



Board Report

File #: 2021-0223, **File Type:** Oral Report / Presentation

Agenda Number: 29.

**CONSTRUCTION COMMITTEE
MAY 20, 2021**

SUBJECT: PROGRAM MANAGEMENT MAJOR PROJECT STATUS REPORT

ACTION: ORAL REPORT

RECOMMENDATION

RECEIVE oral report on the Major Project Status by the Chief Program Management Officer.

DISCUSSION

Update report covering the month of May 2021 by the Chief Program Management Officer.

Prepared by:

- **Crenshaw/LAX** - Sameh Ghaly, Sr EO Project Mgmt., (213) 418-3369
- **Regional Connector** - Sameh Ghaly, Sr EO Project Mgmt., (213) 418-3369
- **Westside Purple Line Ext 1** - James Cohen, EO Project Mgmt., (213) 922-7911
- **Westside Purple Line Ext 2** - Michael McKenna, EO Project Mgmt., (213) 312-3132
- **Westside Purple Line Ext 3** - Kimberly Ong, EO Project Mgmt., (323) 903-4112
- **Willowbrook/Rosa Park Station** - Timothy Lindholm, Sr. EO Project Engr., (213) 922-7297
- **Airport Metro connector (AMC)** - Timothy Lindholm, Sr. EO Project Engr., (213) 922-7297
- **Division 20 Portal Widening Turnback** - Rick Meade, Sr EO Project Mgmt., (562)524-0517
- **I-210 Barrier Replacement** - Androush Danielians, Sr EO Project Engr., (213) 922-7598
- **I-5 North County Enhancements** - Timothy Lindholm, Sr. EO Project Engr., (213) 922-7297
- **I-5 North** - Abdollah Ansari, Sr EO Construction & Engr., (213) 922-4781
- **I-5 South** - Abdollah Ansari, Sr EO Construction & Engr., (213) 922-4781
- **Presentation** - Yohana Jonathan, Mgr, Project Control, (213) 418-3031



Phillip A. Washington
Chief Executive Officer

Program Management Major Project Status Report

Presented By

Bryan Pennington

Chief Program Management Officer (Interim)

OUTLINE OF PLAN FOR PROJECT SCOPE/COST CONTAINMENT

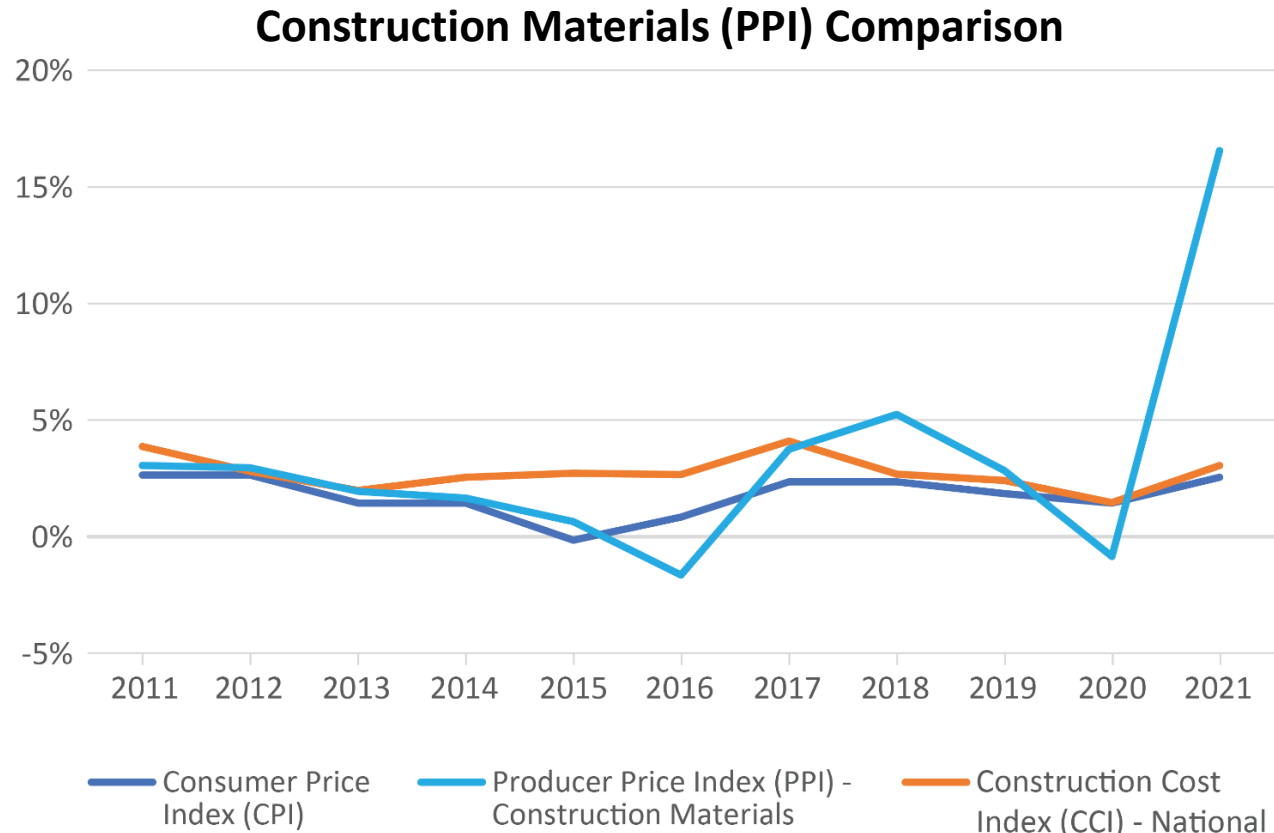
- Introduction
- Opportunities for Improvement
 - Contractual
 - Technical
 - Management
 - Community
 - Policy

OUTLINE OF PLAN FOR PROJECT SCOPE/COST CONTAINMENT

- Study on four representative projects
- Cost categories will include:
 - Construction material increases, escalation and inflation
 - Agency scope increases through the environmental phase to project scope completion
 - Acquisition (real estate) increases
 - Third Party requests
 - Unforeseen events

SOARING CONSTRUCTION MATERIAL PRICES

- Construction materials are seeing rapid cost escalation
- Largely due to:
 - Impediments to importation
 - Uptick in demand
 - COVID-19 impacts to domestic production, and transport/delivery



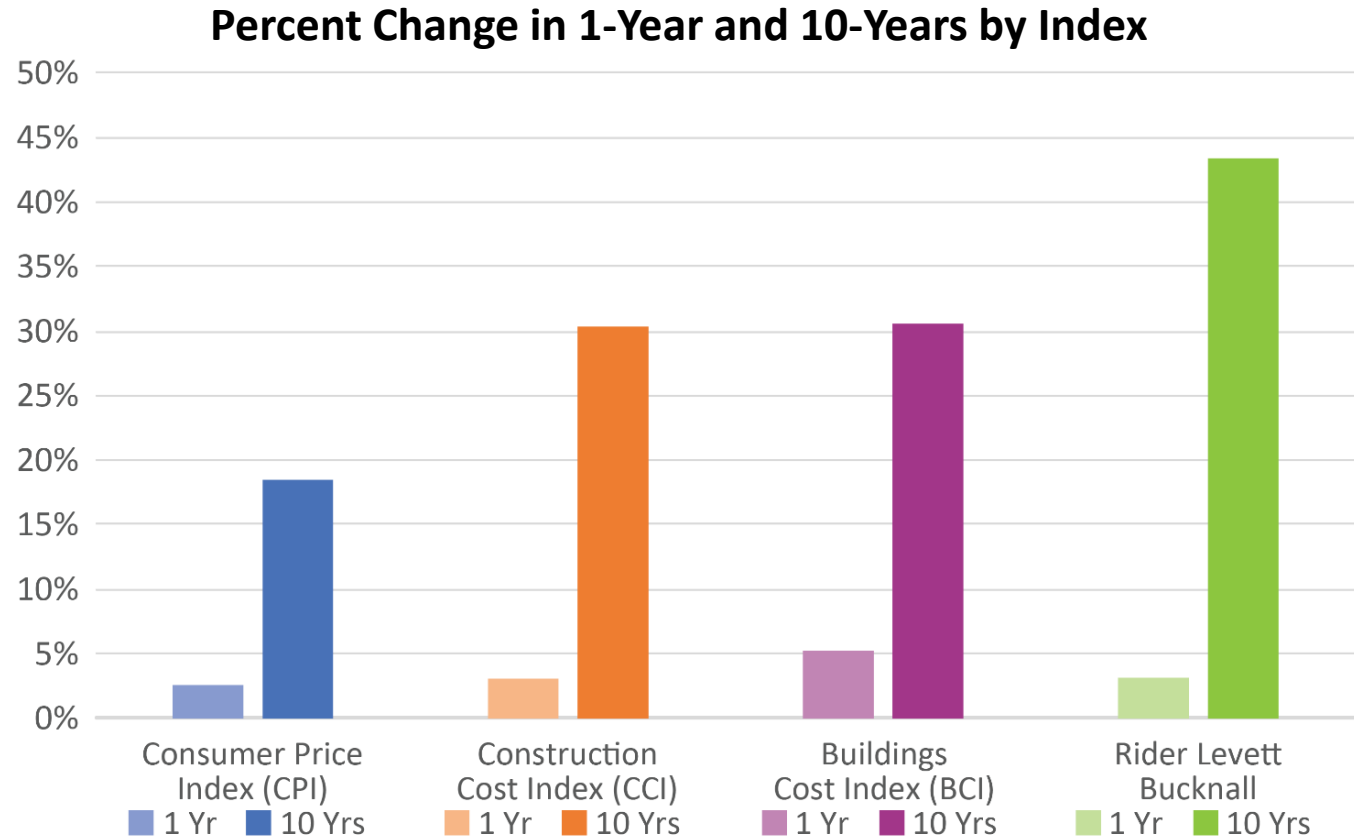
May 2021

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CONSTRUCTION COSTS OUTPACING MARKET

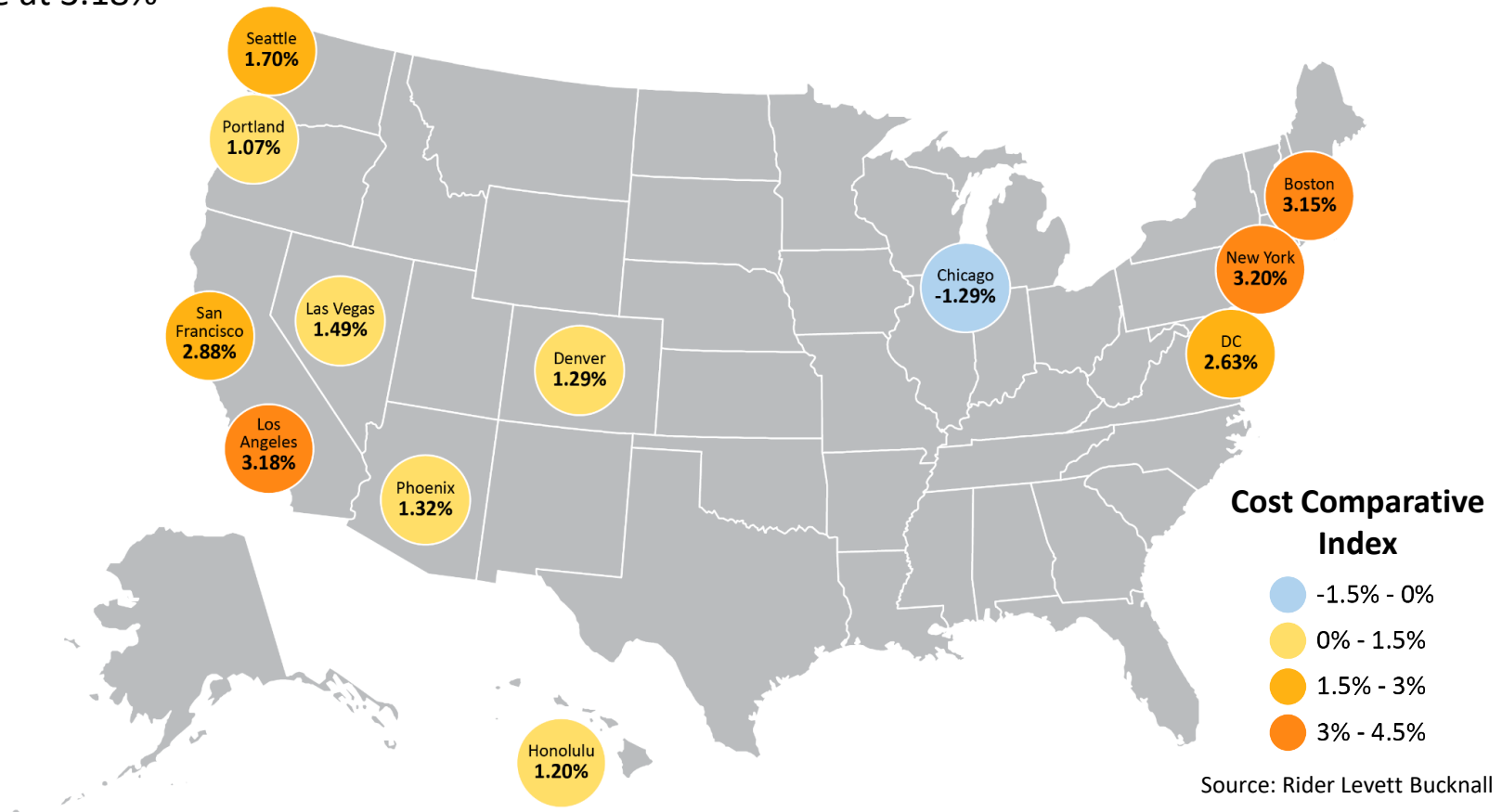
- Over the 1-year COVID pandemic, construction market escalation (CCI, BCI, & RLB) has trended higher than consumer market escalation (CPI)
- Over the past 10 years, construction prices have near doubled in escalation compared to consumer market prices in these same indices



Sources: Bureau of Labor Statistics, Engineering News Record, Rider Levett Bucknall

LOCAL ESCALATION ABOVE NATIONAL AVERAGE

- During COVID, the national average increase in construction cost is 1.82%
- LA was experiencing the greatest annual increase, showing escalation above the national average at 3.18%



























May 2021

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PROJECT BUDGET & SCHEDULE STATUS SUMMARY CHART

Project	Cost Performance	Schedule Performance	Comments
Crenshaw/LAX			Project is 98.6% complete. Contractor is not applying sufficient work force to complete their remaining work. Metro continues to work with contractor to mitigate the delays and impacts to the project schedule; emphasizing safety and reliability in final acceptance of project elements and systems. Remaining work is primarily underground station finishing and communications system testing.
Regional Connector			Project is 79% complete. Comprehensive planning for testing underway for 7th/Metro Center interfaces. Site work throughout alignment underway. MEP and systems dominating the pace.
Westside Purple Line Extension-Section 1			Project is 69% complete. Reviewing the impacts differing site conditions and third-party requirements had on the project schedule. The Reach 3 anomaly has significantly impacted critical path tunnel mining activities as well as the Project's budget.
Westside Purple Line Extension-Section 2			Project is 42% complete and proceeding on schedule and within budget.
Westside Purple Line Extension-Section 3			Project is 20% complete and proceeding on schedule and within budget.
Willowbrook/Rosa Parks Station			Package A & C Final Punch List work continuing for Package Closeout. Package B is in full progress with underground utility work and vertical circulation work. Major hardscape work scheduled for end of March to maintain May 2021 completion date for Package B.
Airport Metro Connector			Project is in bid validation phase, with NTP expected in July 2021 and construction duration of three years. Site demolition has been procured under a separate contract and is expected to start by early May 2021.
Division 20 Portal Widening Turnback			Project is 21% complete. Upcoming major change orders for Design Revisions and Differing Site Conditions when finalized, will draw down project contingency.
I-210 Barrier Replacement			Project 1 Plans, Specs and Estimate (PS&E) package is approved by Caltrans Design. Funding source(s) for ADL & Haz Mat testing and Project 1 construction are still to be determined. Barrier analysis and the development of Project Study Report (PSR) for Project 2 is underway. Barrier workshop #1 with Caltrans barrier and wall experts to take place in late April or early May 2021.
1-5 North County Enhancements			Construction Notice to Proceed (NTP) is expected in Spring 2021
I-5 North: SR 118 to SR 134			Segment 1, 2 and 4 are completed. Segment 3 (Empire Ave & Burbank) is 89% complete. * The Cost includes the Approved Loan Term
I-5 South: Orange County Line to I-605			Segments 1, 3, and the Carmenita Interchange are completed. Segment 2 (Valley View) is 78% complete. Segment 4 (Imperial) is 99% complete and began the plant establishment phase on Jan 31, 2020. Segment 5 (Florence) is 93% complete.

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On target



Possible problem



Significant Impact



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CRENSHAW/LAX TRANSIT PROJECT

◆ BUDGET

TIFIA	Approved LOP*	Previous Period**	Current Forecast**
\$2,148M	\$2,058M	\$2,148M	\$2,148M

Variance from Approved LOP:

*At time of the award of contract
**Excludes finance costs and includes \$10M Non-TIFIA activities

⚠ SCHEDULE

(REVENUE OPERATION)

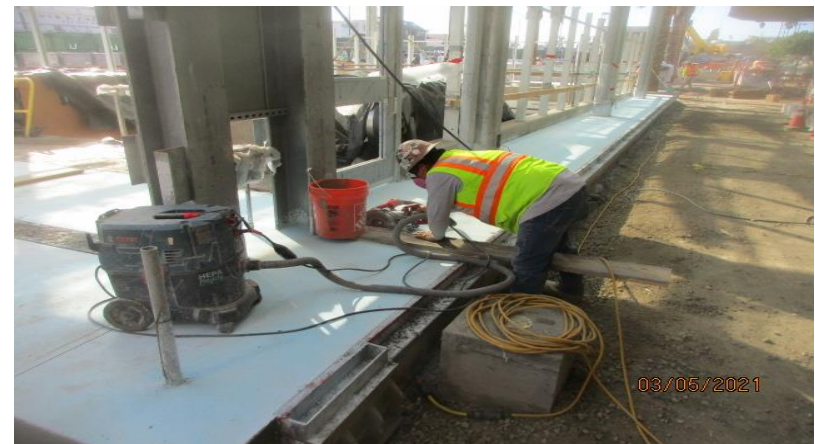
Original	Approved Rebaseline	Previous Period	Current Forecast*
Oct.2019	May 2020	Winter 2021	Winter 2021

Variance from Original: +766d (26%) +802d (26%)
*Current Forecast is Contractor's February Schedule update

- Overall Project Progress is 98.6% complete.
- Contractor is not applying sufficient work force to complete their remaining work.
- Metro continues to work with contractor to mitigate the delays and impacts to the project schedule; emphasizing safety and reliability in final acceptance of project elements and systems.
- Remaining work is primarily underground station finishing, communications systems testing.



HYDE PARK STATION – Building formwork and installing bollards along the southbound median of the station.



MLK STATION – Saw cutting control joints to pavement around the main entrance canopy curb.

May 2021

OK On target

◆ Possible problem (5-10% variance)

⚠ Significant Impact (over 10% variance)

REGIONAL CONNECTOR TRANSIT PROJECT

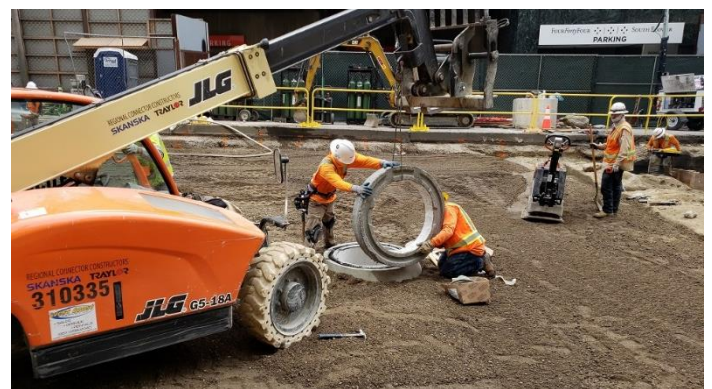
OK BUDGET	Approved	Previous	Current
<u>FFGA</u>	<u>LOP*</u>	<u>Period**</u>	<u>Forecast**</u>
\$1,402M	\$1,420M	\$1,755M	\$1,755M
<i>Variance from Approved LOP:</i>		\$335M (24%)	\$335M (24%)
<i>*At time of the award of contract</i>			
<i>**Excludes finance costs</i>			

OK SCHEDULE	(REVENUE OPERATION)		
	Approved**	Previous	Current
<u>Original</u>	<u>Rebaseline</u>	<u>Period</u>	<u>Forecast*</u>
May 2021	Fall 2022	Fall 2022	Fall 2022
<i>Variance from Original:</i>		+480d (19%)	+480d (19%)
<i>*Current Forecast is Contractor's March Schedule update</i>			
<i>**Approval in process</i>			

- Overall Project Progress is 79% complete.
- Little Tokyo/Arts District Station & Surrounding Area:** Alameda guideway excavation near complete; MSE wall modifications continue; station MEP and finishes in full-stride.
- Historic Broadway Station:** Overbuild Load Transfer System (LTS) structural concrete continues; vent structures along Spring and Broadway continue; station finishes and MEP advancing per plan. Relocated communication bank underway; backfill operations continue.
- Grand Av Arts/Bunker Hill Station:** Concrete near complete – plaza pours underway; elevator and installations continue; closure of Hope Street continues as backfill and joint communication trench construction is on-going; systems and MEP busy on most levels.
- Flower Street:** Final utility work continues; cut-over plans and actions with 7th/Metro Station continue with all rail tie-ins complete; interface with Operations to mitigate impacts to ongoing rail service progressing.
- Trackwork:** Crossover at Wye Junction continues as planned; remedial work along alignment underway on various installations to prepare for acceptance inspections.
- Systems:** Installation of signals and communications underway; installation of equipment and cabling for permanent power continuing – as are train control and overhead conductor rail (OCR).



Formwork and cleaning at Historic Broadway Station



Installation of Manhole #7 collar between 4th and 5th on Flower

WESTSIDE PURPLE LINE EXTENSION – SECTION 1

! BUDGET	Approved	Previous	Current	
	FFGA	LOP*	Period**	Forecast**
	\$2,822M	\$2,774M	\$2,979M	\$3,129M
	Variance from Approved LOP:		\$205M (7%)	\$355M (13%)
	*At time of the award of contract			
	**Excludes finance costs			

! SCHEDULE	(REVENUE OPERATION)			
	Approved	Previous	Current	
	Original	Rebaseline	Period	Forecast*
	Nov.2023	Nov. 2023	Fall 2024	Fall 2024
	Variance from Original:		+365d (11%)	+365d (11%)
	*Current Forecast is Contractor's February Schedule update			

- Overall Project Progress is 69% complete.
- Wilshire/La Brea Station:** Permanent utility installation/backfill (above the roof) activities, interior masonry, MEP work and appendage construction are ongoing.
- Wilshire/Fairfax Station:** 2nd lift wall and roof concrete activities move forward. Entrance plaza and appendage work continue. The first roof concrete placement (high bay area) was completed on April 7, 2021.
- Wilshire/La Cienega Station:** The Red Tunnel Boring Machine (TBM) arrived at the Station on March 26, 2021. Work on the entrance structure continues and excavation on the first appendage (AE) has commenced.
- Tunneling:** On March 26, 2021, the Red TBM arrived at Wilshire/La Cienega Station marking the completion of the Reach 3 tunnel drive. Both TBMs have successfully mined through the San Vicente anomaly area without incident. The Purple TBM commenced tail track mining on March 31, 2021. Scheduled completion is mid- April 2021.
- Reach 1 Tunnel:** 11 out of 12 cross passage structures are complete. Completion of all Reach 1 cross passages is planned for June 2021. Reach 1 tunnel invert concrete activities continue.
- Budget/Schedule:** The Reach 3 anomaly and gas issues along the alignment have impacted the Project schedule and budget. The impact is expected to be significant. The current Revenue Service Date forecast is the 4th quarter of 2024. Budget impacts continue to be assessed. A risk assessment is underway and is targeted to be completed by early May 2021. The Board will be briefed on the outcome.



Red TBM Arrival of Wilshire/La Cienega Station



First Roof Concrete Placement at Wilshire/Fairfax Station

May 2021 Construction Committee

OK On target
 ◆ Possible problem (5-10% variance)
 ! Significant Impact (over 10% variance)

WESTSIDE PURPLE LINE EXTENSION – SECTION 2

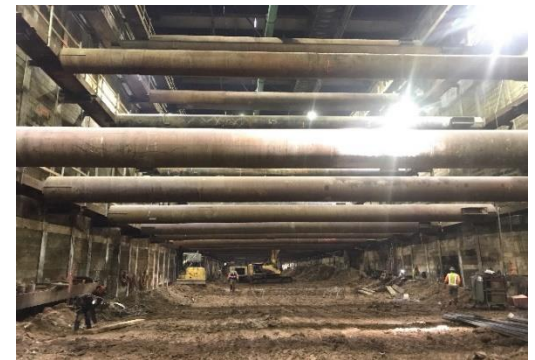
OK BUDGET	Approved	Previous	Current
<u>FFGA</u>	<u>LOP*</u>	<u>Period**</u>	<u>Forecast**</u>
\$2,499M	\$2,441M	\$2,441M	\$2,441M
Variance from Approved LOP:		\$0M (0%)	\$0M (0%)
*At time of the award of contract			
**Excludes finance costs			

OK SCHEDULE	(REVENUE OPERATION)		
	Approved	Previous	Current
<u>Original</u>	<u>Rebaseline</u>	<u>Period</u>	<u>Forecast*</u>
Aug. 2025	N/A	Summer 2025	Summer 2025
Variance from Original:		+0d (0%)	+0d (0%)
*Current Forecast is Contractor's March Schedule update			

- Overall Project progress is 43% complete.
- **Century City Constellation Station**
 - Decking operations were completed early and consequently Constellation Boulevard between Avenue of the Stars and Solar Way was opened one week early.
 - Excavation of the station box is 17% complete as of May 7, 2021.
- **Wilshire/Rodeo Station**
 - Excavation of the station box was 99% complete as of May 7, 2021
 - Work on the invert slab has commenced.
- **Tunneling**
 - Both tunnel boring machines (TBMs) “Ruth” and “Harriet” are operating within the City of Beverly Hills. Progress as of May 7, 2021 is as follows:
 - Ruth (eastbound subway tunnel) – 1,319 ft
 - Harriet (westbound subway tunnel) – 1,074 ft
 - Tunnel operations transitioned to the tunnel access shaft from the TBM launch box.
 - Repairs to the cutterhead of “Ruth” were completed on May 1, 2021.
 - “Harriet” resumed excavation after installation of the conveyor system on May 3, 2021.



Utility Hanging Under Constellation Blvd.



Wilshire/Rodeo Station Excavation

May 2021



On target



Possible problem
(5-10% variance)



Significant Impact
(over 10% variance)



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WESTSIDE PURPLE LINE EXTENSION – SECTION 3

OK BUDGET

<u>FFGA</u>	<u>Approved LOP*</u>	<u>Previous Period**</u>	<u>Current Forecast**</u>
\$3,599M	\$3,224M	\$3,224M	\$3,224M
Variance from Approved LOP:		\$0M (0%)	\$0M (0%)

**At time of the award of contract*
***Excludes finance costs*

OK SCHEDULE (REVENUE OPERATION)

<u>Original</u>	<u>Approved Rebaseline</u>	<u>Previous Period</u>	<u>Current Forecast*</u>
Mar. 2027	N/A	Spring 2027	Spring 2027
Variance from Original:		+0d (0%)	+0d (0%)

**Current Forecast is Contractor's March Schedule update*

- Overall Project Progress is 20% complete.
- TBM #1 (BR) is being prepared for production mining after completion of its initial drive of 526 feet.
- TBM #2 (BL) commissioned and commenced initial launch.
- Stations Contract final design ongoing;
- Station utility relocations ongoing at VA and UCLA stations; SOE pile installation at VA commenced.



TBM Assembly Overview at Tail Track Exit Shaft



Support of Excavation (SOE) Pile Installation at VA

May 2021

OK On target

◆ Possible problem (5-10% variance)

▲ Significant Impact (over 10% variance)



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WILLOWBROOK/ROSA PARKS STATION

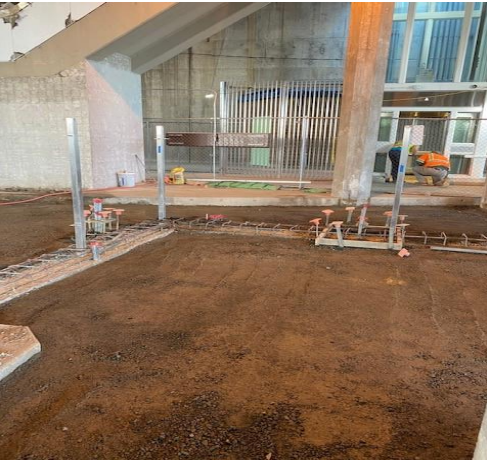
BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$109.3M	\$128.4M	\$128.4M

SCHEDULE

	<u>Current</u>	<u>Forecast</u>
SUBSTANTIAL COMPLETION	March 2021	May 2021

- Package A and C: All punch lists items remaining have been consolidated and is finishing up. Full close-out of punch list expected by end of April.
- Package B: Package B underground utility work is nearly complete. Underground storm drain system and the bus roadway has been completed. Major hardscape installation is scheduled for end of April throughout Package B areas with target of end of May substantial completion.



Completed underground utility work @ C Line west



Elevator #3 finish work



Installed cistern for North GSRD



Bus Canopies @ Central Plaza

May 2021



On target



Possible problem



Significant Impact



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AIRPORT METRO CONNECTOR (AMC) PROJECT

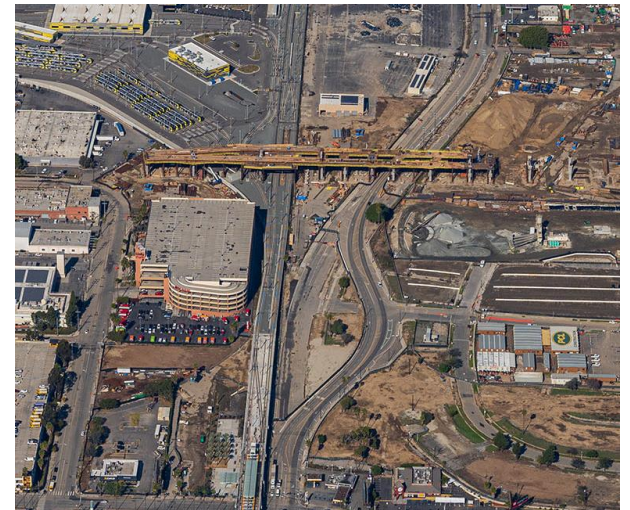
BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$898.6M	\$898.6M	\$898.6M

SCHEDULE

	<u>Current</u>	<u>Forecast</u>
REVENUE OPERATION	June 2024	June 2024

- Bid Opening: March 2021
- Board Approval of Budget: April 2021 Board Meeting
- Projected NTP: June – July 2021
- Early Works Contract (Demolition, Grading & Crenshaw/LAX Turn-Backs) : NTP (April 2021)
- Schedule/Cost Risk: Access to Crenshaw/LAX Project Right of Way



May 2021



On target



Possible problem



Significant Impact

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Metro14

DIVISION 20 PORTAL WIDENING TURNBACK

◆ BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$801.7M	\$801.7M	TBD

OK SCHEDULE

	<u>Current</u>	<u>Forecast</u>
SUBSTANTIAL COMPLETION	June 2024	June 2024

- **Overall Project progress is 21% complete.**
Includes Real Estate Acquisitions, Environmental, Design, Contract Mobilization, Early Demolition, Power, Utility contracts and contract change orders
- **C1136 Portal Widening Turnback Contract**
PWT C1136 Contract progress is 26%.
Phase 1 Track and Civil work started
1st Street Bridge Rehabilitation and Portal Widening
- **Major Change Orders to Date:**
Hazardous Material Removal
1st Street Bridge Rehabilitation
Completion of Utility Contracts
3rd Party Unforeseen Interfaces
Design Revisions (*in progress*)
- **C1184 Transfer Power Substation Contract** at 54%
- **Coordination with Adjacent Projects**
Purple Line Extension (PLE1)
Regional Connector
Metro Center Project
6th Street Bridge (City of L.A. Project)
- **Completing risk assessment to determine budget/schedule**



May 2021



On target



Possible problem



Significant Impact



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I-210 BARRIER REPLACEMENT PROJECT

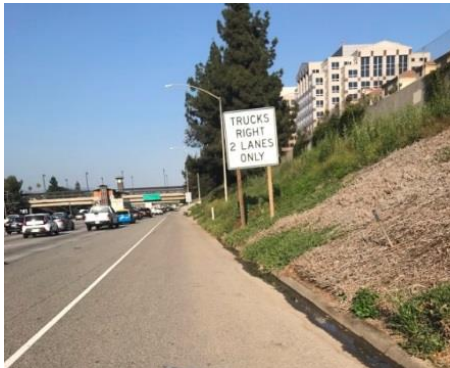
OK BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$11.08M	\$22.54M	\$22.54M
	Design	Design	Design

OK SCHEDULE

	<u>Current</u>	<u>Forecast</u>
Complete Design (Proj 1)	Feb 2021	Winter 2021
Complete Design (Proj 2)	Aug 2022	Summer 2022

- Project 1: Segment from Michillinda to Iconic Bridge – Project 1 Plans, Specs and Estimate (PS&E) package has been approved by Caltrans Design. Funding source(s) for ADL and Haz Mat testing and construction for Project 1 are still to be determined.
- Project 2: Segment from west end of the project to Michillinda – Barrier analysis and the development of Project Study Report (PSR) for Project 2 are on-going. A barrier analysis workshop with Caltrans barrier and wall experts to take place in late April or early May.



Newly Installed Caltrans Freeway Sign



Incident in 2014



Newly Installed Speed Limit Sign

May 2021

OK On target

◆ Possible problem

▲ Significant Impact

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I-5 Construction Projects (Administered by Metro)



May 2021

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I-5 NORTH COUNTY ENHANCEMENTS

BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$679.3M	\$679.3M	\$679.3M


SCHEDULE


	<u>Current</u>	<u>Forecast</u>
SUBSTANTIAL COMPLETION	Spring 2026	Spring 2026

- Construction Community Meeting and Groundbreaking anticipated for June
- Life of Project budget established in March



May 2021

 On target

 Possible problem

 Significant Impact

I-5 Construction Projects (By Caltrans)



I-5 NORTH: SR 118 TO SR 134

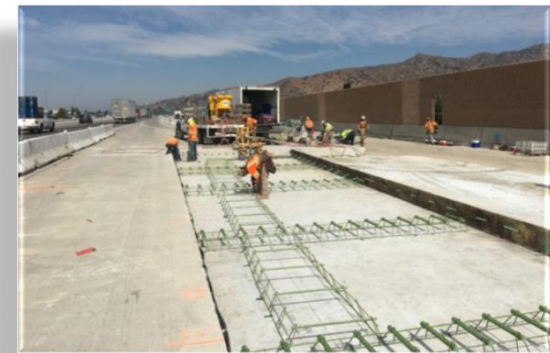
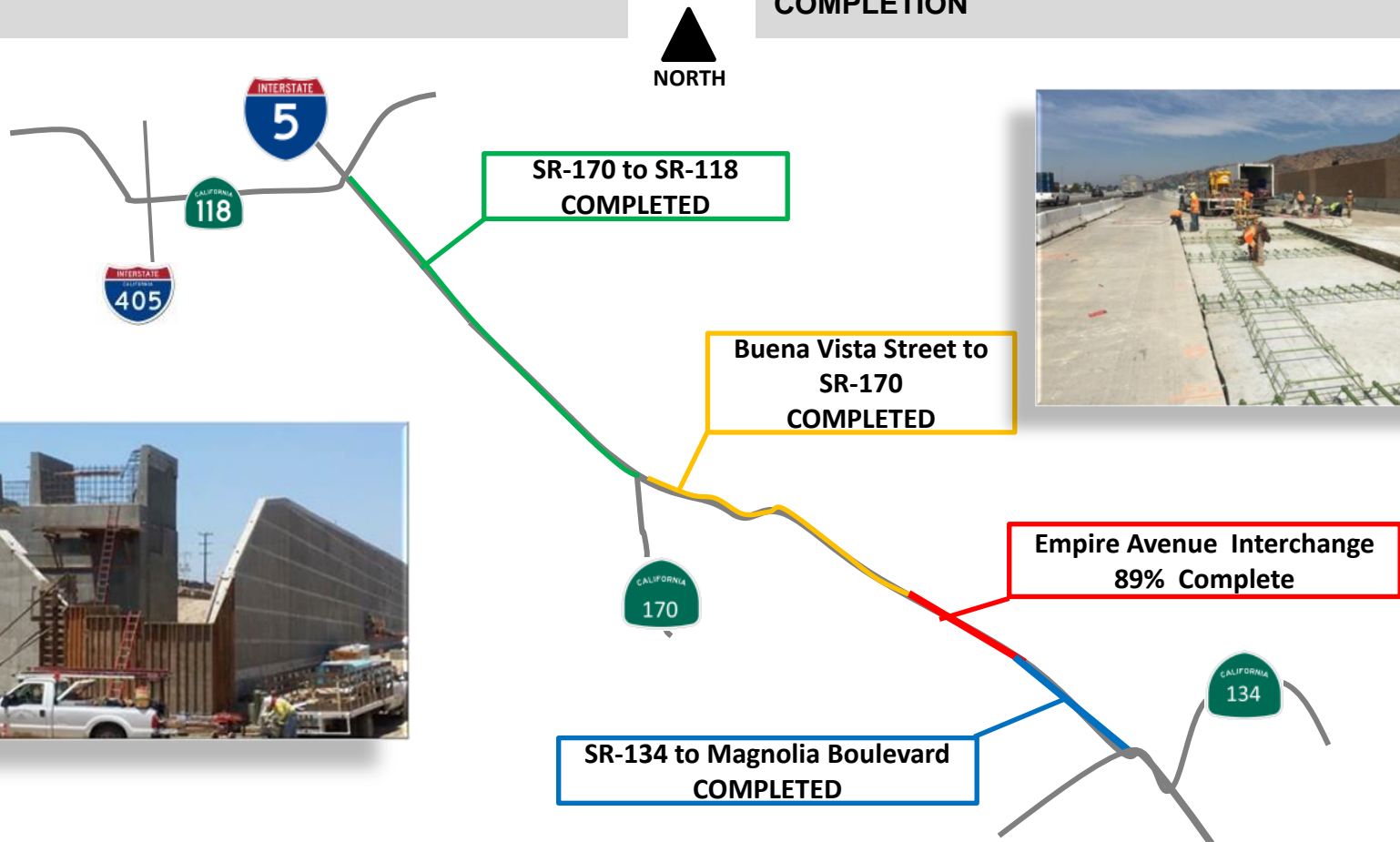


⚠️ BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$845.2M	\$954.1M*	\$954.1M*

⚠️ SCHEDULE

ANTICIPATED PROJECT COMPLETION	<u>Current</u>	<u>Forecast*</u>
	Fall 2022	Spring 2023



May 2021



On target



Possible problem



Significant Impact



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* Risk Analysis, Feb 2021 with the Approved Loan Term Amount

I-5 SOUTH: ORANGE COUNTY LINE TO I-605

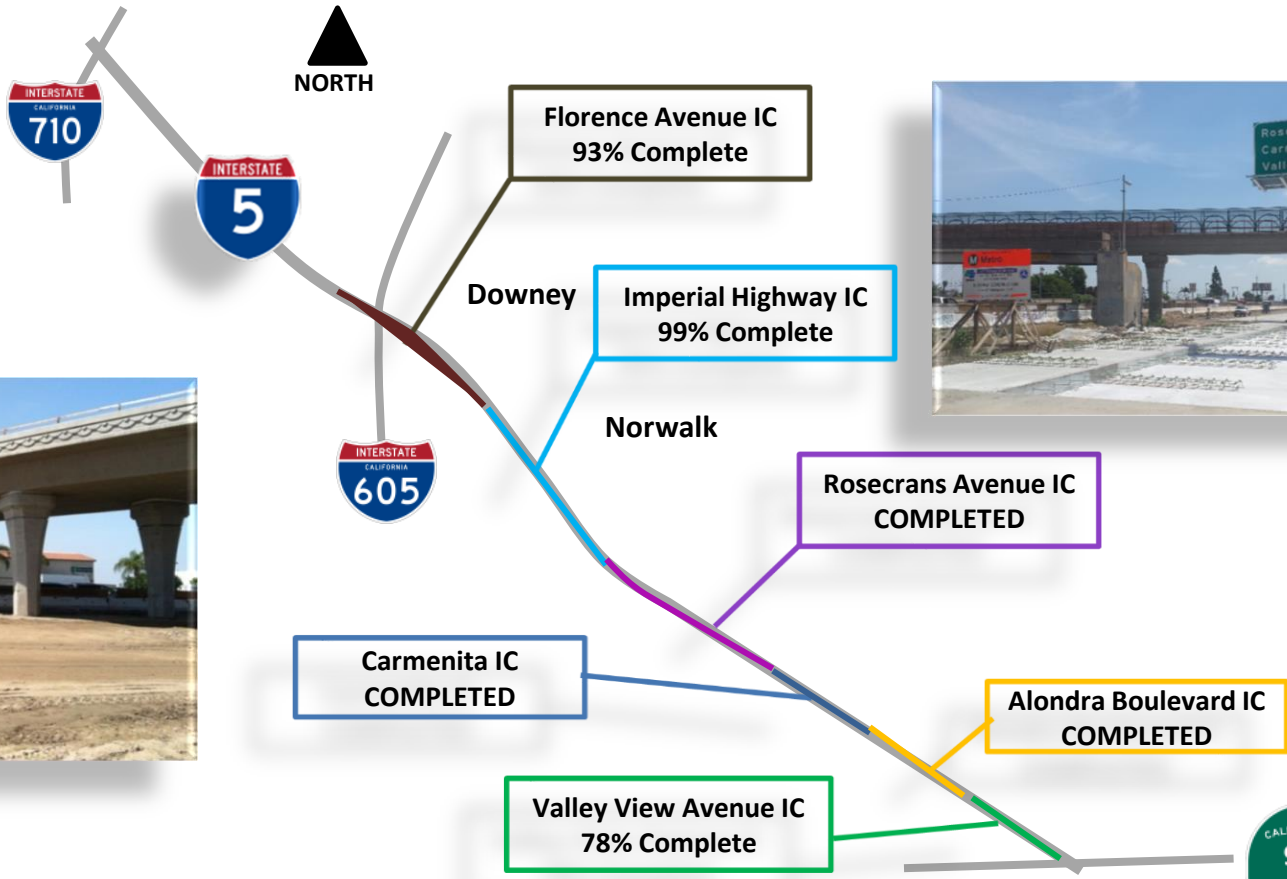


OK BUDGET

	<u>Original</u>	<u>Current</u>	<u>Forecast</u>
TOTAL COST	\$1,488M	\$1,888M	\$1,888M*

◇ SCHEDULE

	<u>Current</u>	<u>Forecast*</u>
ANTICIPATED PROJECT COMPLETION	Winter 2022	Spring 2023



Metro 21

May 2021

● On target
 ◇ Possible problem
 ▲ Significant Impact

* Risk Analysis, Feb 2021