CALIFORNIA High-Speed Rail Authority

CA High Speed Rail Authority
Legislative Update
January 2018

Top 5 Near-Term Risks	Severity*	Mitigation Actions
ROW acquisition delays or failure to acquire ROW impacts construction operations	P I	• Partner with the contractor(s) to potentially re-sequence or accelerate work as necessary based on parcel availability (IP) • Settlement team established to focus on high priority construction parcels, team reviews ongoing (C) • Continuous monitoring to identify and resolve delivery bottlenecks (IP)
Additional costs of requirements needed for railroad operations and delays associated with agreements, design exceptions (clear-span of property), review and approval, or other issues during construction (lack of flaggers)	P I	• Assessed risks related to the railroad scope of work and recommended risk overlays to Railroad budgets (C) • Signed Relocation & Construction, Purchase and Sales agreements with BNSF (C) • Finalized templates for Grade Sep. agreement and execute final agreements with railroads at 100% design of grade separations and rail realignments (IP) • Working with railroads to identify necessity of the requested modifications & mitigate the impact of HSR construction on railroad operations at the lowest possible costs (IP)
Additional costs associated with railroad intrusion protection	P I	• Identified engineering solutions for mitigating the adjacency issues within CP 1, CP 2-3 and CP 4 projects (IP) • Directives have been issued to all contracts for intrusion barrier design and pier protection required for Type II structures (C) • Revised directives are in progress to incorporate more cost effective IP measures including 'sacrificial' berms that will replace the more costly barrier walls. These measures are currently being discussed with BNSF to allow implementation for adjacency to their railroad (IP)
Additional costs of utility relocations attributable to late transfer of utility work to DB and potential for as-yet unidentified utilities	P I	• Revised construction estimates based on revised utility conflict matrix and performed a risk overlay to account for relocations of unidentified utilities on the CP1 contract (C) • Performing value engineering to make utility relocation designs more cost-effective (IP) • Thorough review of DB utility cost proposals and compare against competitive market estimates (IP) • Developing a new utility management approach to standardize the Authority's estimating practice for utility relocations and eliminate the practice of providing provisional sum for utility relocation due to unknown utility (IP)
Delays in obtaining environmental clearance for re-examinations and permitting commitments performed as a result of design refinements	P I	• Conducting workshops with the Federal Railroad Administration and the Design-Build team to review re-examinations and early decision on course of action (IP) • Developed and are using a one-step or two-step re-examination process according to potential environmental impacts (C)

Note: **P – Probability of occurrence; **I** – Potential Impact of the risk*

Very High | High | Medium | Low | Very Low

Mitigation Actions: IP – In Progress; C – Complete

Source: Adapted from Section 9 - Risk Management of the CHSRA 2016 Business Plan issued on May 1, 2016, F&A Committee March 2016 Operations Report and CHSR Program Risk Assessments

Top 5 Long-Term Risks	Current Mitigations
Environmental Approvals	• Continue identifying & implementing federal and state environmental clearance strategies and process improvements to achieve Notices of Determination (NOD)/Records of Decision (ROD) timelines, e.g. NEPA assignment (IP) • Increased the Authority's and contractors' environmental resources and worked with the FRA and resource agencies to assign sufficient resources for environmental review & approval processes; staffing agreements underway in various stages of execution (IP) • Continue working with the FRA to increase its staff resources to expedite environmental impact and reviews (IP) • Currently implementing project permitting strategies on parallel schedules with EIRs/EISs (IP)
Financing and Funding	• Continue to work with Federal partners, members of Congress and state legislators, the USDOT and other stakeholders to identify all necessary sources of funding for the Valley-to-Valley segment (IP) • Continue to review and adjust scope of work over multiple phases to fit within available funding (IP) • Continue to evaluate alternative delivery models and commercial mechanisms (IP)
Third Party Agreements	• Reached agreement on the General Order, pending adoption by the CPUC that resolves design and coordination with the utilities (C) • Collaborating with utilities and the FRA for early identification of any potential Buy America issues, and negotiations are continuing on agreements to resolve remaining issues (IP) • Managing utility design & construction requirements, & finalizing all cooperative utility agreements, in coordination with the affected utility companies utilities to develop early understanding of scope, cost and schedule of relocations (IP) • Developing a new utility management approach to standardize the Authority's estimating practice for utility relocations that will provide an earlier assessment of the utility companies requirements that can be better managed before and after award of DB contracts (IP)
Right-of-Way	• Secure adequate funding and staffing with appropriate skills to process the volume of acquisition in a timely manner (IP) • Procuring additional ROW engineering and survey support services to develop appraisal mapping for ROW parcels for the Avenue 19 in Madera to San Jose segment (IP) • ROW Division working with teams developing new segment alignments to evaluate costs and minimize complex parcels that require longer acquisition schedule (IP) • Clearing additional width along corridors to reduce secondary ROW acquisitions from same owners resulting from design refinements (IP)
Engineering and environmental challenges associated with tunnels in mountainous terrains - design, constructability, commercial, groundwater resources, & geotechnical investigation (GI)	• Complete Steering Committee's risk tree evaluations, CFD & feasibility studies to develop recommendations on tunneling & ventilation (IP) • Continue to explore provisions to cross active faults on at-grade alignments where practical or crossing faults in underground structures (IP) • Complete fault rupture studies to identify possibility to accommodate shifts in track alignment and complete risk assessment (IP) • Accelerate permissions-to-enter (PTE) and geotechnical work in Northern California section (IP) • Develop design criteria for tunnels and include more performance based specifications (IP) • Develop a faster method to obtain early PTEs and start the process earlier (IP) • Perform additional geotechnical investigations in advance to support procurement phase (IP)

Note: The probability and impact of these risks are dependent on decisions and policy that the Authority has not yet settled. Therefore, it is too early to include a severity column.
Source: Section 9 - Risk Management of the CHSRA 2016 Business Plan issued on May 1, 2016 *Mitigation Actions: IP – In Progress; C – Complete*

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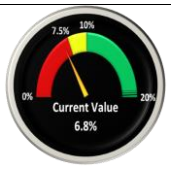
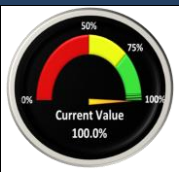
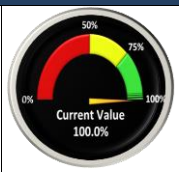
CA High Speed Rail Authority
Legislative Dashboard
January 2018

	Construction Package 1	Construction Package 2-3	Construction Package 4
Award Value (Original Contract)	$1,022,988,000	$1,365,335,890	$444,247,000
Cost (Remaining Contingency / Remaining Contract Value)	 December Report 6.7% → January Report[1] 6.8%	 December Report 23.3% → January Report[1] 23.5%	 December Report 15.5% ↔ January Report[1] 15.5%
Schedule Performance Index (Earned Value / Planned Value)	 December Report .9 ← January Report[1] .8	 December Report .59 ← January Report[1] .56	 December Report .39 → January Report[1] .43
ROW Acquisition (Actual ROW Spend / ROW Budget)	 December Report 92% ← January Report[1] 90%	 December Report 86% → January Report[1] 88%	 December Report 59% → January Report[1] 106%

ARRA Status		
	Performance to Forecast	**Total Grant Performance**
ARRA Burn Rate Indicator (ARRA Paid to Date + Pending FRA Approvals + Accruals / ARRA Grant Forecast)	 ↔ January Report: All of the ARRA funds for the project were spent prior to the statutory deadline of September 30, 2017.	 ↔ January Report[2]: All of the ARRA funds for the project were spent prior to the statutory deadline of September 30, 2017.

1 Metrics are from the Dec-17 and Jan-18 CA High-Speed Rail Board Reports

Cost (Remaining Contingency / Remaining Contract Value)

- The goal is to contain the contingency in the range of 10-20%. As per Federal Transit Administration guidelines, cost for contingency should be in the range of 10% to 20% of construction cost during the 15% - 30% Preliminary Design Phase.
- CP1: The Remaining Contingency = [Current Allocated Contingency Amount] – [Executed Change Orders Affecting Contingency] = $50,745,399
The Remaining Contract Value = [Revised DB Contract Amount] – [Authority Approved Invoices to Date] = $749,066,334
- A risk informed re-analysis of the CP1 budget, scope and cost and schedule risk exposure is currently being performed. Current projections are that the initial contingency for CP1 will be fully exhausted well in advance of completion of the CP1 scope of work. The results of this ongoing re-analysis are intended to inform the Authority about necessary additions to the current budget and contingency for CP1, with updates provided in future reports.
- CP2-3: The Remaining Contingency = [Current Allocated Contingency Amount] – [Executed Change Orders Affecting Contingency] = $231,910,013
The Remaining Contract Value = [Revised DB Contract Amount] – [Authority Approved Invoices to Date] = $984,967,188
- CP4: The Remaining Contingency = [Current Allocated Contingency Amount] – [Executed Change Orders Affecting Contingency] = $59,195,790
The Remaining Contract Value = [Revised DB Contract Amount] – [Authority Approved Invoices to Date] = $383,073,960

Schedule Performance Index (SPI) (Earned Value / Planned Value)

- The goal is to achieve SPI ≥ 1, which is same as ≥ 100% when expressed in percent.
- Benchmark: As per guidelines by PMI (Project Management Institute, World Wide) the SPI should be ≥ 1 or 100%. At a value of 100% the Project is forecasted to complete on-time. Earned Value (EV) = Percent Complete x BAC (Budget at Completion); PV= Planned Value; SPI measures how the contractors are tracking to the cost based schedule. For example, a project has been going for 3 months, and the budget is $100/mo, or $300 total. If, for the 3 months the contractor has done $150 worth of work, then the Earned Value = $150, the Planned Value = $300, and the SPI =$150/$300 = 0.50.

ROW Acquisition (Real Property Acquisition Spend / Real Property Acquisition Budget)

- ROW Acquisition is calculated as follows: (Actual ROW Acquired + Actual Preliminary ROW / Regular ROW Budget + Preliminary ROW Budget)
- CP1: In the Jan-18 Reports, the CP1 ROW budget was increased $18.2M (from $640.2M to $658.4M) and related expenditures of $638K moved due to a reporting correction moving a contract from CP4 ROW to CP1 ROW. The total number of CP1 (CP1ABC+CP1D) parcels needed for delivery has changed (542 to 895) over time due to design-builder design refinements, estimates based on 15% designs, and public parcels transfer agreements. (Real Property Acquisition Spend $591.2M / Real Property Acquisition Budget $658.4M) = 90%
- CP2-3: The total number of CP2-3 parcels needed for delivery has changed over time (543 in Mar-16 to 747 in Jan-18) due to estimates based on 15% designs, and public parcel transfer agreements. (Real Property Acquisition Spend $254.8M / Real Property Acquisition Budget $288.1M) = 88%
- CP4: In the Jan-18 Reports, the CP4 ROW budget was decreased $18.2M (from $118.4M to $100.2M) and related expenditures of $638K moved due to a reporting correction moving a contract from CP4 ROW to CP1 ROW. Also, there was $36M in parcel acquisitions. (Real Property Acquisition Spend $106.6M / Real Property Acquisition Budget $100.2M) = 106%

ARRA Burn Rate Indicator: Performance to Forecast and Total Grant Performance

- All of the ARRA funds for the project were spent prior to the statutory deadline of September 30, 2017.