

# Crenshaw/LAX Transit Project Schedule Presentation – December 3, 2020



# Budget / Schedule

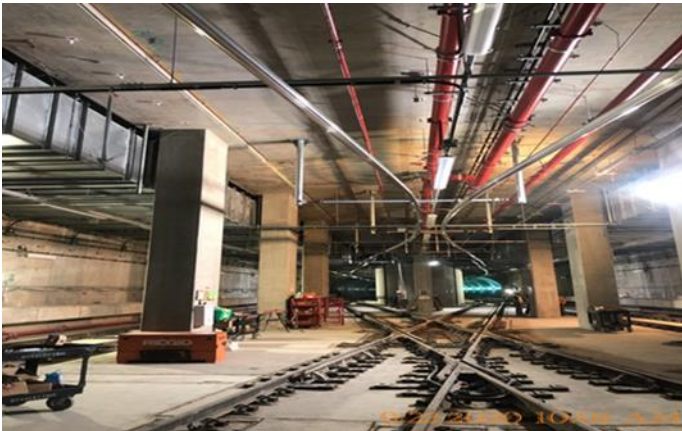
## ◆ BUDGET

	<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 97.0% complete
- 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/CRENSHAW STATION – Installing supports and fixtures for the crossover lighting at the invert level



MARTIN LUTHER KING JR. STATION – Installing edge lighting at the plaza level



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On target



Possible problem



Significant Impact

\*Contractor Substantial Completion

# 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



# Status

- Contractor had committed to substantial completion by December 2020
- Progress monitoring indicates that this goal will not be achieved
- 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

# WSSC Contract

## Milestone Substantial Completion Forecast

- WSSC 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.

# Overall Systems Completion Status

Segment A ( 8+08.15 - 159+50)				
Systems	Traction Power	OCS /OCR	Train Control	Communication
Installation	100%	100%	100%	85%
LFAT Test	95%	75%	90%	9%
SIT-1 Test	10%	85%	5%	0%
Segment B1 (159+50 - 274+00)				
Systems	Traction Power	OCS /OCR	Train Control	Communication
Installation	95%	100%	100%	70%
LFAT Test	90%	95%	90%	10%
SIT-1 Test	10%	50%	5%	0%
Segment B2 (274+00 - 364+80)				
Systems	Traction Power	OCS /OCR	Train Control	Communication
Installation	100%	100%	100%	80%
LFAT Test	95%	91%	90%	10%
SIT-1 Test	N/A	46%	5%	0%
Segment C (364+80 - 448+34)				
Systems	Traction Power	OCS /OCR	Train Control	Communication
Installation	100%	100%	95%	65%
LFAT Test	95%	75%	85%	5%
SIT-1 Test	10%	0%	0%	0%



**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
- 1,340 LFAT's (54%) remain as of October 31, 2020
- Subcontractor coordination and integration management
- Labor resources
- Design resources
- Ability to control schedule delays
- Amount of re-work



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# WSCC Contract Liquidated Damages

Milestones per Unilateral Non-Compensable Time Extension (September 2018)	Completion Date	\$'s per Day	Accrued to Date
No. 3 – Commence all Systems Integration Testing Phase 1	September 12, 2019	\$30,000	
No. 1 – Substantial Completion	December 11, 2019	\$36,800	
Total Accrued through October 31, 2020			<b>\$13,519,200</b>
The daily limit for accessing Liquidated Damages is \$36,800 and the Contract Limit is \$15,000,000			

- Contractor has missed both milestone completion dates.
- The time extension stipulated that the maximum daily limit for liquidated damages would be accessed if Revenue Service on May 23, 2020 was not achieved.
- Metro is accruing liquidated damages but has not yet accessed liquidated damages in the contractor's monthly payment application.
- Metro reserved the right to assess and withhold the accrued liquidated damages in the future.



# Construction Photos



**Leimert Park Station – plaza, lighting, landscaping, bollards, elevator and main entrance**

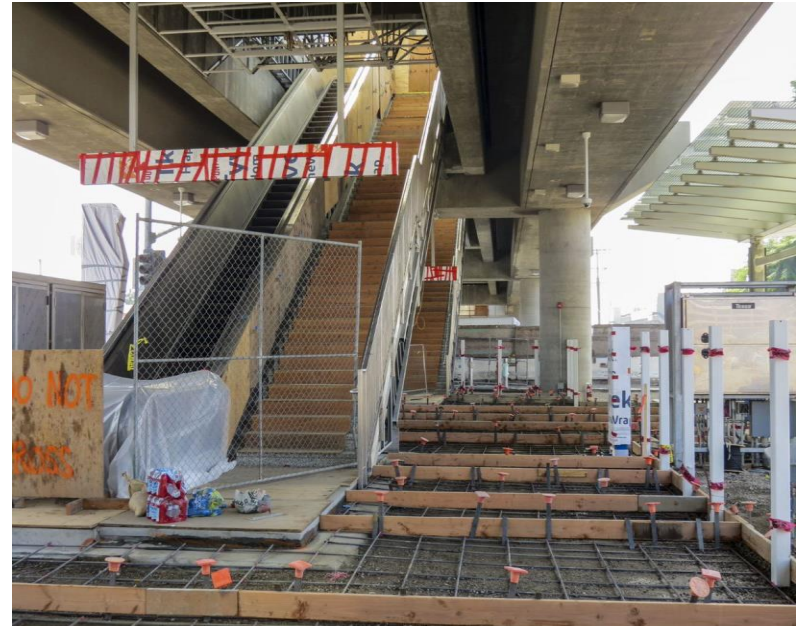


**Crenshaw Street restoration at 57<sup>th</sup> Street – looking southbound**

# Construction Photos



**Fairview Heights Station - parking, landscaping, and pedestrian crossing**



**Aviation Century Station – ready for concrete placement of plaza floor**

# Construction Photos



**Downtown Inglewood Station – crews installing the platform LCD message screen**



**Downtown Inglewood Station – plaza, tracks and platform**

# Metro Efforts to Work With and Help WSCC

- Minimize additional change orders
  - Park Mesa Heights paving being done by others
  - Fiber optic diversification done by others
- Collaborative Review of Submittals
  - Same day review of critical submittals with WSCC staff present
  - RFI's reviewed in the field - allowing quicker turn around times
- Expedite required field witness testing
  - 7-day scheduling timeframe reduced to 2 days

# Metro Efforts to Work With and Help WSCC (continued)

- Provide early punch list activities
  - Walk work areas early to identify potential punch list items to minimize last minute work
  - Identify remaining work required prior to closing work areas up to help reduce rework
- Weekly joint review of work schedule with WSCC and subcontractors
  - Identify scope gap issues early to allow work to occur efficiently
  - Discuss work execution logic to help work to occur efficiently
- Metro / WSCC review bi-weekly extended work schedules and activities to identify conflicts and plan future 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