APPENDIX 6-B: 2026 BUSINESS PLAN TECHNICAL SUPPORTING DOCUMENT: CAPITAL COST BASIS OF ESTIMATE REPORT

CALIFORNIA
High-Speed Rail Authority

2026 BUSINESS PLAN

Technical Supporting Document



Capital Cost Basis of Estimate Report

MAY 2026

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Acronyms and Abbreviations

Term	Definition
ATS	Automatic Train Supervisor
B-P	Bakersfield to Palmdale
BESS	Battery Energy Storage System
BNSF	Burlington Northern Santa Fe Railroad
BP	Business Plan
CAHSR	California High Speed Rail
CM	Contract Manager
CP	Construction Package – *Used to describe Civil Contracts in the Central Valley 119 Segment*
CVS	Central Valley Segment (119 miles)
DCM	Design Criteria Manual
EAC	Estimate at Completion
EOS	Early Operating Segment
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
G-Wye	Gilroy to the Wye Segment (inclusive of lower leg of Wye)
HDC	High Desert Corridor
HMF	Heavy Maintenance Facility
K-L	Burbank to LA Union Station
LA-A	Los Angeles to Anaheim
LGA	Locally Generated Alternative (Bakersfield Extension)
LMF	Light Maintenance Facility
M-B	Merced to Bakersfield Segment
M-M	Merced to Madera Segment (Merced Extension)
MOWF	Maintenance of Way Facility
MOWS	Maintenance of Way Siding
MPS	Master Program Schedule
OCS	Overhead Catenary System
PDB	Progressive Design Build

Term	Definition
PDS	Program Delivery Services
PEPD	Preliminary Engineering for Project Definition
P-K	Palmdale to Burbank
PUR	Project Update Report
RM	Route Miles
ROW	Right of Way
SABCE	Stripped and Adjusted Base Cost Estimate
SB-198	Senate Bill 198
SCC	Standard Cost Category
SF-SJ	San Francisco to San Jose
SJ-G	San Jose to Gilroy
SPUR	Supplemental Project Update Report (supplemental report issued in Aug 2025 with estimate updates for optimized SF to Palmdale scenarios)
SWS	Switching Station
T & S	Track and Systems
TF	Track Feet
TSCC	Track and Systems Construction Contract
TPSS	Traction Power Substation
UPE	Unit Price Element
VV	Victor Valley
YOE	Year of Expenditure

Revision Log of the Draft to the Final Basis of Estimate

The following updates have been made to this Basis of Estimate between the draft issuance and this final document.

1. Actual expenditures have been updated from Dec 2025 ($14.823 billion) to Feb 2026 ($15.041 billion).
2. For Optimized Phase 1 Estimate, operations finalized the count of trainsets required which reduced from 33 to 30 trainsets. This results in an estimate reduction of $255 million at P65 contingency level.
3. Inclusion of a construction cost estimate of $2.033 billion at P65 contingency level for San Jose to Gilroy in Shared Benefit **Table 7**.
4. Insertion of an updated full SB-198 Merced to Bakersfield estimate of $47.7 billion at P65 contingency level in **Chapter 9**.

1 Introduction

The purpose of this document is to provide technical details of the capital cost estimate for the 2026 Business Plan (BP) including design optimizations consistent with current California High-Speed Authority (Authority) strategies.

This Basis of Estimate supports the Authority's goal of advancing the Merced to Bakersfield project as the early operating segment (EOS), outlining costs for Merced to Bakersfield and two expansion scenarios with an interim stage. Each estimate has been developed as a self-contained package of infrastructure, service, and operations that provides needed service while supporting the next step of expansion. The estimates are:

- Merced to Bakersfield
- San Francisco to Bakersfield
- San Francisco to Los Angeles/Anaheim (Phase 1)
    - Interim Stage: San Francisco to Palmdale

To ensure a rigorous and cost-effective methodological foundation for these estimates, a bottom-up cost estimating approach has been applied to develop the discrete and geographically segregated segment estimates. This approach ensures that all design data feeding into the estimates are rigorously and methodologically reviewed.

Each estimate has been developed as standalone, independent of other estimates. In some cases, common segment estimates have been utilized, and in others new segment estimates were developed where scope elements were added to support operational needs and passenger demands. For example, differences between segment estimates from scenario to scenario were due to changes in the length of passing tracks, station build-out size, power demands, and/or maintenance facility size. Each segment estimate is further broken down into discipline-based quantity driven estimates which are shown in Year of Expenditure (YOE) based on the Master Program Schedule (MPS).

The Authority's risk evaluation process was then applied to segment and discipline estimates using standard industry accepted tools & models, such as the FTA/FRA top-down risk model to develop project contingency.

Table 1 shows the geographical segments as rows and scenarios as columns. Check marks indicate unique estimates, the arrows in the table indicate where an estimate is common across scenarios.

Table 1: Scenarios and Estimating Segments

Segment	Merced to Bakersfield	San Francisco to Bakersfield	San Francisco to Los Angeles / Anaheim (Phase 1)	Interim Stage: San Francisco to Palmdale
San Francisco to San Jose		✓	✓	→
San Jose to Gilroy		Estimated, but excluded from scenario totals		
Gilroy to the Wye		✓	✓	→
Merced to Madera	✓	✓	✓	→
CV-119	✓	✓	✓	→
LGA (Bakersfield Extension)	✓	✓	✓	→
Bakersfield to Palmdale			✓	→
Palmdale to Burbank			✓	
Burbank to LA Union			✓	
LA Union to Anaheim			✓	

1.1 Scenarios and Estimate outcomes

This section introduces a summary of the scope revisions that define Merced to Bakersfield (M-B) and each scenario. A table summarizing the estimate outcomes for each section is provided. Values shown are P30 with the

difference between P65 and P30 carried within the program-wide line item in the cost tables included the 2026 Business Plan and this Basis of Estimate document.

Merced to Bakersfield

Merced to Bakersfield (M-B), the first segment under construction, will serve the Central Valley and form the spine of the Phase 1 alignment from San Francisco to the Los Angeles Basin. As part of the Authority's cost-saving strategy, this early operating segment has lower capital costs from streamlined station designs to infrastructure choices and service levels. The M-B segment will include the infrastructure needed to run eight daily trains in each direction. Details of M-B can be found in **Chapter 4.**

Table 2: 119-Mile Central Valley Segment

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
Central Valley Segment			
Central Valley Construction	11,334	11,494	9,149
Central Valley Right-of-Way	1,857	1,827	1,566
State Road Projects – (SR99 & SR46)	468	468	318
Track & Systems and Commodities	2,745	3,486	115
Project Reserve	46	46	0
Interim Use	162	162	54
Unallocated Contingency	318	318	0
Subtotal Central Valley Segment Construction:	**16,930**	**17,800**	**11,202**
Project Development, Management, and Support	177	177	177
Program Wide Support and Other	2,091	2,137	939
TOTAL[1]	**19,198**	**20,115**	**12,318**

1. Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.

Table 3: Merced to Bakersfield

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
Merced to Bakersfield			
Central Valley Segment	19,198	20,115	12,318
Project Development Balance	127	127	127
Merced Extension	3,177	2,539	107
Merced Extension – Utility Relocation	336	287	0
Merced Extension – Right-of-Way	555	565	7
Bakersfield Extension	3,135	1,984	74
Bakersfield Extension – Utility Relocation	396	276	0
Bakersfield Extension- Right-of-Way	739	280	14
Stations	1,051	1,106	63
Track & Systems and Commodities Balance	1,478	1,427	0
Solar and Utility Interconnection	75	162	0
Trainsets and Facilities	839	976	0
Program Wide Support and Contingency Balance	1,550	1,726	616
Subtotal Merced to Bakersfield:	**32,654**	**31,568**	**13,325**
Project Development Balance (Phase 1)	543	543	525
Program Wide Support and Other	2,254	2,252	344
Bookend	1,298	1,298	854
TOTAL[1]	**36,750**	**35,662[2]**	**15,041**

1. Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.

2. The Authority is reviewing options to add resources for strategic early works activities, including key right-of-way purchases, within its Baseline Budget, which is not included in the 2026 Business Plan estimate

San Francisco to Bakersfield

The San Francisco to Bakersfield (SF-B) scenario builds on the M-B early operating segment by extending high-speed rail (HSR) infrastructure northwest to Gilroy and enabling through-service to San Jose and San Francisco via upgraded shared corridors. Through service will be achieved with targeted infrastructure improvements such as electrification, signaling upgrades, track capacity improvements, and station upgrades. This approach provides early access to the Bay Area market, creating significant revenue opportunities, at a fraction of the cost of a fully dedicated alignment. Details of SF-B can be found in **Chapter 5**.

Table 4: San Francisco to Bakersfield

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
San Francisco to Bakersfield			
San Francisco to Gilroy Blended Approach[2]	593	1,273	-
Gilroy to Central Valley Wye	18,702	18,619	-
Merced to Bakersfield	29,552	31,568	13,325
Merced to Bakersfield Balance[3]	-	900	-
Program Wide Support, Trainsets, and Other Balance	9,256	8,872	1,716
TOTAL[1]	**58,102**	**61,232**	**15,041**

1. Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.

*2. Cost for the San Jose to Gilroy segment is not included. Estimates for this shared benefit project range from $2 billion to $5 billion. A shared benefit project cost of capital improvements estimate is in **Table 7**.*

3. The Merced to Bakersfield balance is comprised of additional scope to expand the system to accommodate additional riders.

San Francisco to Los Angeles/Anaheim (Phase 1)

The Phase 1 San Francisco to Los Angeles/Anaheim (SF—LA/A) scenario builds on the SF-B scenario with an extension of high-speed rail (HSR) infrastructure through Bakersfield to Palmdale and an interim infrastructure solution to access the Los Angeles Basin. Phase 1 marks a dramatic shift in service with the operation of two trains per hour during operating hours between San Francisco and the Los Angeles Basin, totaling 36 trains per day. Half of these would provide hourly SF—LA/A express service that would not stop between Gilroy and Palmdale. Details of SF-LA/A can be found in **Chapter 6**.

Table 5: Phase 1 San Francisco to Los Angeles/Anaheim

Scope Element (YOE $ in millions)	2024 BP Estimate[4]	2026 BP Estimate	Expenditures Feb 28, 2026
San Francisco to Anaheim			
San Francisco to Gilroy Blended Approach[2]	15,140	1,291	-
Gilroy to Central Valley Wye	19,363	18,866	-
Merced to Bakersfield	30,784	31,568	13,325
Merced to Bakersfield Balance[3]	-	4,325	-
Bakersfield to Palmdale	20,740	26,351	-
Palmdale to Burbank	24,428	15,936	-
Burbank to L.A.	3,405	861	-
L.A. to Anaheim	3,352	7,607	-
Program Wide Support, Trainsets, and Other Balance	10,722	19,272	1,716
TOTAL[1]	**127,933**	**126,076**	**15,041**

1. Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.

*2. Cost for the San Jose to Gilroy segment is not included. Estimates for this shared benefit project range from $2 billion to $5 billion. A shared benefit project cost of capital improvements estimate is in **Table 7**.*

3. The M-B balance is comprised of additional scope to expand the system to accommodate additional ridership with connection to San Francisco, such as additional build-out of power generation, station(s), track and systems, and maintenance facilities.

4. 2024 Business Plan costs presented by scope element are based on prior parametric methods for capital cost. Using current bottom-up methodology, costs of the 2024 Business Plan full Phase 1 scope are estimated to have increased to $231.3 billion.

Interim Stage: San Francisco to Palmdale

As a potential interim stage, if the segment between Bakersfield and Palmdale is completed before a route into the Los Angeles Basin, high-speed rail service could begin between San Francisco and Palmdale. All the features would be the same as for SF-LA/A with two high-speed trains every hour but operating from San Francisco to Palmdale, one as a limited stop express.

With completion of the High Desert Corridor, one train per hour could continue to Victor Valley, where passengers could connect with Brightline West service to Rancho Cucamonga and Las Vegas. At Palmdale, a connecting Metrolink via the Surfliner express service to Los Angeles and San Diego could give passengers a preview of a truly statewide service.

Table 6: Interim Stage: San Francisco – Palmdale

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
San Francisco to Palmdale			
San Francisco to Gilroy Blended Approach[2]	593	1,291	-
Gilroy to Central Valley Wye	18,702	18,866	-
Merced to Bakersfield	31,692	31,568	13,325
Merced to Bakersfield Balance[3]	-	4,302	-
Bakersfield to Palmdale	25,602	26,351	-
Program Wide Support, Trainsets, and Other Balance	14,258	14,492	1,716
TOTAL[1]	**90,847**	**96,870**	**15,041**

1. Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.

*2. Cost for the San Jose to Gilroy segment is not included. Estimates for this shared benefit project range from $2 billion to $5 billion. A shared benefit project cost of capital improvements estimate is in **Table 7**.*

3. The M-B balance is comprised of additional scope to expand the system to accommodate additional ridership with connection to San Francisco, such as additional build-out of power generation, station(s), track and systems, and maintenance facilities.

Shared Benefit Elements

During the scope evolution for the 2026 Business Plan the Authority identified certain shared-benefit elements, such as roadway grade separations and shared rail line upgrades, for joint investment by partner state and regional agencies. These scope items were estimated; however, costs are not captured in the CAPEX estimates for the scenarios.

Table 7 below provides a summary of the shared benefit costs with details provided later in the document.

Table 7: Phase 1 Shared Benefit Element Costs at P65

Segments (YOE $ in millions)	P65
San Jose to Gilroy	$2,033
Gilroy to the Wye	$43
Merced Extension	$406
119-Mile CVS	$410
Bakersfield to Palmdale	$607
Palmdale to Burbank	$180
Los Angeles to Anaheim	$7,445
TOTAL [1]	**$11,125**

1. Totals may not sum due to independent rounding.

1.2 A New Estimating Approach

The estimate development methodology has transitioned from parametric, and unit rate-based modeling techniques used in the previous Business Plans to a more detailed “bottom-up” approach that brings with it transparency and estimating robustness. The “bottom-up” approach utilizes detailed quantities from the latest engineering drawings or design elements.

The high-speed rail system concepts have undergone significant design optimizations since the 2024 Business Plan and have been refined since 2025 Supplemental Project Update Report (SPUR). The design updates reflect efficiencies from the Design Criteria Manual (DCM) version 6.1. The revised DCM aligns with modern international high-speed rail standards, and incorporates lessons learned from the ongoing construction packages.

Year of Expenditure calculations reflect updated schedules for each scenario.

Contingency estimates for each scenario were prepared utilizing the Federal Railroad Administration (FRA) top-down risk model(s). The top-down risk model uses beta factors that represent uncertainty and risks and are mathematically applied to stripped cost estimates as multipliers. Where applicable, the beta factors have been adjusted with input from subject matter experts (SMEs). The cost estimates utilize FRA risk beta model outcomes of P65 for each estimating segment, however the program will be managed and controlled to a much tighter budget. P30 values will be used to manage and control budgets – the difference between the P65 and P30 being carried as a program wide contingency.

This 2026 Business Plan establishes a fully integrated EOS baseline schedule and budget that the Authority will control and manage against. Contracts and procurement scopes have been identified with budgets and schedule milestones.

2 Estimating Methodologies and Development

The following provides the methodologies used to develop the basis of estimate for current projects.

2.1 Estimating Approach and Methodology for Current Projects

An Estimate at Completion (EAC) value is used to estimate completion costs of major current contracts for civil construction packages. The EAC is the total forecast value of each contract plus a risk-informed value of allocated contingency. Using a Monte Carlo simulation, allocated contingency is calculated in a stochastic model that accounts for random outcomes.

The total forecast value is derived from the value of remaining work. It is calculated by taking the current contract value and subtracting the expenditure to date. Then the value of the certain portion of all pending change orders, potential change orders, trends and risks whose probability exceed 90 percent, are added to this remaining work value to arrive at the total contract forecast value. This methodology relies on the program management team's extensive experience and management of the current contracts changes as well as the negotiation history with design build contractors.

In addition to determining the total contract forecast, allocated contingency is estimated by building a stochastic risk model that accounts for the estimated value of risks and the value of the uncertain portion of all potential change orders, and trends. Monte Carlo simulations are run to arrive at recommended contingency values across a range of confidence levels.

2.2 Estimating Approach and Methodology for Future Projects

The following provides the approach and methodologies used to develop the basis of estimate for future projects.

2.2.1 Basis of Quantities

The development of an accurate and credible capital cost estimate starts with the estimation of quantities that adequately reflects the scope of a project. The quantities in each geographic segment for M-B and each scenario were estimated using calculations of quantities of construction elements as depicted on the preliminary engineering drawings (i.e., volumetric quantification) or as assumed by experienced engineering staff where required details were insufficient on the preliminary engineering drawings. A detailed listing of engineering documents forming the technical baseline for the 2026 Business Plan Capital Cost Estimate is included in **APPENDIX A – TECHNICAL BASELINE DOCUMENTS**.

2.2.2 Basis of Cost

The basis of any cost estimate is unit costs used to price different construction elements, such as embankments, viaducts, tunnels, earth retaining structures, track, grade separations, etc., that are referred to as Unit Price Elements.

The unit costs were developed using standard industry practices based on historical bid data validated by unit cost analysis. Bid prices were used for more common construction elements while the unit cost analysis method was applied for complex construction elements. The unit price elements were subsequently updated using a current Caltrans cost database, as applicable, and applying recorded historic Los Angeles construction cost escalation indexes published by Engineering News Record (ENR).

Contractor operating overhead is added on top of fully burdened direct construction cost to complete an in-place construction cost estimate. This approach is based on the contractor's field staffing which includes indirect costs such as office space, field consumables, bonds, insurance, and the contractor's home office operating overheads.

2.2.3 Estimate Compilation for Direct Cost Estimates

The following diagram defines the "bottom-up" estimate compilation approach for all estimates developed for work elements not yet started.

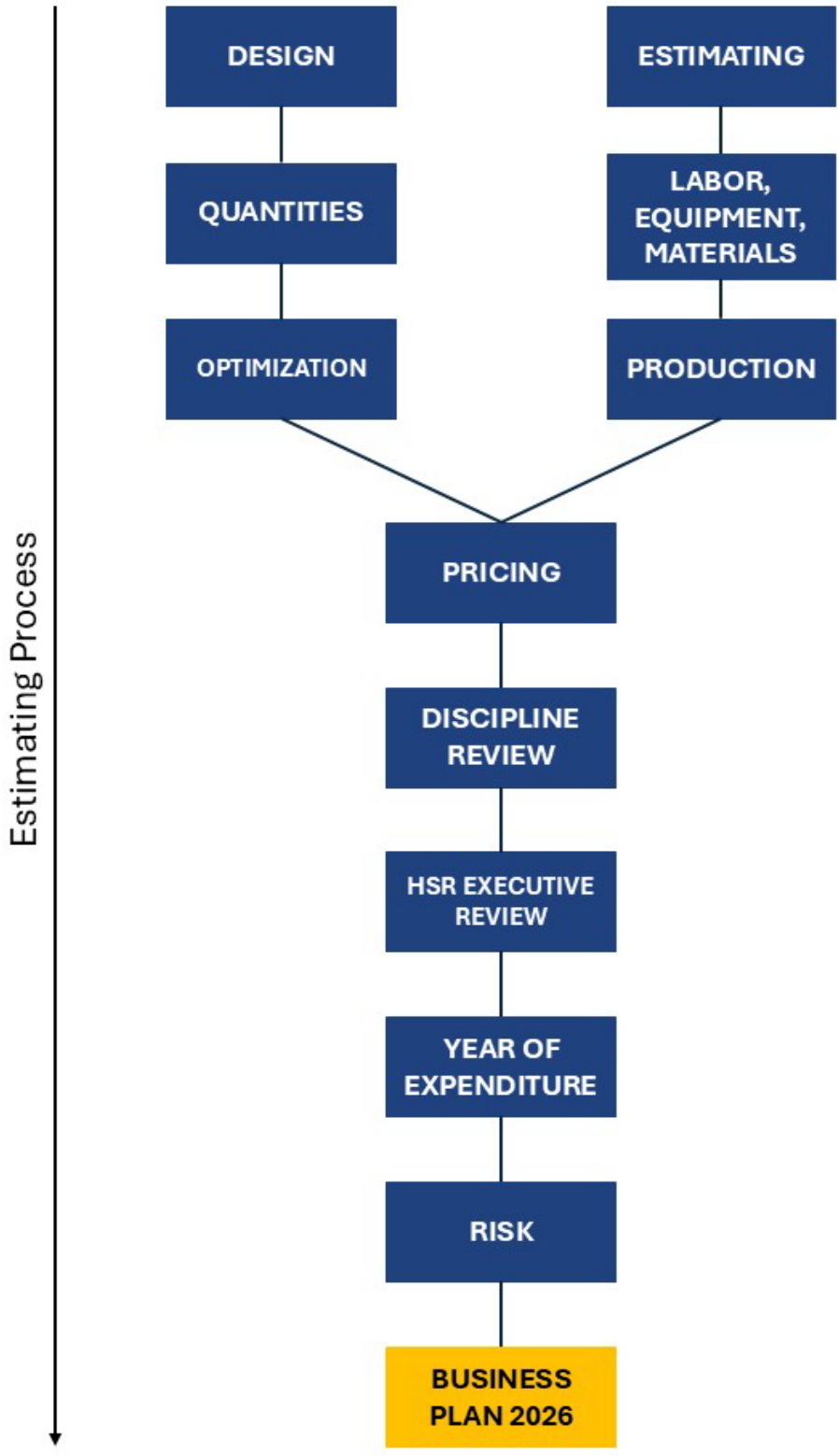
The diagram depicts the interactive process between the design and estimating teams that begins with developing the quantities and optimizations to which the estimating team can apply a consistent approach to labor, equipment, material, and production.

Through the process described above, the Authority achieves pricing and, once quality control checked, does a discipline review with the construction chiefs, a segment sponsor from the field, and engineering and estimating representatives.

Any feedback is discussed, applied to the collective approach, and then a formal review occurs with the executive team for feedback, concurrence, and/or suggested changes.

Stripped cost estimates once completed are populated within the FTA/FRA beta model whereby stripped costs are time phased. The resultant outcomes provide year of expenditure (YOE) and contingency (risk) values.

Figure 1: Integrated "Bottom-Up" Estimate Development Process - Pathway to the 2026 Business Plan Estimates



2.2.4 Allowances and Other Costs

In addition to estimating the contractor direct and indirect costs, allowances, and other costs had to be included for program costs as described below (these allowances change as the project progresses through stages).

2.2.4.1 Environmental Mitigation

For estimates where work has not commenced, environmental mitigation costs have been established based on actual commitments on the Central Valley projects (CP 1, CP 2-3, CP 4, and SR99) that have already received environmental clearance and are now under construction. These costs were used as the baseline in determining what environmental mitigation costs may be expected on the other segments within scenarios. Environmental mitigation covers that mitigation required to satisfy monitoring during construction and post-construction reclamation and replacements (e.g. wetland replacement, animal husbandry etc.) and monitoring after substantial completion.

2.2.4.2 Temporary Facilities

For estimates where work has not started, an allowance is used to account for the cost of temporary facilities, indirect costs, and mobilizations in the capital cost estimate. This allowance was assumed as a percentage of the total cost of track structures, station buildings, maintenance facilities, roadway modifications, and highway grade separations.

2.2.4.3 Right of Way

The right-of-way estimate for the 2026 Business Plan was developed by the Statewide Regional Office covering the scope of the purchase of real property required for the California high-speed rail system (HSR System) from San Francisco to Los Angeles/Anaheim.

The estimate development was divided into geographical segments from north to south as follows:

1. San Franciso to San Jose (SF-SJ)
2. San Jose to Gilroy (SJ - G)
3. Gilroy to the Wye (G-Wye)
4. Merced to Madera (M-M)
5. Construction Package 1 (CP 1)
6. Construction Package 2-3 (CP 2-3)
7. Construction Package 4 (CP 4)
8. Locally Generated Alternative (LGA)
9. Bakersfield to Palmdale (B-P)

10. Palmdale to Burbank (P-K)
11. Burbank to LA (K-L)
12. Los Angeles to Anaheim (LA-A)

Each of these segments has a diversity of real property needs. Utilization of already established rail lines in the San Francisco to San Jose and Burbank to Los Angeles Station segments is expected to result in almost no real property need, whereas other segments (e.g., G-Wye and Bakersfield to Palmdale), required an analysis of the full costs of the acquisition of property for the high-speed rail corridor at various assumed widths.

Each segment is broken down into subsegments that reflect real property needs, including maintenance facilities, traction power substations (TPSSs), stations, and requirements for expansions along already developed rail lines.

Due to the varying levels of design for each of these segments, the Statewide Regional Office team developed various methodologies for estimating costs across the alignment.

Costs for Acquisition of Real Property for HSR

The acquisition of real property for the HSR System requires two categories of costs: Acquisition Costs and Non-Acquisition Costs.

Capital Acquisition Costs are payments made directly to property owners for the acquisition and relocation of real property needed for the HSR System. These costs cover negotiated settlements through right-of-way contracts, as well as the costs of acquisition and relocation through condemnation proceedings.

Non-Acquisition Capital Costs are all costs other than Acquisition Costs that are associated with acquiring real property on behalf of the Authority. The following are categories of active contracts that are utilized in the acquisition of real property and that are considered as part of this estimate:

- Right-of-Way Engineering Consultants (deliverables include appraisal maps, record maps, as-builts, and exhibit documents)
- Appraisal Consultants (includes Environmental Site Assessments Phase 1 and 2)
- Appraisal Reviews Consultants
- Acquisition and Relocation Consultants (includes costs of title reports, escrow, and closing)
- Property Management Contracts (for one year or less)
- Demolition and Environmental Clearance Contracts (only if

needed or for emergencies, construction contractors will do a significant portion of the demolitions)

Table 8: Estimate Summaries of Right of Way

Scope (YOE $ in millions)	P30
Merced to Bakersfield	$2,834
San Francisco to Bakersfield	$6,060
San Francisco to Los Angeles/Anaheim (Phase 1)	$16,218
San Francisco to Palmdale	$11,460

2.2.4.4 Utility Interconnects, Clean Energy, Traction Power Substations

The planning and engineering team have reconfirmed the design requirements for the Traction Power Substations (TPSS). By utilizing primary and secondary feeds from either Pacific Gas & Electric (PG&E) or Southern California Edison (SCE), the program has a range of options to provide power for the Early Operating System (EOS) and future system buildout under SF-B and SF-LA/A.

Estimates of utility interconnects, clean energy, and TPSSs have been updated based on the latest quantity and pricing information available. For estimating purposes, solar farms have been used as the clean energy basis, however the Authority is exploring all clean energy alternatives. The estimate scope and make-up of the TPSS includes:

- Traction Power Substation
- 2 x Utility interconnects feeders from the utility provider (1 utility interconnect is omitted from the CAPEX estimate and carried in the share benefit cost tables)
- Solar Farm (where applicable)
- Battery Energy Storage System (BESS) (where applicable)

The number of TPSSs and requirements remain unchanged from the 2024 Business Plan. **Table 9** below provides a matrix of the TPSSs required for each scenario.

Table 9: Matrix of TPSS Locations and Requirements

TPSS #	Merced to Bakersfield	San Francisco to Bakersfield	San Francisco to Los Angeles / Anaheim	Interim Stage: San Francisco to Palmdale
Gilroy to the Wye				
TPSS 5	--	x	X	x
TPSS 6	--	x	X	x
Merced Extension				
TPSS 7	x	x	X	x
Central Valley – 119				
TPSS 8	--	x	X	x
TPSS 9	x	x	X	x
TPSS 10	x	x	X	x
TPSS 11	--	x	X	x
TPSS 12	x	x	X	x
Bakersfield to Palmdale				
TPSS 13	--	--	X	x
TPSS 15	--	--	X	x
Palmdale to Burbank				
TPSS 16	--	--	X	--
TPSS 17	--	--	X	--

2.2.4.5 Maintenance Facilities & Trainsets

Maintenance facility design evolution has matured to a point whereby semi-detailed quantities have been used to develop maintenance facility cost estimates for M-B and the scenarios. The Central Valley Maintenance Facility expands with the HSR System to meet the trainset and operational demands. Similarly, the northern Brisbane Maintenance Facility in the San Francisco to San Jose segment expands from its initial size when service extends to SF-LA/A for the same reasons. Additionally, with phase 1 SF-LA/A, the southern maintenance Hobart facility is introduced in the Los Angeles to Anaheim segment.

The trainset count has been updated for M-B and each scenario based on the operational modelling. Trainset pricing was escalated from the 2025 SPUR to bring the base year pricing up to June 2025 base year (from base year 2022). Additionally, Year of Expenditure has been updated for M-B and each scenario.

Table 10 provides the total trainsets required for each scenario.

Table 10: Trainset Count Estimate

Scope	Number of Trainsets
Merced to Bakersfield	6
San Francisco to Bakersfield	11
San Francisco to Los Angeles/Anaheim (Phase 1)	30
San Francisco to Palmdale	21

All scenarios include an estimate for two prototypes with the remaining trainsets being estimated at a standard unit cost.

Table 11: Maintenance Facilities, Operation Control Centers (OCC), and Trainsets Estimate at P30

Scope Elements (YOE $ in millions)	P30
Merced to Bakersfield - Fresno - Initial Maintenance Facility and OCC for EOS - Wasco - Back-up OCC - 6 x Trainsets	$976
San Francisco to Bakersfield - Brisbane Maintenance Facility - SF-SJ segment - Gilroy MOWF - Gilroy – Back-up OCC - Fresno - Maintenance Facility and OCC - 11 x Trainsets	$2,221
San Francisco to Los Angeles / Anaheim (Phase 1) - SF-SJ - Brisbane Maintenance Facility - Gilroy MOWF - Gilroy – Back-up OCC - Fresno - Maintenance Facility and OCC - Lancaster MOWF – Bakersfield – Palmdale Segment - LA-A - “Hobart” Maintenance Facility - 30 x Trainsets	$4,615
Interim Stage: San Francisco to Palmdale - SF-SJ - Brisbane Maintenance Facility - Gilroy MOWF - Gilroy – Back-up OCC - Fresno - Maintenance Facility and OCC - Lancaster MOWF – Bakersfield – Palmdale Segment - 21 x Trainsets	$3,741

1. Includes Professional Services.
2. Includes ROW where required.

2.2.4.6 Professional Services

The Authority continues to evaluate professional services estimates for all segments not yet under construction. During the 2025 SPUR estimate, the percentage applied for professional services was reviewed and lowered based on a more efficient approach to program oversight. The 2026 Business Plan estimates carry the same percentage allocations. For certain segments, forecast design estimates were provided. These estimates replace the standard percentages for preliminary and final design. Professional services estimating methodology does take into consideration Transit Cooperative Research Program Report 138 – Estimating Soft Costs for Major Public Transportation Fixed Guideway Project, which is endorsed by the FRA as a methodology of evaluating professional services costs.

2.2.4.7 Program Wide Support Costs

Program wide support costs were developed on a burn rate basis determined by reviewing historical spending and future need based on assessments by the Authority's contract managers and leadership team. The program-wide scope covers supporting consultant contracts including but not limited to Program Delivery Services (PDS), legal, financial, rail oversight, insurance, and other support costs not included in the professional service categories noted above.

Each scenario program wide cost builds on the program wide support estimates for the M-B early operating segment. The program wide support costs are forecasts through the end of 2032.

Subsequent program wide scenarios utilize M-B program wide costs and add additional time-based forecasts starting in 2033 running through to completion of the scenario. **Table 12** below shows the completion date for each scenario.

Table 12: Program Wide Cost and Schedule Estimates at P30

Scope (YOE $ in millions)	Start	Finish	P30
Merced to Bakersfield	Ongoing	End 2032	$4,614
San Francisco to Bakersfield	Ongoing	2039	$5,671
San Francisco to Los Angeles/Anaheim (Phase1)	Ongoing	2039	$5,828
Interim Stage: San Francisco to Palmdale	Ongoing	2039	$5,768

1. Schedule estimates are not overarching timelines for each scenario.

This table excludes the contingency differentials between P65 and P30 that are included in all other cost tables for Program wide support in the 2026 Business Plan and this Basis of Estimate.

2.2.4.8 Local Assistance Bookends

Local Assistance Bookends are a passthrough costs that have a set dollar value. These projects are not directly managed by the Authority, and the estimates have not changed.

Table 13: Bookends

Bookend (YOE $ in millions)	Estimate	Expenditures Dec 31, 2025
Northern	$798	$798
Southern	$500	$56
TOTAL	**$1,298**	**$854**

2.2.5 Year of Expenditure (YOE) Methodology

Year of Expenditure (YOE) estimates are based on a Stripped and Adjusted Base Cost Estimate (SABCE) which is a current (base) year number that is free of all latent and patent contingency. Future inflation is applied to the SABCE to account for escalation in costs through the delivery phases from the base year forwards to calculate the YOE.

Risk is applied to this inflated (YOE) figure. Schedules for future segments outside of M-Bare assumed to commence in July 2026 and complete at different times. The longest duration segments are Gilroy to the Wye and Los Angeles to Anaheim, both completing in late 2039. M-B timeline based on the Business Plan 2026 Baseline schedule has completion set for Q4 of 2032.

For all scenarios and an interim stage, the base year date for the 2026 Business Plan is June 2025 (Q2). All estimated costs for Central Valley works are brought up to a consistent starting base of June 2025 (Q2), and inflation is applied forwards based on the program schedule. The YOE model non-escalated values were profiled based on the schedule durations and assumed expenditure profiles for each project. To arrive at the YOE escalated values, the risk model values were then adjusted using forecasted escalation factors. This resulted in a SABCE (YOE) to which risk was then added. Inflation factor assumptions applied in the model are based on the sources and forecasts shown below:

Table 14: Inflation Factor Assumptions

Calendar Year	2026	2027	2028	2029	2030	2031	2032	2033	2034-38
Inflation Factor	3.65%	3.10%	2.55%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Data source	CA DOF	CA DOF	CA DOF	US Federal Reserve	US Federal Reserve	US Federal Reserve	US Federal Reserve	US Federal Reserve	US Federal Reserve
Data Series	CPI-UCA Index	CPI-UCA Index	CPI-UCA Index	FOMC – PCE Inflation	FOMC – PCE Inflation	FOMC – PCE Inflation	FOMC – PCE Inflation	FOMC – PCE Inflation	FOMC – PCE Inflation
Data date	Apr-25	Apr-25	Apr-25	Mar-25	Mar-25	Mar-25	Mar-25	Mar-25	Mar-25

2.2.6 Risk Assessment and Contingency Modeling

Risk assessments were conducted in accordance with the Authority's risk management process outlined in the Authority's Project Controls Manual. At the project level, project risks are tracked in risk registers managed by the Project Construction Manager and overseen by the Project Controls Execution Branch. Risk registers are updated monthly with focused workshops held quarterly or as needed.

For projects in the planning and engineering phase, the Authority utilized a Federal Railroad Association (FRA) risk modeling template and FRA's Oversight Procedure 40 (OP40) to derive estimate contingencies.

2.2.6.1 Risk Model

Cost risk assessment for M-B and the scenarios predominantly use the following modeling method:

FRA Top-Down Model: The Top-Down (Beta Factor) model methodology for evaluating cost risk uses broad parameters derived from historical project information adopting the FRA's Oversight Procedure 40 (OP40) - Risk and Contingency Management. The FRA Top-Down model uses beta factors as a multiplier to the cost of individual project elements to determine the cost for the worst plausible probable scenario as the 'upper bound'.

The beta factors are applied to the SABCE which excludes any contingency (representing a 10th percentile, lower-bound confidence level). With the two known points, lower bound and upper bound, it is possible using a beta-PERT distribution to characterize the risk profile for each project cost element and to estimate the risk exposure at any confidence level between the 10th and 90th percentiles. . The beta factor is multiplier applied to a project's SABCE to establish the upper bound of cost risk probability distribution. Derived from historical project data, beta factor quantifies the range of cost uncertainty remaining at a given stage of project development. The beta factors are applied at Standard Cost Category (SCC) level 2 (i.e. 10.01, 10.02 etc.).

The FRA Top-Down model is based on characterization of risk under five discrete categories referencing the project risk register, which is coded to SCC, and is enhanced where appropriate by the application of generic beta factors applied for specific project risk exposures applying to more than one SCC element.

The FRA Top-Down model provides guidelines on assignment of 'typical' (generic) beta factors per SCC element, based on historic data. The beta factors and resulting contingencies were reviewed by the Authority's subject-matter experts and adjusted based on improved and more efficient execution and oversight, design and construction advancement, detailed quantity takes off for future work and the development of the 2025 SPUR estimate update using "bottom-up" estimating techniques.

The five risk categories for beta factors are:

- Requirements Risk
- Design Risk
- Market Risk
- Construction Risk
- Post-Construction Risk

Requirement Risk

Requirement risk is the component of the beta factor related to the risk that occurs at the early conceptual stage of the project and is comprised primarily of scope risk. At this stage the risk can be fairly high because the scope of the project has not been defined. Typically, these risks are associated with basic

elements such as the length of a project, the performance requirement (i.e. number of lanes, vehicles, etc.), the number of elements (i.e. stations, interchanges), the type of technology, the type of structures, etc. Risks characterized as 'requirements risks' in the Risk Register would generally influence the addition and size of a requirement's risk beta as that 'risk' would not be included in the generic standard beta of other risk categories.

Design Risk

Design risk is the component of the beta factor related to the risk that occurs during the "design" phase after the preliminary engineering phase. The risks are still fairly high at this stage because not all the technical details are known and there is still an opportunity to make numerous project scope changes. Some of the typical risks include scope changes required for societal or technical reasons, geotechnical soil conditions, design complications, environmental mitigation, and design errors and omissions.

Market Risk

Market risk is the component of the beta factor related to the risk that occurs after the project design is completed and the contract is out to tender. The market or bidding risk will continue to exist until a firm price has been provided and a contract agreement executed. Typically, the market bid risk is not as high as the requirement or scope risk; however, depending on the stability of certain markets, it could have a significant impact on certain project cost elements such as those that would be affected by oil, steel, concrete, and labor prices.

Construction Risk

- **Early Construction Risk**

  Early construction risk is the component of the beta factor related to the risk that occurs at the start of construction. Most construction risk occurs at the start of construction when the contractor mobilizes. These risks typically include unexpected soil conditions, utility relocation conflicts, timing and cost of utility relocations, property clearance and access to property, mobilization issues, material availability, etc.

- **Mid Construction Risk**

  Mid Construction Risk is the component of the beta factor related to the risk that occurs during the term of the contract. These risks are typically associated with scheduling, weather conditions, construction operations, labor relations, traffic staging, etc.

Late Constriction Risks/Testing Risks

Late construction risk is the component of the beta factor related to the risk that occurs at the end of construction. Usually associated with the final approvals, punch lists, testing, commissioning, and/or handover conditions. These risks are typically higher in transit projects as compared to highway projects due to the complexity of integration of the "system" and vehicle elements of transit projects.

Post Construction Risk

Post-Construction Risk is the component of the beta factor related to the risk that occurs after substantial completion. This includes resolution of claims and settlement of change orders and final accounts. Also called the Beta Range Model, the top-down cost risk assessment method has been developed through implementation on many transportation projects and is the required approach to be used on all Federal Transit Administration (FTA) Capital Investment Grant funded projects and FRA Major Capital Projects.

The beta factors and resulting contingencies were reviewed by Authority SMEs and adjusted to reflect the Authority's current improved and more efficient execution and oversight, design and construction, detailed quantity take-offs for future work and the development of BP and PUR estimate updates using bottom-up estimating techniques.

Risk Models Used for Estimate

The selection of modeling method is based on the stage of the project and maturity of the estimate, as summarized in **Table 15.**

Table 15: Risk Model Method Applied to Geographic Segments

Project	Beta Model	Monte Carlo Model
CP 1, CP 2-3, CP 4	X (Other Costs)	X (Civil DB Costs)
SR99	N/A	N/A
SR46	X	--
Central Valley Track, Systems, Traction Power	X	--
Rail Facilities	X	--
Trainsets	Contingency as per 2025 SPUR	--
Merced Extension	X	--
Bakersfield Extension	X	--
San Francisco to San Jose Extension	X	--
San Jose to Gilroy	N/A	N/A
Gilroy to the Wye Extension	X	--
Bakersfield to Palmdale Extension	X	--
Palmdale to Burbank Extension	X	--
Burbank to Los Angeles Extension	X	--
Los Angeles to Anaheim Extension	X	--
Central Valley Stations	X	--
Project Development	N/A	--

Project	Beta Model	Monte Carlo Model
Program Wide Support	Contingency as per 2025 SPUR	--
Program Wide Unallocated Contingency	--	Contingency as per 2025 SPUR
Bookend and Local Projects	N/A	--
Program Wide model	X (Other Costs)	X (DB Costs)

2.2.6.2 Risk Workshops

The 2026 Business Plan estimates relied upon the estimates and risk models developed for the 2025 SPUR. During the 2026 Business Plan Stripped and Base Cost Estimate Development, the Risk Team met with Design Team stakeholders across all of the different segments and disciplines to understand the state of design, gather and update the design percentages by SCC level 2 code and broadly become more informed about where the project is in time and lifecycle.

In addition, the Risk Team reviewed the risk registers to understand if any discrete risks needed to be applied within the FRA risk modeling tool. Professional judgement was used to determine if the risks from the register were covered in the beta modeling parameters and outcomes. As the risk models were developed, the Risk Team held discussions with experts from the different segments and disciplines as needed and gathered their input to validate that the contingency model outcomes reflect a level of contingency commensurate with the known design, risks and their broad expert assessment of the status of scope execution for their respective areas.

2.2.6.3 Program-Wide Risk

The 2026 Business Plan estimate incorporated the potential impact risks and uncertainties within each geographic segment estimate as well as additional contingencies to account for pricing and quantity uncertainty. At the program-wide level, risks tracked in current Enterprise Risk Register were reviewed with key personnel, disregarded risks that were already captured in the geographic segments top-down models and beta factors and eliminated

risks that were no longer applicable. Individual risks which were similar were grouped to ensure risks were not double counted.

The discrete list of risks was used to populate a Monte-Carlo risk model and generated risk output at P30 and P65 confidence levels which were used to inform program-wide costs for the 2026 Business Plan. Additional program wide risks have been captured for risks associated with quantity and material pricing variation.

2.2.6.4 P-values and Budget Control and Management

P-values are a measure of probability stated as a percentage, used to estimate the likelihood of cost remaining below a certain threshold. This information can be used to make decisions about how to allocate contingency funds and plan for potential cost overruns. The selection of P-value is typically guided by risk appetite and funding source constraints.

Consistent with FRA guidance, P30 and P65 confidence levels were presented to the Authority. The 2026 Business Plan Basis of Estimate bottom line values for various scenarios utilizes a P65, however the discrete SCC level 2 estimated values are presented as P30 values. The variance in estimate value between the SCC Level 2 P65 and P30 values is carried out as a program contingency and captured on the program wide line estimate line items.

This approach to contingency management enables a higher degree of control for budget and contingency management.

3 Estimate General Assumptions and Exclusions

3.1 Estimate Development

The estimates have been developed using the estimating framework within the Authority's Project Controls Manual-1029. In addition, risk management updates for the 2026 Business Plan follow the US Department of Transportation, Federal Transit Administration - Oversight Procedure 40 - Risk and Contingency Review.

3.2 Bottom-Up Approach and Methodology

Approach

A revised estimating approach has been used whereby estimates have been developed using a bottom-up estimating approach for civil, stations, and track and system related elements. The bottom-up estimating approach essentially builds the estimate from the lowest level of work decomposition whereby design elements and their associated quantities (e.g., bridges, structures, embankments) are discretely broken out, and quantities, craft labor resources, materials, and equipment are estimated for each design element. This approach has been applied to most direct capital cost estimates making up this 2026 Business Plan estimate update.

Methodology

The specific means and methods of estimate development vary between estimating and consultants. The below methodology statement is applicable to the bottom-up estimates that make up the 2026 Business Plan Basis of Estimate.

The bottom-up methodology is a deterministic estimating approach for construction scope. Pricing is developed for construction items and activities and includes labor, materials, equipment, and subcontracted cost elements with markups for indirect costs, overhead, and profit (where applicable).

The scope of each construction activity is determined by an estimator review of the subject design and technical information in which discrete construction elements are identified and evaluated, including all support activities reasonably associated with each particular element. Pricing for each construction element is based on labor costs, material costs, and equipment costs associated with the construction activity and applied against a direct measurement of quantities. Where design development did not allow for the deterministic pricing of construction elements, a lump sum allowance is often used.

For each construction activity, an estimator, often with the support of construction representatives, establishes an appropriate crew mix inclusive of the labor (i.e., craftsmen, journeymen, foremen, etc.) and construction equipment needed to perform the work. Each crew mix offers the labor and equipment costs to be incurred during a work-shift, and the estimated production rate of that crew and applies those crew costs against the quantity of temporary and permanent materials purchased and installed with the work.

3.3 Optimizations/Design Evolution

3.3.1 Updated Design Criteria Manual

The Authority undertook a detailed review of the DCM civil and rail chapters to determine changes that influence all aspects of the system. This review identified specific criteria that, when adjusted, still provide high-speed rail operating infrastructure but provide greater flexibility to design teams to deliver vertical track alignment options. These criteria included rail vertical profile, operating and design speeds, track center spacing and platforms, track geometry criteria, tunnel structures, bridge structures, and earthworks. The criteria changes included in DCM 6.1 have been incorporated into the design mark-ups that inform this estimate.

3.3.2 Characteristics and Design Optimizations

The design teams working across the civil infrastructure, alignment, rail operations, and stations in the Merced to Bakersfield segment collaborated on a series of optimizations to revise the base design in support of M-B early operating segment requirements. This collaboration identified high value civil infrastructure, such as viaducts, intrusion protection barriers (IPB)'s, shooflies, and embankments that could be eliminated or reduced along with optimizing track and systems. The estimate sections below capture the optimizations that were made to the 30 percent design. All segments outside of M-B went through similar optimization efforts based on the 15 percent Preliminary Engineering for Program Development (PEPD) designs.

The design optimization of segments is presented in **Table 16** including a comparative summary of infrastructure elements, service characteristics, and geographic scope across M-B and the scenarios evaluated in the 2026 Business Plan.

Organized from north to south along the corridor — from the Bay Area through the Central Valley, across the Tehachapi Mountains, and into the Los Angeles Basin — the table reflects the incremental growth of the program with each scenario expanding upon the last. Entries marked "N/A" indicate elements outside a scenario's geographic scope; "defer" identifies elements

designated for future scope; and "same" indicates the element is carried forward from M-B or the prior scenario without modification. Key differentiators from M-B and the scenarios include passing track extent, passing loop configuration and turnout speeds, station platform counts, maintenance facility development, and systems installations including OCS electrification, TPSSs, and operations control centers.

Table 16: Comparison of Infrastructure Elements and Service Characteristics by Geographic Segment

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Construction Schedule Start	--	July 2026	July 2026	July 2026
Geographic Scope	Merced to Bakersfield	San Francisco – San Jose – Gilroy – North Bakersfield	San Francisco – San Jose – Gilroy – Palmdale	San Francisco – San Jose – Gilroy – Anaheim
Service Plan	8 trains/day	1 train/hour	2 trains/hour (1 expr. / 1 local)	Same as prior
Trains Per Day	8	18 (+ 18 Shuttles to Merced)	36 / 18 continuing to VV (+ 18 Shuttles to Merced)	36 + 18 Shuttles to VV (+18 Shuttles to Merced)
Number of Trainsets	6	11	21	30
Gilroy to Palmdale Passing Track Quantities (miles)	18	34	108	108

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
GEOGRAPHICAL SEGMENTS				
Bay Area SF-SJ				
Track and Civil	N/A	Existing track and systems – defer speed and capacity upgrades	Same	Same
"The Portal Project" to Salesforce Transit Center	N/A	Defer (Consider as Variant and for future funding)	Defer	Defer
4th and King Station	N/A	2 Platforms PEPD	Same	Same
Brisbane LMF	N/A	Initial LMF	Full LMF	Same
Millbrae Station	N/A	Yes, as per PEPD, including additional station tracks	Same	Same
Palo Alto Station	N/A	Defer	Defer	Defer
San Jose Diridon Station	N/A	One platform of PEPD or early phase of Diridon Station Project	Same	Same

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
San Jose to Gilroy (Omitted from CAPEX Estimate)				
Caltrain Stations	N/A	Morgan Hill & San Martin - Additional platform, Pedestrian bridge and fencing	Same	Same
Track and Civil	N/A	Full double track Enhanced grade crossing protection	Same	Same
Electric & Systems	N/A	Renewed signal system OCS electrification TPSS #4 Gilroy	Same	Same
Improved Grade Crossings	N/A	Yes	Same	Same
Gilroy to the Wye				
Gilroy Station	N/A	- 2 platform tracks shared with Caltrain - 2 HSR platforms - 2 Caltrain platforms - third Caltrain/freight track	Same	Same

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Track and Civil	N/A	Optimized track TPSS #5 Los Banos TPSS #6 SR152	Same	Same
Caltrain Storage Tracks	N/A	Yes	Same	Same
Gilroy MOWF	N/A	Yes	Yes	Yes
Gilroy BOCC	N/A	Yes	Yes	Yes
Los Banos MOWS	N/A	Yes	Yes	Yes
Passing Loops	N/A	Gilroy (10 mile) Passing Loop	Same Gilroy Passing Loop Los Banos (15 mile) Passing Loop with 142 turnouts	Same
Southern Corridor Alternative	N/A	Yes	Yes	Yes
Merced to Wye				
Track and Civil	Single track spur from wye to Merced station TPSS # 7 Merced	Same with turnout to Merced Spur	Same	Same
Merced Station	South Merced station location	Same	Same	Same
Wye to Madera				

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Track and Civil	PEPD	Same TPSS #8 Madera	Same	Same
Passing Loops	Not Included – Two tracks at Madera station only	Northern part of Long Madera (12.5 miles) Passing Loop	Same	Same
Madera to Wasco (CV-119)				
Track and Civil	Optimized track per TSCC contract TPSS #8 Madera	One train/hour passing tracks	Increased amount of passing track High-speed turnouts Express tracks added at Madera, Fresno, Kings-Tulare	Same
Passing Loops	Madera Station Short (4.5 mile) Loop Fresno (4 mile) siding Kings-Tulare (4.5 mile) siding	Long Madera (12.5 mile) Passing Loop – Fresno (4 mile) siding – Kings-Tulare (4.5 mile) siding –	Long Madera (12.5 mile) Passing Loop Fresno (18 mile) passing loop Kings-Tulare (4.5 mile) siding Kern (15 mile) passing loop	Long Madera (12.5 mile) Passing Loop Fresno (18 mile) passing loop Kings-Tulare (4.5 mile) siding Kern (15 mile) passing loop
Madera Station	2 platforms 2 express tracks serve as platform tracks	Same with an additional West platform track	Walled off 2 express tracks 2 platform tracks	Same

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Fresno Station	2 platforms – 2 platform tracks No express tracks	Same as prior	2 platforms and tracks + 2 express tracks	Same
Fresno MOWF	Yes	Yes	Yes	Yes
Central Valley LMF/HMF	Yes	Yes	Yes	Yes
Fresno OCC	Yes	Yes	Yes	Yes
Kings-Tulare Station	1 East side platform at permanent location on separate substructure 1 platform track	2 side platforms at permanent locations each on separate substructures 2 platform tracks	2 platforms and tracks + 2 express tracks	Same
Corcoran MOWS	Yes	Yes	Yes	Yes
Wasco – Bakersfield (LGA)				
Passing Loops	N/A	N/A	Bakersfield (21.8 mile) Passing Loop	Same
LGA Segments 1 & 2	Yes	Yes	Yes	Yes
Interim Bakersfield North Station	Yes	Yes	N/A	N/A
TBD Location BOCC	Yes	N/A	N/A	N/A

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
LGA Segment 3	Defer	Defer	Yes	Yes
Bakersfield Downtown Station	Defer	Defer	2 platforms – no express tracks – consider platform screen doors	Same
Bakersfield - Palmdale				
Passing Loops	N/A	N/A	– Southern Part of Bakersfield (21.8 mile) Passing Loop – Palmdale (32 mile) Passing Loop	Same
Bakersfield to Edison	N/A	N/A	PEPD – Optimized track	Same
Edison MOWS	N/A	N/A	Yes	Yes
Edison to Mountains	N/A	N/A	PEPD – Optimized track	Same
Tehachapi Mountain Crossing	N/A	N/A	PEPD with optimized vertical alignment - One tunnel + escape tunnel	Same
Tehachapi MOWS	N/A	N/A	Yes	Yes
Mountain to Palmdale	N/A	N/A	PEPD – Optimized track	Same

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
			Passing Loop TPSS #16 Palmdale	
Lancaster MOWF	N/A	N/A	Yes (featuring passenger train storage)	Same (no storage)
Palmdale Station	N/A	N/A	2 platforms and 2 platform tracks per PEPD Separate track for HDC Separate platform and track for Metrolink	Same
Palmdale to Burbank				
PEPD Palmdale to Soledad	N/A	N/A	N/A	Deferred
Metrolink Palmdale to Soledad	N/A	N/A	N/A	Existing speeds Metrolink with additional passing tracks and OCS Ped bridge at Vincent Grade Acton Civil works to daylight 2 short tunnels

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
PEPD Soledad to CP Sheldon / CP McGinley	N/A	N/A	N/A	Optimized track in single long tunnel with escape tunnel parallel to it New connection to Metrolink Valley Line
Metrolink from CP Sheldon / CP McGinley to Burbank	N/A	N/A	N/A	Metrolink with additional passing tracks and OCS Trench and cover for Burbank Airport Runway Additional one-track bridge over Hollywood Road S. of Station TPSS #17 Near CP Sheldon
PEPD from CP Sheldon / CP McGinley to Burbank Airport Station	N/A	N/A	N/A	Defer
Burbank Airport PEPD Station	N/A	N/A	N/A	Defer

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Burbank Airport Metrolink Station	N/A	N/A	N/A	Existing side Metrolink platform Center HSR platform Second track Second side Metrolink platform Pedestrian bridge with connections to each platform and extending across both sides of N San Fernado Boulevard
Burbank to LA				
PEPD from Burbank Airport PEPD Station to LA Union Station	N/A	N/A	N/A	Defer
Burbank Station to LAUS Track / Systems / Civil	N/A	N/A	N/A	Defer full PEPD infrastructure Full double track - existing OCS for existing two main tracks to West Bank of LA River

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
				Third center passing track at Burbank Downtown and Glendale Stations
Burbank Downtown Metrolink Station	N/A	N/A	N/A	Addition of pedestrian bridge and vertical circulation, fencing
Glendale Metrolink Station	N/A	N/A	N/A	Construction of Metrolink new side platform Addition of pedestrian bridge and vertical circulation, fencing ROW for west side ped bridge tower and as needed for side platform
Relocated Metrolink Maintenance Facility	N/A	N/A	N/A	Defer
New Freight Tracks	N/A	N/A	N/A	Defer

Characteristic / Element	Merced – Bakersfield	San Francisco – Bakersfield	Interim Stage: San Francisco - Palmdale – HDC – VV	San Francisco – Los Angeles / Anaheim
Los Angeles Union Station – LINK US	N/A	N/A	N/A	Yes. LinkUS MOU contribution OCS, track and systems by CHSRA Platform costs similar to San Jose Station
LA to Anaheim				
PEPD Line to Anaheim	N/A	N/A	N/A	As presented in latest PEPD TPSS #18 LADWP TPSS #19 Anaheim
Relocated Freight Yard	N/A	N/A	N/A	Yes
Los Angeles LMF (Hobart)	N/A	N/A	N/A	Yes
Anaheim Station	N/A	N/A	N/A	PEPD – Two 1400-foot platforms and two tracks

3.4 Labor Pricing

Labor costs were developed using research of craft rates, fringe benefits, and applicable employer payroll taxes to determine the rate paid by a contractor for trade services. The cost estimate utilizes wage and benefit information provided by State of California Department of Industrial Relations as of June 2025 (Q2).

Labor rates are further developed to include federal and state payroll taxes due from the employer, including Federal Insurance Contributions Act (FICA), Federal Unemployment Tax (FUTA), and State Unemployment Insurance (SUI). Worker's Compensation Insurance is also estimated as part of the developed labor rate.

Premium wage and benefit rates for overtime and non-standard work hours are developed and maintained in accordance with the California Prevailing Wage Schedules and are applied in the estimate where required to conform to project work rules and regulations as well as the opportunities and constraints of the construction schedule.

3.5 Equipment Costs

Construction equipment pricing is based on a combined hourly rate inclusive of both equipment rental and operating costs. Rates are based on research from Caltrans rental rates as of June 2025 (Q2) and Equipmentwatch.com.

3.6 Material Costs

Permanent and consumable material prices are estimated using pricing obtained through product research based on the descriptions provided in the scope documents and vendor outreach for specialty items. Material pricing is representative of June 2025 (Q2) pricing and is predominantly made up of vendor quotes.

3.7 Contractor Markups

Estimates for typical contractor add-on costs are included to bring each cost deliverable to a bid level pricing structure.

Estimated markups include:

- Mobilization & Demobilization
- General Conditions/Requirements
- Contractor's Overhead (i.e., Home Office costs such as payroll, human resources, legal, training, etc.)
- Contractor's Profit (where applicable)
- Contractor's Construction Insurances
- Contractor's Payment and Performance Bonds (where applicable)
- Testing, Training & Documentation

4 Merced to Bakersfield

4.1 Introduction

Merced to Bakersfield, the first segment under construction, will serve the Central Valley and form the spine of the Phase 1 alignment from San Francisco to the Los Angeles Basin. As part of the Authority's cost-saving strategy, this early operating segment prioritizes lower capital costs through streamlined station designs, infrastructure choices, and service levels. This M-B segment will include the infrastructure needed to run eight daily trains in each direction.

Stations in Merced, Madera, Fresno, and Kings/Tulare will be designed to meet operational needs for initial service with full buildout planned as the system grows. While Madera and Fresno stations would initially have two platforms, Merced and Kings-Tulare Station will initially have only one. A temporary Bakersfield Station is proposed to be located at 7th Standard Road directly adjacent to the LGA alignment, as conversations continue with Kern County, City of Bakersfield, and Kern Council of Governments. The interim station will not obstruct future work to complete the LGA to the permanent Bakersfield F Street Station.

Efficiencies during design and construction have aligned track and systems to what is needed to meet the anticipated market for electric power high-speed train operations, while not precluding future completion of the full system. M-B includes the necessary passing track sections at Madera, Fresno and Kings-Tulare stations to support eight round trip trains per day. Civil infrastructure consists of the 119-mile first construction segment and extensions to Merced and Bakersfield.

Design of Merced and Bakersfield extensions have progressed beyond the PEPD used in environmental clearance. The Merced and Bakersfield extensions will be built with an optimized track design. An initial train and right-of-way maintenance facility will be located in the central valley along with the Operations Control Center (OCC) and a backup OCC at a to-be-determined location. The following sections provide a discipline-based breakdown of estimates that make up M-B.

The M-B estimate used Q3 2032 as the completion timeline. All YOE values are developed using schedules presented in Appendix D of the Business Plan 2026.

Figure 2: Merced to Bakersfield Track and Passing Loops



4.2 Scope Elements Estimated

Table 17: Merced to Bakersfield Estimated Scope Elements

119-Mile CVS	Merced Extension	Bakersfield Extension
Civils		
Estimate At Completion (EAC) Updates for CP's	Revised bottom-up 2025 SPUR Estimate eliminating scope north of mission avenue *Grade Separations not in CAPEX (Carried in shared benefits cost tables)*	Revised bottom-up 2025 SPUR Estimate eliminating scope south of proposed temporary Bakersfield North Station
Track & Systems		
Bottom-up Estimate Updated quantities based on 60% Design and track schematic updates based on operational needs	Bottom-up Estimates Updated quantities based design characteristics that can be copied from CV-119 design and track schematic updates based on operational needs	
Stations		
Bottom-up Estimates Madera *(Not in CAPEX, carried in shared benefit costs tables)* Fresno Kings-Tulare	Bottom-up Estimate Merced – Proposed Station at Mission Avenue	Bottom-up Estimate Bakersfield North – Proposed temporary station at 7th Standard Road
Maintenance Facility		
Fresno	N/A	N/A
OCC		
Semi Detailed Estimates Fresno – Main Wasco - Back-up	N/A	N/A

Utility Interconnections & Clean Energy Farms/BESS		
Semi Detailed Estimate TPSSs 9, 10 & 12 – Clean Energy + Utility interconnects *(Second utility feed omitted from CAPEX, carried in shared benefit cost tables)*	Semi Detailed Estimate TPSS 7 – Clean Energy + Utility interconnects *(Second utility feed omitted from CAPEX, carried in share benefit cost tables)*	N/A

4.3 Key Quantities and Variance

Table 18: Merced to Bakersfield Key Quantities

SCC	Descriptions	Unit	2025 SPUR	2026 BP	Variance
10.00	Aerial Guideway	RM	9	0	(9)
10.00	At-Grade Guideway	RM	54	54	0
10.00	Bored Tunnels	RM	0	0	0
10.00	Track	TF	957,478	949,803	(7,675)
20.00	HSR Stations	EA	4	4	0
30.00	Maintenance of Way Facility	EA	1	1	0
30.00	Operational Control Center	EA	1	1	0
30.00	Back up Operational Center	EA	1	1	0
50.00	Traction Power Substation	EA	4	4	0

1. Units: RM: Route Mile, TF: Track feet, EA: Each

4.4 Merced to Madera and LGA Civil

The M-M and LGA civil scopes were significantly reduced as a result of reducing the alignments at the northern and southern ends of the Merced to Bakersfield alignment. **Table 19** below shows the savings against the 2025 SPUR due mostly to reduced alignment. Costs for M-M grade separations are now excluded from the CAPEX and captured within the shared benefit costs tables.

Table 19: M-M and LGA Civil Estimates at P30

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
M-M Civils[1&2]	$3,177	$2,539	$102
LGA Civils[1&2]	$3,135	$1,984	$71
Total[3]	**$6,312**	**$4,523**	**$173**

1. Excludes Right of Way and Utility Relocations.
2. Includes Professional Services.

4.5 Track and Systems

Quantity Basis and Changes from 2025 SPUR Estimate for M-B Early Operating Segment

The 2026 Business Plan estimate for M-B track and systems increased from the 2025 SPUR. The estimate change reflects a series of quantity refinements driven primarily by design maturity and updated system specifications. The primary cost increases when compared to the 2025 SPUR are attributable to signaling cabling for axle counters, Overhead Contact System (OCS) quantity growth, and the inclusion of sound walls as a new scope item. A further breakdown of quantity and estimate growth is below.

Track

Refinement of track layout, particularly passing loop lengths and locations, resulted in a net increase of approximately nine track miles. The track design matured considerably between the 2025 SPUR and 2026 Business Plan estimates, transitioning from the DCM and early design assumptions to a detailed design basis. This evolution produced both positive and negative quantity adjustments across multiple line items. Notable decreases were realized in drainage aggregate, ballast, sub-ballast, and geotextile quantities; however, these were offset by increases in other drainage materials, bridge

deck waterproofing, and guideway fill material. Bridge deck waterproofing is a new scope element added to the 2026 Business Plan estimate. Passing track mileage estimated for M-B is 18 miles.

Overhead Contact System (OCS)

OCS quantity growth is attributable to two distinct factors: the increase in track mileage noted above and the transition from a generic OCS design assumption to the detailed SNCF S220 system specification. The detailed design incorporates additional operational and maintenance features including OCS switches and sectioning required to support robust system operations. Collectively, these factors resulted in an increase in OCS poles and associated foundations and a large increase in OCS switches. OCS conductor quantities also increased, partially reflecting the above factors and partially correcting an under-accounting of conductor overlaps in the 2025 SPUR assumptions.

Telecommunications

No quantity changes were identified for the Telecommunications discipline.

Train Control

Minor quantity adjustments across several Train Control line items reflect the refinement of track layout, particularly changes to loop length and location. The most significant change in this discipline is the increase in lineside cabling quantities for axle counters, which grew from 9 miles to 138 miles. This increase reflects the evolution of Train Control system architecture introduced between the 2025 SPUR and 2026 Business Plan design stages, which materially altered the cabling requirements for the axle counter detection system.

Miscellaneous Scope Additions

Emergency walkways, manholes, and sound barriers have been introduced as new scope items in the 2026 Business Plan estimate. These items have been introduced as a result of design development evolution.

Table 20: Track and Systems Estimate at P30

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
119-mile CVS Track & Systems and Commodities[1&2]	$2,745	$3,486	$96
Track & Systems and Commodities Balance[2]	$1,478	$1,427	$0
Total[3]	**$4,298**	**$5,075**	**$96**

1. CVS Track and Systems and Commodities lines include the Solar and Utility interconnections located in the Central Valley.
2. Includes Professional Services.
3. Totals may not sum due to independent rounding.

4.6 Stations

The stations engineering team has advanced station design to deliver facilities purpose-built for the communities they will serve, with the capacity to grow as ridership expands over time. Significant design development through June 2025 has produced station configurations appropriately scaled for early revenue service while establishing the physical and programmatic foundation for long-term expansion. A phased approach to station development ensures facilities can grow incrementally as community needs evolve, protecting the long-term public investment while delivering fully functional stations from the first day of service.

Right-of-way estimates for stations are now captured in the station estimating section. Previously, the 2025 SPUR right-of-way estimates were captured in the civil values. This right-of-way estimate migration better represents the full and supporting costs of stations within the stations estimates.

The following list presents the key design and optimization updates from the fall 2024 submittals:

- Station-Wide
  - Platform length is set at 800 feet to support early operating service trainsets, delivering full passenger capacity from day one of revenue operations.
  - Reduction of viaduct (Merced and Bakersfield).
  - Canopy design has been simplified to deliver a functional, passenger-focused station environment.

  - Trackwork configurations within the station have been reduced at Merced and Bakersfield to improve operational efficiency.
  - Reduction of program requirements and implementation of phased approach to future station expansion as needs evolve.
  - Development of station typology baseline for initial operating stations that builds what is required for initial service and allows for expansion as ridership increases.
- Merced Station
  - The proposed station will be located near E. Mission Ave, south of downtown Merced along the planned HSR alignment, positioning it to serve existing neighborhoods while supporting new transit-oriented development in a high-growth corridor.
  - The location support Merced's long-term growth plan and offers flexibility to accommodate evolving ridership demands in the years ahead.
  - The station will be built at-grade with an accessible platform, delivering a pedestrian-friendly facility with full site improvements including multimodal transit connections, surface parking, plaza areas, and station support. Inside, the station building will provide comfortable spaces for waiting, ticketing, and a range of passenger amenities designed to prioritize safety and enhance the travel experience.
- Madera Station
  - Madera Station has secured an $80 million funding commitment for station development outside of HSR program funding, advancing the station's delivery and reducing pressure on program CAPEX.
  - The station will be located at a site shared with SJJPA, co-hosting a Gold Runner station (formerly San Joaquin), creating a multimodal hub connecting high-speed and intercity rail services at a single facility.
  - The station concept includes two platforms and a pedestrian overcrossing, providing accessible connections across the facility.
- Fresno Station
  - The platform location has been refined to improve integration with Fresno's existing street grid, eliminating the need to bridge over Tulare Street and reducing impacts to existing streets and infrastructure.
  - The station track alignment has been condensed to produce a more efficient station footprint consistent with system-wide design standards.
  - Reduced site improvements are calibrated to deliver a fully operational facility for early service, covering parking, access, and utility needs.

- Reduced station finishes and requirements in line with station typology decision.
- The station building has been consolidated on the west Chinatown side of the tracks, with a pedestrian bridge connection to the Downtown side, providing accessible cross-platform connectivity while engaging both sides of the community the station serves.

- Kings-Tulare Station
  - Kings-Tulare Station will open with a single side platform face fully operational for early service, with a second boarding platform positioned for addition in later scenarios when bypass tracks are introduced at the station.
- Bakersfield Station
  - The proposed Bakersfield interim station will be located north of 7th Standard Road, on a site adjacent to the Locally Generated Alternative (LGA), delivering rail access to the region while the broader system buildout continues.
  - The interim location provides the following community and connectivity benefits:
    - Airport Connectivity: The station provides strategic access to Meadow Field Airport, linking air and rail travel for regional passengers.
    - Future Expansion Ready: The station is sited adjacent to, and not blocking, the future track alignment that will continue to downtown Bakersfield and Palmdale, protecting the long-term buildout of Phase 1.
    - Highway 99 Access: A station at 7th Standard Road provides immediate, high-capacity access from Highway 99, leveraging existing infrastructure to support connecting bus service to Los Angeles and park-and-ride options.
    - Regional Reach: The location provides strong access for Kern County's second-largest city, Delano, as well as Shafter and Wasco, extending the benefits of high-speed rail service across the broader region.
  - The station can serve as the southern terminus until the mainline extends through Bakersfield to Chester Ave and SR-204 as part of Phase 1 San Francisco to Anaheim and will function as a transfer point connecting riders to bus service for destinations further south.
  - The station design allows for the mainline to end prior to the viaduct structure that would be required to cross Coffee Road and 7th Standard Road.
  - The at-grade station design includes a single side platform with full site improvements for transit facilities, surface parking, and a station building for waiting, ticketing, and passenger amenities, delivering a complete passenger facility from opening day.

Additional price variances from the 2025 SPUR also include reallocating the station viaducts into the stations' sections. This is where design is occurring and meets the needs of better cost control during the design phase. Station viaducts were captured in the corresponding civil segment in the 2025 SPUR. Additionally, right-of-way costs for stations have been reallocated to stations. In the 2025 SPUR, right-of-way costs for stations were captured under the civil section within M-B.

Table 21: Merced to Bakersfield Early Operating Segment Stations Costs at P30

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
Merced Station[1]	$221	$137	$14
Fresno Station[1]	$277	$339	$20
Kings Tulare Station[1]	$319	$327	$12
Bakersfield Station[1]	$234	$217	$13
Station Right of Way[2]	-	$87	$0
Total[3]:	**$1,051**	**$1,106**	**$59**

1. Includes professional services.
2. Station ROW costs in the 2025 SPUR were included in the ROW estimates for the CVS and Extensions.
3. Totals may not sum due to independent rounding.

4.7 Traction Power Substations, Utility Interconnects, and Clean Energy

The scope and estimate for the utility Traction Power Substations (TPSS) interconnects and clean energy for M-B have been updated with the latest quantity and pricing information available, which reflects an increase compared to the 2025 SPUR.

Merced to Bakersfield includes four TPSSs: TPSS 7, 9, 10 & 12. A requirement was identified for two direct utility feeders in addition to the clean energy/BESS feeder for each TPSS. The second utility feeder is omitted from the CAPEX estimate and carried in the shared benefit cost tables.

Table 22: Utility Interconnects and Clean Energy Costs at P30

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
119-mile CVS Solar and Utility Interconnections	224	427	0
Merced Extension Solar and Utility Interconnection	75	162	0
Total:	**299**	**589**	**0**

4.8 Maintenance Facilities and Trainsets

The maintenance facility concept design for M-B has matured since the 2025 SPUR. Updated, semi-detailed quantities have been developed and estimated against. The scope of the maintenance facility also includes a primary Operational Control Center (OCC) within the main maintenance facility. In addition, a back-up OCC has been identified at a location to be determined.

Cost variances from the 2025 SPUR to 2026 Business Plan are made up of pricing differentials based on quantity-based estimates for the maintenance facilities. Trainsets have been updated to reflect a base year price of June 2025 and YOE updates in line with the 2026 Business Plan Baseline Schedule.

Trainsets for M-B remain the same as the 2025 SPUR at a count of six.

Table 23: Maintenance Facilities and Trainsets Costs at P30

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
Trainsets and Facilities[1]	$839	$976	0
Total:	**$839**	**$976**	**0**

1. Includes professional services.

4.9 Program Wide Support, Project Development, Program Wide Contingency

Program wide support costs have been updated to reflect an increase in time based on the M-B completion date of Q4 2032.

This category also captures project development, unallocated contingency, and the contingency variance between P30 and P65 for all of M-B.

The Authority is reviewing options to add resources for strategic early works activities, including key right-of-way purchases, within its Baseline Budget, which is not included in the estimate at the time of preparation of this report.

Table 24: M-B Program Wide Support Costs at P65

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Dec 31, 2025
Project Development, Program Wide Support, and Other	$7,269	$7,488	$2,761
TOTAL	**$7,269**	**$7,488**	**$2,761**

5 San Francisco to Bakersfield

5.1 Introduction

The San Francisco to Bakersfield (SF-B) scenario builds on the M-B early operating segment by extending high-speed rail infrastructure northwest to Gilroy and enabling through-service to San Jose and San Francisco via upgraded shared corridors. Through service will be achieved with targeted infrastructure improvements such as electrification, signaling upgrades, track capacity improvements, and station upgrades. This approach provides early access to the Bay Area market, creating significant revenue opportunities, at a fraction of the cost of a fully dedicated alignment.

San Francisco will serve as the northern terminus at the existing Caltrain 4th and King Street Station with an extension to the Salesforce Transit Center once the Transbay Joint Powers Authority's (TJPA) planned infrastructure connection is complete. The service is planned to include up to 18 trains daily, with service patterns to be coordinated with Caltrain to ensure efficient use of shared infrastructure.

To deliver the SF-B segment, a coordinated state solution in partnership with regional agencies will be required to improve the Union Pacific Railroad line between San Jose and Gilroy to enable HSR service to connect San Jose and San Francisco.

SF-B used much of the estimating efforts from M-B with the following segments and scope added:

- San Francisco to San Jose – Estimated bottom-up.
- San Jose to Gilroy – Estimated bottom-up but omitted from the CAPEX Estimate. Shared cost opportunity as noted in the 2026 Business Plan.
- Gilroy to the Wye – Estimated bottom-up. New southern alignment estimated south of San Luis Reservoir.
- Further additions to the Merced to Bakersfield alignment include additional passing tracks, TPSSs, and additional stations and maintenance facility buildouts.

This scenario completes in Q4 of 2039 with the longest duration segment being Gilroy to the Wye. Additional schedule details can be found in **Appendix D of the 2026 Business Plan**.

5.2 Segment Specific Scope Details

Below provides specific scope details for the segments that make up SF-B.

San Francisco to San Jose

In San Francisco, the existing 4th and King Street station can serve as the interim northern terminus, until the Portal, also known as the Downtown Rail Extension Project, is complete and allows high speed rail to reach Salesforce Transit Center. While the Portal is not included in the optimized Phase 1 cost estimate, the Authority remains committed to securing additional funding to support the future extension. At 4th and King, two existing platforms will be rebuilt for HSR at Caltrain's existing San Francisco 4th and King Station consistent with PEPD. Millbrae Station with an additional two tracks and an island platform will be completed consistent with PEPD. Early phase improvements at San Jose Diridon station would provide a single platform serving two tracks at San Jose station for HSR. A minimal Brisbane light maintenance facility will be constructed which can also be expanded.

San Jose to Gilroy

Consistent with PEPD, the existing UPRR line would be upgraded, resulting in two tracks with overhead catenary electric power and improved at-grade crossings. Freight operations would be accommodated on the electrified tracks with catenary set to a high clearance.

Gilroy to Wye

Gilroy Station will be completed, consistent with PEPD, with two tracks for HSR and Caltrain that would each have a high-level HSR platform and a low-level Caltrain platform. An additional east track on the other side of the low-level platform would serve Caltrain and freight movement. Space will be preserved in the center between the two HSR platforms for future express tracks.

The HSR line to the Central Valley from Gilroy station includes a 10-mile passing loop to the Diablo Mountains, and a single tunnel through the Diablo Mountains. A maintenance of way facility would be built next to the right-of-way to the southeast of Gilroy. Caltrain layover tracks would be added adjacent to the line in Gilroy.

Merced to Wye

This segment would remain as outlined in M-B.

Wye to Madera

There would be limited changes to this segment compared to M-B. A Madera (12.5 mile) passing loop is added, as well as the west platform track at Madera Station for a total of three tracks.

Madera to Wasco

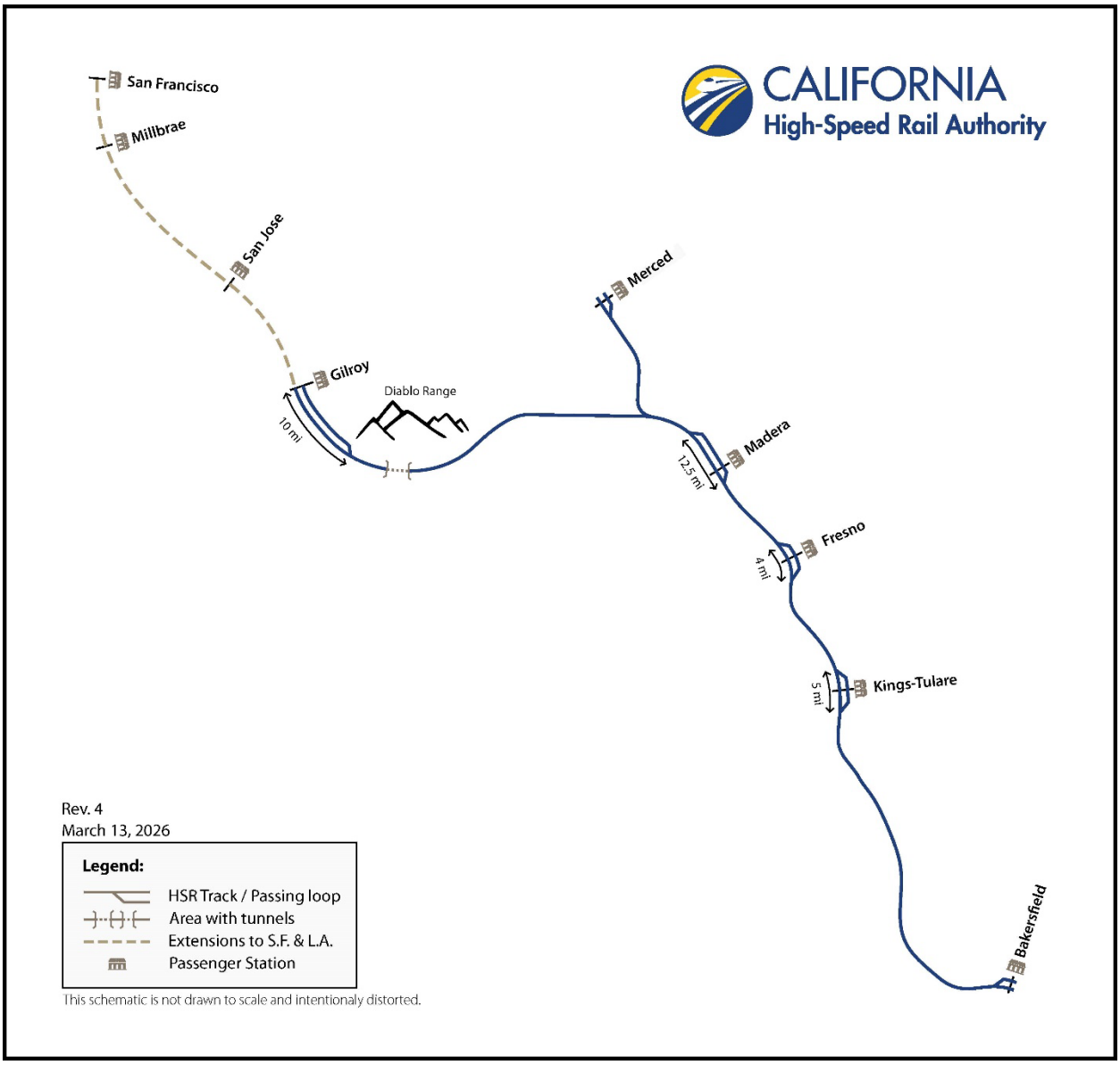
There would be limited changes to this segment compared to M-B. At the Kings-Tulare Station, a second platform and platform track will be added.

Wasco to Bakersfield

There would be no change to this segment from M-B.

5.3 Schematic

Figure 3: San Francisco to Bakersfield Track and Passing Loops



5.4 Scope Elements Estimated

San Jose to Gilroy has been estimated but omitted from CAPEX and is a shared opportunity segment as noted in 2026 Business Plan.

Table 25: San Francisco to Bakersfield Estimated Scope Elements

SF-SJ	G-Wye	M-B
Civils		
N/A	New Bottom-up estimate for Southern alignment	M-B with minor additions
Track and Systems		
Bottom-up estimates based on scenario track layout requirements		
Stations		
Bottom-up Estimate 4th and King Millbrae San Jose	Bottom-up Estimate Gilroy	Bottom-up Estimate Merced Madera *(Not in CAPEX, carried in shared opportunities)* Fresno Kings-Tulare Bakersfield
Maintenance Facilities		
Semi-Detailed Estimate Brisbane – Light facility	Semi-Detailed Estimate MOWF	Semi-Detailed Estimate Fresno Maintenance Facility
OCC's		
N/A	Semi-Detailed Estimate Gilroy – Back-up	Semi-Detailed Estimate Fresno - Main
Utility Interconnections & Clean Energy Farms/BESS		
N/A	Semi Detailed Estimate TPSS 5 & 6 *(Second utility feed omitted from CAPEX, carried in shared opportunities)*	Semi Detailed Estimate TPSS 7, 8,9, 10,11 and 12 *(Second utility feed omitted from CAPEX, carried in shared opportunities)*

5.5 Key Quantities and Variance

Table 26: San Francisco to Bakersfield Key Quantities and Variance

SCC	Descriptions	Unit	2025 SPUR	2026 BP	Variance
10.00	Aerial Guideway	RM	20	18	(2)
10.00	At-Grade Guideway	RM	112	117	5
10.00	Bored Tunnels	RM	7	4	(3)
10.00	Track	TF	1,446,300	1,445,044	(1,256)
20.00	HSR Stations	EA	8	8	0
30.00	Maintenance Facilities	EA	2	2	0
30.00	Maintenance of Way Facility	EA	1	1	0
30.00	Operational Control Center	EA	1	1	0
50.00	Back up Operational Center	EA	1	1	0
50.00	Traction Power Substation	EA	6	6	0

1. Units: RM: Route Mile, TF: Track Feet, EA: Each.

6 San Francisco to Los Angeles/Anaheim (Phase 1)

6.1 Introduction

The San Francisco–Los Angeles/Anaheim (SF-LA/A) scenario builds on the SF-B scenario with an extension of high-speed rail (HSR) infrastructure through Bakersfield to Palmdale and an interim infrastructure solution to access the Los Angeles Basin. SF-LA/A marks a dramatic shift in service with the operation of two trains per hour between San Francisco and the Los Angeles Basin, totaling 36 trains per day (number of trains based on operational window). Half of these would provide hourly SF-LA/A express service that would not stop between Gilroy and Palmdale. Phase 1 includes all major stations delivered as part of M-B and SF-B, as well as additional stations at Palmdale, Burbank Airport, Los Angeles Union Station, and Anaheim.

The interim solution to reach the Los Angeles Basin makes use of upgraded existing rail lines for through-service operation in combination with a dedicated HSR tunnel through the San Gabriel mountains and other HSR elements. Through service on existing rail lines will be achieved with targeted infrastructure improvements such as electrification, signaling upgrades, track capacity improvements, and station upgrades. This approach provides early access to the Los Angeles market, creating significant revenue opportunities at a fraction of the cost of a fully dedicated alignment.

This scenario completes in Q4 2039, with the longest duration segments being Gilroy to the Wye and Los Angeles to Anaheim. Additional schedule details can be found in **Appendix D of the 2026 Business Plan**.

Segment Specific Scope Details:

The following segments make up the Phase 1 system scope.

San Francisco to Gilroy

There would be limited changes to this segment from SF-B. The Brisbane Maintenance Facility would be expanded to a larger size on the same parcel of land.

Gilroy to Madera and to Merced

There would be limited changes to this segment from SF-B. An additional Los Banos (15 mile) passing loop would be added.

Madera to Wasco

There would be limited changes to this segment from SF-B. An increased amount of passing tracks would be added with high-speed turnouts to allow for two trains per hour and express trains. Passing loops would be added at Fresno (18 miles), and in Kern County (15 miles). The second east station track (for a total of four tracks) would be added at Madera and express tracks would be added at Fresno and Kings-Tulare. The Fresno maintenance facility would be expanded.

Wasco to Bakersfield

In this segment full double track would be built to and through Bakersfield (22 miles), and the downtown Bakersfield station would be constructed consistent with the modified PEPD.

Bakersfield to Palmdale

The line would be constructed consistent with PEPD and include the necessary track infrastructure and passing loops from the southern part of Bakersfield through the Tehachapi Mountains, and corresponding tunnels. A passing loop would extend from the mountains to Palmdale (32 miles). A maintenance-of-way base would be built next to the right-of-way in Lancaster.

Palmdale to Burbank

The initial solution for reaching Los Angeles involves improving and leveraging Metrolink's Antelope Valley Line, similar to the Authority's Caltrain investment in the Bay Area. The Authority's analysis found that use of the Antelope Valley Line from Palmdale to Soledad Canyon with a dedicated HSR tunnel section from Soledad to Sun Valley, will enable incremental delivery of high-speed rail service prior to the completion of the full Phase 1.

The Palmdale Station consistent with PEPD will serve as a connection point to the proposed High Desert Corridor, which would link the Antelope Valley to Victor Valley. In combination with Brightline West services to Las Vegas and Rancho Cucamonga, these projects will collectively form the backbone of a broader Southwest HSR network.

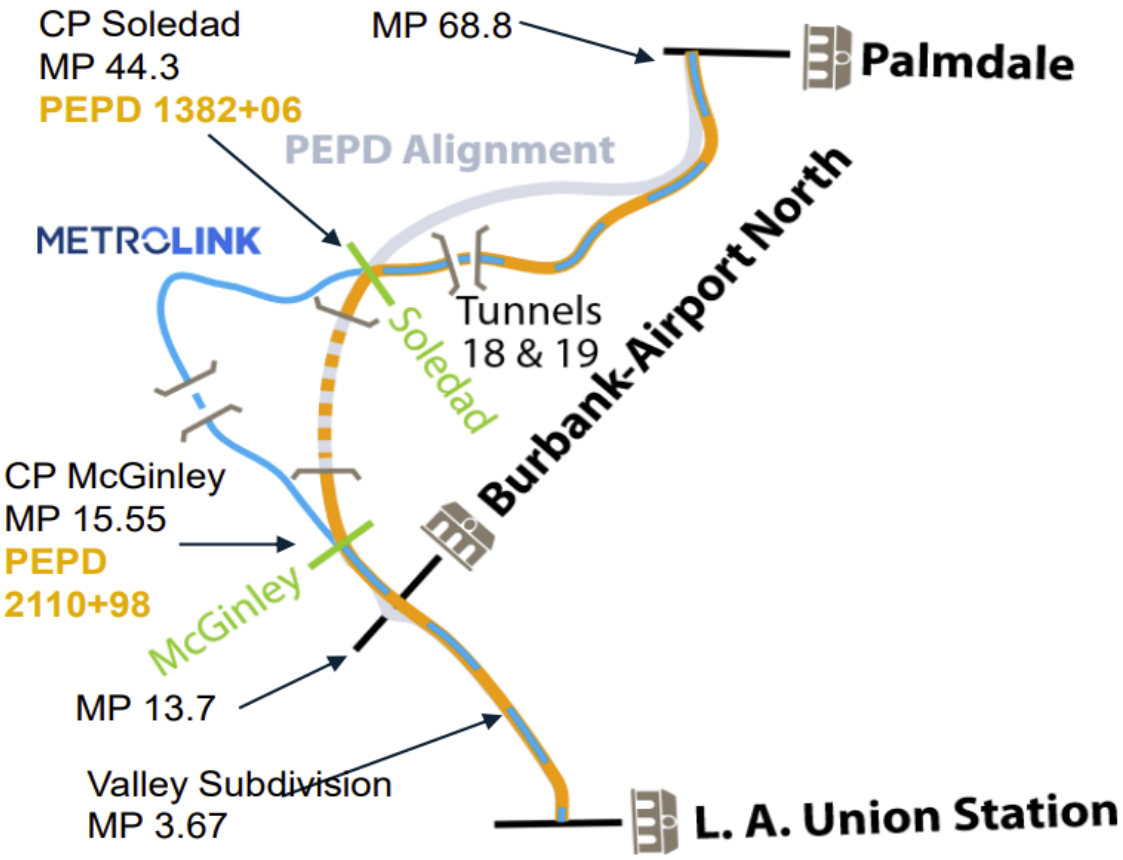
In the Los Angeles Basin, the Authority would rely on upgraded existing lines used by existing regional, intercity, and freight rail to connect riders from Burbank to Los Angeles and Anaheim.

The existing Metrolink station at Burbank Airport would be expanded into an interim HSR station at the along San Fernando Road. It would have two

tracks with one center high platform for HSR, two side platforms for Metrolink, pedestrian bridges with vertical circulation, and site improvements. The Burbank junction would be reconfigured for increased volume and speeds.

The orange line in **Figure 4** below depicts the chosen Burbank to Palmdale option for Phase 1.

Figure 4: Palmdale to Burbank Alignment Options



Burbank to Los Angeles

From Burbank to Los Angeles the existing double-track Metrolink line would be improved with overhead electrification. This would follow the West Bank Line to Los Angeles Union Passenger Terminal where the LINK US project would be implemented.

Los Angeles to Anaheim

The simplified version of PEPD improvements being circulated for environmental review is the basis for this estimate. A train maintenance facility would be constructed in the vicinity of BNSF's Hobart Yard.

6.2 Schematic

Figure 5: San Francisco to Los Angeles/Anaheim Track and Passing Loops



6.3 Scope Elements Estimated

The segment scope elements in **Table 27** are additive to those presented in SF-B, **Section 5.4**.

Table 27: San Francisco to Los Angeles / Anaheim Estimated Scope Elements

Bakersfield to Palmdale	Palmdale to Burbank	Burbank to Los Angeles	Los Angeles to Anaheim
Civils			
Bottom-up Estimate New civil estimate based on track alignment updates	Bottom-up Estimate Civil and tunnels estimates developed	None	Bottom-up Estimate *Full scope estimated (Scope split between HSR are shared benefit cost tables)*
Track & Systems			
Bottom-up estimates based on scenario track layout requirements			
Stations			
Bottom-up Estimate Palmdale Station *Full scope estimated (Scope split between HSR are shared benefit cost tables)*	Bottom-up Estimate Burbank Station	None	Bottom-up Estimate Anaheim Station
Maintenance Facilities			
Semi-Detailed Estimate	None	None	Semi-Detailed Estimate

Bakersfield to Palmdale	Palmdale to Burbank	Burbank to Los Angeles	Los Angeles to Anaheim
Lancaster MOWF			Hobart Maintenance Facility
OCC			
None	None	None	None
Utility Interconnections & Clean Energy Farms/BESS			
Semi Detailed Estimate TPSS 13 & 15 *(Second utility feed omitted from CAPEX, carried in shared benefit costs tables)*	Semi Detailed Estimate TPSS 16 & 17 *(Second utility feed omitted from CAPEX, carried in shared* benefit cost tables)	None	None

6.4 San Francisco to Los Angeles / Anaheim Key Quantities and Variance

Table 28: San Francisco to Los Angeles / Anaheim Key Quantities and Variance

SCC	Descriptions	Unit	2024 BP	2026 BP	Variance
10.00	Aerial Guideway	RM	48	31	(17)
10.00	At-Grade Guideway	RM	213	195	(18)
10.00	Bored Tunnels	RM	53	23	(30)
10.00	Track	TF	3,315,840	2,883,427	(432,413)
20.00	HSR Stations	EA	12	11	(1)
30.00	Light Maintenance Facility		3	3	0
30.00	Maintenance of Way Facility	EA	3	2	(1)
30.00	Operational Control Center	EA	1	1	0
50.00	Back up Operational Center	EA	1	1	0
50.00	Traction Power Substation	EA	12	12	0

1. Units: RM: Route Mile, TF: Track Feet, EA: Each.

7 Interim Stage: San Francisco to Palmdale

7.1 Introduction

As a potential interim stage, if the segment between Bakersfield and Palmdale is completed before a route into the Los Angeles Basin, high-speed rail service could begin between San Francisco and Palmdale. All the features of SF-LA/A from San Francisco to Palmdale would be the same for this interim stage. As with Phase 1, two high-speed trains would operate every hour from San Francisco to Palmdale (SF-P), one as a limited stop express.

With completion of the High Desert Corridor, one train per hour could continue to Victor Valley where passengers could connect with Brightline West service to Rancho Cucamonga and Las Vegas. At Palmdale, a connecting Metrolink/Surfliner express service to Los Angeles and San Diego could give passengers a preview of a truly statewide service. This option provides the Authority with an opportunity to connect the high-speed rail network with Brightline West using the 54-mile Palmdale to Victor Valley High Desert Corridor (HDC) Project.

This scenario completes in Q4 2039 with the longest duration segment being Gilroy to the Wye. Additional schedule details can be found in Appendix D of the 2026 Business Plan.

7.2 Schematic

Figure 6: Interim Stage: San Francisco to Palmdale Service Map



7.3 Key Quantities and Variance

Table 29: Interim Stage: San Francisco to Palmdale Key Quantities and Variance

SCC	Descriptions	Unit	2024 BP Estimate	2026 BP Estimate	Variance
10.00	Aerial Guideway	RM	41	30	(11)
10.00	At-Grade Guideway	RM	176	181	5
10.00	Bored Tunnels	RM	26	10	(16)
10.00	Track	TF	2,587,200	2,289,465	(297,735)
20.00	HSR Stations	EA	9	9	0
30.00	Maintenance Facility		3	2	(1)
30.00	Maintenance of Way Facility	EA	3	2	(1)
30.00	Operational Control Center	EA	1	1	0
50.00	Back up Operational Center	EA	1	1	0
50.00	Traction Power Substation	EA	10	10	0

**Units: RM: Route Mile, TF: Track Feet, EA: Each.*

8 Shared Benefit Costs

The following is a cost breakdown of estimating elements that have been classified as shared benefit costs. **Table 30** below represents SF-LA/A Phase 1. The value of the shared benefit cost does change from scenario to scenario.

Table 30: Phase 1 Shared Benefit Costs at P65

Category of Shared Benefit (YOE $ in millions)	P65
San Francisco to San Jose	
None	$0
San Jose to Gilroy	
Track replacement and additions, electrification and signal enhancement, additional grade crossing protection and other infrastructure upgrades.	**$2,033**
Gilroy to the Wye	
Second Utility Feeder to TPSS 5 & 6	**$43**
Merced to Madera	
Second Utility Feeder to TPSS 7	$29
Grade Separations in southern segment of M-M	$376
TOTAL	**$406**
Central Valley 119-miles	
Second Utility Feeder to TPSS 8, 9, 10, 11 & 12	$121
Madera Station	$288
TOTAL	**$409**
Bakersfield Extension	
None	$0

Category of Shared Benefit (YOE $ in millions)	P65
Bakersfield to Palmdale	
Second Utility Feeder to TPSS 13 & 15	$48
Palmdale Station (assumes High Desert Corridor commences first) elements include early station infrastructure requirements and early Right of Way parcels	$559
TOTAL	**$607**
Palmdale to Burbank	
Second Utility Feeder to TPSS 16 & 17	**$179**
Burbank to LA-Union	
None	$0
LA Union to Anaheim	
Costs by others - Civil infrastructure early action projects	**$7,445**
TOTAL	**$11,125**

9 Full SB-198 Phase 1 Estimate

An estimate update has been prepared to capture the Merced to Bakersfield segment scope, consistent with the full Phase 1 buildout, as required under SB 198. The estimate also includes the assumed consequences that legislative actions noted in the Business Plan are not forthcoming and therefore extend schedule completion to 2038.

The estimate YOE calculations were supported by a full SB-198 schedule.

Table 31: 119-Mile Central Valley Segment

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
SB-198 Central Valley Segment			
Central Valley Construction	11,334	11,494	9,149
Central Valley Right-of-Way	1,857	1,827	1,566
State Road Projects (SR99 & SR46)	468	468	318
Track & Systems and Commodities	2,745	5,233	115
Project Reserve	46	46	0
Interim Use	162	162	54
Unallocated Contingency	318	318	0
Subtotal Central Valley Segment Construction:	**16,930**	**19,547**	**11,202**
Project Development, Management, and Support	177	177	177
Program Wide Support and Other	2,091	2,344	939
TOTAL[1]	**19,198**	**22,068**	**12,318**

**Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.*

Table 32: 119-Mile Central Valley Segment

Scope Element (YOE $ in millions)	2025 SPUR Estimate	2026 BP Estimate	Expenditures Feb 28, 2026
SB-198 Merced to Bakersfield			
Central Valley Segment	19,198	22,068	12,318
Project Development Balance	127	127	127
Merced Extension	3,177	4,503	107
Merced Extension Utility Relocation	336	287	0
Merced Extension Right-of-Way	555	729	7
Bakersfield Extension	3,135	5,163	74
Bakersfield Extension Utility Relocation	396	276	0
Bakersfield Extension Right-of-Way	739	979	14
Stations	1,051	2,229	63
Track & Systems and Commodities Balance	1,478	2,491	0
Solar and Utility Interconnection	75	172	0
Trainsets and Facilities	839	975	0
Program Wide Support and Contingency Balance	1,550	2,604	616
Subtotal Merced to Bakersfield:	**32,654**	**42,603**	**13,325**
Project Development Balance (Phase 1)	543	543	525
Program Wide Support and Other	2,254	3,210	344
Bookend	1,298	1,298	847
TOTAL[1]	**36,750**	**47,654**	**15,041**

**Totals may not sum due to independent rounding and represent a probability of confidence level of 65% in accordance with historic practices.*

APPENDIX A – TECHNICAL BASELINE DOCUMENTS

Geographic Segment / Other Component	Baseline Documentation	Additional Documentation
All	N/A	2026 Business Plan Scenario Characteristics for Basis of Estimate
San Francisco to San Jose	Final EIR/EIS for San Francisco–San Jose, Jun. 2022	- Track and systems: SF to SJ (Millbrae) Quantities Estimate Supporting Assumptions
San Jose to Gilroy	Final EIR/EIS for San Jose–Merced, Feb. 2022	- Track and systems: San Jose Diridon to Gilroy Quantities Estimate Supporting Assumptions
Gilroy to the Wye	a) Gilroy–Carlucci Rd.: Final EIR/EIS for San Jose–Merced, Feb. 2022 b) Carlucci Rd.–CV Wye: Final Supplemental EIR/EIS for Central Valley Wye, Aug. 2020	- Civil: Gilroy to Central Valley Wye – Conceptual Cost Refinement Summary Report - Track and systems: Gilroy to Central Valley Wye Quantities Estimate Supporting Assumptions
Merced to the Wye	Final EIR/EIS for Merced–Fresno, Apr. 2012 Final Supplemental EIR/EIS for Merced–Fresno Central Valley Wye, Aug. 2020	- Civil: Memo on M-M design changes - Track and systems: Merced to Bakersfield Quantities Estimate Supporting Assumptions
Central Valley Wye to Madera	Final EIR/EIS for Merced–Fresno, Apr. 2012 Final Supplemental EIR/EIS for Merced–Fresno Central Valley Wye, Aug. 2020	- Civil: Memo on M-M design changes - Track and systems: Merced to Bakersfield Quantities Estimate Supporting Assumptions
Madera to Poplar Ave. (CPs)	Final EIR/EIS Merced–Fresno, Apr. 2012	- Track and systems: Merced to Bakersfield

Geographic Segment / Other Component	Baseline Documentation	Additional Documentation
	Final EIR/EIS Fresno–Bakersfield, May 2014	Quantities Estimate Supporting Assumptions
Poplar Ave. to Bakersfield (LGA)	Final Supplemental EIR/EIS for Fresno–Bakersfield Locally Generated Alternative, Nov. 2019	- Memo on LGA design changes - Track and systems: Merced to Bakersfield Quantities Estimate Supporting Assumptions
Bakersfield to Palmdale	Final EIR/EIS for Bakersfield–Palmdale, Jun. 2021	- Civil: Bakersfield to Palmdale – Conceptual Cost Refinement Summary Report - Track and systems: Bakersfield to Palmdale Quantities Estimate Supporting Assumptions
Palmdale to Burbank	Final EIR/EIS for Palmdale–Burbank, May 2024	- Civil: Palmdale–Burbank–Los Angeles Business Plan 2026 Concept Study - Track and systems: Palmdale to Burbank Quantities Estimate Supporting Assumptions
Burbank to Los Angeles	Final EIR/EIS for Burbank–Los Angeles, Nov. 2021	- Track and systems: Burbank-LAUS Quantities Estimate Supporting Assumptions
Los Angeles to Anaheim	Draft EIR/EIS for Los Angeles–Anaheim, Dec. 2025	- Track and systems: Los Angeles Union Station to Anaheim Quantities Estimate Supporting Assumptions
Stations	EIR/EIS of each segment (see above)	Each station Basis of estimates

Geographic Segment / Other Component	Baseline Documentation	Additional Documentation
Facilities	EIR/EIS of each segment (see above)	- Fresno Train Care Facility: Fresno Maintenance Facility Concept Layout Stage 3 & Maintenance of Way facilities requirements - Other facilities: Systemwide Maintenance Tracks Distribution

APPENDIX B – CONTINGENCY OUTCOMES AT P30

SCC Minor	Description	F2J	G-Wye	CVS Rail & Facilities	M-M	LGA	B-P	P-K	K-L	LA-A
10.01	Guideway: At-grade exclusive right-of-way	N/A	N/A	N/A	14%	N/A	16%	17%	N/A	N/A
10.04	Guideway: Aerial structure	N/A	17%	N/A	14%	14%	N/A	17%	N/A	16%
10.05	Guideway: Built-up fill	N/A	17%	N/A	N/A	14%	16%	17%	N/A	N/A
10.06	Guideway: Underground cut & cover	N/A	N/A	N/A	N/A	N/A	N/A	17%	N/A	N/A
10.07	Guideway: Underground tunnel	N/A	17%	N/A	N/A	N/A	17%	17%	N/A	N/A
10.08	Guideway: Retained cut or fill	N/A	N/A	N/A	14%	N/A	N/A	17%	N/A	16%
10.09	Track: Direct fixation	N/A	16%	11%	13%	14%	16%	16%	N/A	N/A
10.11	Track: Ballasted	N/A	16%	11%	13%	14%	16%	16%	16%	16%
10.12	Track: Special (switches, turnouts)	N/A	N/A	11%	13%	14%	16%	16%	16%	16%
20.01	At-grade station, stop, shelter, mall, terminal, platform	16%	16%	14%	17%	N/A	16%	16%	17%	16%
20.02	Aerial station, stop, shelter, mall, terminal, platform	N/A	N/A	14%	N/A	14%	N/A	N/A	N/A	N/A
30.01	Administration Building: Office, sales, storage, revenue counting	N/A	16%	18%	N/A	N/A	N/A	N/A	N/A	N/A
30.02	Light Maintenance Facility	16%	N/A	18%	N/A	N/A	N/A	N/A	N/A	16%
30.04	Storage or Maintenance of Way Building	N/A	N/A	N/A	N/A	N/A	16%	N/A	N/A	N/A
40.01	Demolition, Clearing, Earthwork	N/A	N/A	N/A	21%	16%	16%	16%	N/A	N/A
40.02	Site Utilities, Utility Relocation	16%	17%	N/A	14%	13%	16%	16%	N/A	16%
40.03	Hazardous material, contaminated soil removal/mitigation, ground water treatments	N/A	17%	N/A	15%	15%	16%	16%	16%	16%

SCC Minor	Description	F2J	G-Wye	CVS Rail & Facilities	M-M	LGA	B-P	P-K	K-L	LA-A
40.04	Environmental mitigation e.g. wetlands, historic /archeologic, parks	16%	16%	14%	15%	15%	16%	16%	17%	16%
40.05	Site structures including retaining walls, soundwalls	N/A	17%	11%	N/A	15%	16%	16%	N/A	16%
40.06	Pedestrian/bike access and accommodation, landscaping	N/A	N/A	N/A	N/A	N/A	16%	N/A	N/A	N/A
40.07	Automobile, bus, van access ways including roads, parking lots	N/A	17%	N/A	14%	14%	16%	14%	N/A	14%
40.08	Temporary Facilities and other indirect costs during construction	16%	17%	14%	16%	16%	16%	16%	16%	16%
50.01	Train control and signals	N/A	16%	15%	15%	15%	16%	16%	16%	16%
50.03	Traction power supply: substations	N/A	16%	15%	16%	15%	16%	16%	16%	16%
50.04	Traction power distribution: catenary and third rail	N/A	16%	11%	13%	14%	16%	16%	16%	16%
50.05	Communications	N/A	16%	15%	15%	15%	16%	16%	16%	16%
60.01	Purchase or lease of real estate	19%	21%	17%	17%	17%	21%	22%	19%	23%
80.01	Project Development	11%	11%	12%	12%	9%	11%	11%	11%	11%
80.02	Engineering (not applicable to Small Starts)	13%	14%	12%	12%	13%	14%	14%	11%	11%
80.03	Project Management for Design and Construction	12%	14%	17%	17%	14%	15%	14%	14%	15%
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	13%	13%	14%	12%	12%	13%	13%	12%	12%
80.08	Startup	N/A	12%	16%	16%	16%	12%	12%	12%	12%

APPENDIX C: SCC LEVEL 2 ESTIMATES

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APPENDIX C.1: Merced to Bakersfield

Early Operating Segment

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APPENDIX C.1.1: Central Valley – Civil, ROW, T&S, Stations & Facilities

SCC Minor	SCC Description	2026 BP Estimate
Central Valley 119-miles – Civil, ROW, T&S, Stations & Facilities		
10.00	Central Valley Civil	$10,047,731,029
10.09	Track: Direct fixation	$76,328,896
10.11	Track: Ballasted	$1,006,138,619
10.12	Track: Special (switches, turnouts)	$62,975,794
20.01	At-grade station, stop, shelter, mall, terminal, platform	$317,325,473
20.02	Aerial station, stop, shelter, mall, terminal, platform	$269,574,731
30.01	Administration Building: Office, sales, storage, revenue counting	$13,361,396
30.02	Light Maintenance Facility	$385,405,460
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$218,974,044
40.05	Site Structures including Retaining Walls, Sound Walls	$45,955,889
40.08	Temp Facilities and Other Indirects	$24,385,616
50.01	Train control and signals	$423,836,327
50.03	Traction power supply: substations	$637,397,283
50.04	Traction power distribution: catenary and third rail	$391,735,944
50.05	Communications	$412,148,435
60.01	Purchase or lease of Real Estate	$1,878,873,806
80.01	Preliminary Engineering	$88,365,591
80.02	Engineering	$222,995,247
80.03	Project Management for Design and Construction	$154,374,823
80.04	Construction Administration & Management	$938,736,439

SCC Minor	SCC Description	2026 BP Estimate
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$803,358,170
80.08	Start up	$7,130,044
	TOTAL	**$18,427,109,056**

APPENDIX C.1.2: Merced Extension – Civil, ROW, T&S, & Stations

SCC Minor	SCC Description	2026 BP Estimate
Merced Extension - Civil, ROW, T&S, & Stations		
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$797,094,928
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$9,700,016
10.11	Track: Ballasted	$254,173,975
20.01	At-grade station, stop, shelter, mall, terminal, platform	$105,252,203
40.01	Demolition, Clearing, Earthwork	$12,563,401
40.02	Site Utilities, Utility Relocation	$273,798,150
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$4,599,981
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$128,009,927
40.07	Automobile, bus, van accessways including roads, parking lots	$510,310,216
40.08	Temp Facilities and Other Indirects	$78,732,971
50.01	Train control and signals	$132,744,032
50.03	Traction power supply: substations	$210,503,678
50.04	Traction power distribution: catenary and third rail	$95,466,924
50.05	Communications	$117,759,566
60.01	Purchase or lease of Real Estate	$571,793,481
80.01	Preliminary Engineering	$150,012,197
80.02	Engineering	$212,316,450
80.03	Project Management for Design and Construction	$131,573,253

SCC Minor	SCC Description	2026 BP Estimate
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$13,942,976
80.08	Start up	$1,939,565
	TOTAL	**$4,448,072,406**

APPENDIX C.1.3: Bakersfield Extension - Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield Extension - Civil, ROW, T&S & Stations		
10.04	Guideway: Aerial structure	$476,819,786
10.05	Guideway: Built-up fill	$265,280,966
10.09	Track: Direct fixation	$81,621,486
10.11	Track: Ballasted	$124,869,632
10.12	Track: Special (switches, turnouts)	$8,465,738
20.01	At-grade station, stop, shelter, mall, terminal, platform	$176,320,533
40.01	Demolition, Clearing, Earthwork	$32,001,501
40.02	Site Utilities, Utility Relocation	$297,852,587
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$5,382,994
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$89,867,721
40.05	Site Structures including Retaining Walls, Sound Walls	$736,318,307
40.07	Automobile, bus, van accessways including roads, parking lots	$108,069,535
40.08	Temp Facilities and Other Indirects	$42,828,029
50.01	Train control and signals	$81,733,461
50.03	Traction power supply: substations	$48,707,989
50.04	Traction power distribution: catenary and third rail	$46,142,053
50.05	Communications	$66,939,980
60.01	Purchase or lease of Real Estate	$323,760,651
80.01	Preliminary Engineering	$139,749,264

SCC Minor	SCC Description	2026 BP Estimate
80.02	Engineering	$194,361,471
80.03	Project Management for Design and Construction	$109,675,154
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$12,028,298
80.08	Start up	$1,191,421
	TOTAL	**$3,469,988,555**

APPENDIX C.1.4: Program Wide Support, Project Development & Trainsets

SCC Minor	SCC Description	2026 BP Estimate
Program Wide Support, Project Development, & Trainsets		
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$22,298,739
60.01	Purchase or lease of Real Estate	$60,019,954
70.03	Commuter Rail	$530,209,529
80.01	Preliminary Engineering	$880,787,972
80.03	Project Management for Design and Construction	$2,898,989,650
80.05	Professional Liability and other Non-Construction Insurance	$110,694,500
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$171,692,603
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
90.00	Contingency	$3,336,215,830
	TOTAL	**$8,018,432,919**

APPENDIX C.1.5: Bookend

SCC Minor	SCC Description	2026 BP Estimate
Bookend		
20.01	At-Grade Station, Stop, Shelter, Mall, Terminal, Platform	$423,335,000
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400
	TOTAL	**$1,297,943,400**

APPENDIX C.1.6: Merced – Bakersfield Early Operating Segment

SCC Minor	SCC Description	2026 BP Estimate
Merced – Bakersfield Early Operating Segment		
10.00	Central Valley Civils	$10,047,731,029
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$1,273,914,714
10.05	Guideway: Built-up fill	$265,280,966
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$167,650,398
10.11	Track: Ballasted	$1,385,182,225
10.12	Track: Special (switches, turnouts)	$71,441,532
20.01	At-grade station, stop, shelter, mall, terminal, platform	$1,022,233,209
20.02	Aerial station, stop, shelter, mall, terminal, platform	$269,574,731
30.01	Administration Building: Office, sales, storage, revenue counting	$13,361,396
30.02	Light Maintenance Facility	$385,405,460
40.01	Demolition, Clearing, Earthwork	$44,564,902
40.02	Site Utilities, Utility Relocation	$571,650,737
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$9,982,974
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$459,150,431
40.05	Site Structures including Retaining Walls, Sound Walls	$782,274,195

SCC Minor	SCC Description	2026 BP Estimate
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400
40.07	Automobile, bus, van accessways including roads, parking lots	$618,379,751
40.08	Temp Facilities and Other Indirects	$145,946,616
50.01	Train control and signals	$638,313,820
50.03	Traction power supply: substations	$896,608,950
50.04	Traction power distribution: catenary and third rail	$533,344,921
50.05	Communications	$596,847,981
60.01	Purchase or lease of Real Estate	$2,834,447,892
70.03	Commuter Rail	$530,209,529
80.01	Preliminary Engineering	$1,258,915,023
80.02	Engineering	$629,673,168
80.03	Project Management for Design and Construction	$3,294,612,879
80.04	Construction Administration & Management	$938,736,439
80.05	Professional Liability and other Non-Construction Insurance	$110,694,500
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$1,001,022,048
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
80.08	Start up	$10,261,030
90.00	Contingency	$3,336,215,830
	TOTAL – M-B Early Operating Segment	**$35,661,546,336**

APPENDIX C.2: San Francisco to Bakersfield

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APPENDIX C.2.1: San Francisco – San Jose

SCC Minor	SCC Description	2026 BP Estimate
San Francisco - San Jose		
20.01	At-grade station, stop, shelter, mall, terminal, platform	$600,795,946
30.02	Light Maintenance Facility	$215,039,133
40.02	Site Utilities, Utility Relocation	$193,017,115
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$13,195,961
40.08	Temp Facilities and Other Indirects	$3,860,342
60.01	Purchase or lease of Real Estate	$127,146,470
80.01	Preliminary Engineering	$18,203,862
80.02	Engineering	$55,331,225
80.03	Project Management for Design and Construction	$41,819,241
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$4,676,150
	TOTAL	**$1,273,085,447**

APPENDIX C.2.2: Gilroy – Wye

SCC Minor	SCC Description	2026 BP Estimate
Gilroy - Wye		
10.04	Guideway: Aerial structure	$4,944,098,728
10.05	Guideway: Built-up fill	$2,407,457,042
10.07	Guideway: Underground Tunnel	$1,516,929,578
10.11	Track: Ballasted	$1,157,189,047
20.01	At-grade station, stop, shelter, mall, terminal, platform	$512,739,271
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
40.02	Site Utilities, Utility Relocation	$215,478,737
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$51,212,432
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$200,651,659
40.05	Site Structures including Retaining Walls, Sound Walls	$412,995,473
40.07	Automobile, bus, van accessways including roads, parking lots	$846,119,561
40.08	Temp Facilities and Other Indirects	$220,230,938
50.01	Train control and signals	$316,513,156
50.03	Traction power supply: substations	$574,622,336
50.04	Traction power distribution: catenary and third rail	$315,720,801
50.05	Communications	$39,236,666
60.01	Purchase or lease of Real Estate	$3,097,307,959
80.01	Preliminary Engineering	$235,389,450
80.02	Engineering	$720,426,319

SCC Minor	SCC Description	2026 BP Estimate
80.03	Project Management for Design and Construction	$543,893,759
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$59,797,792
80.08	Start up	$4,216,259
	TOTAL	**$18,618,827,688**

APPENDIX C.2.3: Merced Extension – Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Merced Extension - Civil, ROW, T&S & Stations		
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$797,094,928
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$68,251,555
10.11	Track: Ballasted	$259,689,500
20.01	At-grade station, stop, shelter, mall, terminal, platform	$105,252,203
40.01	Demolition, Clearing, Earthwork	$12,563,401
40.02	Site Utilities, Utility Relocation	$273,798,150
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$4,599,981
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$129,124,446
40.07	Automobile, bus, van accessways including roads, parking lots	$510,310,216
40.08	Temp Facilities and Other Indirects	$80,006,706
50.01	Train control and signals	$132,744,032
50.03	Traction power supply: substations	$210,503,678
50.04	Traction power distribution: catenary and third rail	$110,494,960
50.05	Communications	$117,759,566
60.01	Purchase or lease of Real Estate	$571,793,481
80.01	Preliminary Engineering	$151,506,495
80.02	Engineering	$216,850,524
80.03	Project Management for Design and Construction	$135,012,193

SCC Minor	SCC Description	2026 BP Estimate
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$14,325,081
80.08	Start up	$2,014,340
	TOTAL	**$4,539,479,951**

APPENDIX C.2.4: Central Valley – Civil, ROW, T&S, Stations & Facilities

SCC Minor	SCC Description	2026 BP Estimate
Central Valley 119-miles – Civil, ROW, T&S, Stations & Facilities		
10.00	Central Valley Civil	$10,047,731,029
10.09	Track: Direct fixation	$909,763,860
10.11	Track: Ballasted	$284,163,399
10.12	Track: Special (switches, turnouts)	$66,911,781
20.01	At-grade station, stop, shelter, mall, terminal, platform	$317,325,473
20.02	Aerial station, stop, shelter, mall, terminal, platform	$414,493,673
30.02	Light Maintenance Facility	$497,222,408
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$223,495,592
40.05	Site Structures including Retaining Walls, Sound Walls	$45,955,889
40.08	Temp Facilities and Other Indirects	$26,746,573
50.01	Train control and signals	$423,836,327
50.03	Traction power supply: substations	$922,077,173
50.04	Traction power distribution: catenary and third rail	$428,054,620
50.05	Communications	$412,148,435
60.01	Purchase or lease of Real Estate	$1,879,833,565
80.01	Preliminary Engineering	$92,862,793
80.02	Engineering	$250,631,465
80.03	Project Management for Design and Construction	$171,514,131
80.04	Construction Administration & Management	$938,736,439
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$805,178,557

SCC Minor	SCC Description	2026 BP Estimate
80.08	Start up	$7,313,150
	TOTAL	**$19,165,996,331**

APPENDIX C.2.5: Bakersfield Extension - Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield Extension - Civil, ROW, T&S & Stations		
10.04	Guideway: Aerial structure	$476,819,786
10.05	Guideway: Built-up fill	$265,280,966
10.09	Track: Direct fixation	$101,829,445
10.11	Track: Ballasted	$111,547,581
10.12	Track: Special (switches, turnouts)	$8,465,738
20.01	At-grade station, stop, shelter, mall, terminal, platform	$176,320,533
40.01	Demolition, Clearing, Earthwork	$32,001,501
40.02	Site Utilities, Utility Relocation	$297,852,587
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$5,382,994
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$89,988,659
40.05	Site Structures including Retaining Walls, Sound Walls	$736,318,307
40.07	Automobile, bus, van accessways including roads, parking lots	$108,069,535
40.08	Temp Facilities and Other Indirects	$42,966,244
50.01	Train control and signals	$81,733,461
50.03	Traction power supply: substations	$48,707,989
50.04	Traction power distribution: catenary and third rail	$46,142,053
50.05	Communications	$66,939,980
60.01	Purchase or lease of Real Estate	$323,760,651
80.01	Preliminary Engineering	$139,880,843
80.02	Engineering	$194,756,206

SCC Minor	SCC Description	2026 BP Estimate
80.03	Project Management for Design and Construction	$109,974,548
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$12,061,564
80.08	Start up	$1,191,421
	TOTAL	**$3,477,992,591**

APPENDIX C.2.6: Program Wide Support, Project Development & Trainsets

SCC Minor	SCC Description	2026 BP Estimate
Program Wide Support, Project Development & Trainsets		
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$22,298,739
60.01	Purchase or lease of Real Estate	$60,019,954
70.03	Commuter Rail	$891,955,275
80.01	Preliminary Engineering	$880,787,972
80.03	Project Management for Design and Construction	$3,883,663,744
80.05	Professional Liability and other Non-Construction Insurance	$183,713,008
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$171,692,603
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
90.00	Contingency	$6,756,731,283
	TOTAL	**$12,858,386,720**

APPENDIX C.2.7: Bookend

SCC Minor	SCC Description	2026 BP Estimate
Bookend		
20.01	At-Grade Station, Stop, Shelter, Mall, Terminal, Platform	$423,335,000
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400
	TOTAL	**$1,297,943,400**

APPENDIX C.2.8 – Full San Francisco to Bakersfield

SCC Minor	SCC Description	2026 BP Estimate
Full San Francisco to Bakersfield		
10.00	Central Valley Civils & State Roads	$10,047,731,029
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$6,218,013,442
10.05	Guideway: Built-up fill	$2,672,738,007
10.07	Guideway: Underground Tunnel	$1,516,929,578
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$1,079,844,859
10.11	Track: Ballasted	$1,812,589,527
10.12	Track: Special (switches, turnouts)	$75,377,519
20.01	At-grade station, stop, shelter, mall, terminal, platform	$2,135,768,426
20.02	Aerial station, stop, shelter, mall, terminal, platform	$414,493,673
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
30.02	Light Maintenance Facility	$712,261,542
40.01	Demolition, Clearing, Earthwork	$44,564,902
40.02	Site Utilities, Utility Relocation	$980,146,590
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$61,195,406
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$678,755,056
40.05	Site Structures including Retaining Walls, Sound Walls	$1,195,269,668
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400

SCC Minor	SCC Description	2026 BP Estimate
40.07	Automobile, bus, van accessways including roads, parking lots	$1,464,499,312
40.08	Temp Facilities and Other Indirects	$373,810,802
50.01	Train control and signals	$954,826,976
50.03	Traction power supply: substations	$1,755,911,176
50.04	Traction power distribution: catenary and third rail	$900,412,434
50.05	Communications	$636,084,647
60.01	Purchase or lease of Real Estate	$6,059,862,081
70.03	Commuter Rail	$891,955,275
80.01	Preliminary Engineering	$1,518,631,415
80.02	Engineering	$1,437,995,739
80.03	Project Management for Design and Construction	$4,885,877,616
80.04	Construction Administration & Management	$938,736,439
80.05	Professional Liability and other Non-Construction Insurance	$183,713,008
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$1,067,731,747
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
80.08	Start up	$14,735,170
90.00	Contingency	$6,756,731,283
	TOTAL	**$61,231,712,127**

APPENDIX C.3: San Francisco to Los Angeles/Anaheim

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APPENDIX C.3.1: San Francisco – San Jose

SCC Minor	SCC Description	2026 BP Estimate
San Francisco - San Jose		
20.01	At-grade station, stop, shelter, mall, terminal, platform	$600,795,946
30.02	Light Maintenance Facility	$230,918,662
40.02	Site Utilities, Utility Relocation	$193,017,115
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$13,195,961
40.08	Temp Facilities and Other Indirects	$3,860,342
60.01	Purchase or lease of Real Estate	$127,146,470
80.01	Preliminary Engineering	$18,495,193
80.02	Engineering	$56,215,198
80.03	Project Management for Design and Construction	$42,489,704
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$4,751,477
	TOTAL	**$1,290,886,069**

APPENDIX C.3.2: Gilroy – Wye

SCC Minor	SCC Description	2026 BP Estimate
Gilroy - Wye		
10.04	Guideway: Aerial structure	$4,944,098,728
10.05	Guideway: Built-up fill	$2,407,457,042
10.07	Guideway: Underground Tunnel	$1,516,929,578
10.09	Track: Direct fixation	$1,321,660,780
10.11	Track: Ballasted	$18,914,428
20.01	At-grade station, stop, shelter, mall, terminal, platform	$512,739,271
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
40.02	Site Utilities, Utility Relocation	$215,478,737
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$51,212,432
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$203,731,820
40.05	Site Structures including Retaining Walls, Sound Walls	$412,995,473
40.07	Automobile, bus, van accessways including roads, parking lots	$846,119,561
40.08	Temp Facilities and Other Indirects	$198,381,207
50.01	Train control and signals	$316,513,156
50.03	Traction power supply: substations	$574,622,336
50.04	Traction power distribution: catenary and third rail	$369,097,968
50.05	Communications	$39,236,666
60.01	Purchase or lease of Real Estate	$3,097,307,959
80.01	Preliminary Engineering	$239,814,292

SCC Minor	SCC Description	2026 BP Estimate
80.02	Engineering	$733,849,839
80.03	Project Management for Design and Construction	$554,073,143
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$60,916,419
80.08	Start up	$4,468,448
	TOTAL	**$18,866,220,008**

APPENDIX C.3.3: Merced Extension – Civil, ROW, T&S and Stations

SCC Minor	SCC Description	2026 BP Estimate
Merced Extension - Civil, ROW, T&S, & Stations		
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$797,094,928
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$119,653,924
10.11	Track: Ballasted	$261,406,651
10.12	Track: Special (switches, turnouts)	$4,239,471
20.01	At-grade station, stop, shelter, mall, terminal, platform	$105,252,203
40.01	Demolition, Clearing, Earthwork	$12,563,401
40.02	Site Utilities, Utility Relocation	$273,798,150
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$4,599,981
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$130,122,269
40.07	Automobile, bus, van accessways including roads, parking lots	$510,310,216
40.08	Temp Facilities and Other Indirects	$81,147,076
50.01	Train control and signals	$132,939,624
50.03	Traction power supply: substations	$210,503,678
50.04	Traction power distribution: catenary and third rail	$110,494,960
50.05	Communications	$117,759,566
60.01	Purchase or lease of Real Estate	$571,793,481
80.01	Preliminary Engineering	$152,595,976
80.02	Engineering	$220,156,275

SCC Minor	SCC Description	2026 BP Estimate
80.03	Project Management for Design and Construction	$137,519,491
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$14,603,670
80.08	Start up	$2,015,299
	TOTAL	**$4,606,354,804**

APPENDIX C.3.4: Central Valley – Civil, ROW, T&S, Stations & Facilities

SCC Minor	SCC Description	2026 BP Estimate
Central Valley 119-miles – Civil, ROW, T&S, Stations & Facilities		
10.00	Central Valley Civil	$10,047,731,029
10.09	Track: Direct fixation	$292,100,964
10.11	Track: Ballasted	$943,208,117
10.12	Track: Special (switches, turnouts)	$78,719,743
20.01	At-grade station, stop, shelter, mall, terminal, platform	$383,734,514
20.02	Aerial station, stop, shelter, mall, terminal, platform	$414,493,673
30.02	Light Maintenance Facility	$536,426,161
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$225,573,134
40.05	Site Structures including Retaining Walls, Sound Walls	$45,955,889
40.08	Temp Facilities and Other Indirects	$27,834,817
50.01	Train control and signals	$431,589,596
50.03	Traction power supply: substations	$922,077,173
50.04	Traction power distribution: catenary and third rail	$446,542,883
50.05	Communications	$412,148,435
60.01	Purchase or lease of Real Estate	$1,879,833,565
80.01	Preliminary Engineering	$94,994,245
80.02	Engineering	$263,530,132
80.03	Project Management for Design and Construction	$179,543,700
80.04	Construction Administration & Management	$938,736,439

SCC Minor	SCC Description	2026 BP Estimate
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$806,031,881
80.08	Start up	$7,444,178
	TOTAL	**$19,378,250,268**

APPENDIX C.3.5: Bakersfield Extension – Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield Extension - Civil, ROW, T&S & Stations		
10.04	Guideway: Aerial structure	$1,360,779,609
10.05	Guideway: Built-up fill	$341,134,537
10.09	Track: Direct fixation	$183,512,719
10.11	Track: Ballasted	$212,208,307
10.12	Track: Special (switches, turnouts)	$8,512,720
20.02	Aerial station, stop, shelter, mall, terminal, platform	$682,844,232
40.01	Demolition, Clearing, Earthwork	$64,947,220
40.02	Site Utilities, Utility Relocation	$373,763,919
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$9,124,145
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$177,100,578
40.05	Site Structures including Retaining Walls, Sound Walls	$837,905,272
40.07	Automobile, bus, van accessways including roads, parking lots	$122,112,653
40.08	Temp Facilities and Other Indirects	$198,961,943
50.01	Train control and signals	$81,853,890
50.03	Traction power supply: substations	$48,707,989
50.04	Traction power distribution: catenary and third rail	$127,616,343
50.05	Communications	$66,939,980
60.01	Purchase or lease of Real Estate	$1,084,190,727
80.01	Preliminary Engineering	$145,459,648
80.02	Engineering	$257,828,125

SCC Minor	SCC Description	2026 BP Estimate
80.03	Project Management for Design and Construction	$204,044,775
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$22,358,463
80.08	Start up	$1,592,386
	TOTAL	**$6,613,500,181**

APPENDIX C.3.6: Bakersfield – Palmdale

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield - Palmdale		
10.01	Guideway: At-grade exclusive right-of-way	$5,802,651,290
10.05	Guideway: Built-up fill	$4,420,777,289
10.07	Guideway: Underground Tunnel	$2,666,408,938
10.09	Track: Direct fixation	$104,804,787
10.11	Track: Ballasted	$1,326,672,536
10.12	Track: Special (switches, turnouts)	$11,866,551
20.01	At-grade station, stop, shelter, mall, terminal, platform	$150,220,472
30.04	Storage or Maintenance of Way Building	$212,129,343
40.01	Demolition, Clearing, Earthwork	$104,856,620
40.02	Site Utilities, Utility Relocation	$693,061,256
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$50,938,845
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$291,874,403
40.05	Site Structures including Retaining Walls, Sound Walls	$936,943,051
40.06	Pedestrian / bike access and accommodation, landscaping	$146,391,050
40.07	Automobile, bus, van accessways including roads, parking lots	$763,385,943
40.08	Temp Facilities and Other Indirects	$331,278,041
50.01	Train control and signals	$435,481,626
50.03	Traction power supply: substations	$607,007,220
50.04	Traction power distribution: catenary and third rail	$383,043,419

SCC Minor	SCC Description	2026 BP Estimate
50.05	Communications	$73,752,193
60.01	Purchase or lease of Real Estate	$4,640,023,336
80.01	Preliminary Engineering	$332,419,778
80.02	Engineering	$1,008,706,608
80.03	Project Management for Design and Construction	$765,060,679
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$85,798,867
80.08	Start up	$5,567,625
	TOTAL	**$26,351,121,767**

APPENDIX C.3.7: Palmdale – Burbank

SCC Minor	SCC Description	2026 BP Estimate
Palmdale - Burbank		
10.01	Guideway: At-grade exclusive right-of-way	$47,738,427
10.04	Guideway: Aerial structure	$243,591,976
10.05	Guideway: Built-up fill	$171,258,095
10.06	Guideway: Underground cut & cover	$8,772,357
10.07	Guideway: Underground Tunnel	$6,616,461,241
10.08	Guideway: Retained Cut or Fill	$5,404,657
10.09	Track: Direct fixation	$106,833,074
10.11	Track: Ballasted	$256,518,394
10.12	Track: Special (switches, turnouts)	$69,451,575
20.01	At-grade station, stop, shelter, mall, terminal, platform	$250,901,891
40.01	Demolition, Clearing, Earthwork	$100,191,553
40.02	Site Utilities, Utility Relocation	$134,476,564
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$634,791,654
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$169,176,942
40.05	Site Structures including Retaining Walls, Sound Walls	$380,223,379
40.07	Automobile, bus, van accessways including roads, parking lots	$103,783,990
40.08	Temp Facilities and Other Indirects	$176,823,484
50.01	Train control and signals	$276,152,743
50.03	Traction power supply: substations	$681,933,025
50.04	Traction power distribution: catenary and third rail	$261,199,651

SCC Minor	SCC Description	2026 BP Estimate
50.05	Communications	$95,879,256
60.01	Purchase or lease of Real Estate	$3,958,674,165
80.01	Preliminary Engineering	$179,182,041
80.02	Engineering	$544,031,617
80.03	Project Management for Design and Construction	$412,482,582
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$45,801,379
80.08	Start up	$3,767,687
	TOTAL	**$15,935,503,397**

APPENDIX C.3.8: Burbank – Los Angeles

SCC Minor	SCC Description	2026 BP Estimate
Burbank - Los Angeles		
10.11	Track: Ballasted	$54,158,792
10.12	Track: Special (switches, turnouts)	$3,149,580
20.01	At-grade station, stop, shelter, mall, terminal, platform	$73,725,137
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$113,014,925
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$7,265,872
40.08	Temp Facilities and Other Indirects	$3,379,957
50.01	Train control and signals	$77,122,632
50.03	Traction power supply: substations	$89,953,447
50.04	Traction power distribution: catenary and third rail	$116,187,114
50.05	Communications	$8,338,184
60.01	Purchase or lease of Real Estate	$249,120,955
80.01	Preliminary Engineering	$9,894,513
80.02	Engineering	$29,947,707
80.03	Project Management for Design and Construction	$21,811,537
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$2,523,687
80.08	Start up	$1,364,145
	TOTAL	**$860,958,185**

APPENDIX C.3.9: Los Angeles – Anaheim

SCC Minor	SCC Description	2026 BP Estimate
Los Angeles - Anaheim		
10.04	Guideway: Aerial structure	$1,582,358,594
10.08	Guideway: Retained Cut or Fill	$866,123,311
10.11	Track: Ballasted	$1,236,278,363
10.12	Track: Special (switches, turnouts)	$227,396,832
20.01	At-grade station, stop, shelter, mall, terminal, platform	$218,522,305
30.02	Light Maintenance Facility	$166,723,081
40.02	Site Utilities, Utility Relocation	$46,234,863
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$3,309,584
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$141,066,204
40.05	Site Structures including Retaining Walls, Sound Walls	$237,905,543
40.07	Automobile, bus, van accessways including roads, parking lots	$423,153,749
40.08	Temp Facilities and Other Indirects	$89,800,963
50.01	Train control and signals	$353,545,931
50.03	Traction power supply: substations	$222,354,606
50.04	Traction power distribution: catenary and third rail	$426,795,932
50.05	Communications	$70,981,570
60.01	Purchase or lease of Real Estate	$550,024,890
80.01	Preliminary Engineering	$112,296,643
80.02	Engineering	$338,703,014
80.03	Project Management for Design and Construction	$259,862,621

SCC Minor	SCC Description	2026 BP Estimate
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$28,542,102
80.08	Start up	$4,896,774
	TOTAL	**$7,606,877,474**

APPENDIX C.3.10: Program Wide Support, Project Development & Trainsets

SCC Minor	SCC Description	2026 BP Estimate
Program Wide Support, Project Development & Trainsets		
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$22,298,739
60.01	Purchase or lease of Real Estate	$60,019,954
70.03	Commuter Rail	$2,279,956,008
80.01	Preliminary Engineering	$880,787,972
80.03	Project Management for Design and Construction	$3,883,663,744
80.05	Professional Liability and other Non-Construction Insurance	$340,349,866
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$171,692,603
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
90.00	Contingency	$15,622,288,698
	TOTAL	**$23,268,581,727**

APPENDIX C.3.11: Bookend

SCC Minor	SCC Description	2026 BP Estimate
Bookend		
20.01	At-Grade Station, Stop, Shelter, Mall, Terminal, Platform	$423,335,000
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400
	TOTAL	**$1,297,943,400**

APPENDIX C.3.12: San Francisco to Los Angeles / Anaheim Full Scenario

SCC Minor	SCC Description	2026 BP Estimate
San Francisco to Los Angeles / Anaheim Full Scenario		
10	Central Valley Civils & State Roads	$10,047,731,029
10.01	Guideway: At-grade exclusive right-of-way	$6,243,001,734
10.04	Guideway: Aerial structure	$8,927,923,835
10.05	Guideway: Built-up fill	$7,340,626,963
10.06	Guideway: Underground cut & cover	$8,772,357
10.07	Guideway: Underground Tunnel	$10,799,799,757
10.08	Guideway: Retained Cut or Fill	$1,114,700,466
10.09	Track: Direct fixation	$2,128,566,248
10.11	Track: Ballasted	$4,309,365,589
10.12	Track: Special (switches, turnouts)	$403,336,474
20.01	At-grade station, stop, shelter, mall, terminal, platform	$2,719,226,740
20.02	Aerial station, stop, shelter, mall, terminal, platform	$1,097,337,905
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
30.02	Light Maintenance Facility	$934,067,903
30.04	Storage or Maintenance of Way Building	$212,129,343
40.01	Demolition, Clearing, Earthwork	$282,558,795
40.02	Site Utilities, Utility Relocation	$1,929,830,605
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$866,991,565
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$1,381,405,921

SCC Minor	SCC Description	2026 BP Estimate
40.05	Site Structures including Retaining Walls, Sound Walls	$2,851,928,606
40.06	Pedestrian / bike access and accommodation, landscaping	$1,020,999,450
40.07	Automobile, bus, van accessways including roads, parking lots	$2,768,866,113
40.08	Temp Facilities and Other Indirects	$1,111,467,829
50.01	Train control and signals	$2,105,199,199
50.03	Traction power supply: substations	$3,357,159,473
50.04	Traction power distribution: catenary and third rail	$2,240,978,270
50.05	Communications	$885,035,851
60.01	Purchase or lease of Real Estate	$16,218,135,502
70.03	Commuter Rail	$2,279,956,008
80.01	Preliminary Engineering	$2,165,940,301
80.02	Engineering	$3,452,968,514
80.03	Project Management for Design and Construction	$6,460,551,975
80.04	Construction Administration & Management	$938,736,439
80.05	Professional Liability and other Non-Construction Insurance	$340,349,866
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$1,243,020,548
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
80.08	Start up	$31,116,542
90.00	Contingency	$15,622,288,698
	TOTAL	**$126,076,197,280**

APPENDIX C.4: Interim Stage – San Francisco to Palmdale

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APPENDIX C.4.1: San Francisco – San Jose – Facilities & Stations

SCC Minor	SCC Description	2026 BP Estimate
San Francisco - San Jose - Facilities & Stations		
20.01	At-grade station, stop, shelter, mall, terminal, platform	$600,795,946
30.02	Light Maintenance Facility	$230,918,662
40.02	Site Utilities, Utility Relocation	$193,017,115
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$13,195,961
40.08	Temp Facilities and Other Indirects	$3,860,342
60.01	Purchase or lease of Real Estate	$127,146,470
80.01	Preliminary Engineering	$18,495,193
80.02	Engineering	$56,215,198
80.03	Project Management for Design and Construction	$42,489,704
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$4,751,477
	TOTAL	**$1,290,886,069**

APPENDIX C.4.2: Gilroy – Wye

SCC Minor	SCC Description	2026 BP Estimate
Gilroy - Wye		
10.04	Guideway: Aerial structure	$4,944,098,728
10.05	Guideway: Built-up fill	$2,407,457,042
10.07	Guideway: Underground Tunnel	$1,516,929,578
10.09	Track: Direct fixation	$1,321,660,780
10.11	Track: Ballasted	$18,914,428
20.01	At-grade station, stop, shelter, mall, terminal, platform	$512,739,271
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
40.02	Site Utilities, Utility Relocation	$215,478,737
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$51,212,432
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$203,731,820
40.05	Site Structures including Retaining Walls, Sound Walls	$412,995,473
40.07	Automobile, bus, van accessways including roads, parking lots	$846,119,561
40.08	Temp Facilities and Other Indirects	$198,381,207
50.01	Train control and signals	$316,513,156
50.03	Traction power supply: substations	$574,622,336
50.04	Traction power distribution: catenary and third rail	$369,097,968
50.05	Communications	$39,236,666
60.01	Purchase or lease of Real Estate	$3,097,307,959
80.01	Preliminary Engineering	$239,814,292

SCC Minor	SCC Description	2026 BP Estimate
80.02	Engineering	$733,849,839
80.03	Project Management for Design and Construction	$554,073,143
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$60,916,419
80.08	Start up	$4,468,448
	TOTAL	**$18,866,220,008**

APPENDIX C.4.3: Merced Extension – Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Merced Extension - Civil, ROW, T&S, & Stations		
10.01	Guideway: At-grade exclusive right-of-way	$392,612,017
10.04	Guideway: Aerial structure	$797,094,928
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$119,653,924
10.11	Track: Ballasted	$261,406,651
10.12	Track: Special (switches, turnouts)	$4,239,471
20.01	At-grade station, stop, shelter, mall, terminal, platform	$105,252,203
40.01	Demolition, Clearing, Earthwork	$12,563,401
40.02	Site Utilities, Utility Relocation	$273,798,150
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$4,599,981
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$130,122,269
40.07	Automobile, bus, van accessways including roads, parking lots	$510,310,216
40.08	Temp Facilities and Other Indirects	$81,147,076
50.01	Train control and signals	$132,939,624
50.03	Traction power supply: substations	$210,503,678
50.04	Traction power distribution: catenary and third rail	$110,494,960
50.05	Communications	$117,759,566
60.01	Purchase or lease of Real Estate	$571,793,481
80.01	Preliminary Engineering	$152,595,976

SCC Minor	SCC Description	2026 BP Estimate
80.02	Engineering	$220,156,275
80.03	Project Management for Design and Construction	$137,519,491
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$14,603,670
80.08	Start up	$2,015,299
	TOTAL	**$4,606,354,804**

APPENDIX C.4.4: Central Valley – Civil, ROW, T&S, Stations, & Facilities

SCC Minor	SCC Description	2026 BP Estimate
Central Valley 119-miles – Civil, ROW, T&S, Stations, & Facilities		
10.00	Central Valley Civil	$10,047,731,029
10.09	Track: Direct fixation	$292,100,964
10.11	Track: Ballasted	$943,208,117
10.12	Track: Special (switches, turnouts)	$78,719,743
20.01	At-grade station, stop, shelter, mall, terminal, platform	$383,734,514
20.02	Aerial station, stop, shelter, mall, terminal, platform	$414,493,673
30.02	Light Maintenance Facility	$516,498,649
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$225,573,134
40.05	Site Structures including Retaining Walls, Sound Walls	$45,955,889
40.08	Temp Facilities and Other Indirects	$27,834,817
50.01	Train control and signals	$431,589,596
50.03	Traction power supply: substations	$922,077,173
50.04	Traction power distribution: catenary and third rail	$446,542,883
50.05	Communications	$412,148,435
60.01	Purchase or lease of Real Estate	$1,879,833,565
80.01	Preliminary Engineering	$94,646,074
80.02	Engineering	$262,455,810
80.03	Project Management for Design and Construction	$178,729,015
80.04	Construction Administration & Management	$938,736,439
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$805,941,360

SCC Minor	SCC Description	2026 BP Estimate
80.08	Start up	$7,444,178
	TOTAL	**$19,355,995,058**

APPENDIX C.4.5: Bakersfield Extension – Civil, ROW, T&S & Stations

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield Extension - Civil, ROW, T&S, & Stations		
10.04	Guideway: Aerial structure	$1,360,779,609
10.05	Guideway: Built-up fill	$341,134,537
10.09	Track: Direct fixation	$183,512,719
10.11	Track: Ballasted	$212,208,307
10.12	Track: Special (switches, turnouts)	$8,512,720
20.02	Aerial station, stop, shelter, mall, terminal, platform	$682,844,232
40.01	Demolition, Clearing, Earthwork	$64,947,220
40.02	Site Utilities, Utility Relocation	$373,763,919
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$9,124,145
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$177,100,578
40.05	Site Structures including Retaining Walls, Sound Walls	$837,905,272
40.07	Automobile, bus, van accessways including roads, parking lots	$122,112,653
40.08	Temp Facilities and Other Indirects	$198,961,943
50.01	Train control and signals	$81,853,890
50.03	Traction power supply: substations	$48,707,989
50.04	Traction power distribution: catenary and third rail	$127,616,343
50.05	Communications	$66,939,980
60.01	Purchase or lease of Real Estate	$1,084,190,727
80.01	Preliminary Engineering	$145,459,648
80.02	Engineering	$257,828,125

SCC Minor	SCC Description	2026 BP Estimate
80.03	Project Management for Design and Construction	$204,044,775
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$22,358,463
80.08	Start up	$1,592,386
	TOTAL	**$6,613,500,181**

APPENDIX C.4.6: Bakersfield – Palmdale

SCC Minor	SCC Description	2026 BP Estimate
Bakersfield - Palmdale		
10.01	Guideway: At-grade exclusive right-of-way	$5,802,651,290
10.05	Guideway: Built-up fill	$4,420,777,289
10.07	Guideway: Underground Tunnel	$2,666,408,938
10.09	Track: Direct fixation	$104,804,787
10.11	Track: Ballasted	$1,326,672,536
10.12	Track: Special (switches, turnouts)	$11,866,551
20.01	At-grade station, stop, shelter, mall, terminal, platform	$150,220,472
30.04	Storage or Maintenance of Way Building	$212,129,343
40.01	Demolition, Clearing, Earthwork	$104,856,620
40.02	Site Utilities, Utility Relocation	$693,061,256
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$50,938,845
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$291,874,403
40.05	Site Structures including Retaining Walls, Sound Walls	$936,943,051
40.06	Pedestrian / bike access and accommodation, landscaping	$146,391,050
40.07	Automobile, bus, van accessways including roads, parking lots	$763,385,943
40.08	Temp Facilities and Other Indirects	$331,278,041
50.01	Train control and signals	$435,481,626
50.03	Traction power supply: substations	$607,007,220
50.04	Traction power distribution: catenary and third rail	$383,043,419
50.05	Communications	$73,752,193

SCC Minor	SCC Description	2026 BP Estimate
60.01	Purchase or lease of Real Estate	$4,640,023,336
80.01	Preliminary Engineering	$332,419,778
80.02	Engineering	$1,008,706,608
80.03	Project Management for Design and Construction	$765,060,679
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$85,798,867
80.08	Start up	$5,567,625
	TOTAL	**$26,351,121,767**

APPENDIX C.4.7: Program Wide Support, Project Development & Trainsets

SCC Minor	SCC Description	2026 BP Estimate
Program Wide Support, Project Development, & Trainsets		
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$22,298,739
60.01	Purchase or lease of Real Estate	$60,019,954
70.03	Commuter Rail	$1,615,815,598
80.01	Preliminary Engineering	$880,787,972
80.03	Project Management for Design and Construction	$3,883,663,744
80.05	Professional Liability and other Non-Construction Insurance	$280,029,996
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$171,692,603
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
90.00	Contingency	$11,566,189,850
	TOTAL	**$18,488,022,598**

APPENDIX C.4.8: Bookend

SCC Minor	SCC Description	2026 BP Estimate
Bookend		
20.01	At-Grade Station, Stop, Shelter, Mall, Terminal, Platform	$423,335,000
40.06	Pedestrian / bike access and accommodation, landscaping	$874,608,400
	TOTAL	**$1,297,943,400**

APPENDIX C.4.9: Interim Stage – San Francisco to Palmdale Full Scenario

SCC Minor	SCC Description	2026 BP Estimate
Interim Stage – San Francisco to Palmdale Full Scenario		
10	Central Valley Civils & State Roads	$10,047,731,029
10.01	Guideway: At-grade exclusive right-of-way	$6,195,263,307
10.04	Guideway: Aerial structure	$7,101,973,265
10.05	Guideway: Built-up fill	$7,169,368,868
10.07	Guideway: Underground Tunnel	$4,183,338,516
10.08	Guideway: Retained Cut or Fill	$243,172,499
10.09	Track: Direct fixation	$2,021,733,175
10.11	Track: Ballasted	$2,762,410,040
10.12	Track: Special (switches, turnouts)	$103,338,486
20.01	At-grade station, stop, shelter, mall, terminal, platform	$2,176,077,407
20.02	Aerial station, stop, shelter, mall, terminal, platform	$1,097,337,905
30.01	Administration Building: Office, sales, storage, revenue counting	$226,600,724
30.02	Light Maintenance Facility	$747,417,311
30.04	Storage or Maintenance of Way Building	$212,129,343
40.01	Demolition, Clearing, Earthwork	$182,367,242
40.02	Site Utilities, Utility Relocation	$1,749,119,177
40.03	Haz. Matl, Contaminated Soil removal/mitigation, Ground Water Treatments	$115,875,402
40.04	Environmental Mitigation, e.g. Wetlands, Historic/Archeologic, Parks	$1,063,896,903

SCC Minor	SCC Description	2026 BP Estimate
40.05	Site Structures including Retaining Walls, Sound Walls	$2,233,799,684
40.06	Pedestrian / bike access and accommodation, landscaping	$1,020,999,450
40.07	Automobile, bus, van accessways including roads, parking lots	$2,241,928,374
40.08	Temp Facilities and Other Indirects	$841,463,426
50.01	Train control and signals	$1,398,377,893
50.03	Traction power supply: substations	$2,362,918,396
50.04	Traction power distribution: catenary and third rail	$1,436,795,573
50.05	Communications	$709,836,841
60.01	Purchase or lease of Real Estate	$11,460,315,493
70.03	Commuter Rail	$1,615,815,598
80.01	Preliminary Engineering	$1,864,218,933
80.02	Engineering	$2,539,211,854
80.03	Project Management for Design and Construction	$5,765,580,550
80.04	Construction Administration & Management	$938,736,439
80.05	Professional Liability and other Non-Construction Insurance	$280,029,996
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$1,166,062,859
80.07	Surveys, Testing, Investigation, Inspection	$7,524,143
80.08	Start up	$21,087,936
90.00	Contingency	$11,566,189,850
	TOTAL	**$96,870,043,884**