

Crenshaw/LAX Transit Project

Budget/Schedule Presentation – February 25, 2021



Budget / Schedule

◆ BUDGET

	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$2,148M	\$2,148M

▲ SCHEDULE

	<u>Current</u>	<u>Forecast</u>
REVENUE OPERATION	May 2021	TBD - 2021

- Overall Project Progress is 98% complete (progress from 96% - 98% completion achieved in a 7-month period)
- Contractor is not applying sufficient work force to complete their remaining work
- Metro continues to work with contractor to mitigate the schedule forecast; emphasizing safety and reliability in final acceptance of project elements and systems
- Remaining work is primarily systems – power, train control, station/tunnel fire life safety and communications



Expo Station plaza level elevator



UG3 contractor performing mechanical testing on tunnel booster fans



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On target



Possible problem



Significant Impact

*Contractor Substantial Completion

Life-of-Project Budget Status

- Project total commitments are 96.9% and expenses are 93% of the LOP Budget of \$2,148 million
- Professional services, including Metro staff, expenses are between \$3.4 - \$3.7 million per month
- Anticipate that based on current monthly rate of professional services expenses, additional Project funding may be required by 4th quarter FY22
- The actual value that may be required is unknown until the contractor successfully completes Substantial Completion
- \$26.5 million in unallocated contingency remains
- Budget does not include any potential claim settlement funding

Project Sequence of Completion

- Installation of Equipment (Contractor)
- Local Field Acceptance Tests – (LFAT) (Contractor)
- Systems Integration Tests – (SIT-1) (Contractor)
- Vehicle Software – (P3010) Metro (Carborne)/Contractor (Wayside)
- Systems integration Tests (SIT-2) - interface with Rail Operations Control (ROC) – Metro
- Training, Simulated Service, Emergency Drills - Metro
- Safety Certification – California Public Utility Commission
- Revenue Service



Schedule Status

- Contractor did not complete substantial completion by December 2020
- Progress monitoring indicates that this goal may be attained in 2021
- Schedule projections are dependent on number of variables - productivity, contractor resources, amount of re-work, testing success rate and complexity of work
- Contractor needs to make more progress in LFAT testing before a reliable estimate of completion can be made
- Consider strategies such as overlapping activities

WSCC Contract

Milestone Substantial Completion Forecast

- WSCC needs to make significant performance improvement by taking the following potential mitigation actions:
 - Add crews and resources to prepare/complete required prerequisites before conducting Local Field Acceptance Tests and System Integration Tests,
 - Double testing personnel and increase to two work shifts,
 - Double dedicated management and integration supervision to complement increased work force,
 - Develop a realistic plan to complete testing, and
 - Increase schedule measurement resource for real time tracking of progress.

Systems Testing Progress (as of 2/12/21)

Monthly LFATs Outcome						
Month	Total Scheduled	Passed	Passed %	Failed	Ongoing/ Partial	Canceled/ Rescheduled
Aug-20	77	32	42%	11	8	26
Sep-20	85	52	61%	4	12	17
Oct-20	59	35	59%	3	8	13
Nov-20	82	43	52%	9	3	27
Dec-20	90	44	49%	3	14	34
Jan-21	49	23	47%	1	7	18
Target per month		117				

Monthly SITs Outcome						
Month	Total Scheduled	Passed	Passed %	Failed	Ongoing/ Partial	Canceled
Aug-20	2	0	0%	2	0	0
Sep-20	1	0	0%	0	0	1
Oct-20	5	2	40%	3	0	0
Nov-20	13	4	31%	8	0	1
Dec-20	4	1	25%	2	0	1
Jan-21	15	8	53%	2	0	2
Target per month		52				



Metro

Schedule Considerations

- Current field team personnel (Metro, contractor, subcontractors) are experienced and committed to a successful start-up
- Equipment interfaces are very complex, but the technology is service proven
- The most recent tunneling project that Metro opened was a small section of the Eastside Extension, so there are systems project characteristics that are new to Metro projects as technology has advanced since then
- Metro working to remove pieces of scope from WSCC Contract. Most significant is agreement with the City of Los Angeles to perform paving work at Park Mesa Heights

Remaining Project Key Issues

These issues will determine the final completion dates:

- Significant amount of physical installation work that remains to be completed
- Volume of complex testing that remains to be done
- 297* (97%) remain as of January 27, 2021 (*Contractor changed LFAT count approach since December 2020 summary)
- Subcontractor coordination and integration management
- Labor resources
- Design resources
- Ability to control schedule delays
- Amount of re-work



Conclusion

- Number of variables impact actual completion dates
- Metro continues to work with contractor to mitigate the schedule forecast
- Metro will continue to emphasize safety and reliability in final acceptance of Project elements and systems
- Remaining work is primarily systems – power, train control, station/tunnel life safety and communications