity rail capital program investments.*



# Land Value Benefits from Caltrain Service

## Existing Residential and Office Benefits

Statistical and comparative analyses were performed to estimate the impact of existing Caltrain service on property values in the vicinity of stations. These relationships were used to forecast impacts of the Growth Scenarios on property values.

### Residential Property Value Premiums

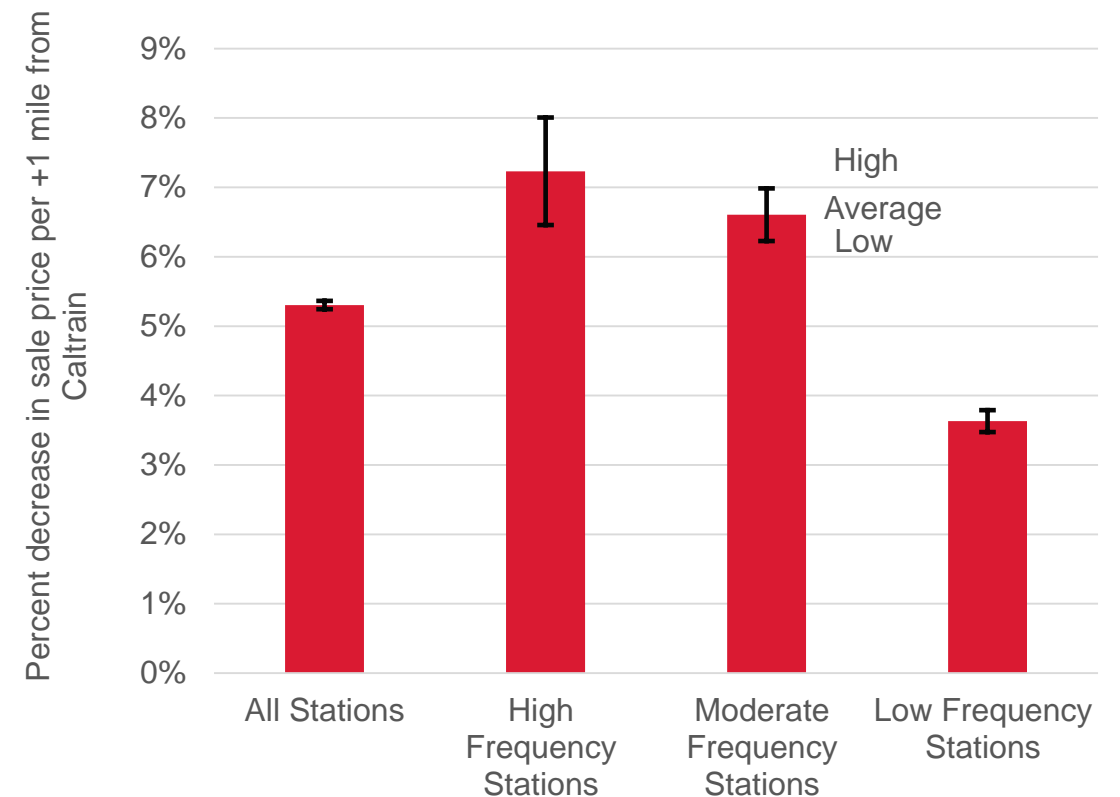
**3%-7%** Single-Family Home

**2%-6%** Condominium

### Office Property Value Premiums

Office rents **20% higher** within a half-mile of Caltrain

Single-Family Home Property Value Premium



# Land Value Benefits from Caltrain Service

## 2040 Growth Scenario Benefits

### Total Estimated Property Value Benefits of Caltrain Service

#### 2040 Baseline

**\$13B**

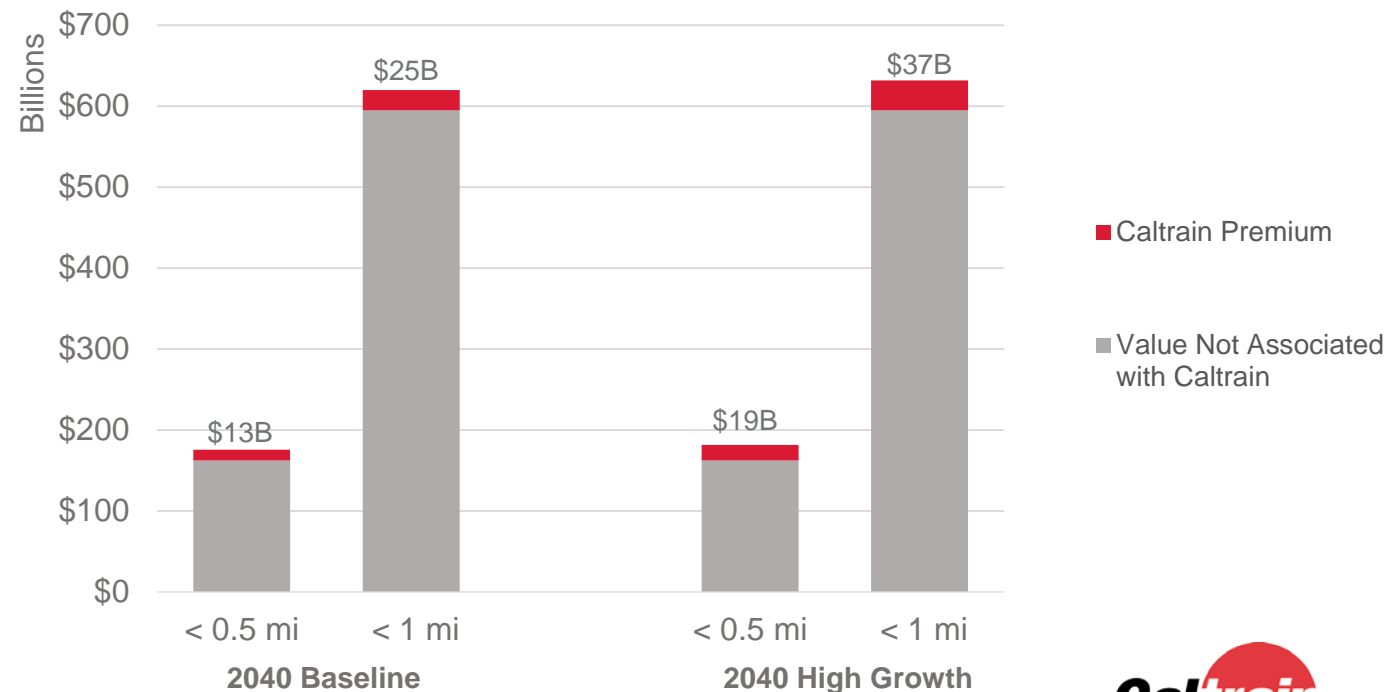
**\$25B**

#### 2040 High Growth

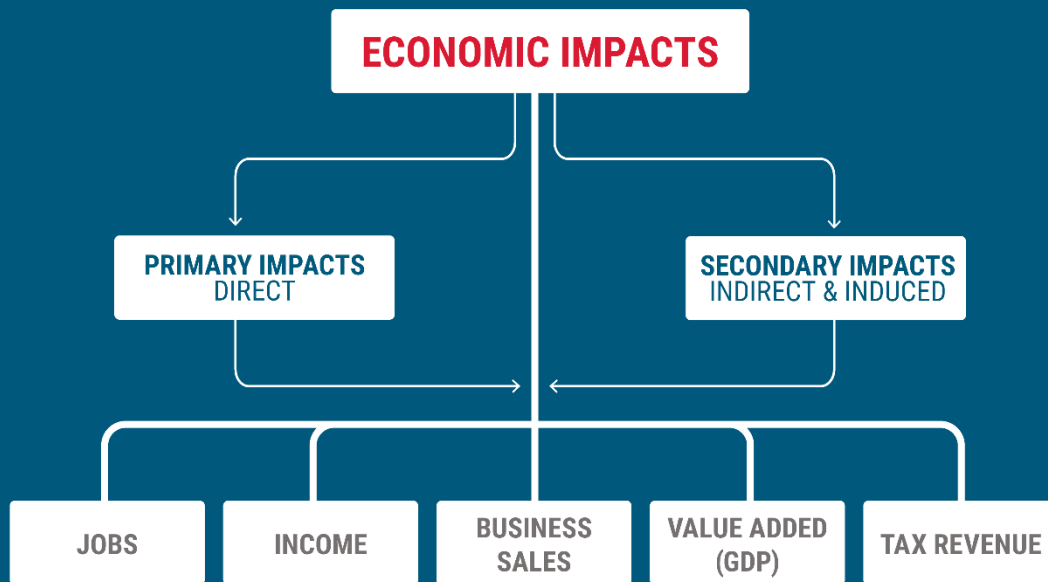
**\$19B** Within ½ mile

**\$37B** Within 1 mile

Estimated Residential and Office Property Values by Growth Scenario (\$2019)



# Regional Economic Impact Analysis



**Economic Impact Analysis (EIA) looks at the total economic impact of each growth scenario, including:**

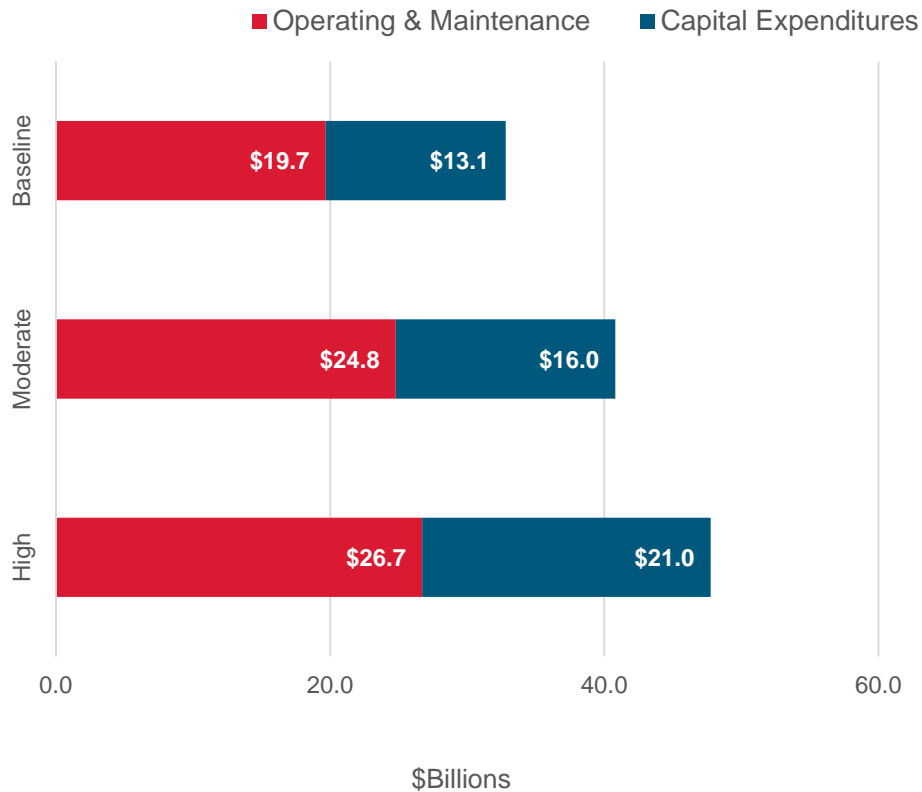
- Direct effects of initial capital costs
- Long-term operating cost spending
- Multiplier effects generated by these direct expenditures

**The following economic effects are estimated:**

- Direct effect (capital and operating costs)
- Indirect effect (supply-chain spending)
- Induced effect (employee spending)
- Total effect (Direct + Indirect + Induced)

# Regional Economic Impact

## Total Output 2018 to 2070



### Total Economic Output 2018-2070

**\$32.8B**

**\$40.8B**

**\$47.7B**

### Incremental Output over Baseline

**\$8.0B**

**\$14.9B**

### Jobs\* from Capital Spending 2018-2070

**44K job-years** Baseline Growth

**51K job-years** Moderate Growth

**69K job-years** High Growth

### Incremental Jobs over Baseline

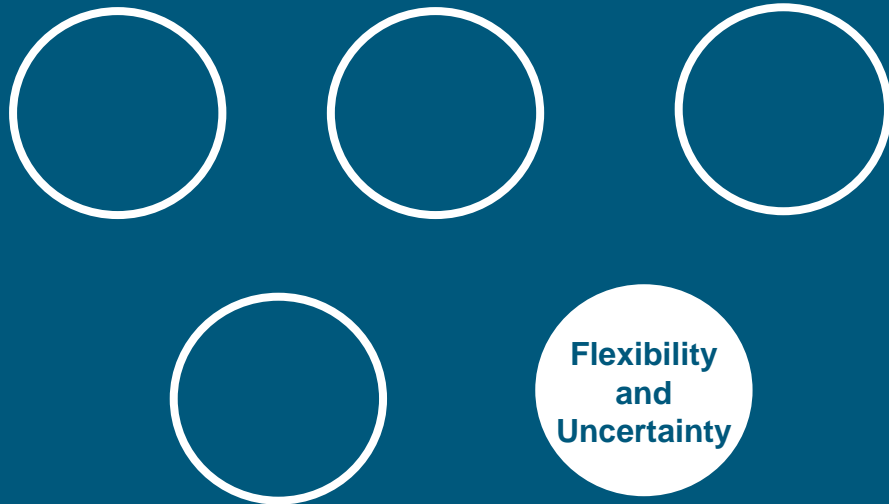
**7K job-years** Moderate Growth

**24K job-years** High Growth

Values shown are present (Year 2018) value using a discount rate of 4.0%, Jobs are considered full- and part-time jobs in San Francisco, San Mateo and Santa Clara Counties

# Flexibility and Uncertainty

The “2040 Service Vision” will set a generalized framework for growth. There are still many unknowns regarding exactly how both the Caltrain corridor and the regional rail network may evolve. This section helps frame some of those unknowns and opportunities.



# Status of Regional and State Projects

## Status of Major Projects Impacting the Caltrain Corridor

Project	Development Status
ACE Forward and Altamont Vision service expansion of ACE	Conceptual Planning and Environmental
Capital Corridor Vision	Conceptual Planning
City-led grade separations	Various (conceptual planning thru detail design)
Diridon Station and Surrounding Rail Infrastructure	Conceptual Planning (pre-Environmental)
Downtown Extension to Salesforce Transit Center	Environmental and Design
Dumbarton Rail Crossing	Planning and pre-Environmental
HSR Investments	Environmental and Design
Second Transbay Crossing	Conceptual Planning

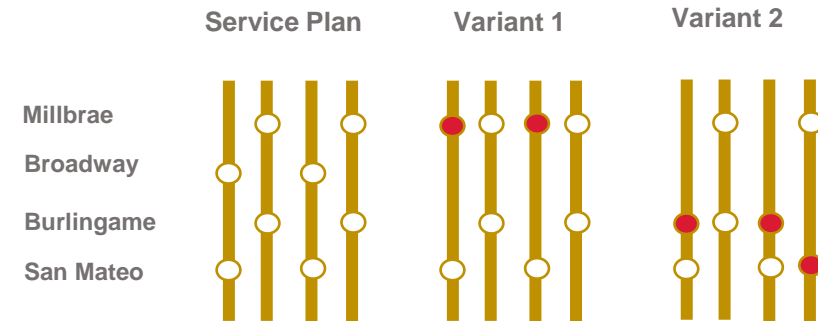
# Flexibility to Refine Illustrative Service Planning

Service planning work to date has been focused on the development of detailed, illustrative growth scenarios for the Caltrain corridor. Future work will be needed to determine:

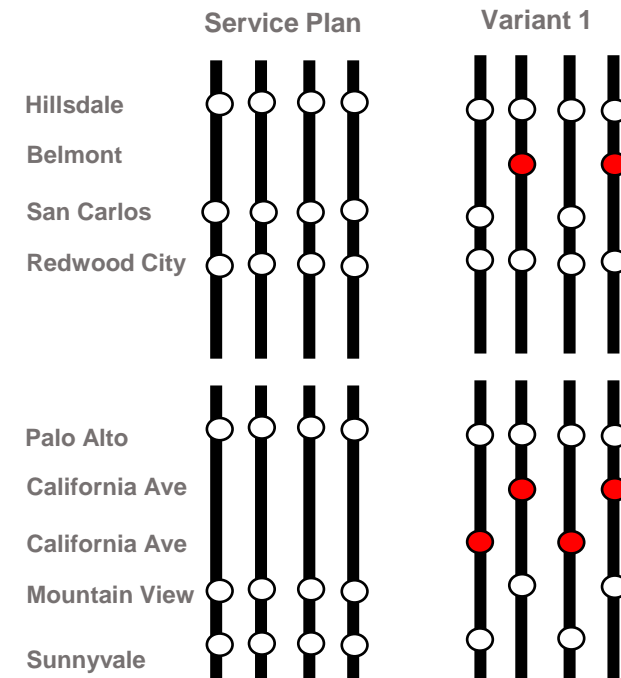
- Exact service levels and station stopping patterns
- Opportunities to close or add stations (such as the proposed Oakdale Station)
- Specific infrastructure locations and designs to support service needs

## Example Service Plan Variants

Moderate Growth, Mid-Peninsula, Local Service



High Growth, Peninsula, Express B Service



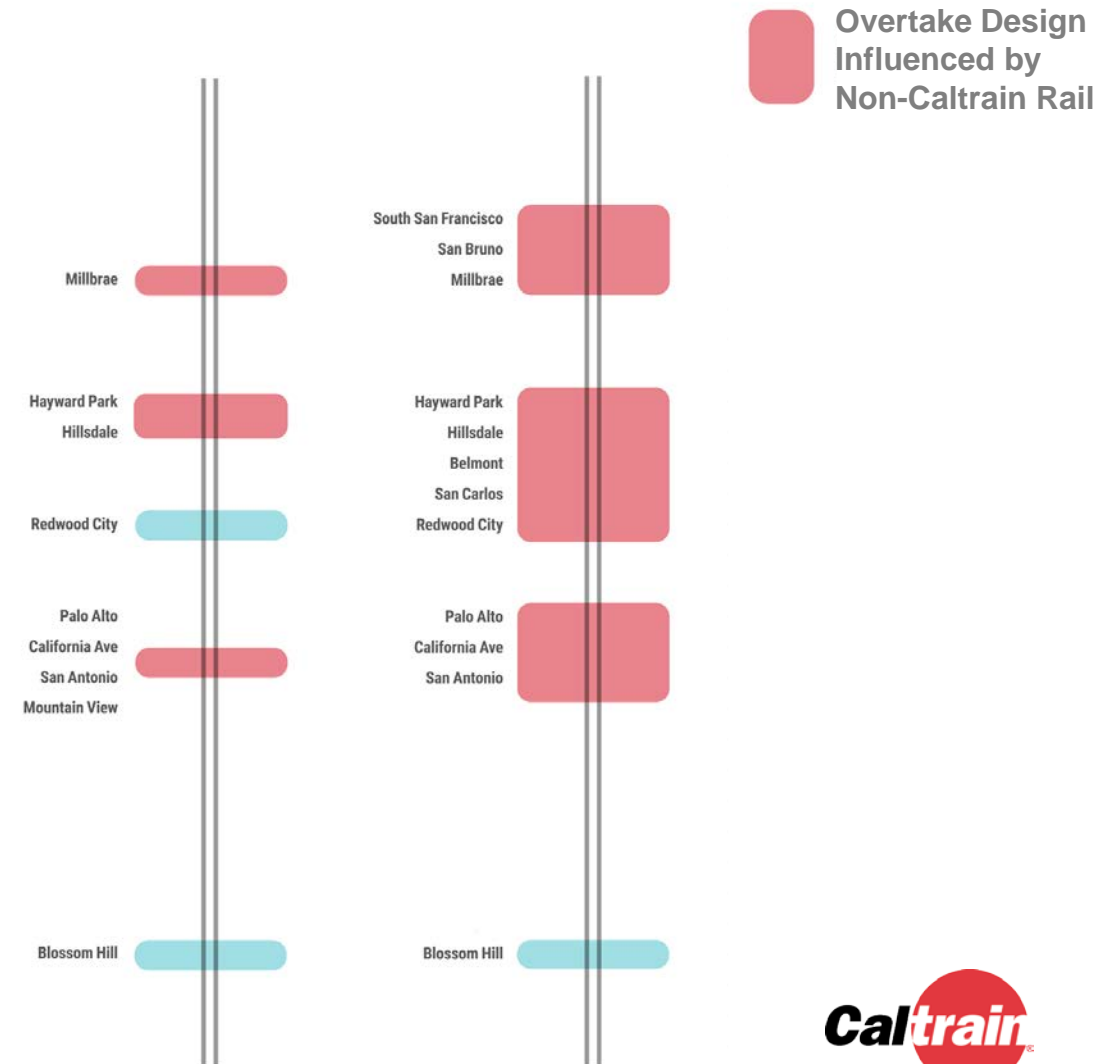
# Implications of Uncertainty to Growth Scenarios

The **High Growth Scenario** most directly accommodates large-scale corridor sharing and expanded service, but the details of this scenario - including potential stopping patterns and location and extent of required infrastructure - are also highly influenced by state and regional projects.

The **Moderate Growth Scenario** does not directly accommodate the same level of growth but has infrastructure that can be more discretely planned. It has the potential to scale up as regional projects are further confirmed, defined, and funded.

## 4-Track Infrastructure Uncertainty

Segments Dependent on Design Input/Timing of Regional and State Projects





# Initial Financial and Economic Sensitivity Testing

Four high level sensitivity tests were performed to determine the durability of key business metrics if assumptions change. Tests were performed individually (one at a time):

- Discount Rate +/- 2 points
- Value of Time Saved to Riders +/-10%
- Capital Costs +/-10%
- Operating and Maintenance Costs +/-5%

The range of impacts on key metrics from initial tests results are summarized in the table.







## Range of Results Across All Sensitivity Tests

Key Metric	Original Value	Low	High
<b>Farebox Recovery Ratio</b>			
Moderate Growth	75%	72%	79%
High Growth	77%	74%	81%
<b>Percent Change in Net Investment</b>			
Moderate Growth	-	26%	-18%
High Growth	-	29%	-19%
<b>Benefit Cost Ratio</b>			
Moderate Growth	1.33	1.13	1.55
High Growth	1.04	0.83	1.30

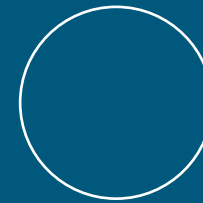
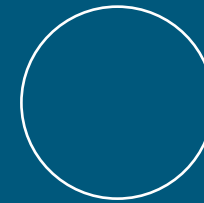
# Summary


Service



	Metric	Baseline Growth	Moderate Growth	High Growth
 <b>Frequency</b>	Number of Stations Served by Frequent Service (>4 TPHPD)	13 Stations	21 Stations	24 Stations
	Longest Wait Times At Major Stations Served by All Trains	22 minutes	12 minutes	8 minutes
 <b>Connectivity</b>	Percentage of Station Pairs Connected Without/(With) a Transfer	84% (91%)	96% (98%)	99% (99%)
	Number of Station Pairs Not Connected at All	95	17	2
 <b>Network Integration</b>	Timed Connections at Regular Intervals	No	Yes	Yes
 <b>Ridership</b>	Daily Ridership (capacity constrained)	151,700 Riders	177,200 Riders	207,300 Riders
	Comfortable Peak Hour Train Loads?	No	Some Crowding	Yes
 <b>Travel Time</b>	Travel Time, San Francisco (STC) to San Jose (Diridon)	69-73 Minutes	61 Minutes	60 Minutes
	Average Travel Time per Rider, All Origin-Destination Pairs	33 Minutes	32 Minutes	31 Minutes
 <b>Infrastructure</b>	Passing Tracks Needed	<1 Mile	<5 Miles	15-20 Miles

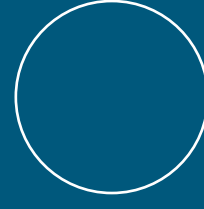
# Summary








Metric		Baseline Growth	Moderate Growth	High Growth
 <b>Financial Metrics</b>	Total Capital Costs	(\$22.1B)	(\$25.3B)	(\$30.0B)
	Caltrain Allocated Capital Costs	(\$6.6B)	(\$7.6B)	(\$9.4B)
	Total Operating Costs	(\$5.1B)	(\$6.0B)	(\$6.3B)
	Year 2040 Operating Costs	(\$0.26B)	(\$0.37B)	(\$0.41B)
	Farebox Recovery Ratio	82%	75%	77%
 <b>Caltrain Economic Metrics</b>	Net Investment	(\$7.1B)	(\$8.6B)	(\$10.3B)
	Net Present Value	-	\$0.58B	\$0.15B
	Benefit Cost Ratio	-	1.33	1.04

Except for Total Capital Costs, values are shown as a present (Year 2018) value using a discount rate of 4.0% and cover the period from 2018-2070.

# Summary



Metric		Baseline Growth	Moderate Growth	High Growth
 Freeway Throughput	Additional Freeway Lanes	+4 lanes	+5.5 lanes	+8.5 lanes
 Regional Rail Integration	Accommodation of Large-Scale Corridor-Sharing Beyond HSR	could be scaled to accommodate	could be scaled to accommodate	can accommodate
 Environmental Benefits	GHG (MTCO2e)	1,108,045	1,898,330	3,006,028
 Land Value Benefits	Property Value Premiums Generated by 2040 Service Growth within 1 Mile of a Station	\$10B	\$10 - \$22B	\$22B
 Economic Productivity	Economic Output	\$32.8B	\$40.8B	\$47.7B
	Full and Part-time Jobs	44K job-years	51K job-years	69K job-years

# Summary



## Uncertainties to consider in selecting a Service Vision for Caltrain include:

- Ultimate design and timing of key regional projects impacting the corridor is still in flux and may change
- All scenarios have a degree of flexibility; detailed service and infrastructure planning will be an ongoing process
- Scale and location of passing tracks needed are sensitive to state and regional rail plans, particularly in the high growth scenario
- Key business metrics may shift as fundamental assumptions change

## The Moderate Growth Scenario:

- Does not directly accommodate large-scale corridor sharing but has the potential to scale up
- Has a high level of confidence that the Benefit-Cost Ratio to Caltrain is over 1.0 even if key assumptions change

## The High Growth Scenario:

- Most directly accommodates large-scale corridor sharing and interlining but infrastructure is sensitive to changes in regional and state assumptions
- Has less certainty that Benefit-Cost Ratio to Caltrain is solidly over 1.0 should key assumptions change

# Staff Recommendation

# Caltrain Long Range Service Vision: Staff Recommendation

- (1) **Caltrain's Long Range Service Vision directs the railroad to plan for a substantially expanded rail service that will address the local and regional mobility needs of the corridor while supporting local economic development activities. When fully realized, this service will provide;**
  - A. **A mixture of express and local Caltrain services operated in an evenly spaced, bi-directional pattern.**
  - B. **Minimum peak hour frequencies of;**
    - i. 8 trains per hour per direction on the JPB-owned corridor between Tamien Station in San Jose and San Francisco extended to Salesforce Transit Center at such time as the Downtown Extension is completed
    - ii. 4 trains per hour per direction between Blossom Hill and Tamien Stations, subject to the securing of necessary operating rights
    - iii. 2 trains per hour per direction between and Gilroy and Blossom Hill Stations, subject to the securing of necessary operating rights

# Caltrain Long Range Service Vision: Staff Recommendation

## (1) Continued

- C. Off-peak and weekend frequencies of between 2 and 6 trains per hour per direction north of Blossom Hill and hourly between Gilroy and Blossom Hill, with future refinements to be based on realized demand
- D. Accommodation of California High Speed Rail trains, in accordance with the terms of existing and future blended system agreements between the JPB and the California High Speed Rail Authority
- E. Delivery of these services will occur through the incremental development of corridor projects and infrastructure to be further defined through individual planning process, feasibility studies, and community engagement. At this time, such infrastructure is conceptually understood to include;
  - i. Investments in rail systems including a new, high performance signal system
  - ii. Station modifications including platform lengthening, level boarding, and investments in station access facilities and amenities to support growing ridership and improve customer experience
  - iii. New and modified maintenance and storage facilities in the vicinity of both terminals as well as the expansion of the electrified Caltrain fleet



# Caltrain Long Range Service Vision: Staff Recommendation

## (1) Continued

- E. **Delivery of these services will occur through the incremental development of corridor projects and infrastructure to be further defined through individual planning process, feasibility studies, and community engagement. At this time, such infrastructure is conceptually understood to include;**
  - iv. A series of short, 4-track stations and overtakes at various points throughout the corridor
  - v. Completion of key regional and state partner projects including
    - a. The Downtown Extension to the Salesforce Transit Center
    - b. The reconstruction of Diridon Station and surrounding rail infrastructure
    - c. The reconstruction and electrification of the rail corridor south of Control Point Lick to the Gilroy Station
    - d. Additional improvements to allow for the operation of High Speed Rail service between Gilroy and San Francisco
    - e. The substantial grade separation of the corridor as well as safety upgrades to any remaining at-grade crossings, undertaken in a coordinated strategic manner driven by the desires of individual local jurisdictions as well as legal requirements associated with any proposed 4-track segments.

# Caltrain Long Range Service Vision: Staff Recommendation

**(2) Caltrain’s Long Range Service Vision further directs the railroad to continue its consideration of a potential “higher” growth level of service in the context of major regional and state rail planning. Specifically, the Long Range Service Vision directs the railroad to;**

- A. Work with regional and state partners to study and evaluate both the feasibility and desirability of higher levels of service in the context of major regional and state rail initiatives including planning related to the Dumbarton Rail Corridor, the 2nd Transbay Crossing, the potential for expanded ACE and Capitol Corridor services, and ongoing planning for the California High Speed Rail system.**
- B. To take certain actions to consider and, where feasible, not preclude such higher levels of service as they specifically relate to;**
  - i. The planning of rail terminals and related facilities
  - ii. The sale or permanent encumbrance of JPB land
  - iii. The design of grade separations in areas where 4-track segments may be required
  - iv. The sizing of future maintenance facilities and storage yards
- C. To return to the board with a recommendation regarding any formal expansion of the Long Range Service Vision at such a time as clear regional and state policy and funding commitments are in place and the feasibility of such an option on the corridor has been confirmed**

# Caltrain Long Range Service Vision: Staff Recommendation

**(3) Finally, Caltrain's Long Range Service Vision directs the railroad to periodically reaffirm the Vision to ensure that it continues to provide relevant and useful guidance to the railroad. Such reaffirmations should occur;**

- A. At a regular intervals of no less than 5 years
- B. In response to significant changes to JPB or partner projects that materially influence the substance of the Long Range Service Vision

# Caltrain Long Range Service Vision: Staff Recommendation

## The features of the Service Vision include:

- **Fast and frequent all day (every day) service: user friendly, show up and go**
  - Faster, all day baby bullet service with express service every 15 minutes
  - Significantly increased off-peak and weekend service levels
  - Comprehensive local service providing coverage to every community
- **Increased Capacity**
  - Tripling today's ridership, serving nearly 180,000 people a day
  - Adding the equivalent capacity of more than 5 freeway lanes worth of regional capacity
- **Regional Connectivity**
  - End to end service - connecting Gilroy to downtown San Francisco (all day, both ways)
  - Regular service making transfers and connections easier and more predictable

# Caltrain Long Range Service Vision: Staff Recommendation

- **The Service Vision maximizes the benefits of local, regional and state sponsored projects including**
  - Local investments in grade separations
  - Improved terminal infrastructure (Diridon and San Francisco).
  - High Speed Rail
- **The Service Vision establishes Caltrain as a leader in implementing a regional rail network providing the service and infrastructure that can respond and grow to meet regional needs.**
- **Work is already underway on implementing the Vision. It starts with the electrification of the service in 2022. From that point a series of incremental improvements will deliver increasingly improved service over time - we don't have to wait until 2040.**

# From Vision to Plan – Next Steps

# Planned and Completed Outreach

The Caltrain Business Plan team will expand outreach activities during the months of July, August, and September as the Board considers a draft recommendation for a long range service vision.

The Board will receive a summary of outreach undertaken and feedback received prior to any request to take action on the long range service vision.

For updated public presentation information visit: <https://www.caltrain2040.org/get-involved/>

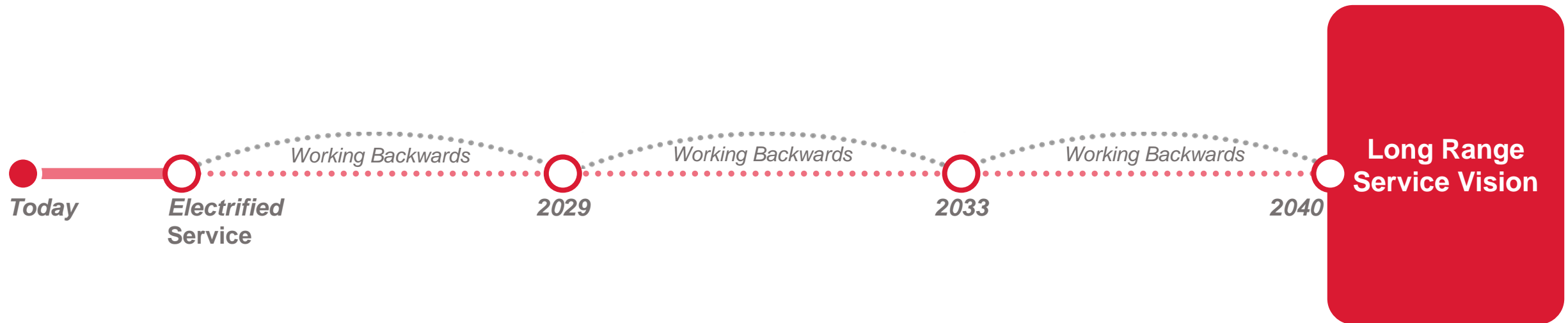
## July, August, September

List as of today

- **July 12** Partner General Managers / Executives
- **July 22** Online Public Meeting
- **July 24** Caltrain Planning Subcommittee Meeting
- **July 24** Caltrain Access and Accessibility Committee
- **July/August** Federal and State Delegation Briefings
- **August 1** Launch of the "Online Open House"
- **August 8** Stakeholder Advisory Group
- **August 12** General Public Meeting San Jose
- **August 14** Caltrain City/County Staff Group
- **August 14** General Public Meeting San Francisco
- **August 16** SB 797 Agency Group
- **August 21** Caltrain Citizen Advisory Committee
- **August 22** Caltrain Local Policy Maker Group
- **August 29** General Public Meeting San Carlos
- **August 1 – September 24** Sister Agency Boards
  - VTA (*August 1*)
  - MTC (*September 4*)
  - SamTrans (*September 4*)
  - SMCTA (*September 5*)
  - SFCTA (*September 24*)
- **August/September** Rider Outreach
- **August/September** City Councils, as requested
- **September** Santa Clara County Board of Supervisors
- **September 17** San Mateo County Boards of Supervisors
- **September 19** Caltrain Bicycle Advisory Committee



# Once We've Chosen the "Big" Vision, We Can Work Back to Define the Best Path to Get There





# Completing the Business Plan

Completion of the Business Plan is targeted for early 2020.

When staff returns to the Board in October, a detailed roadmap for the completion of the Plan will be provided for discussion.

## Key Focus Areas to Complete the Plan:

### Service Analysis

- “Walk back” of incremental phasing and steps to implement the vision
- Focus on post-electrification generation of investments

### First and Last Mile

- Long term needs and phasing
- Analysis of strategies and outcomes

### Funding and Revenues

- Existing and new funding sources
- Commercial strategies and revenue opportunities
- Efficiencies

### Additional Organizational Assessment and Community Interface Work



# Organizational Assessment



# Overview



# Change is Coming

Today, Caltrain operates a successful and efficient commuter rail service

Looking forward, both the railroad and the region have made transformative decisions and commitments that compel organizational change

Finally, realization of the long range service vision specified through the Business Plan will require additional organizational transformation



# Three Critical Organizational Areas



## Service Delivery



## Internal Organization



## Governance

### What is it?

How Caltrain operates and delivers its services

How Caltrain organizes itself

How Caltrain is overseen by a governing body

### What is the Focus?

Focus on train service delivery and contracting mechanism

Focus on resources, functionality, shared services

Focus on options for self-directed change, regional integration, and certain parallel considerations

# Key Questions for Each Area



## Timing

### Questions

Is this the right time to be having this discussion?

What are the implications if no decisions are reached?



## Recommendations And Focus Areas

What are the recommendations or key focus areas?



## Implementation

What additional work is needed?

# Organizational Assessment Process



## Initial Assessment

Conducted over 50 interviews and reviewed documents and reports

Documented key observations and areas requiring organizational focus



## Defining Railroad Functions & Mapping the Current Caltrain Organization

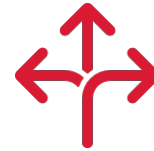
Outlined basic functions necessary to plan, operate, and maintain a major regional railroad

Analyzed how Caltrain currently completes the work



## Comparison to Other US and International Railroads

Reviewed how other agencies are governed, organized and deliver service



## Detailed Organizational Analysis

Detailed analysis to identify options and focus areas related to service delivery, internal organization and governance



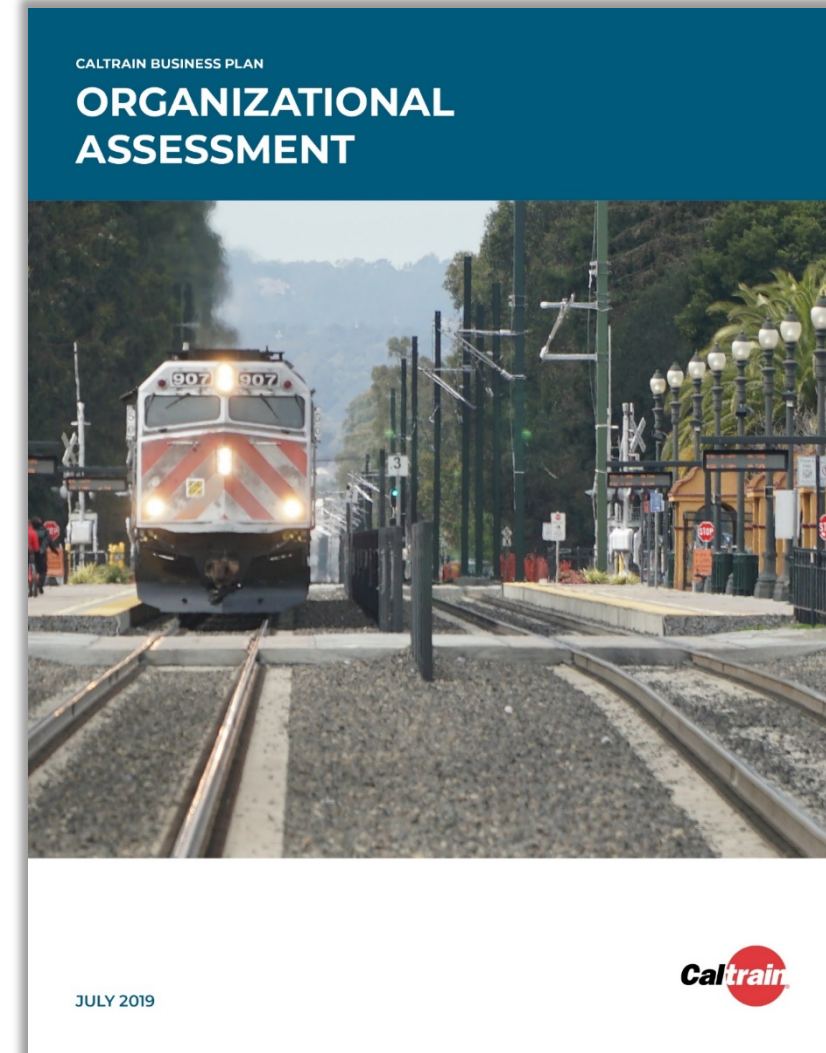
## Recommendations

Identified specific recommendations and implementation steps

# Organizational Assessment Report

The Organizational Assessment was developed by Howard Permut of Permut Consulting LLC and former President of Metro-North.

Key areas of Howard's work have been supported by the Stanford Global Projects Center and a team of outside experts



Read the full report at [www.caltrain2040.org](http://www.caltrain2040.org)



# What is the Current Caltrain Organization?



## Governance

- Caltrain is a Joint Powers Authority, formed through a Joint Powers Agreement (JPA) between three member agencies
- The system is governed by the Peninsula Corridor Joint Powers Board (JPB), a 9-member board appointed under the terms of the JPA



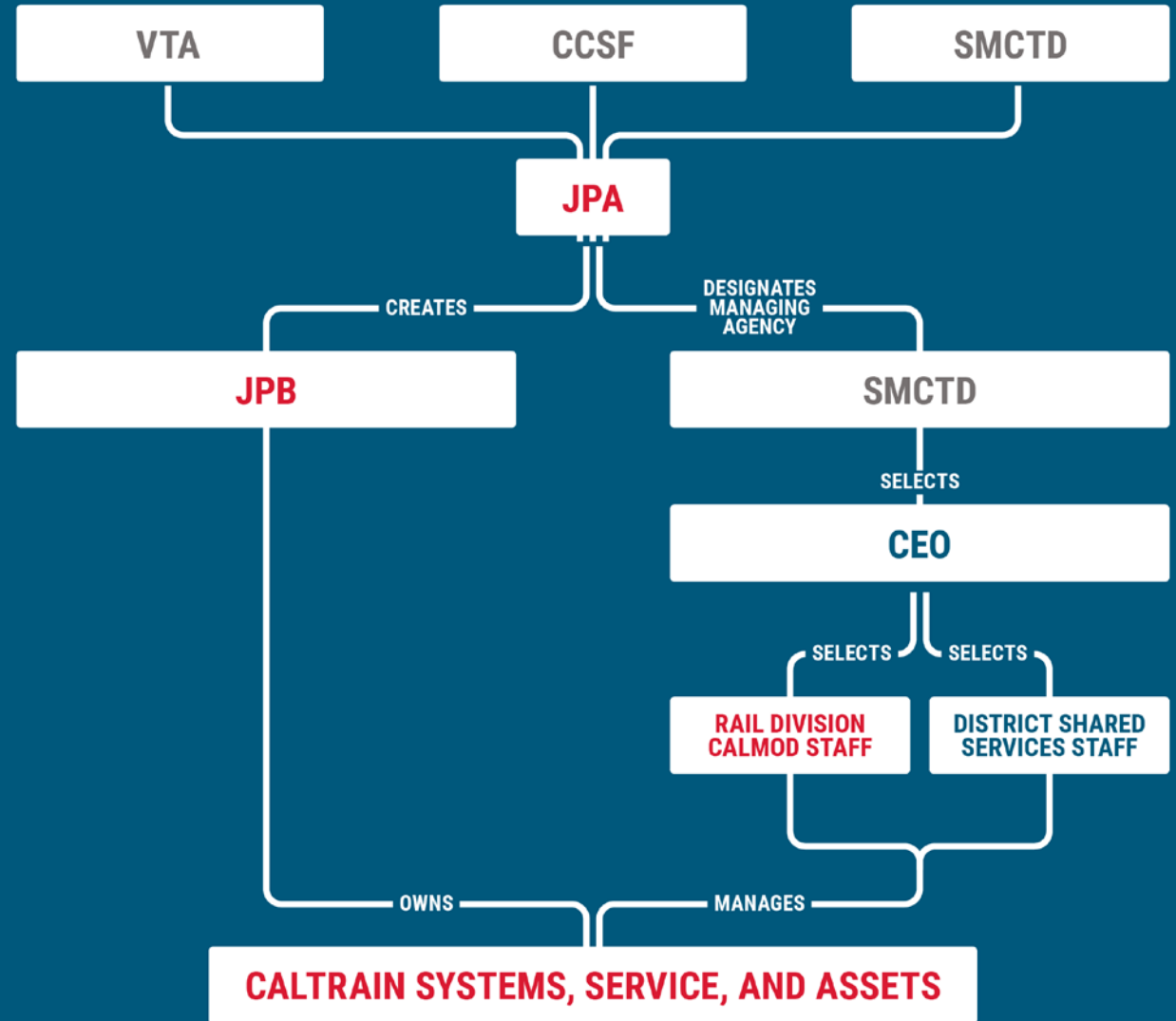
## Internal Organization

- The JPA designates the San Mateo County Transit District (SMCTD) as Caltrain's "managing agency"
- SMCTD employees manage and administer the Caltrain system, either as part of a Caltrain-dedicated department or through a shared services arrangement with other SMCTD business lines



## Service Delivery

- The JPB contracts with a private company, Transit America Services Inc (TASI) for the direct operation of the Caltrain service and maintenance of the railroad's assets. The operating contract is managed by SMCTD



# Roles and Responsibilities at Caltrain are Complex

Caltrain fulfills all of the functions of a major railroad but does so within a complicated framework that creates bifurcated responsibilities for many key activities. This is because the railroad;

- Is managed within a multi-modal, shared services agency
- Delivers service through a 3<sup>rd</sup> party contract
- Traverses 21 local jurisdictions

## DETAILED FUNCTIONALITY

The matrix below provides similar information for the detailed functionality.

	Caltrain Management		Caltrain Contractor		Non-Caltrain		Notes
	Rail Division + CalMod	SamTrans Shared Services	TASI	Other 3rd Party Contractors	Outside Entities (Public partners and cities)	Outside Entities (Private)	
<b>CEO</b>	X	X					1
<b>Operations</b>							
Transportation	X		X				2
Maintenance of Way	X		X				3
Maintenance of Equipment	X		X				4
Maintenance of Stations	X		X		X		5
Customer Service		X	X				6
Ticket Selling and Tariff Enforcement	X	X	X		X		7
<b>Safety and Security</b>							
Safety	X	X	X	X			8
Police				X			9
Security		X		X			10
<b>Finance</b>							
Budget	X	X	X				11
Accounting		X					12
Treasury and Payroll		X					12
Insurance and Claims Management		X					12
<b>Real Estate and Commercial Activities</b>							
Managing leases and railroad-owned property		X					13
Obtaining land, easements, and permits for construction projections		X					13
Reaching commercial agreements with third parties		X					13

*Details of Caltrain's organization and functionality are discussed in Chapter 2 of the Organizational Assessment Report*

# Comparison to Other US Systems

We compared Caltrain with a spectrum of US peer passenger railroads, focusing on how they approach the issues of service delivery, internal organization and governance

## US Peer Railroads



Capitol Corridor  
(CCJPA)



METROLINK®

Southern California  
Regional Rail Authority  
(Metrolink)



San Joaquin Regional  
Rail Commission (ACE)



Sonoma-Marín Area  
Rail Transit (SMART)



Massachusetts Bay  
Transportation  
Authority (MBTA)



Southeastern  
Pennsylvania  
Transportation  
Authority (SEPTA)

# Comparison to Other International Systems

We also reviewed three international railways to understand how their organizational structures enable their success in specific areas such as monetizing real estate assets, sharing corridors with multiple carriers and incentivizing the private sector to deliver services efficiently

## International Peer Railroads



Bern-Lötschberg-Simplon  
(BLS) Railway (Switzerland)



Kintetsu Rail Company (Japan)



Chiltern Railways (UK)

# Comparison to Other Systems- Lessons Learned

*The detailed comparison with other systems can be found  
In Chapter 3 of the Organizational Assessment Report*

## Service Delivery

- There is no standard or “correct” model for service delivery; the choice reflects the specific circumstances the railroads face at a given point in time
- Third party service contracting, similar to Caltrain, is the most common delivery method in the US. In-house service delivery is generally used in older US railroads but SMART is a recent counter example
- There is no clear correlation between the model used and financial or service performance
- International railways utilize the private sector to a much greater degree than US railroads with greater risk transfer
- The agency retains ultimate responsibility regardless of the method selected

## Internal Organization

- Shared services are used at select other railroads, however the structure of arrangements varies
- There are major differences between organizations that are expanding rapidly or delivering major capital projects versus those that are operating existing stable systems

## Governance

- Board composition, committee structure vary greatly across agencies.
- Member agency involvement in budget development process is related to both board structure and to funding sources.
- Most boards have a more direct and exclusive (not shared) relationship to its railroad executives than Caltrain.



# Service Delivery



# Service Delivery

Caltrain's existing operating contract expires in 2022 and includes a one year option to extend. There is an opportunity to negotiate a five year extension pending FTA approval.

The agency must choose what to do.

## Considerations

- Many potential options to choose from and model can evolve over time
- Railroad is transitioning from a stable operation to a period of dynamic change

## Key Factors Informing Choices

- Ability of chosen model to achieve Caltrain's corporate objectives and support planned services and projects
- Balancing of reputational and financial risk, control and cost;
- Anticipated market response and associated costs
- Implications for labor agreements and federal labor protection provisions
- Timing of transition and associated risks
- Maintaining adequate negotiating leverage
- Organizational bandwidth

# Service Delivery

Caltrain has three distinct options to choose from for service delivery.

## Service Delivery Options

1. Extension of TASI contract with modifications
2. Solicitation of a service provider through the standard procurement process
  - Bundled or unbundled contract
  - Gross cost or net cost models
3. Provision of services with in-house forces



# Service Delivery

## Recommendations

### Timing

- Immediately initiate development of a comprehensive strategy for future service delivery including prioritization of new contract elements
- Caltrain should discuss extension with FTA
- Starting work now maximizes Caltrain's flexibility and provides the widest range of options

### Recommendation

- Recommended that Caltrain should pursue extension of the TASI contract with a set deadline to complete the negotiation.
- Deadline would be set so that Caltrain would have sufficient time to procure another operator if negotiations are not successful.

### Implementation

- Form an inter-disciplinary task force of senior staff
- Develop a work plan and schedule reflecting the above



# Internal Organization



# Internal Organization

## Staff Resourcing

- Caltrain is the most efficient major passenger railroad in the country as measured by basic outputs per employee (car miles and passenger miles per employee)
- Caltrain is significantly under resourced for today's work outputs let alone to successfully implement the recommended service vision

### COMPARISON OF CALTRAIN TO LARGE US COMMUTER RAIL PROPERTIES

Agency Name	Total Employees	Car Miles	Car Miles Per Employee	Passenger Miles	Passenger Miles Per Employee	Footnote
NJ Transit	4,850	61,500,000	12,700	2,077,100,000	428,300	1
Long Island Rail Road	7,331	67,100,000	9,200	2,996,900,000	408,800	4
Metro-North Railroad	6,461	68,600,000	10,700	2,271,000,000	351,500	
Metra	4,797	43,700,000	9,200	1,577,400,000	328,900	3
MBTA	2,394	25,000,000	10,500	697,700,000	291,500	5
SEPTA	1,921	19,500,000	10,200	426,200,000	221,900	2
<b>Average</b>	<b>4,626</b>	<b>47,600,000</b>	<b>10,400</b>	<b>1,674,400,000</b>	<b>338,500</b>	<b>6</b>
<b>Caltrain</b>	<b>580</b>	<b>7,400,000</b>	<b>12,700</b>	<b>406,100,000</b>	<b>700,000</b>	<b>7</b>
<b>Caltrain Performance vs. Average</b>			<b>+22%</b>		<b>+107%</b>	

#### Sources:

Metrics and Service Data Tables, National Transit Database, 2017, Federal Transit Administration.  
 Employees Data Tables, National Transit Database, 2017, Federal Transit Administration.  
 MBTA Commuter Rail Fact Sheet.

#### Notes:

1. Staffing excludes Northeast Corridor and Penn Station Infrastructure Maintenance.
2. Staffing excludes Northeast Corridor, 30th Street Station, and Harrisburg Line Infrastructure Maintenance.
3. Staffing excludes services not directly operated by Metra (BNSF and UP).
4. Staffing excludes Penn Station Infrastructure Maintenance.
5. Staffing excludes Northeast Corridor and South Street Station Infrastructure Maintenance.
6. Average excludes Caltrain.
7. Caltrain includes both TASI employees and Caltrain employees working on the railroad.

*Details of Caltrain's internal organization are discussed in Chapter 4 of the Organizational Assessment Report*



# Internal Organization

## Shared Services

As the railroad grows in scope and complexity a key issue is which services can effectively be shared with other organizations, and which ones will require dedicated focus and rail specialization.

## Shared Services Considerations

Changes to specific service sharing arrangements should reflect consideration of:

- The degree to which specialized railroad skills are necessary
- The financial savings (or costs) generated through sharing arrangements.
- The need for clear lines of responsibility and authority within the organization
- The selected service delivery model
- The selected governance model

# Internal Organization

## Functions & Processes

As it enters into a period of major transformation, Caltrain will require a different type and level of output from key functional areas. It will also need to intensify its focus on critical process interfaces

## Attracting and Retaining Talent and Skills

Another common theme has been the need to attract and retain talent. This is challenging in a high cost area.

## Key Functions and Functional Areas that Require Focus

- Planning Department (underway)
- Contracts and agreements with external parties
- Rail Activation Plan
- IT
- Procurement and Human Resources
- Performance Management
- First Mile/Last Mile at stations
- Capital Project Implementation

## Key Issues Related to Talent and Skill Retention

- Addressing high vacancy rates
- Large number of “seconded” consultant staff
- Need to attract skill-based workforce to deliver the service vision

# Internal Organization

## Recommendations

### Timing

- Now is time to take actions that address current deficiencies and prepare the organization for the next five years
- Maintaining the status quo will not allow Caltrain to provide high quality expanded rail service, participate constructively on major regional projects, and implement its Business Plan

### Recommendation

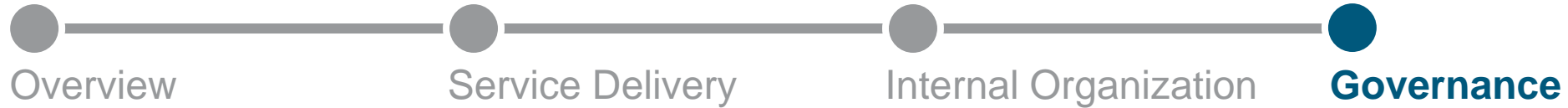
- Address vacancies immediately
- Undertake a complete organizational study and identify specific modifications to be implemented in FY20 / 21 Budget and for the upcoming five years
- Develop financial resourcing strategy

### Implementation

- Form an inter-disciplinary task force led by a senior staff member to address vacancies
- Develop a work plan and conduct study over next 3 to 6 months



# Governance



# Governance

## Overview

A critical assumption is a dedicated source of revenues will become available - any modification of the existing Caltrain governance structure will not alone solve the financial challenges faced by the organization

## Structure

Governance options and considerations are discussed within three groups;

- 1) Self-directed options
- 2) Regional (Non-self directed) options
- 3) Parallel considerations

Many of the options described within these groups are not mutually exclusive



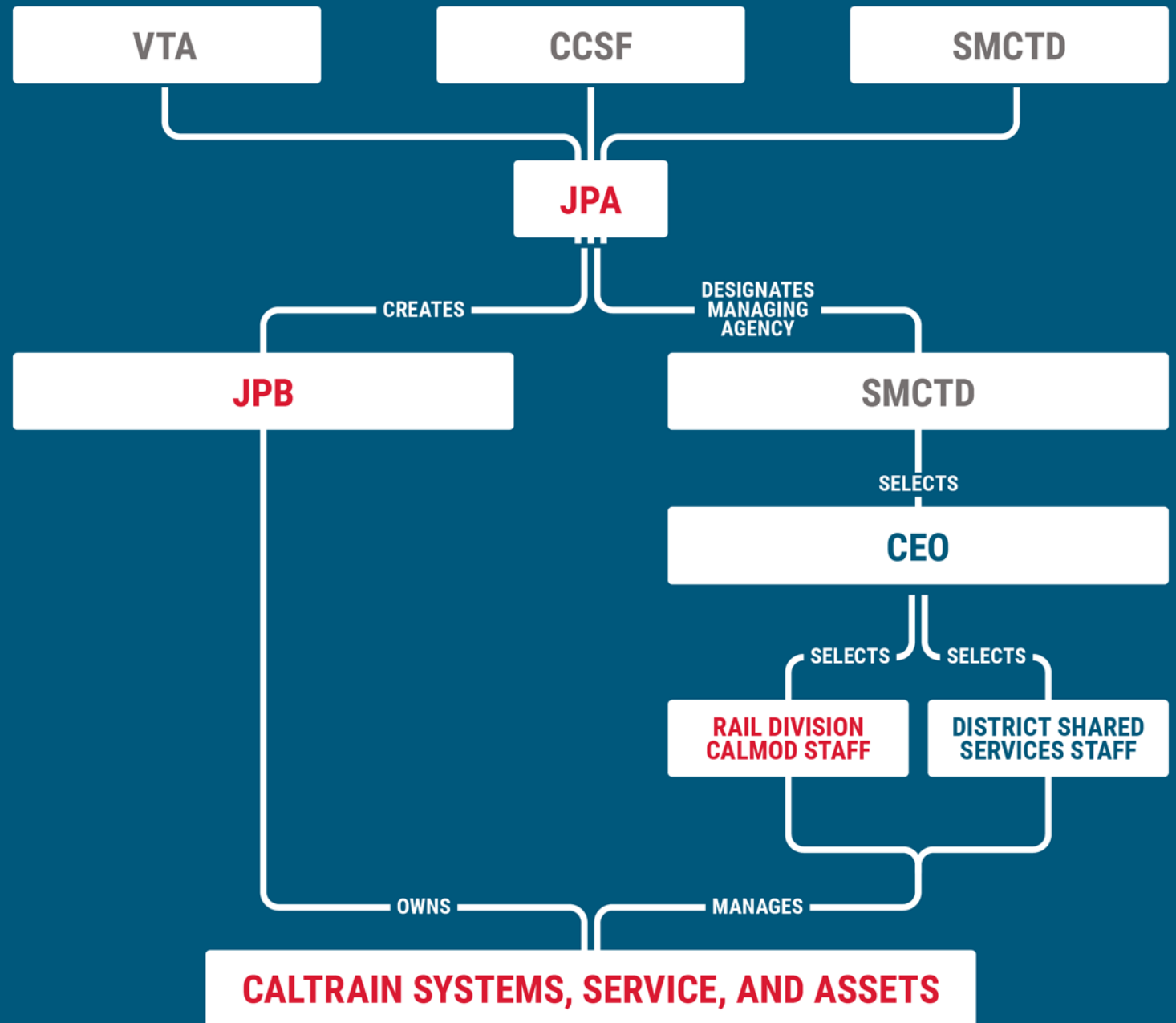
# Governance

## Self-Directed Options

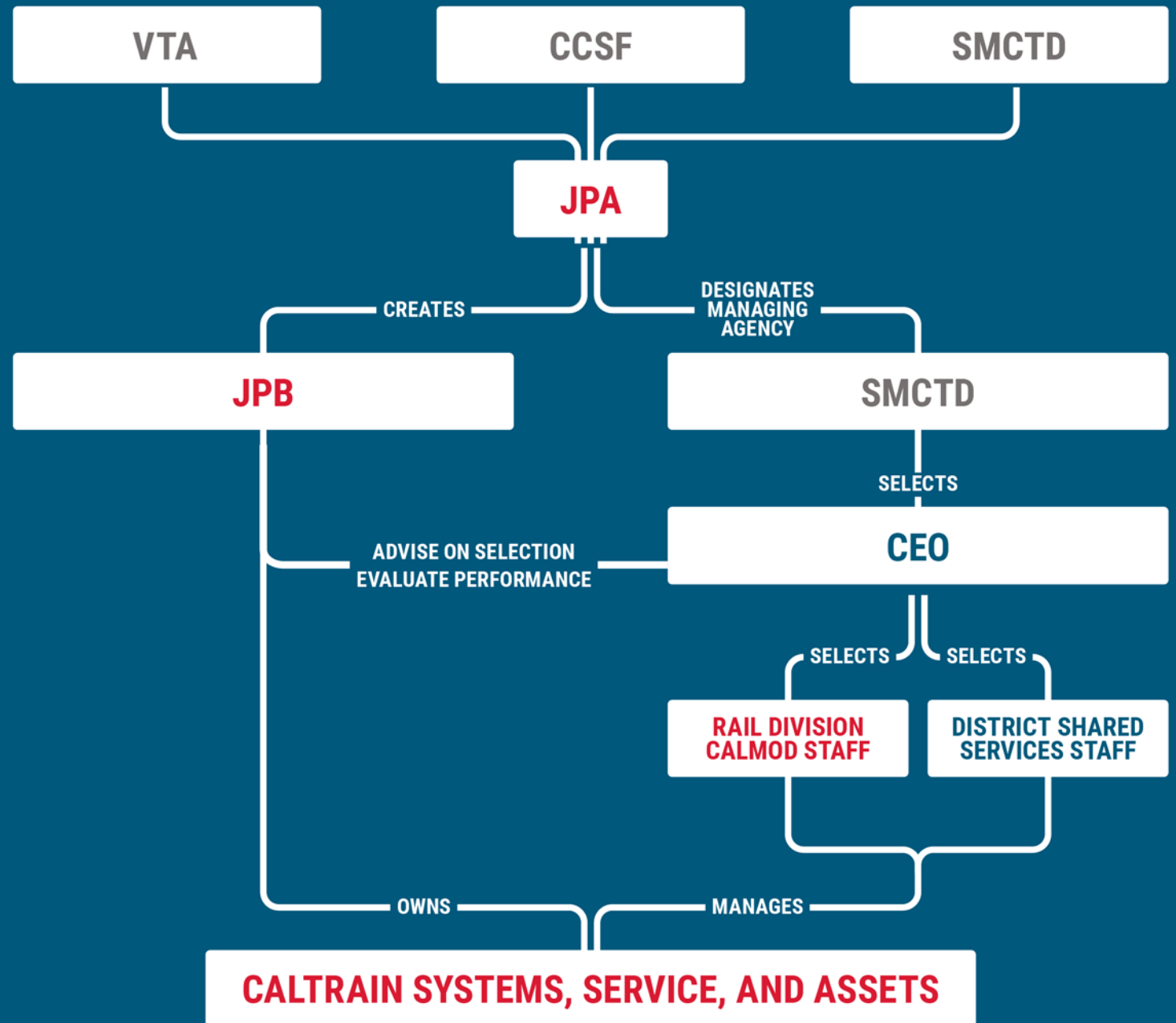
The following governance models are described as “self directed” because their implementation could be initiated by agreement of Caltrain’s member agencies



# Governance Self-Directed Option A: Retention of the Status Quo



# Governance Self-Directed Option B: JPB as Currently Structured Coupled with Modifications



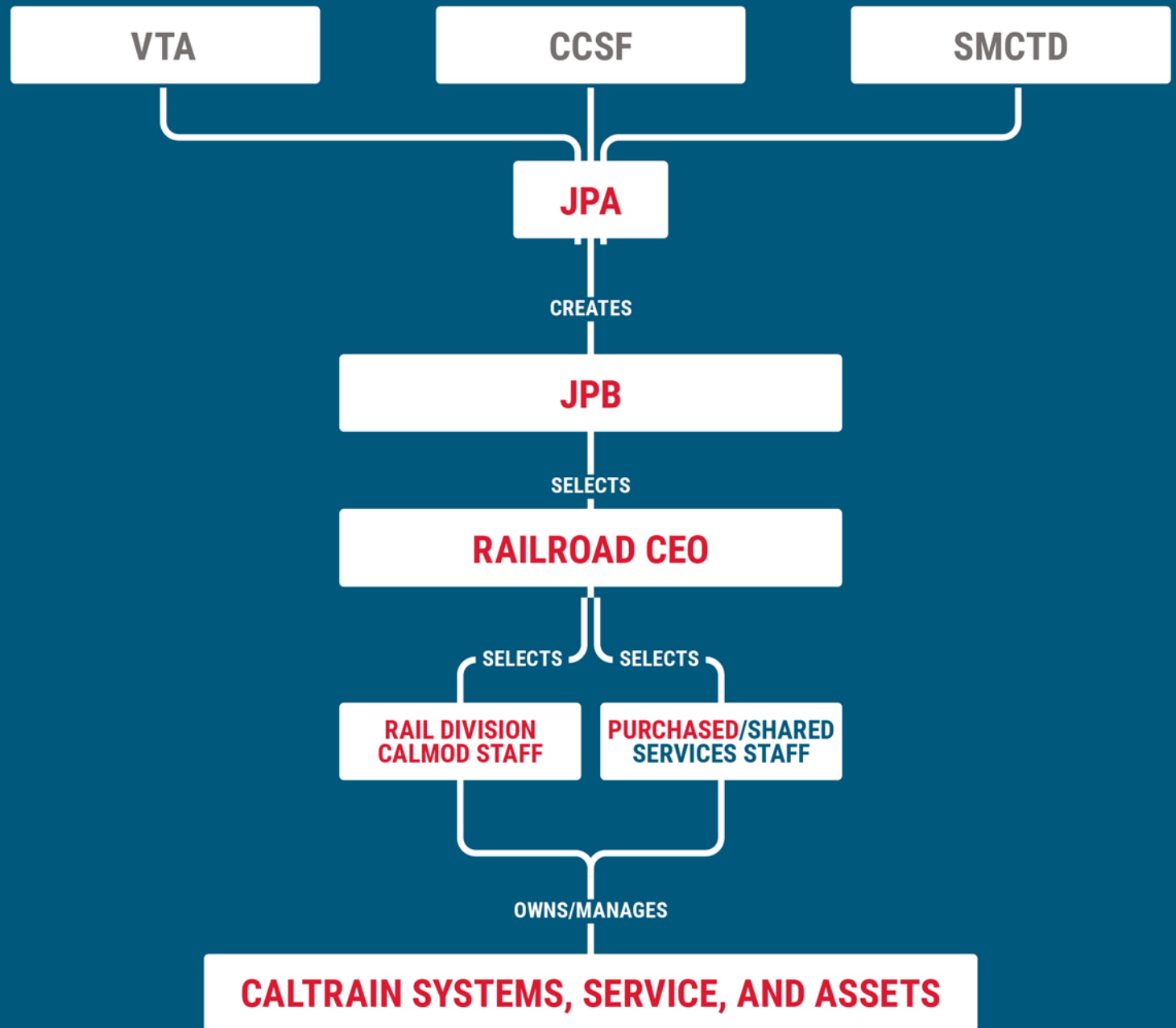
# Governance

## Self-Directed Option C:

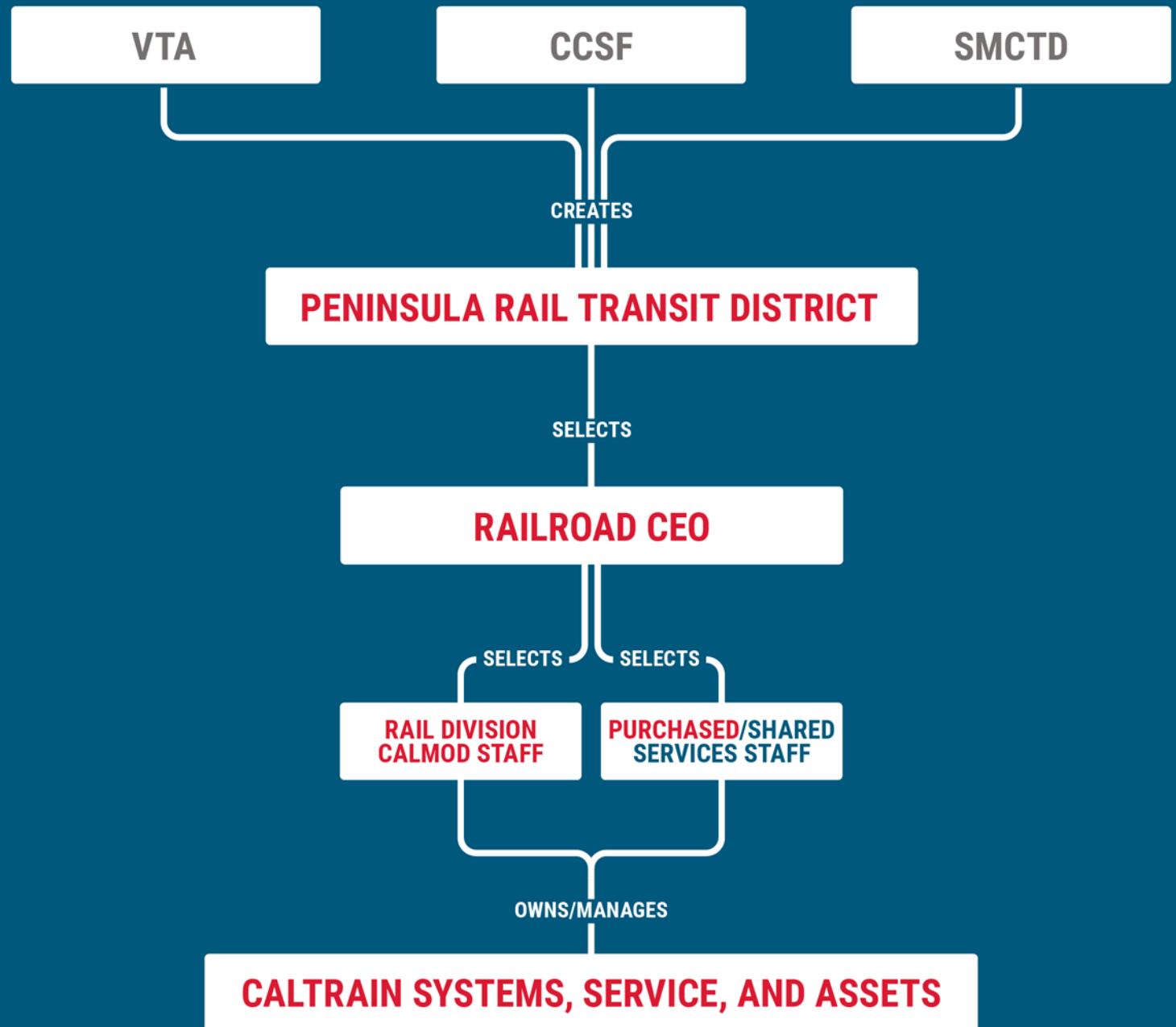
Retention of the JPA as currently structured but reorganized as a railroad authority that directly hires its management and administrative employees

## Self-Directed Option D:

Same as Option C except that staffing is supplemented on an as needed basis with expertise from JPA member agencies



# Self-Directed Option E: Creation of a Special District to Govern and Administer Caltrain - Peninsula Rail Transit District (PRTD)



# Governance

## Non Self- Directed Options

The non-self-directed options described here include options for either the full or partial regional, or mega-regional integration of multiple railroads and agencies

The process to implement these options would be significantly more complex. At the same time, such options may be intrinsically tied to the funding and implementation of key portions of the Business Plan and initiatives being undertaken by other agencies.

Very careful and comprehensive analysis needs to be done to understand the pros and cons as well as the implications with regard to transferring authority and decision-making, funding, cost and service delivery to another organization.



# Non-Self Directed Options

## Current Operations

Separate Railroad A

Separate Railroad B

# Non-Self Directed Options

## Option F: Regional Cooperation





# Non-Self Directed Options

## Option G: Regional Integration of Key Functions



# Non-Self Directed Options

## Option H: Consolidated Regional Rail Authority with Subsidiary Railroads



# Non-Self Directed Options

## Option I: Fully Consolidated Regional Railroad

**Consolidated Regional Railroad**

# Governance

## Parallel Governance Considerations and Structures

There are a number of “governance-level” issues that Caltrain must consider regardless of its ultimate core governance model.

In some instances these may be addressed through parallel or separate governance structures or agreements

## Megaproject Delivery

- Major organizational issue
- May be addressed through separate Construction Authority or grade separation district

## Integration with other Railroads

- Coordination with HSR around use of shared infrastructure
- Potential to look at interlining of other operators and/or geographic expansion of Caltrain services

## Increased Role of Private Sector

- Commercialization or privatization of all or parts of railroad’s business

# Governance

## Recommendations: Self-directed Options

### Timing

- Timing is right to engage in discussion and review of self-directed options given magnitude of transformation faced by Caltrain

### Recommendation

- Organizational assessment provides a menu of *viable* self-directed governance options
- Most options require amendment to JPA- which falls under the purview and responsibility of Caltrain's member agencies
- Recommendation that member agencies should reach consensus on preferred option

### Implementation

- General Managers of the member agencies should form a task force of themselves or a senior empowered representative of their agency to review options and make recommendation to their boards within a specified time period

# Governance

## Recommendations: Non Self-directed Options & Parallel Considerations

### Timing

- It is in Caltrain's interest to constructively and actively engage in discussions related to regional governance and key parallel considerations

### Recommendations

- Caltrain should be involved in all aspects of regional rail discussions (options F through I) even if discussions are in early stages
- Caltrain should develop a position on the potential for a regional construction authority
- Caltrain should continue to work with the State and High Speed Rail Authority to define needed future agreements in conjunction with the evolution of the Authority's plans
- Caltrain should work, through the remainder of the Business Plan, to identify areas where private sector partnerships may be most beneficial to its mission



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