



Board Report

File #: 2018-0018, File Type: Program

Agenda Number: 33.

CONSTRUCTION COMMITTEE APRIL 12, 2018

**SUBJECT: FISCAL YEAR 2019 PROGRAM MANAGEMENT
ANNUAL PROGRAM EVALUATION**

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE report on FY2019 Program Management Annual Program Evaluation.

ISSUE

The Annual Program Evaluation (APE) is a priority initiative created to evaluate Metro's capital program annually. Given the challenges of managing a multi-billion dollar capital program, a comprehensive review of the risks associated with the costs and schedules of the program is conducted on an annual basis. This report summarizes the results of the FY2019 APE review performed by Program Management.

DISCUSSION

The APE initiative is a comprehensive evaluation of Metro's capital program, including Transit, Highway, and Regional Rail projects. As part of the process, staff reviewed and updated project costs and schedules to current conditions, challenges, and risks. Any changes to project budgets/schedules and the reasons for the adjustments are to be reported to the Board annually for approval. In addition, APE serves as a project management tool bringing greater consistency, transparency, and discipline to better manage and deliver Board-approved projects. The APE is a dynamic tool, which is updated annually as projects move towards completion and any changes approved by the Board are incorporated.

FY19 Results

For the FY2019 APE, Program Management focused on new and carry-over projects to FY2019 with project cost estimated at \$5 million or greater. Program Management staff evaluated 66 projects, including 31 Transit projects, 28 Highway projects, and 7 Regional Rail projects (see presentation for a complete project listing), which total approximately \$16 billion. Compared to the FY18 APE review, the FY19 program size has increased 16% or approximately by \$2.2 billion since the FY18 review.

The major focus remains on managing the projects within the Board-approved life of project (LOP)

budgets and schedules established for these projects. A summary of the potential adjustments, requiring future Board approval, to Metro's capital program in FY19 is reported in the FY2019 Program Management APE presentation (page 54).

Challenges

With the significant increase in number and size of projects and the accelerated implementation schedule for delivering Metro's capital program, including the projects on the 28 by 2028 initiative, Metro is currently undertaking the largest transportation capital program in the nation. Metro's capability and capacity to deliver multiple complex mega projects on-time and within budget creates an unprecedented challenge to project delivery.

Efforts to improve, innovate, and increase our capabilities to deliver projects are essential. Our ability to encourage and attract a competitive and qualified pool of contractors, small businesses, and workforce on Metro projects is integral to project delivery. Building and delivering projects in a growing construction market with a shortage of skilled workers may impact project costs and must be managed effectively. Also, continued commitment by various external jurisdictions for efficient Third Party review and approval is key to successful delivery of Metro's capital program.

Strategic Initiatives

Program Management has begun and will continue to implement various strategic initiatives to bring improved planning, consistency, transparency, and discipline to project delivery. There are new organizational approaches, including systematic approaches to Quality Assurance. Program Management has made significant efforts to develop new and enhance existing project management procedures, establish new training program, and improve its Best Practices/Lessons Learned Program. Recently at the January 2018 Board meeting, the Board approved delegation of authority for LOP budget management on all transit and regional rail projects.

In an effort to consistently manage and support successful delivery of capital projects, staff recommends establishing and consistently implementing a Concurrent Non-Project Activities project for each major capital project. The Concurrent Non-Project Activities project, already implemented on several Metro major capital projects, tracks betterments, non-federally eligible costs, unknown regulatory requirements, and other activities that are not included as part of the core project scope. A Board adoption of these Concurrent Non-Project Activities projects is required and is typically budgeted outside of the Board adopted major capital project LOP budget. Having these Concurrent Non-Project Activities projects will protect the integrity of the major capital project core LOP budget and improve transparency.

FINANCIAL IMPACT

The FY19 Program Management APE report does not have any specific budgetary or financial impacts. The APE report serves as an annual and early notice instrument to assess the scope, cost and schedule risk items affecting the respective projects under the oversight of Program Management. Risk items affecting scope, cost and schedule are identified on a project by project basis within the APE Presentation.

Should any of the potential project risks affecting scope, cost and schedule parameters be realized, the Chief Program Management Officer will return to the Board with separate recommendations to address the identified risks and adjust the project cost and/or schedule accordingly.

NEXT STEPS

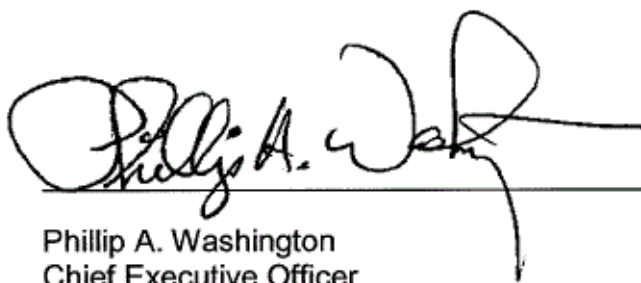
Program Management will request the resources required for project delivery success through the FY19 Budget process for Board approval. Project managers will manage to deliver projects safely, on-time and within the Board-approved budgets. Staff will continue to provide the Board with monthly updates on the project status throughout the year. The next FY20 Program Management APE report will be presented to the Board in spring 2019.

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Fiscal Year 2019 Program Management Annual Program Evaluation

Presentation Overview

- Purpose and Process
- Capital Program Status
- Capital Program Costs and Schedules
- Adjustments for FY2019
- Summary
- Next Steps



Purpose

- Annual evaluation of Metro's capital program
- Reporting to the Board any project budget and schedule changes, and reasons for the changes
- A project management tool bringing greater consistency, transparency, and discipline
- Facilitates financial planning
- Reduces the number of requests to the Board for budget adjustments



Process

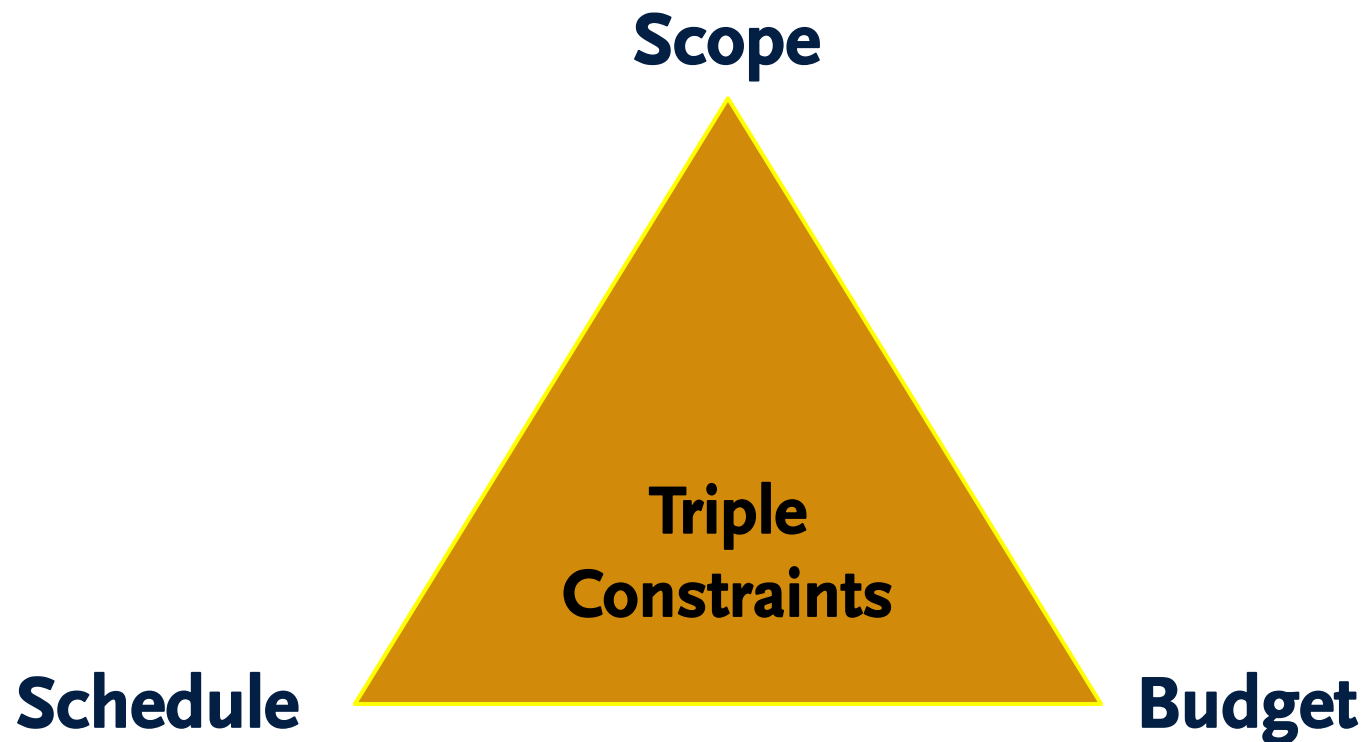
- A review of project costs and schedules
- Update project capital cost estimates to current conditions, including price trends and changes
- Focus on budget to complete current project phase/milestone
- Include APE results in future fiscal year annual budget review and adoption by the Board



Project Management



One side of the triangle cannot be changed without affecting the other sides:



FY19 Scope

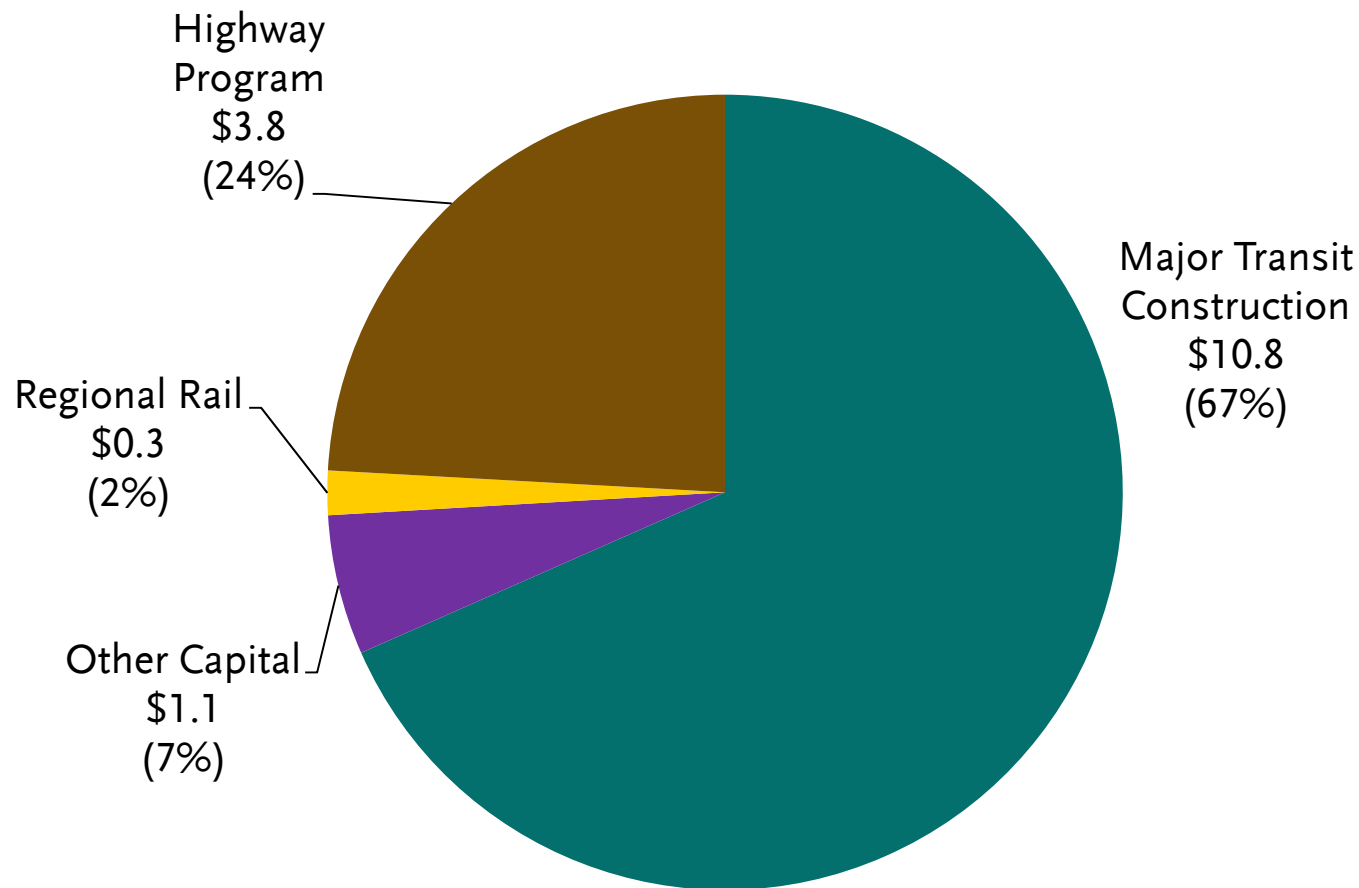
- Focus on capital projects with total project cost greater than \$5M being managed by Program Management:
 - Major Transit Construction Projects – 6 projects
 - Other Transit Capital Projects – 25 projects
 - Regional Rail Projects – 7 projects
 - Highway Program – 28 projects
- Project budgets in the APE focus on authorized funding amount
- Project funding amounts remain within the annual budget limit approved by the Board



FY19 Scope

- In addition to the projects in APE, Program Management also manages/oversees 100+ Operations Capital Improvements and State of Good Repair projects
- In total, Program Management manages and supports volume of 170+ projects with a total authorized value estimated at \$16.8 billion
- Approximately \$16 billion of approved budget in projects are included in the FY19 APE review

FY19 Current Program: \$16 B



\$ in billions



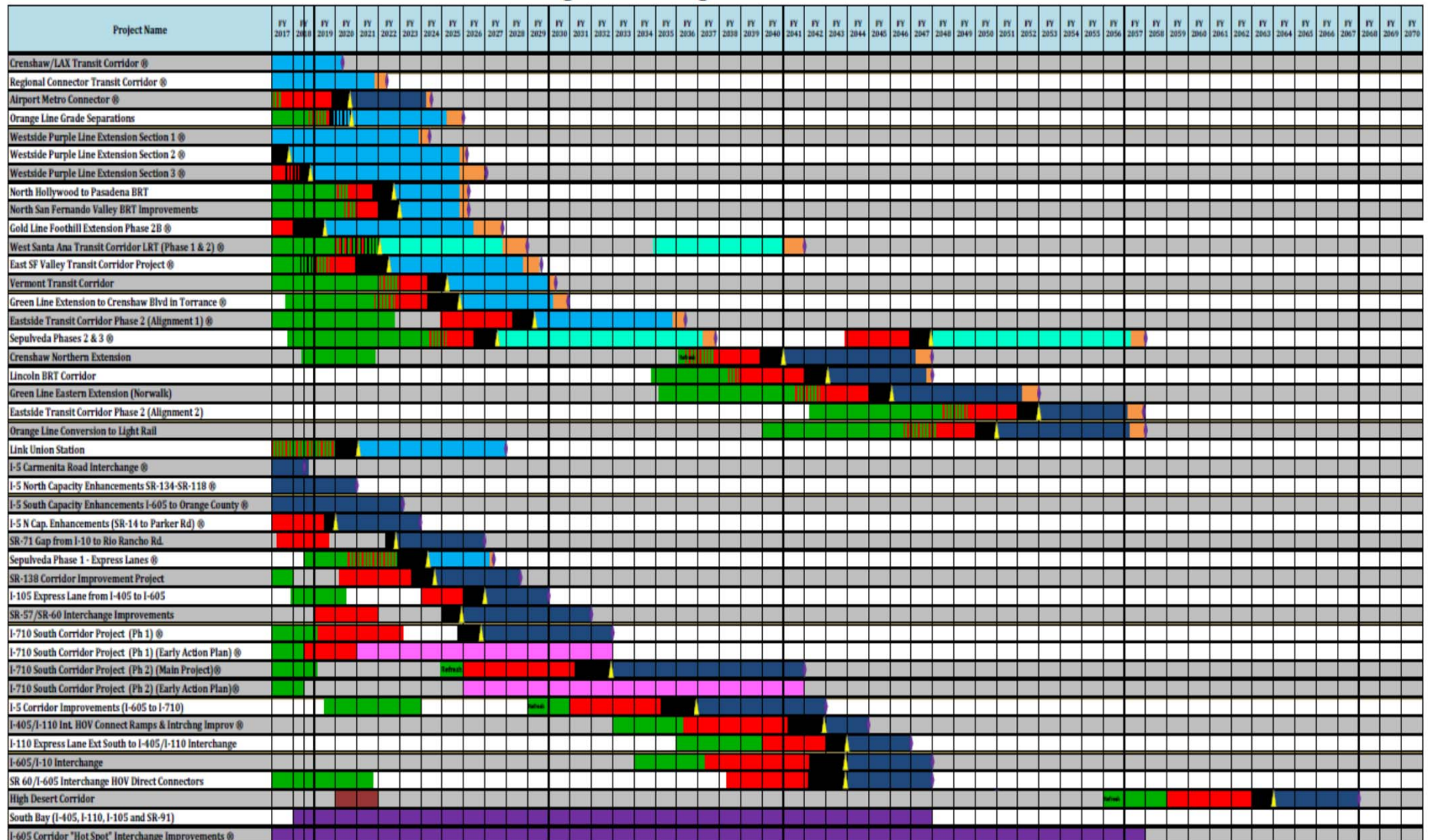
Program Highlights

- Overall Program increased from \$13.8 billion in FY18 to \$16 billion in FY19
- Program dollars approved for Major Transit Construction projects increased 16% from FY18 to FY19
- With implementation of Measure M and 28 by 2028 Initiative, Metro's capital program will grow significantly in the next decade



Revision: January 2018

Metro Program Management Master Schedule



This document is a working draft meant for discussion purposes only and may contain preliminary conclusions not necessarily reflected in the final decision.

Legend					
Environmental	Engineering	Bid	D/B Construction	D/B/B Construction	Groundbreaking Date
Right of Way	Program Implementation	Continuous Eng/Bid/Con	P3 Construction	Testing	Forecasted Open Date

Program Challenges

- Deliver multiple large and complex projects on-time and within budget
- Collaborate with stakeholders to meet community expectations
- Commitment of efficient third party review/approval by various external jurisdictions
- Encourage competitive and qualified pool of contractors, small businesses, and workforce on Metro projects
- Manage cost risks impacted by shortage of skilled workers in a growing construction market
- Maintain sufficient resources and staffing needed to manage and support project delivery
- Achieve continuous improvement in project delivery through innovation and application of best practices



Strategic Initiatives

Implement strategic initiatives to bring improved planning, consistency, transparency, and discipline to project delivery:

- Establish more reliable Life-of-Project budgets
- Conduct Annual Program Evaluation of Metro's capital program
- Engage robust management and support services consulting teams to augment technical expertise and resources
- Implement new organizational approaches
- Continue systematic approach for Quality Assurance (on-going)



Strategic Initiatives

- Improved Change Control Procedure
- Implemented Project Readiness Procedure
- Implemented Project Delivery Selection Procedure
- Established Program Management Leadership Institute (PMLI)
- Enhanced Risk Management Program
- Improved Best Practices/Lessons Learned Program
- Received Board Delegated Authority for LOP Budget Management on all transit and regional rail projects
 - Quarterly reporting to the Board on Changes and Modifications that are above \$500,000



Strategic Initiatives

Consistent Implementation of Concurrent Non-Project Activities Project for Major Capital Projects

- Concurrent Non-Project Activities Project are implemented on several Metro projects, including Metro Gold Line Eastside Extension Phase 1 Project and the Regional Connector Project
- Intended to track betterments, non-federally eligible costs and other activities not part of the core project scope
- Concurrent Non-Project Activities Project is approved by the Board but budgeted outside of the Board adopted major capital project LOP budget
- This will protect the integrity of the core LOP Budget and improve transparency

Metro Transit Program



Metro Transit Capital Projects

Type	Project Budget (in millions)	# of Projects
Major Transit Construction	\$10,804	6
Other Transit Capital	\$1,051	25
Bus Facilities	\$143	9
Rail Facilities	\$242	6
Wayside Systems	\$150	2
Security/Safety	\$124	2
Misc. Capital	\$392	6
Total Transit Capital Program	\$11,855	31



Metro Transit Capital Program Summary

Projects Completion In FY2018

- Metro Pershing Replacement/ Modernization Project (2nd Quarter)
- Bus Facility Maintenance Improvements & Enhancements Phase I (Scheduled 4th Quarter)
- Metro Blue Line Pedestrian Safety Enhancement at Grade Crossings (Scheduled 4th Quarter)



Project Completion Planned in FY2019:

- Metro Silver Line Improvements and Upgrades

Metro Transit Capital Program Summary

Projects Transitioned from Planning to Program Management in FY18:

- Willowbrook/Rosa Parks Station Improvements Project
- Airport Metro Connector Project (96th Street Station)
- Metro Gold Line Eastside Access Project
- Rail to Rail Corridor Active Transportation Connector Project

Planned Transition from Planning to Program Management in FY19:

- Orange Line Bus Rapid Transit Improvement Project
- North Hollywood to Pasadena Bus Rapid Transit Project
- East San Fernando Valley Transit Corridor Project



Crenshaw/LAX Transit Project



Crenshaw/LAX Transit Project

Project Budget: \$2,058M

Project Completion: October 2019

Project Complete: 79%

Accomplishments:

- All five tunnel structures are complete
- All six at-grade and aerial stations' structures are complete
- The three underground stations' structures are approaching 80% completion
- Continuing critical track work installation along the southern section of the eight mile alignment
- Systems installation has commenced
- Working closely with community to mitigate any concerns during construction

Challenges / Risks:

- Limited remaining cost contingency
- Near-term need for concurrent non-project activities to capture Crenshaw/LAX Project non-federal eligible costs and betterments which currently are reducing available project contingency
- Contractor behind schedule and is required to mitigate delays to achieve revised baseline schedule. Metro and contractor mitigating delays to ensure meeting October 30, 2019 revenue service date



Regional Connector Transit Project



Regional Connector Transit Project

Project Budget: \$1,756 M

(Excludes finance costs)

Project Completion: December 2021

Project Complete: 49%

Accomplishments:

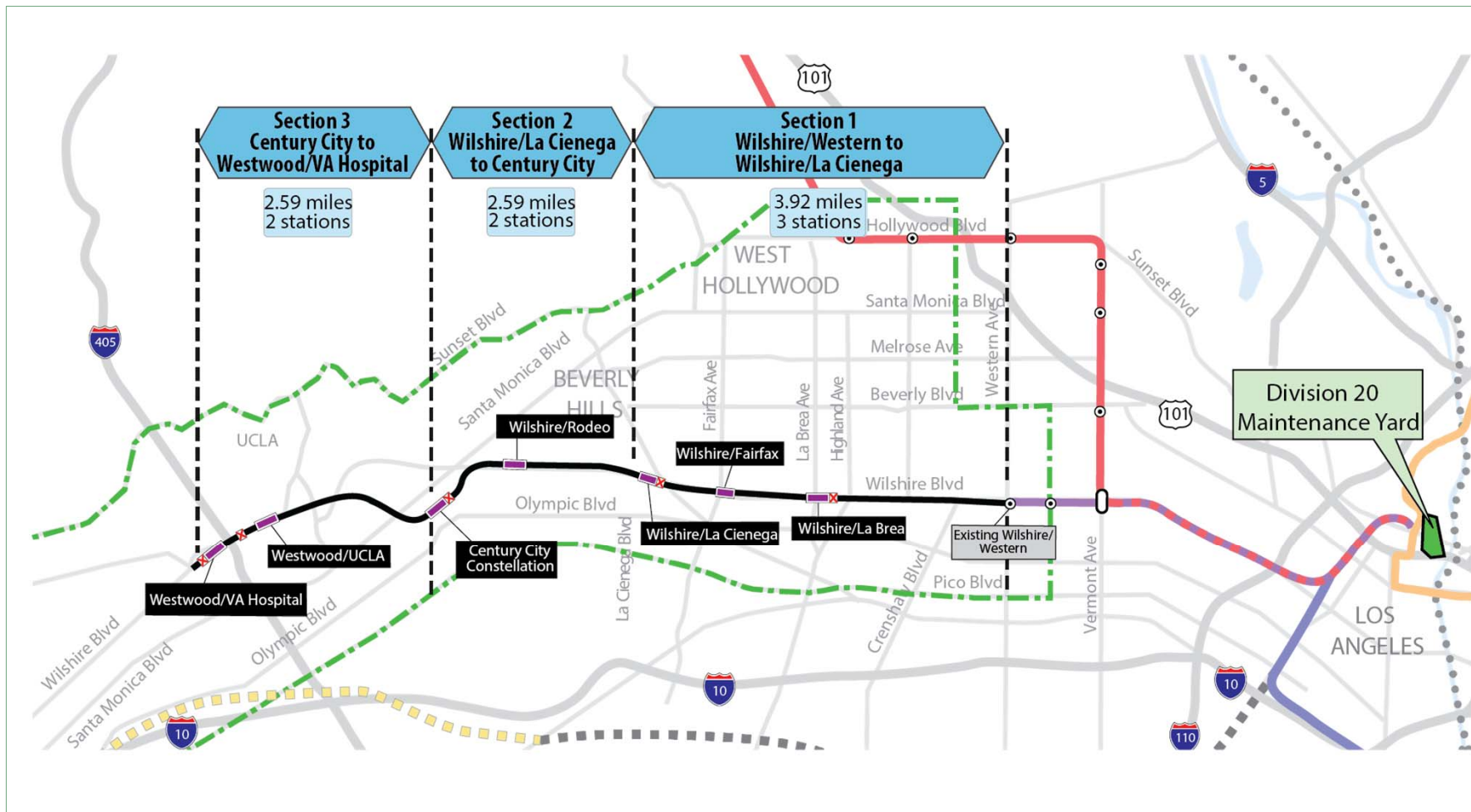
- Successfully completed tunnel boring machine (TBM) operations; retired TBM "Angeli" in mid-January
- Initiated build-out of permanent structural elements at the Grand Av Arts/Bunker Hill Station
- Advanced support of excavation (SOE) installations and utility relocations on Flower Street sufficient to facilitate completion of decking placement from 4th Street to 6th Street; steady state operations are now underway between these stakeholder-sensitive points
- Safely initiated and completed closure of 6th Street east of Flower Street to facilitate key utility relocations in the intersection
- Completed 126" LA County Storm Line relocation along 2nd between Broadway and Spring to allow station box excavation and adjacent building underpinning
- Executed global agreement with contractor which addressed cumulative schedule and cost impacts of numerous utility interferences

Challenges/Risks:

- Transitioning from a TBM mining-centric priority to permanent station and cut/cover guideway construction
- Securing and retaining sufficient craft labor resources to safely, and efficiently prosecute the work
- Effectively identify and manage risks early to afford broader response options for improving or protecting schedule and costs
- Maintaining stakeholder support for necessary traffic control, extended work-hour permits, and general disruptions inherent to heavy construction in a dense urban setting
- Relocating LADWP underground power assets south of 6th/Flower intersection to allow LADWP forces to complete the cabling and intercepts throughout the area per plan and schedule



Westside Purple Line Extension Project



Westside Purple Line Extension Section 1

Project Budget: \$2,779 M
(Excludes finance costs)

Forecast Completion: November 2023
Project Complete: 31%

Accomplishments:

FY18

- Completed Wilshire/La Brea Station excavation and began station concrete operations
- Delivery of tunnel boring machines (TBM)
- Completed Wilshire/La Cienega Station street decking and began excavation
- Completed Wilshire/Western TBM retrieval site piling and street decking

Planned FY19

- Commence Reach 1 tunnel drive from Wilshire/La Brea Station to Wilshire/Western TBM retrieval site
- Complete excavation and temporary TBM support slab at Wilshire/Western TBM retrieval site
- Begin Wilshire/Fairfax Station concrete operations
- Complete excavation at Wilshire/La Cienega Station

Challenge:

- Potential schedule delay due to differing site conditions



Westside Purple Line Extension Section 2

Project Budget: \$ 2,441M

(Excludes finance costs)

Forecast Completion: August 2025

Project Complete: 6%

Accomplishments:

FY18

- Completed joint trench civil work, telecom cable pulling and splicing, and Southern California Gas (SCG) utility relocations at Century City Constellation Station
- Completed Southern California Edison (SCE) utility relocations at Wilshire/Rodeo Station
- Began SCG and AT&T utility relocations at Wilshire/Rodeo Station
- Signed Memorandum of Agreement (MOA) with the City of Beverly Hills for third party utility relocations
- Continue property acquisitions, final design, manufacturing of TBMs, and construction mobilization

Planned FY19

- Complete third party utility relocations civil work at Century City Constellation Station
- Complete final design
- Deliver and assemble tunnel boring machines and begin tunnel mining
- Begin construction of Wilshire/Rodeo Station
- Acquire all subsurface property easements

Challenge:

- Manage in accordance with the signed MOA with the City of Beverly Hills



Westside Purple Line Extension Section 3

Projected Budget through FY19: \$364M

Forecast Completion: TBD

Working Project Estimate: \$3.0 B

(Excludes finance costs)

Accomplishments:

FY18

- Submitted Request for Letter of No Prejudice to FTA for the Tunnels Contract
- Issued Stations, Trackwork and Systems Contract solicitation
- Executed the Construction Management Support Services Contract
- Issued the Notice to Proceed (NTP) for Wilshire/UCLA Advanced Utility Relocations

Planned FY19

- Complete real estate certification process and begin property acquisitions
- Substantially complete Wilshire/UCLA Advanced Utility Relocations
- Continue third party utility relocations
- Issue NTP for Stations, Trackwork and Systems Contract (Planned 4th Quarter)
- Complete final design of the Tunnels
- Tunnel boring machine power becomes available
- Receive approval of the Full Funding Grant Agreement from FTA

Challenges/Risks:

- Secure FTA's funding commitment; may impact cost and schedule
- Timely receipt of construction and staging areas at the VA Hospital and the Army Reserve to begin construction as currently planned



Gold Line Foothill Extension Phase 2B



Gold Line Foothill Extension Phase 2B

Project Budget: \$1,407 M

Forecast Completion: 2027

Accomplishments:

- Ground breaking in December 2017
- Commenced year long Design-Build solicitation for Phase 2B Alignment in November 2017
- Submitted 28 of 50 grade crossing applications to California Public Utility Commission

Challenges/Risks:

- Construction while under operations and accommodating future projects
- Close coordination with Third Party entities, including SCRRA (Metrolink), San Bernardino County Transportation Authority, and Cities
- Secure commitment from Transit and Intercity Rail Capital Program to fully fund approved budget
- Lawsuits from local jurisdictions



Patsaouras Plaza Busway Station

Project Budget: \$ 39.7 M

Project Completion: December 2018

Project Complete: 54%

Accomplishments:

- Completion of all major design work
- Completion and approval of all bridge falsework and bridge foundations
- Major concrete work is in progress

Challenges/Risks:

- Third party review/approvals, including the City of Los Angeles and Caltrans, in a timely manner
- Potential budget and schedule impacts due to design changes and unforeseen field conditions during underground construction
- Maintain planned schedule milestones



Metro Blue Line Signal Rehabilitation Project

Project Budget: \$ 119 M

Project Completion: April 2021

Project Complete: 14%

Accomplishments:

- Met Cap & Trade deadline for project funding
- Issued Notice to Proceed to contractor
- Complete 60% design is under review

Challenges/Risks:

- Track allocation coordination with other projects/maintenance on Metro Blue Line
- Existing aged ductbank/conduits may require replacement, potential additional scope
- Complete the resignaling scope within the scheduled Metro Blue Line shutdown window



New train control



Project adds 4 Crossovers



Willowbrook/Rosa Parks Station Project

Approved Budget through FY19: \$36.0 M
Working Project Estimate: \$ 92.4 M

Forecast Completion: Summer 2020

Accomplishments:

- Completion of real estate acquisition
- Completion of all final design work
- First contract has been awarded, and procurement of second contract is underway



Challenges/Risks:

- Continue Third Party cooperation review/approval, including City of Los Angeles, County, Caltrans, Union Pacific, Public Utility Commission to be consistent with project schedule
- Construction phase plan coordination during Metro operations
- Meet groundbreaking deadline for funding



Emergency Security Operations Center

Project Budget: \$ 113 M

Forecast Completion: Phase 1 in Dec. 2021

Accomplishments:

- Completed preliminary engineering drawings in July 2017
- Issued best value design build procurement in 2nd quarter 2018
- Completion of Constructability review

Challenges/Risks:

- Coordination with adjacent Division 20 Portal Widening Turnback and LINK US projects
- Staff intends to provide \$100,000 per stipend agreement for unsuccessful responsive bidders on the design build solicitation to enhance competition
- Staff plans to return to the Board in Winter 2019 for an increase to LOP budget



Highway Program





Highway Program Status Summary

(Measure R Funded)

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
1	I-5 South – Alondra	Construction	\$114.1	Completed
2	I-5 South – Valley View Interchange	Construction	\$631.1	Aug 2022
3	I-5 South – Shoemaker, Rosecrans, Bloomfield	Construction	\$188.2	Mar 2019
4	I-5 South – San Antonio, Imperial Hwy and Orr Day	Construction	\$323.3	Jul 2019
5	I-5 South – Florence	Construction	\$211.7	Jul 2020
6	I-5 South – Carmenita Interchange	Construction	\$419.9	Mar 2018
7	I-5 North – HOV from SR 118 to SR 170	Construction	\$219.5	Completed
8	I-5 North – HOV from SR 170 to North of Buena Vista	Construction	\$94.7	Completed
9	I-5 North – North of Buena Vista to South of Magnolia Blvd	Construction	\$402.4	Jun 2020
10	I-5 North – Magnolia Blvd to SR 134	Construction	\$137.4	Apr 2019



Highway Program Status Summary (Measure R Funded)

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
11	I-5 North HOV Project SR 14 to Parker Road	Plans, Specifications & Estimates (PS&E)	\$42.4	Dec 2018
12	Interstate 605 Corridor Hot Spots – I-605/I-5 Interchange Improvement	Project Approval/Environmental Document (PAED)	\$30.3	Jul 2021
13	Interstate 605 Corridor Hot Spots – I-605/SR 60 Interchange Improvement	PAED	\$41.6	Jul 2021
14	Interstate 605 Corridor Hot Spots – SR-91 Westbound Widening at I-605 Interchange	PAED	\$9.3	Dec 2018
15	Interstate 605 Corridor Hot Spots – I-605 Beverly Interchange Improvement Project	PAED/PS&E	\$3.5	Apr 2019
16	I-605 from SR-91 to South St. Improvements Project	PAED/PS&E	\$4.5	Jan 2019



Highway Program Status Summary (Measure R Funded)

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
17	Interstate 405 Crenshaw Blvd On and Off Ramp Improvements	PS&E	\$20.0	Mar 2020
18	Interstate 405 and I-110 Aux Lane from SR 91 to Torrance Blvd	Construction	\$44.0	Dec 2019
19	I-710 (South) Corridor Improvement Projects	PAED	\$91.0	Sep 2018
20	I-710 (South) Early Action Projects - Soundwall Projects (3 locations)	PS&E & ROW	\$12.7	Aug 2019
21	I-710 (North) Early Action Projects	PAED	\$47.0	Jun 2018
22	Soundwall Package 10	PS&E	\$59.4	Dec 2018
23	Soundwall Package 11	Construction	\$89.2	Dec 2021
	Subtotal Measure R Highway Projects		\$3,237.2	

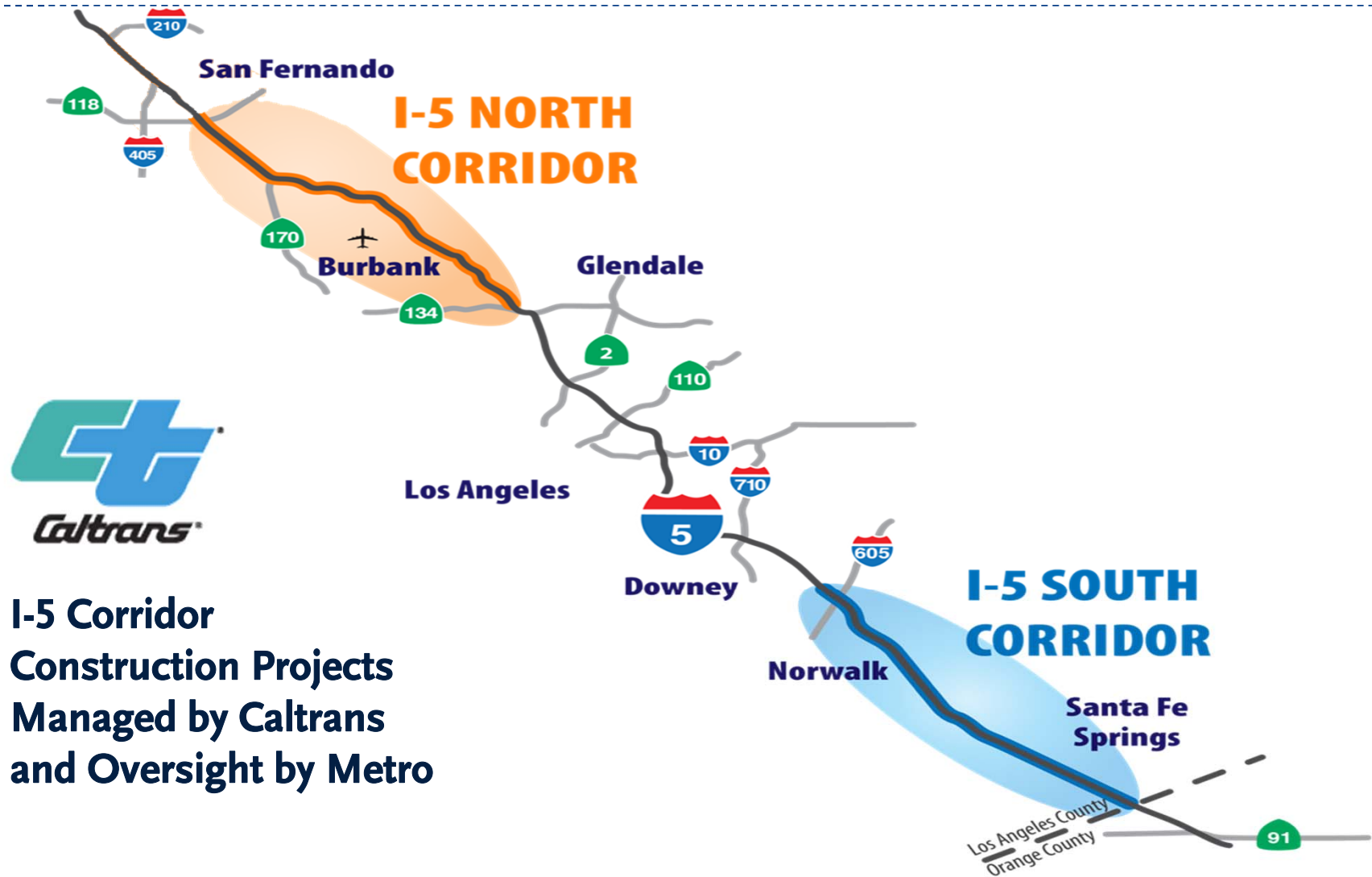


Highway Program Status Summary (Non-Measure R Funded)

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
24	I-10 HOV from Puente Avenue to Citrus Avenue (Seg. 2)	Construction	\$195.6	Apr 2019
25	I-10 HOV from Citrus Avenue to SR 57 (Seg. 3)	Construction	\$268.7	Jan 2022
26	SR-57/SR-60 Interchange Improvements (Eastbound and Westbound flyover off-ramp to Grand Ave, Eastbound on-ramp SR-60)	PS&E and ROW	\$54.0	Jul 2020
27	SR 71: Interstate 10 to Mission Blvd	PS&E and ROW	\$16.0	Dec 2020
28	SR 71: Mission Blvd to Rio Rancho Road	PS&E and ROW	\$40.0	Aug 2019
	Subtotal Non-Measure R Funded Highway Projects		\$574.3	
	TOTAL HIGHWAY PROGRAM		\$3,811.5	



I-5 Corridor Construction





I-5 North: SR 118 to SR 134



PHASE: CONSTRUCTION

Project Managed by Caltrans :

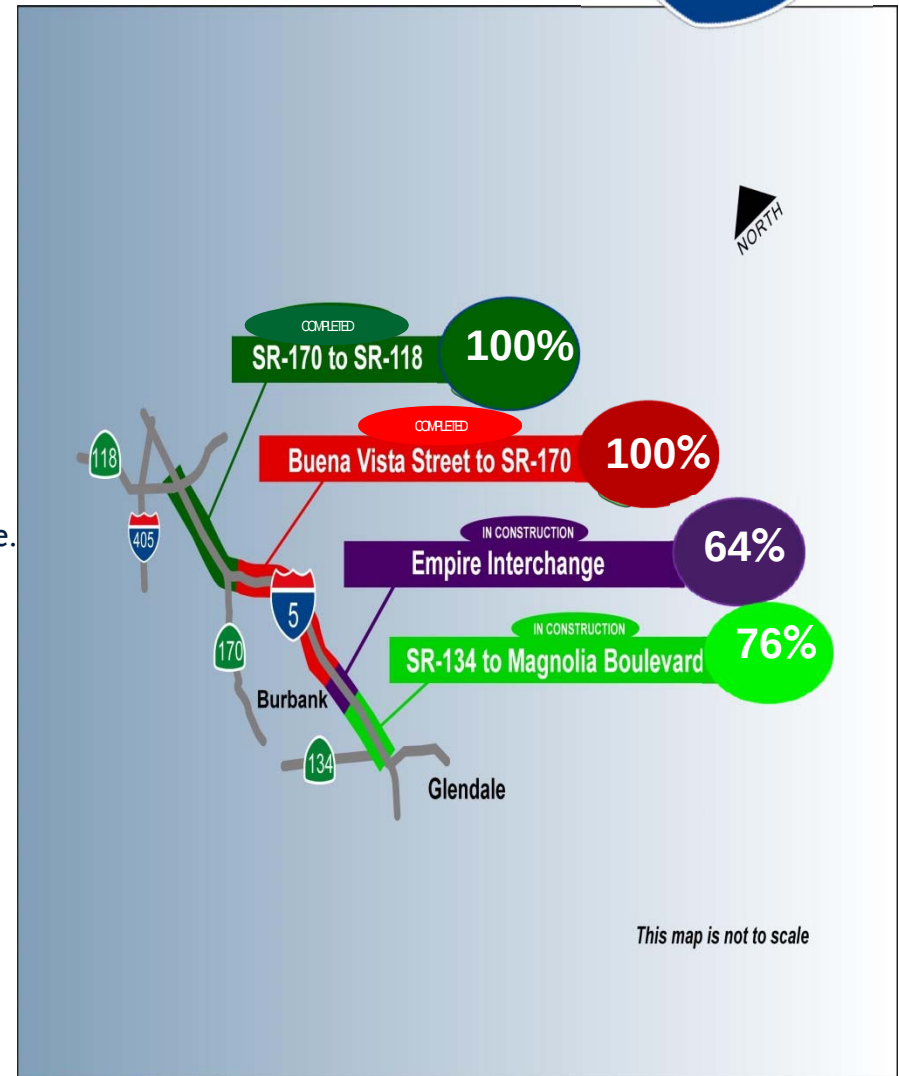
- Approved budget: \$854.0 M
- Estimated Cost to Complete Construction: TBD

Accomplishments:

- SR118 to SR170 - Construction Completed for new HOV Lanes and HOV Direct Connectors, Open to Traffic and Claims have been settled.
- SR170 to North of Buena Vista – HOV Construction Completed and Open to Traffic.
- North of Buena Vista to Magnolia Blvd including Empire Ave. Interchange – Construction in progress.
- Magnolia Blvd to SR 134 – Construction in progress.

Challenges/Risks:

- Adverse field conditions (Seg. 4).
- Utility relocation/ Railroad work changes (Seg. 3).
- Survey work related to roadway and structures (Seg.4).
- LA River Bridge construction requires significant changes to avoid working on the River bed. (Seg. 4).
- Several change orders have consumed significant cost contingency
- High risk level on potential schedule and budget impacts





I-5 South: Orange County Line to I-605



PHASE: CONSTRUCTION

Project Managed by Caltrans :

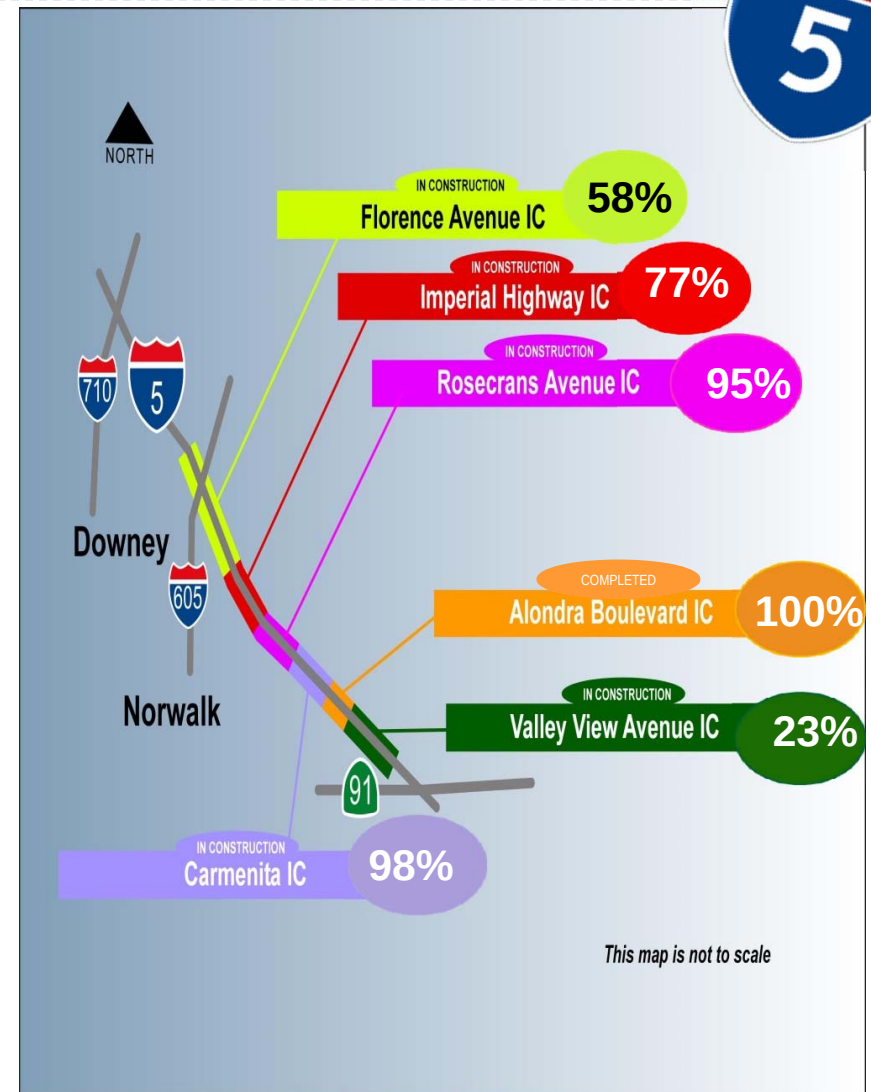
- Approved budget: \$1,888.3 M
- Estimated Cost to Complete Construction: TBD

Accomplishments:

- Alondra Blvd – Started the pre-final Audit process
- Valley View Avenue – Construction in progress
- Rosecrans Avenue – Open to Traffic January 2018, Construction still in Progress
- Imperial Highway – Construction in progress
- Florence Avenue – Construction in progress
- Carmenita Interchange – Interchange open to traffic fall 2016. Construction on local streets in progress

Challenges/Risks:

- Extensive utility and ROW relocation
- Adverse field conditions and railroad work
- Schedule delay and potential budget overrun
- Timely resolution of valid contractors' claims
- Low to medium risk level on potential schedule and budget impacts



I-5 N Capacity Enhancements (SR14 to Parker Road)



PHASE: Plans, Specifications & Estimates

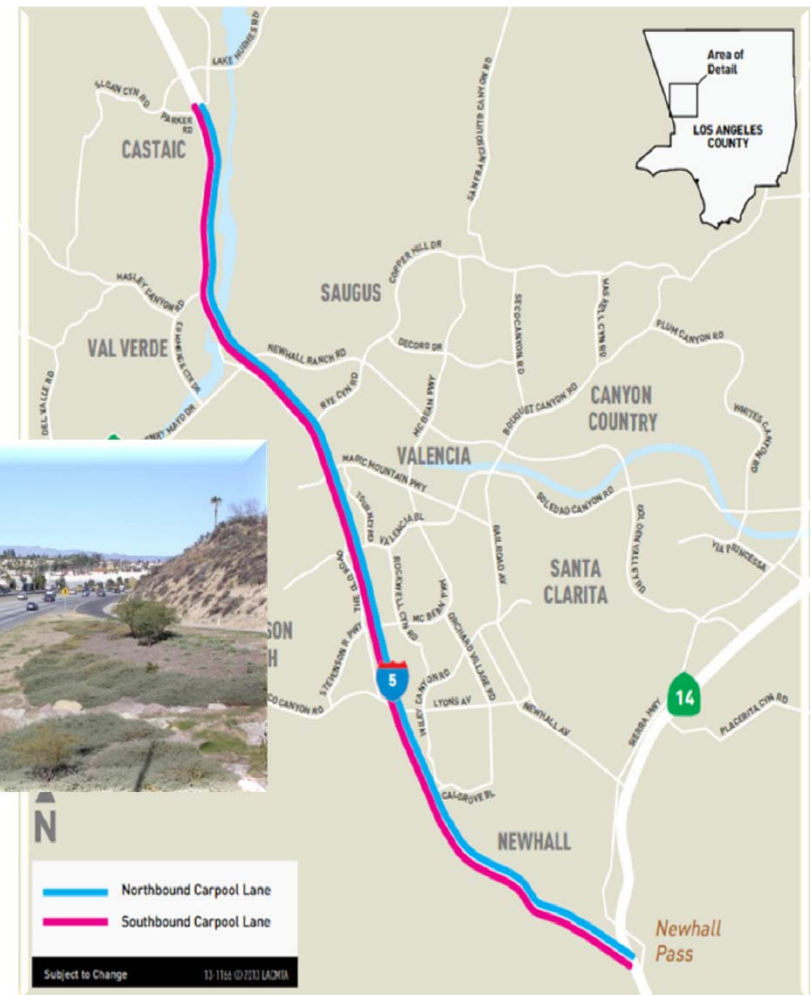
- Approved Budget: \$42.4 M
- Estimated Cost to Complete Design: \$42.4 M

Accomplishments:

- Awarded the PS&E Contract in June 2016
- 65% of PS&E Plans submitted to Caltrans on schedule in December 2017

Challenges/Risks:

- Coordination with Caltrans' ongoing pavement rehabilitation project
- Delays with utility company facility relocations
- Right of Way Acquisition Delays



I-605 “Hot Spots”



PHASE: Various

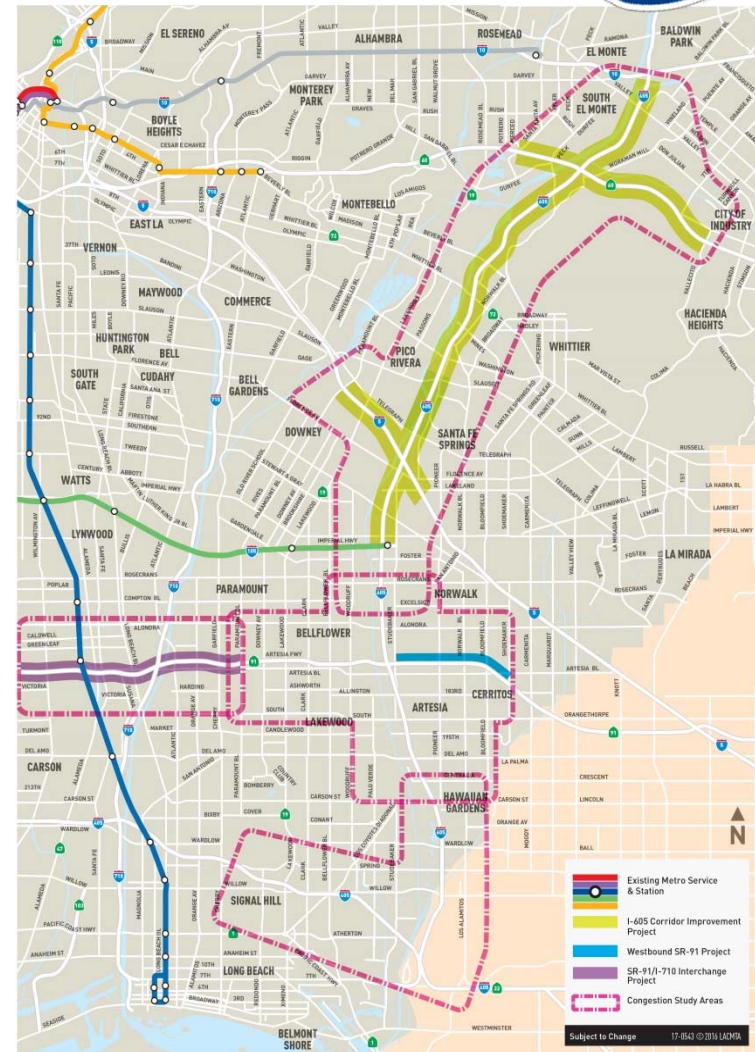
- Approved budget: \$88.7 M
- Estimated Cost to Complete Phase: \$88.7 M

Accomplishments:

- I-605 Corridor Improvement Project (I-605/I-5 and I-605/SR-60) Commenced PAED in 2015 and 2016, respectively
- Completed I-605 Corridor Improvement Project scoping Meetings in Fall 2016
- I-605/SR-91 Westbound PAED expected May 2018
- Pursuing early action projects during the development of the corridor environmental document

Challenges/Risks:

- Funding to advance projects to design and construction
- Strategy to resolve: Considering breaking down the mega projects to smaller fundable projects with independent utility and sustainability



I-710 South Corridor Improvement Projects



Project Phase: Project Approval/Environmental Document

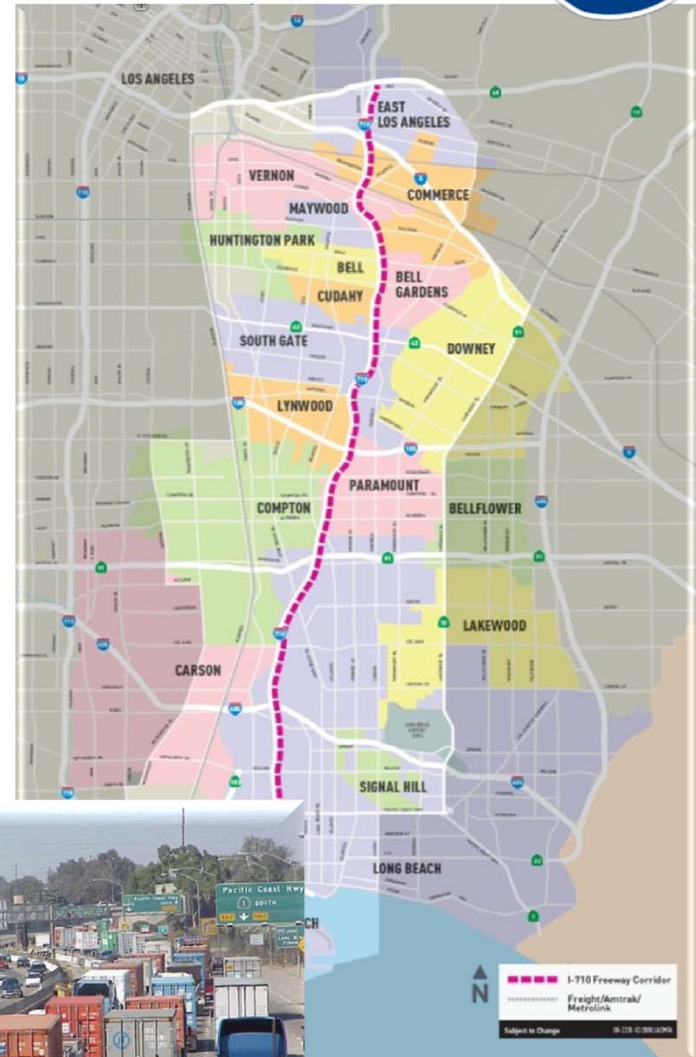
- Approved Budget: \$91.0 M
- Estimated Cost to Complete Phase: \$91.0 M

Accomplishments:

- Released RDEIR/SDEIS for Public Review in Jul 2017.
- Conducted additional studies as directed by the Board
- Strong collaborative work with the local agencies, communities, and Metro Board members in addressing community concerns
- Alternative 5C approved by Metro Board on March 1, 2018 as the Locally Preferred Alternative
- Pursuing early action projects during the development of the corridor environmental documents

Challenges/Risks:

- Funding to pursue design and construction of the proposed improvements
- Strategy to resolve: Pursuing implementation of early action projects with independent utility and sustainability
- Proper phasing of the project funding



I-710 North Early Action Projects



PHASE: Project Approval/Environmental Document

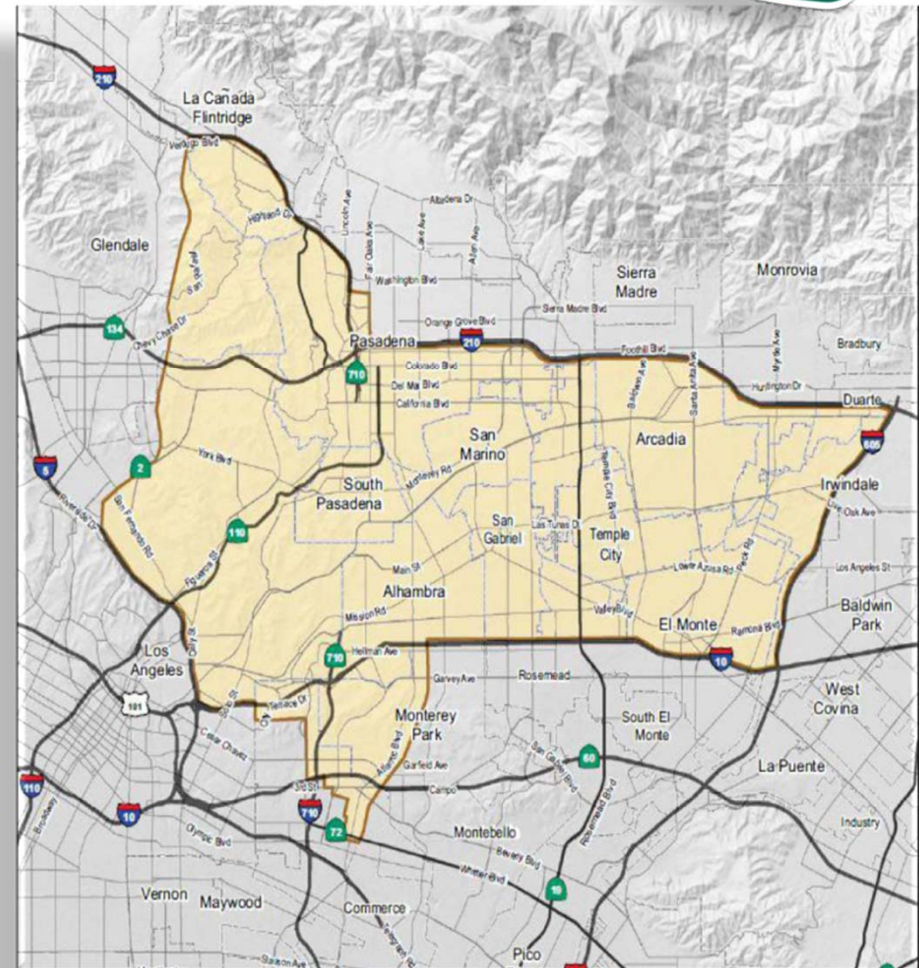
- Approved Budget: \$47.0 M
- Estimated Cost to Complete Phase: \$47.0 M

Accomplishments:

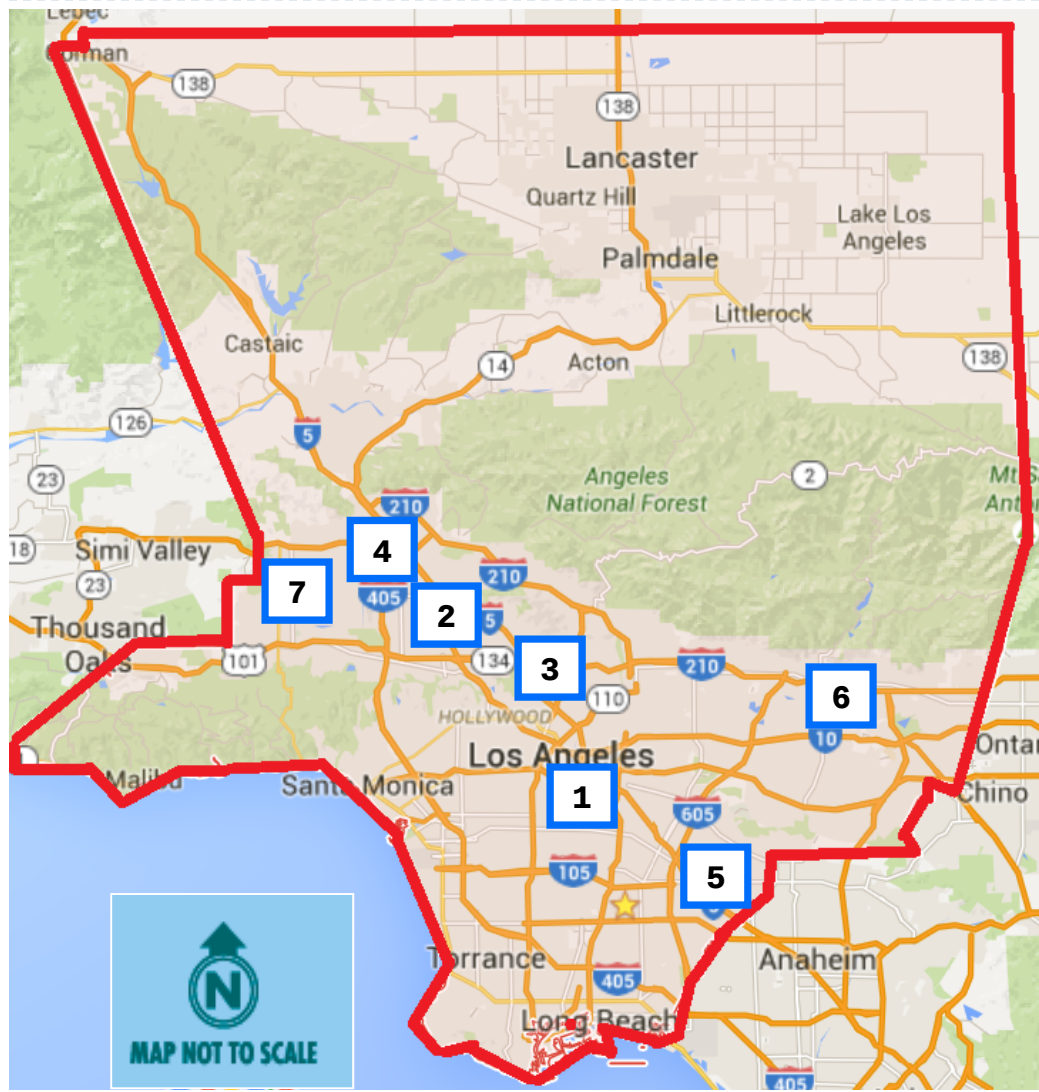
- Environmental Document is being finalized in Spring of 2018
- General agreement has been reached to invest in early action traffic mitigation/congestion relief projects
- Pursuit of early action congestion relief projects will start upon approval of the Final Environmental Document by Caltrans

Challenges/Risks:

- Consensus among local jurisdictions to apply available funds



Regional Rail Program



Los Angeles County



1. LINK Union Station
2. Burbank Airport North - Metrolink Station Project
3. Doran Street and Broadway/Brazil Grade Separation Project
4. Brighton to Roxford Double Track Project
5. Rosecrans/Marquardt Grade Separation Project
6. Lone Hill to CP White Double Track Project
7. Raymer to Bernsen Double Track Project

Regional Rail Program Summary

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
1	LINK Union Station Project	Environmental & PE	\$71.6	June 2019
2	Burbank Airport – North Metrolink Station Project	Construction	\$15.0	April 2018
3	Doran Street and Broadway/Brazil Grade Separation Project	Environmental/PE	\$11.6	November 2019
4	Brighton to Roxford Double Track Project	Environmental/ Final Design	\$15.0	October 2019
5	Rosecrans/Marquardt Grade Separation Project	Environmental; Plan, Specification & Estimate Final Design, Real Estate Acq.	\$155.3 (including construction)	September 2022
6	Lone Hill to White Double Track Project	Environmental & Final Design	\$10.0	September 2020
7	Raymer to Bernsen Double Track Project	Environmental & Final Design	\$6.0	June 2020
	Total Regional Rail Program		\$284.5	



Link Union Station (LINK US)

Estimated Cost to Complete Environmental/PE:
Current Phase Completion Date:

\$71.6 M
June 2019

Accomplishments:

- Board approved to proceed with staff recommended alternative 2 in March 2017 with six Regional Rail run-through tracks and two High Speed Rail run-through tracks to be carried forward in the NEPA and CEQA as the locally preferred alternative
- New above-grade concourse concepts and various active transportation linkage options was presented to July 2017 Board
- Worked closely with Division 20 Portal Widening Team in November 2017 to collaborate on design modifications to both the Portal project and the Link US run-through tracks to accommodate each project

Challenges/Risks:

- Potential return to the Board in June for additional budget in the amount of \$1.2M to accommodating WSAB Line at LAUS rail yard while the WSAB Line is undergoing potential project redefinition
- Funding commitments from HSR on required number of platforms and run-through track
- Board authorization on the preferred alternative will be sought in Summer 2018



Burbank Airport – North Metrolink Station Project

Project Budget: \$15.0M

Project Completion: April 2018

Accomplishments:

- Construction to be completed on-time and under budget
- Ribbon cutting/Grand opening anticipated in mid May 2018
- Revenue Service in May



Doran Street and Broadway/ Brazil Grade Separation Project

Est. Cost to Complete Environmental/Design: \$11.6 M

Current Phase Completion Date: November 2019

Accomplishments:

- Completion of Alternative Analysis; starting environmental
- Submittal of Petition to Modify from the proposed one-way interim at-grade improvements at Doran Street to a two-way configuration with quiet zone ready improvements and support for all stakeholders

Challenges/Risks:

- Secure funding for construction
- Board approval of active transportation elements to the project



Brighton to Roxford Double Track Project

Estimated Cost to Complete Environmental/PE:

\$15M

Current Phase Completion Date:

October 2019

Accomplishment: Completion of 30% Preliminary Engineering

Challenges/Risks:

- Possibility that East San Fernando Valley Transit Corridor Project could no longer accommodate the second track shown on B&R plans resulting in \$1M increase in design costs and at least \$50M in right-of-way and construction impacts
- If federal funds are applied to the project, a NEPA process would be required; adding significant time to the project schedule
- Secure funding for construction



Rosecrans/Marquardt Grade Separation Project

Working Project Estimate: \$155.3 M

Phase Completion: September 2022

Accomplishments:

- California High-Speed Rail Authority (CHSRA) awarded \$76.7 million towards the costs of the Rosecrans/Marquardt
- Metro's Real Estate acquired 2 of 8 full take properties
- California Public Utilities Commission approved the Grade Separation application (GO-88-B)

Challenges/Risks:

- Project delay of 8 months by CHSRA for execution of the funding agreement (PMFA)
- Funding agreement executions in progress with Caltrans for Section 190 and BNSF Railway



Lone Hill to White Double Track

Estimated to Complete Environmental/Final Design:

\$10.0 M

Current Phase Completion Date:

September 2020

Accomplishment:

- Completion of 30% Preliminary Engineering

Challenges/Risks:

- Return to the Board in Summer to advance the final design
- Secure construction funding



Raymer to Bernsen Double Track

Estimated Cost to Complete Environmental/Final Design:

\$6.0 M

Current Phase Completion Date:

June 2020

Accomplishments:

- Environmental Clearance in October 2014
- Project received \$60.8M in STIP funds and Prop \$11.8M in Prop1B to-date for environmental, design and construction costs

Challenges/Risks:

- Project placed on hold due to community concerns of environmental studies
- Return to the Board in Summer 2018 to request approval for new environmental studies to directly address community concerns



FY19 Summary

- New Projects with Planned Adoption of Life-of-Project Budget
 - Crenshaw/LAX Concurrent Non-Project Activities Project
 - Willowbrook/Rosa Parks Station Improvements Project
 - Rail to Rail Active Transportation Corridor Connector Project
 - Division 20 Portal Widening Turnback Facility Project
 - Westside Purple Line Extension Section 3 Project

- Existing Projects with Potential Adjustments to LOP Budget (separate Board action):
 - Emergency Security Operations Center
 - Close-out of 7th Street/Metro Station Pedestrian Tunnel (BLOC)
 - Division 4 Permeable Pavement and Bioretention Pilot Project
 - I-5 North: SR 118 to SR 134
 - I-5 South: Orange County Line to I-605

Next Steps

- Project Managers to manage project scope, budget, and schedule for quality, on-time and within budget delivery
- To present project-specific Life-of-Project budget for Board review and adoption
- Maintain resources and staffing needed to manage and support project delivery
- Seek additional revenue sources needed to fulfill funding commitment required to build and deliver projects, including the 28 by 2028 Initiative



Appendix: Project Listing by Type

TRANSIT CAPITAL PROJECTS WITH TOTAL PROJECT COSTS > \$5 M	TYPE	LOP BUDGET (\$ MIL.)
1 Bus Rapid Transit Freeway Station Sound Enclosure	Bus Facilities Improvements	\$5.8
2 Fuel Storage Tank Program (FY18 - FY21)	Bus Facilities Improvements	\$13.2
3 Metro Silver Line Improvements & Upgrades	Bus Facilities Improvements	\$7.8
4 Division 3 Master Plan Phases II-IV	Bus Facilities Improvements	\$13.2
5 Division 1 Improvements	Bus Facilities Improvements	\$20.9
7 Bus Facility Maintenance Improvements & Enhancements Phase II	Bus Facilities Improvements	\$20.9
8 Bus Facility Maintenance Improvements & Enhancements Phase III	Bus Facilities Improvements	\$21.7
9 Patsaouras Plaza Bus Station Construction	Bus Facilities Improvements	\$39.8
	Bus Facilities Improvements Total	\$143
10 Crenshaw/LAX Light Rail Transit: Construction	Major Construction	\$2,058.0
11 Regional Connector: Construction	Major Construction	\$1,755.8
12 Westside Purple Line Extension Section 1 Project	Major Construction	\$2,778.9
13 Westside Purple Line Extension Section 2 Project	Major Construction	\$2,440.9
14 Westside Purple Line Extension Section 3 Project	Major Construction	\$363.6 ^(a)
15 Gold Line Foothill Extension Phase 2B Project	Major Construction	\$1,406.9
	Major Transit Construction Total	\$10,804
16 Patsaouras Bus Plaza Paver Retrofit	Misc. Capital Projects	\$9.1
17 Division 20 Portal Widening Turnback Facility	Misc. Capital Projects	\$188.7 ^(a)
18 Division 22 Paint and Body Shop	Misc. Capital Projects	\$11.0
19 Rail to Rail Corridor Active Transportation Connector Project	Misc. Capital Projects	\$11.4 ^(a)
20 Metro Eastside Access Improvements Project	Misc. Capital Projects	\$20.4 ^(a)
21 Airport Metro Connector Project	Misc. Capital Projects	\$151.1 ^(a)
	Misc. Capital Projects Total	\$392
22 Southwestern Maintenance Yard	Rail Facilities Improvements	\$157.0
23 Systemwide Elevator Installations (Vertical Systems)	Rail Facilities Improvements	\$8.0
24 Light Rail Transit Freeway Stations Sound Enclosures	Rail Facilities Improvements	\$8.6
25 Metro Red Line Civic Center Station Escalator/Elevator Modernization	Rail Facilities Improvements	\$12.0
26 Metro Red Line Escalator Replacement/Modernization	Rail Facilities Improvements	\$20.8
27 Willowbrook/Rosa Parks Station Improvement	Rail Facilities Improvements	\$36.0 ^(a)
	Rail Facilities Improvements Total	\$242
28 Metro Gold Line I-210 Barrier Replacement Phase I	Security/Safety	\$11.1 ^(b)
29 Metro Emergency Security Operations Center	Security/Safety	\$112.7
	Security/Safety Total	\$124
30 Metro Blue Line Pedestrian Safety Enhancement at Grade Crossings	Wayside Systems	\$31.4
31 Metro Blue Line Signal System Rehabilitation	Wayside Systems	\$118.9
	Wayside Systems Total	\$150
	TRANSIT CAPITAL TOTAL	\$11,855

(a) Based on projected budget through FY19, prior to Board adoption of life-of-project budget.

(b) Design LOP budget approved for risk assessment study, environmental clearance and final design.

Appendix: Project Listing by Type

HIGHWAY	TYPE	CURRENT ESTIMATE (\$ MIL.)
1I-5 South – Alondra	Measure R Highway Capital Project	\$114.1
2I-5 South – Valley View Interchange	Measure R Highway Capital Project	\$631.1
3I-5 South – Shoemaker, Rosecrans, Bloomfield	Measure R Highway Capital Project	\$188.2
4I-5 South – San Antonio, Imperial Hwy and Orr Day	Measure R Highway Capital Project	\$323.3
5I-5 South – Florence	Measure R Highway Capital Project	\$211.7
6I-5 South – Carmenita Interchange	Measure R Highway Capital Project	\$419.9
7I-5 North – HOV from SR 118 to SR 170	Measure R Highway Capital Project	\$219.5
8I-5 North – HOV from SR 170 to North of Buena Vista	Measure R Highway Capital Project	\$94.7
9I-5 North – North of Buena Vista to South of Magnolia Blvd	Measure R Highway Capital Project	\$402.4
10I-5 North – Magnolia Blvd to SR 134	Measure R Highway Capital Project	\$137.4
11I-5 North HOV Project SR 14 to Parker Road	Measure R Highway Capital Project	\$42.4
12I-605 Corridor Hot Spots – I-605/I-5 Interchange Improvement	Measure R Highway Capital Project	\$30.3
13I-605 Corridor Hot Spots – I-605/SR 60 Interchange Improvement	Measure R Highway Capital Project	\$41.6
14I-605 Corridor Hot Spots – SR-91 Westbound Widening at I-605 Interchange	Measure R Highway Capital Project	\$9.3
15I-605 – Beverly Interchange Improvement Project	Measure R Highway Capital Project	\$3.5
16I-605 from SR-91 to South St. Improvements Project	Measure R Highway Capital Project	\$4.5
17I-405 Crenshaw Blvd On and Off Ramp Improvements	Measure R Highway Capital Project	\$20.0
18I-405 and I-110 Aux Lane from SR 91 to Torrance Blvd	Measure R Highway Capital Project	\$44.0
19I-710 (South) Corridor Improvement Projects	Measure R Highway Capital Project	\$91.0
20I-710 (South) Early Action Projects - Soundwall Projects (3 locations)	Measure R Highway Capital Project	\$12.7
21I-710 (North) Early Action Projects	Measure R Highway Capital Project	\$47.0
22Soundwall Package 10	Measure R Highway Capital Project	\$59.4
23Soundwall Package 11	Measure R Highway Capital Project	\$89.2
	Measure R Highway Total	\$3,237.2
24I-10 HOV from Puente Avenue to Citrus Avenue (Seg. 2)	Other Highway Projects	\$195.6
25I-10 HOV from Citrus Avenue to SR 57 (Seg. 3)	Other Highway Projects	\$268.7
26SR 57 and SR 60 Mixed Flow Interchange	Other Highway Projects	\$54.0
27SR 71: Interstate 10 to Mission Blvd	Other Highway Projects	\$16.0
28SR 71: Mission Blvd to Rio Rancho Road	Other Highway Projects	\$40.0
	Other Highway Total	\$574.3
	HIGHWAY PROGRAM TOTAL	\$3,811.5

REGIONAL RAIL	TYPE	CURRENT ESTIMATE (\$ MIL.)
1LINK Union Station Project	Regional Rail	\$71.6
2Burbank Airport – North Station Project	Regional Rail	\$15.0
3Doran Street and Broadway/Brazil Safety and Access Project	Regional Rail	\$11.6
4Brighton to Roxford Double Track Project	Regional Rail	\$15.0
5Rosecrans/Marquardt Grade Separation Project	Regional Rail	\$155.3
6Lone Hill to White Double Track Project	Regional Rail	\$10.0
7Raymer to Bernsen Double Track Project	Regional Rail	\$6.0
	REGIONAL RAIL PROGRAM TOTAL	\$284.5