



Board Report

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Agenda Number: 29.

CONSTRUCTION COMMITTEE APRIL 18, 2019

SUBJECT: FISCAL YEAR 2020 PROGRAM MANAGEMENT ANNUAL PROGRAM EVALUATION

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE report on FY20 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 FY20 APE review performed by Program Management.

BACKGROUND

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 toward completion and any changes approved by the Board are incorporated.

DISCUSSION

FY20 Results

For the FY20 APE, Program Management focused on new projects, and projects that will carry-over projects through FY20, with project costs estimated at \$5 million or greater. Program Management staff evaluated 64 projects, including nine Major Transit Construction projects, 23 Other Transit Capital projects, 27 Highway projects, and five Regional Rail projects (see Attachment A presentation for a complete project listing), which total approximately \$18.3 billion. The program size has increased 14.4% from \$16 billion in FY19 to \$18.3 billion in FY20. Program dollars approved for

Major Transit Construction projects increased 27.5% from \$10.8 billion in FY19 to \$13.8 billion in FY20.

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 FY20 is reported in the FY20 Program Management APE presentation.

Challenges

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

Efforts to improve, innovate, and increase our capabilities to deliver projects are essential. Program challenges include:

- Our ability to collaborate with stakeholders to meet community expectations;
- Attracting a competitive and qualified pool of contractors, small businesses, and workforce on Metro projects;
- Maintaining sufficient resources and staffing needed to manage and support project delivery;
- Building and delivering projects in a growing construction market with a shortage of skilled workers may impact project costs;
- Achieving continuous improvement in project delivery through innovation and application of best practices and lessons learned;
- Continued commitment by various external jurisdictions for efficient Third Party review and approval is the key to successful delivery of Metro's capital program.

Strategic Initiatives

Program Management continues to implement various strategic initiatives to bring improved planning, consistency, transparency, and discipline to project delivery. These initiatives include:

- Continuation of the Annual Program Evaluation of Metro's capital program;
- Engagement with robust management and support services consulting teams to augment technical expertise and resources;
- Enhancement of Metro's Risk Management and Construction Claims Management programs;
- Continued efforts to develop new and enhance existing project management procedures, and improve Metro's Best Practices/Lessons Learned Program.

FINANCIAL IMPACT

The FY20 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.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

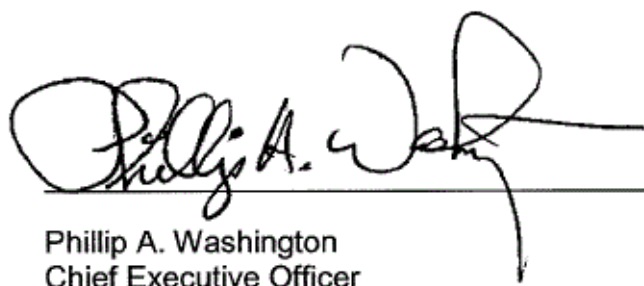
Recommendation supports Strategic Plan Goal #1 - Provide high-quality mobility options that enable people to spend less time traveling. This will be accomplished by planning and delivering multiple capital projects on time and on budget while increasing opportunities for small business development and innovation.

NEXT STEPS

Program Management will request the resources required for project delivery success through the FY20 Budget process for Board approval. Project managers will work 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 FY21 Program Management APE report will be presented to the Board in Spring 2020.

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Chief Executive Officer



Fiscal Year 2020 Program Management Annual Program Evaluation



Presentation Overview

- Purpose and Process
- Capital Program Status
- Capital Program Costs and Schedules
- Adjustments for FY20
- 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

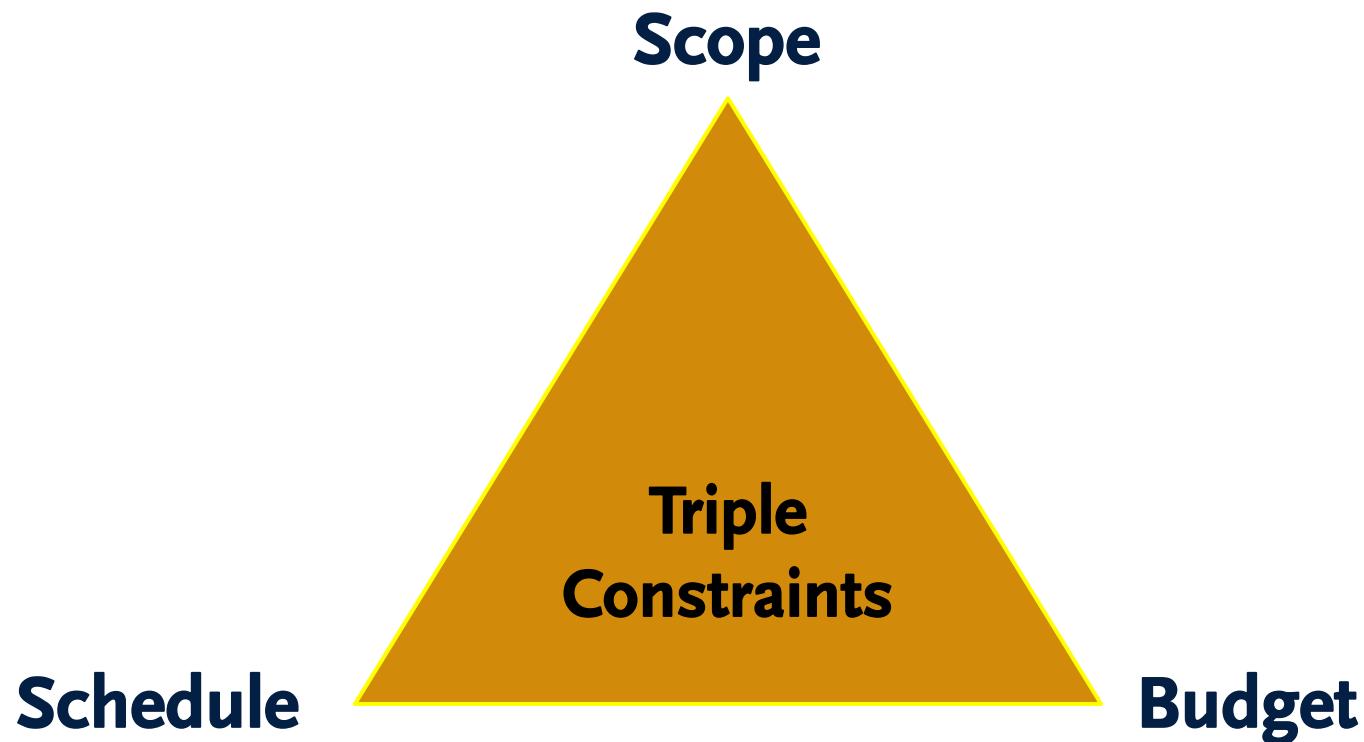
- A review of project costs and schedules
- Update project capital cost estimates to current conditions, including price trends and changes
- Focus on budget to complete current project phase/milestone
- Include APE results in the FY20 Budget review and adoption by the Board



Project Management



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

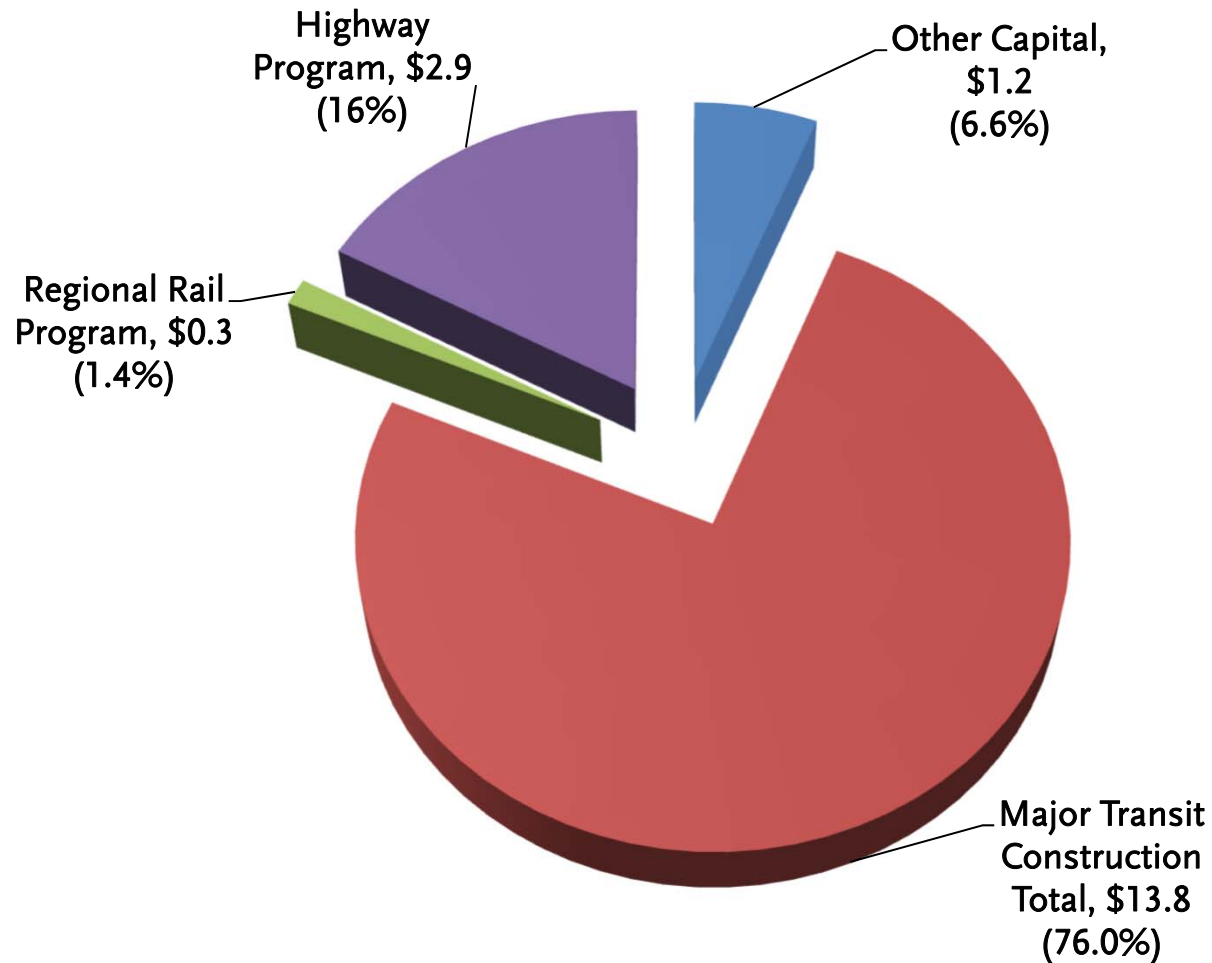


FY20 Scope

- APE focuses on only those capital projects, managed by Program Management, with a total project cost greater than \$5M:
 - Major Transit Construction Projects – 9 projects
 - Other Transit Capital Projects – 23 projects
 - Regional Rail Projects – 5 projects
 - Highway Program – 26 projects
- There are 63 projects and approximately \$18.1 billion of approved project budgets included in the FY20 APE review which is an increase of 13.1% from \$16 billion in FY19.
- Project budgets in the APE focus on authorized funding amounts.
- Project funding amounts remain within the annual budget limit approved by the Board.



FY20 Current Program: \$18.1 B



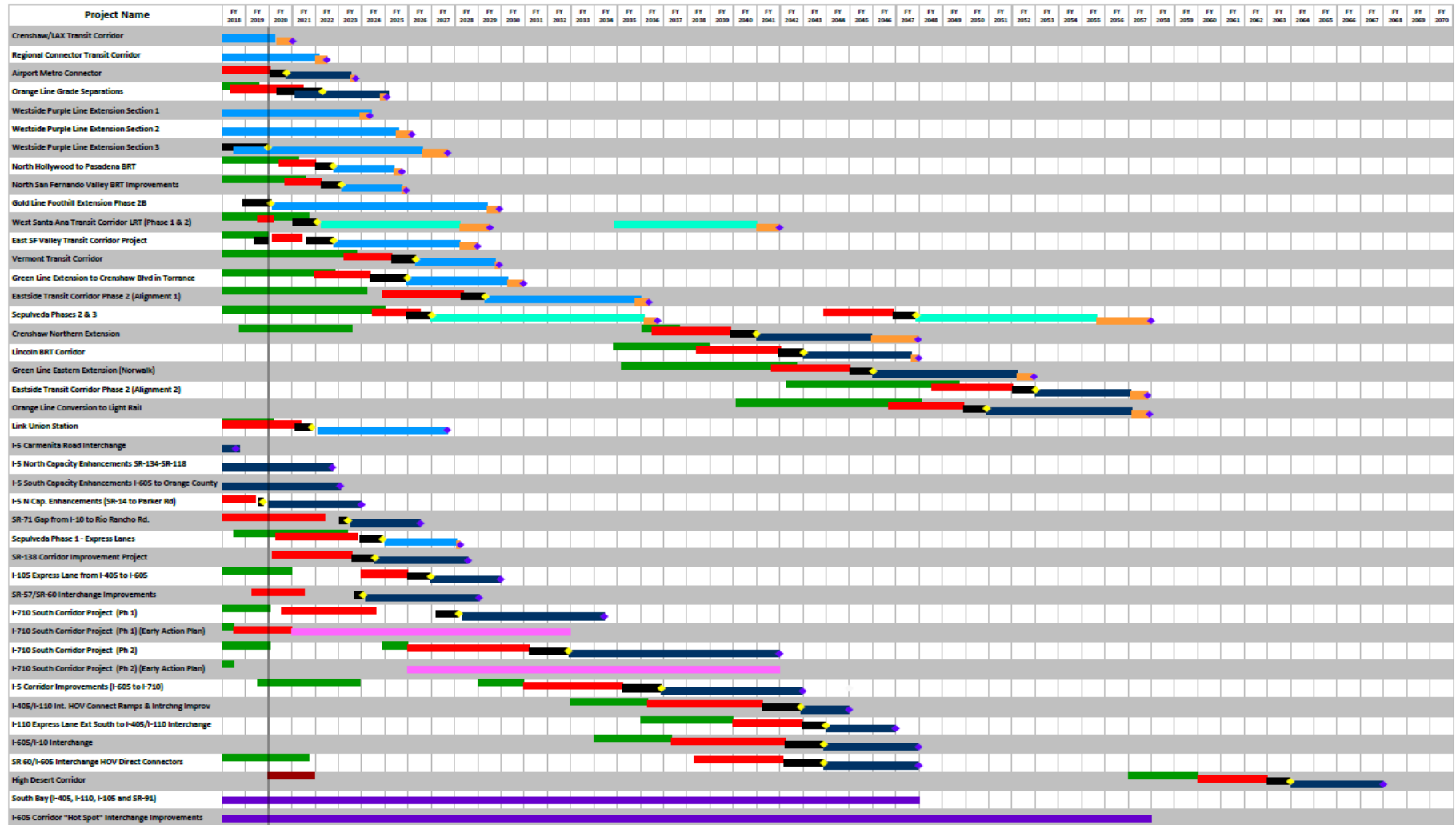
\$ in billions

Program Highlights

- In addition to the projects in APE, Program Management manages/oversees 40+ projects less than \$5M; Operations Capital Improvements projects, State of Good Repair projects, and other Transit Capital projects.
- Including projects within the APE, there are over 100 projects being managed by Program Management.
- Overall Program dollars increased 8.9% from \$16.8 billion in FY19 to \$18.3 billion in FY20.
- Metro's capital program will continue to grow with continued implementation of Measure M and Twenty-eight by 2028.



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/Construction	Yellow Diamond Groundbreaking Date
Right of Way	Program Implementation	Continuous Eng/Bid/Con	P3 Construction	Testing	Purple Diamond Forecasted Date

Program Challenges

- Deliver multiple large and complex projects on-time 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, good Contractors and utility resources in a growing construction market
- Maintain sufficient resources and staffing needed to manage and support project delivery
- Addressing Contractor claims in a fair and equitable manner
- Achieve continuous improvement in project delivery through innovation and application of best practices and lessons learned



Strategic Initiatives

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

- Conduct Annual Program Evaluation of Metro's capital program
- Establish reliable Life-of-Project budgets
- Engage robust management and support services consulting teams to augment technical expertise and resources
- Enhance Risk Management Program
- Enhance Construction Claims Management Program
- Improved Best Practices/Lessons Learned Program
- Implement new Document Control/Change Control system (Unifier)



Strategic Initiatives

- Implement new quality assurance approach
- Conduct readiness reviews before projects are released
- Utilize project delivery method selection process
- Utilize Integrated Project Management Office (IPMO) and defined decision making ladders
- Implement Board delegation of authority as approved in January 2018.

Metro Transit Program



Metro Transit Capital Projects

Type	Project Budget (in millions)	# of Projects
Major Transit Construction	\$13,774	9
Other Transit Capital	\$1,194	23
Misc. Capital	\$392	6
Security/Safety	\$124	2
Rail Facilities	\$295	5
Wayside Systems	\$253	3
Bus Facilities	\$130	7
Total Transit Capital Program	\$14,967	32



Metro Transit Capital Program Summary

Projects Completion in FY19:

- Burbank Airport North Metrolink Station
- Division 3 Master Plan Phases II-IV
- BOS Bus Deferred Maintenance Imp.
- MOL to MRL – North Hollywood
- 7th Metro and BLOC
- Universal City Pedestrian Bridge



Project Completion Planned in FY20:

- Metro Silver Line Improvements and Upgrades
- Crenshaw/LAX Project
- New Blue Projects
- Blue Line Rehabilitation/Willowbrook Station



Metro Transit Capital Program Summary

Projects Transitioned from Planning to Program Management in FY19:

- Orange Line Bus Rapid Transit Improvement Project
- East San Fernando Valley Transit Corridor Project

Planned Transition to Program Management in FY20:

- Fuel Storage Tanks FY20-FY22
- Rail Operation Center and Bus Operation Center
- North Hollywood to Pasadena Bus Rapid Transit Project



Crenshaw/LAX Transit Project

Project Budget: \$2,058.0 M

Project Completion: 2020

Project Complete: 91%

Accomplishments:

- Work continues on remaining infrastructure at all eight stations with systems procurements, installations and testing activities continuing at various locations.
- Guideway activities including street crossings, remaining trackwork installation and follow-on systems installations continue through out the alignment.

Challenges/Risks:

- Limited remaining cost contingency.
- Contractor falling behind schedule with limited options available to mitigate any delays.
- A high number of complex electric and systems tests must be successfully completed.



Legend:

- Existing Metro Rail & Station
- Regional Connector & Station (under construction)
- Metro Silver Line & Station
- Amtrak/MetroLink

Subject to Change 7-1328 ©2017 UCMCA

Map Labels:

- 7th St/Metro Center
- Grand Av Arts/Bunker Hill
- Civic Center
- Union Station
- Little Tokyo/Arts District
- Pershing Square
- Historic Broadway
- Historic Core
- Financial District
- Toy District
- Little Tokyo
- Expo Line route to Santa Monica
- Blue continues along current route to Long Beach
- Blue continues along current Gold Line route to Azusa
- Gold continues along current route to East LA

Regional Connector Transit Project

Project Budget: \$1,795.8 M

(Excludes finance costs; includes \$40M non-FFGA)

Project Completion: 2022

Project Complete: 55%

Accomplishments:

- Successfully completed the decking of Flower Street. Project will be underground in steady state for next two years from 7th/Metro to Little Tokyo.
- Completed excavation of 2nd Street Cross-over Cavern earlier than planned; balance of excavations at the three stations complete with structural concrete work now underway.
- Finalized all planned design units including the added over-build interface designs at the Historic Broadway Station to accommodate high-rise development over the station entrance area.

Challenges/Risks:

- Costs of ~\$25M for three-year extension of Mangrove Yard Temporary Construction Easement represent an increase of \$10M from COLA's January 2017 valuation.
- Scope enhancements for the pedestrian bridge at Grand Av Arts/Bunker Hill Station are estimated to exceed project budget by \$6M stressing available contingency.
- Finalizing the permanent easement from the COLA for the Mangrove Fan Plant are impacting construction with potential impacts to the critical path and budget.
- Escalating costs for the fan plant change order.
- The project is completing an FTA mandated budget and schedule Risk Refresh at the 50% completion milestone. The Board will be informed of any outcomes which are projected to threaten existing project contingency levels.



Westside Purple Line Extension Project



Westside Purple Line Extension Section 1

Project Budget: \$2,778.9 M
(Excludes finance costs)

Forecast Completion: 2023

Project Complete: 46%

Accomplishments:

- Commenced Reach 1 tunnel drive from Wilshire/La Brea Station to Wilshire/Western TBM Retrieval Site.
- Completed excavation and temporary TBM support slab at Wilshire/Western TBM Retrieval Site. Began Wilshire/Fairfax Station concrete operations.
- Contract C1078 (Division 20 MOW/NRV Building Location 64) achieved substantial completion.

Challenges/Risks:

- Higher cost of ROW acquisition.
- Subcontractor ability to get the required resources to perform the work.
- Wilshire /La Cienega Station dewatering.
- Water quality impacting treatment/maintenance of the water system.
- Potential schedule claim from contractor.



Westside Purple Line Extension Section 2

Project Budget: \$ 2,440.9 M
(Excludes finance costs)

Forecast Completion: 2025

Project Complete: 15%

Accomplishments:

- Completed third party advanced utility relocations at Wilshire/Rodeo Station.
- Completed TBM mobilization.
- Completed civil work for third party advanced utility relocations at Century City Constellation Station.
- Completed final design for stations and tunnels.
- Completed installation of soldier piles for TBM Launch Box in Century City.

Challenges/Risks:

- The City of Beverly Hills City Council approved the Memorandum of Agreement for the C1120 Contract on August 21, 2018, but made execution of the agreement contingent on reaching a settlement agreement related to the NEPA lawsuit.
- Third party utility relocation and resource constraints at private utility companies may cause delay.

Westside Purple Line Extension Section 3

Project Budget: \$3,223.6 M
(Excludes finance costs)

Forecast Completion: 2027

Accomplishments:

- Issued Notice to Proceed for Contract C1151 (Tunnels).
- Real estate certification in progress and beginning property acquisitions.
- Contract C1153 (Wilshire/UCLA Advanced Utility Relocations) substantially completed.
- Metro third party utility relocations continue.
- Contractor begins final design of the tunnels.

Challenges/Risks:

- Required construction and staging areas at the VA Hospital may not be available in time to begin construction as currently planned.
- Obtaining lane closures and peak hour exemptions.
- Tariff potentially impacting D/B contractors.
- Receipt of Full Funding Grant Agreement.



Gold Line Foothill Extension Phase 2B



Gold Line Foothill Extension Phase 2B

Project Budget: \$1,406.9 M

Forecast Completion: 2029

Project Complete: 3%

Accomplishments:

- Received SB1 Funding in the amount of \$249 million.
- First Design Build contract completed, first of two Utility Relocation contracts. Commenced work on pole line eliminations.

Challenges/Risks:

- Address and resolve funding gap to fully fund approved alignment construction to Claremont.
- Constructing while under operations and accommodating future projects.
- Metrolink, SANBAG, City coordination.
- Freight and Metrolink track relocation work.
- Metrolink Coordination: Grade Separation of crossings not-warranted by Metro Grade Crossing Policy.



Orange Line Bus Rapid Transit Improvements



Orange Line Bus Rapid Transit Improvements

Current Authorized Project Budget : \$22.0 M

Forecast Completion: 2024

Accomplishments:

- Project is exempt from CEQA (July 2018 Board Report).
- Ceremonial ground breaking in October 2018.
- Completed Basis of Design and 15% Design of Sepulveda Grade Separation, and 15% design of gates at eight locations.
- 95% completed Traffic Analysis and Pilot Gate design.

Challenges/Risks:

- Relocate Sepulveda parking lot access road through adjacent property to fit additional escalators.
- Progressing of Van Nuys Grade Separation Station Design being coordinated with ESFV environmental process.
- Mitigation of traffic impacts.
- Integration with Sepulveda and ESFV Transit Corridor projects.
- Maintaining existing bus operation during construction.
- City of Los Angeles approvals.
- ROW acquisitions and major utility relocations.
- Future PUC regulations requires approval for gates with bus operations.



East San Fernando Valley Transit Corridor



East San Fernando Valley Transit Corridor

Current Authorized Project Budget: \$21.2 M

Forecast Completion: 2028

Accomplishments:

- Locally preferred alternative selected in June 2018.
- FEIS/FEIR
 - SHPO consultation on Findings of Effect
 - Grade crossing safety analysis
 - Orange Line Station connection
- Engineering
 - Finalizing advanced conceptual engineering (10% design)
 - Updating cost estimates
 - Receipt of preliminary engineering proposals

Challenges/Risks:

- A shared right-of-way with Metrolink.
- Design for connection with Metro Orange Line needs to be finalized.



Airport Metro Connector



Airport Metro Connector

Current Authorized Project Budget : \$151.1 M

Forecast Completion: 2024

Accomplishments:

- Engineering completed 60% design and Shoo-fly design.
- Los Angeles World Airport (LAWA) Interface and coordination continues.
- Commence Ardent and Honeywell Monitoring.
- Complete Phase II Environmental Site Assessment.
- Finalize agreement with So. Cal. Gas.
- Completed Utility Relocation design and potholing for Gas Lines transmission with So. Cal. Gas.
- Advertise for professional services contract for construction support services.
- Real Estate has commenced acquisition of Hertz property and is anticipating finalized sale and ownership by end of FY19.

Challenges/Risks:

- Real Estate relocation, advance utility relocation, relocation of clean energy facility, schedule integration with LAWA's Automated People Mover project and construction of Shoofly.
- Constructing project under full Metro operations of the Crenshaw and Green Lines.
- Coordination of the Crenshaw Line Opening and LAWA LAMP interface and contractors.



Patsaouras Plaza Busway Station

Project Budget: \$39.8 M

Project Completion: 2020

Project Complete: 67%

Challenges/Risks:

- Numerous Third party delays.
- The initial work stoppage and limited access to construction site since partially resuming work have led team to forecast a completion date of May 2020, assuming that construction resumes in April 2019.
- Project needs an LOP budget increase to settle delay claims due to the work stoppage that resulted from the paleontological and archeological discoveries.
- FTA and SHPO approvals to resume construction are imminent.



Metro Blue Line Signal Rehabilitation Project

Project Budget: \$118.9 M

Project Completion: 2021

Project Complete: 40%

Accomplishments:

- Construction In Progress - MBL Resignalling contract (Mass Electric).
- In Design - Develop scope of work and design package for Firestone Corrosion repair.

Challenges/Risks:

- This is one of several projects to be completed during the planned eight-month shut down of the Metro Blue Line that begins January 2019.
- Coordination between the three projects during shutdown of the Metro Blue Line.



New train control



Project adds 4 Crossovers



Willowbrook/Rosa Parks Station Project

Project Budget: \$109.4 M

Project Completion: 2020

Accomplishments:

- Completed relocation of utilities and improvements to the Non-Revenue rail crossing.
- Construction of the Customer Service building and Bike Hub is underway.
- Demolition of Blue Line platform and Mezzanine has started with the New Blue shutdown.



Challenges/Risks:

- Cost estimate of Park and Ride lot improvements up from \$7M to 8M, but in line with remaining contingency.
- Coordination between the projects during shutdown of the Metro Blue Line.



Emergency Security Operations Center

Project Budget: \$ 112.7 M

Project Completion: Phase 1 in 2021

Accomplishments:

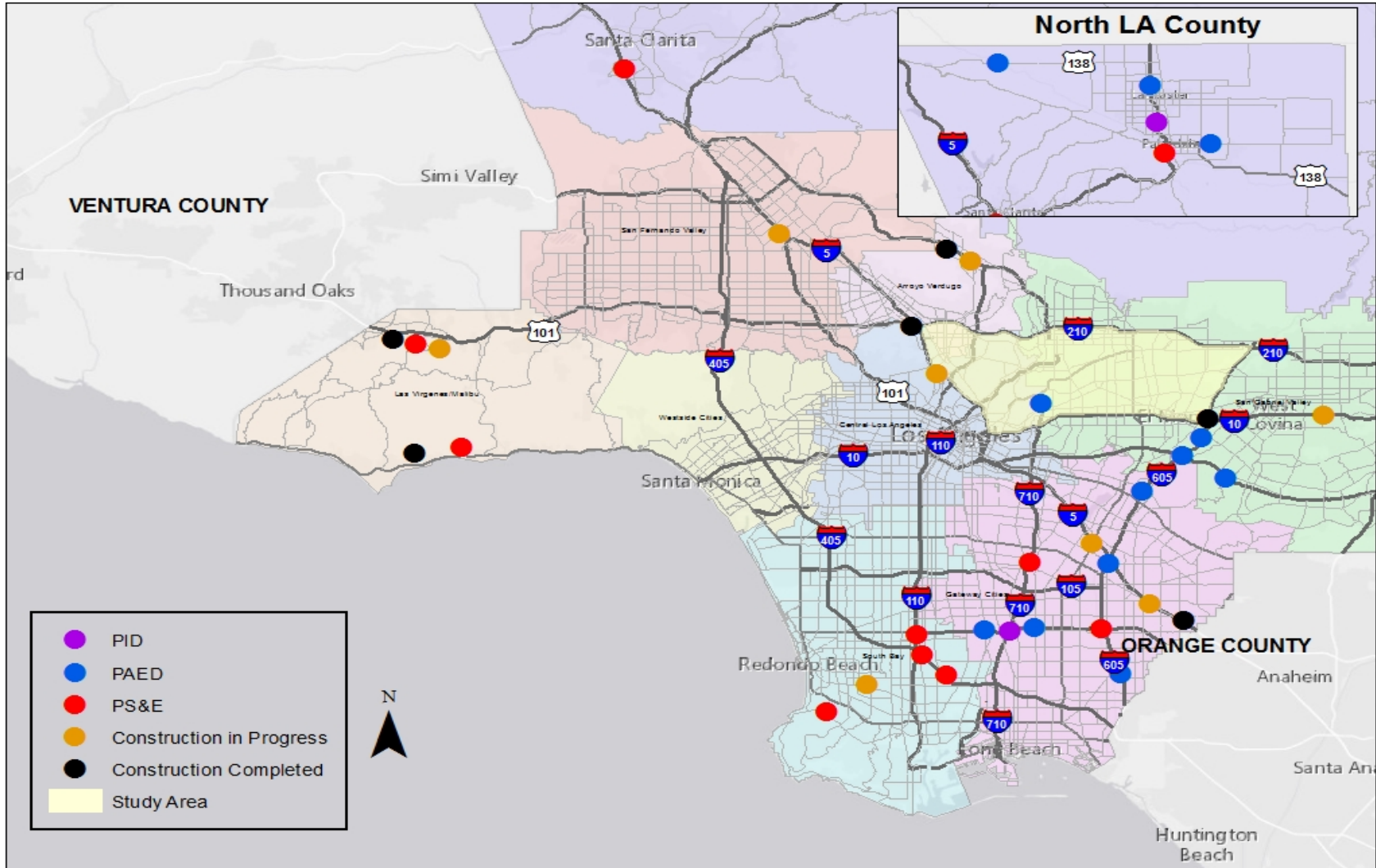
- Issued the revised RFQ/RFP package in October 2018.

Challenges/Risks:

- Competitive market may cause cost proposals to be higher than estimated which will widen the funding shortfall.
- State funding of \$112.7 million has to be used by March 2021.



Highway Program





Highway Program Status Summary (Measure R and M Funded)

#	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Current Phase Completion
1	I-5 South Valley View Interchange	Construction	\$631.1	2022
2	I-5 South - San Antonio, Imperial Hwy and Orr Day	Construction	\$323.3	2020
3	I-5 South – Florence Ave Interchange	Construction	\$211.7	2020
4	I-5 North – North of Buena Vista to South of Magnolia Blvd	Construction	\$399.4	2022
5	I-5 North - Magnolia Blvd to SR 134	Construction	\$165.9	2020
6	I-5 North HOV Project SR 14 to Parker Road	Plans, Specs, and Estimate	\$51.4	2019
7	I-605 Corridor Hot Spots – I-605/I-5 Interchange Improvements	Project Approval/ Environmental Documents (PAED)	\$30.3	2021
8	I-605 Corridor Hot Spots – I-605/SR 60 Interchange Improvements	PAED	\$41.2	2021
9	Westbound SR-91 Shoemaker to Alondra Improvements	PAED	\$9.3	2019

FY20 APE

Highway Program Status Summary (Measure R and M Funded)

#	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Current Phase Completion
10	I-605 Corridor Hot Spots – I-605 Beverly Interchange Improvements	PAED & PS&E	\$4.2	2020
11	I-605 from SR-91 to South Street Improvements	PAED & PS&E	\$4.4	2019
New 12	I-605/Valley Boulevard Interchange Improvements	PAED & PS&E	\$2.1	2020
New 13	SR-60/7th Avenue Interchange Improvements	PAED & PS&E	\$2.0	2020
New 14	EB SR-91 Atlantic Avenue to Cherry Avenue Auxiliary Lane Improvements	PAED & PS&E	\$7.4	2020
15	Interstate 405 Crenshaw Blvd On and Off Ramp Improvements	PAED & PS&E	\$24.4	2020
New 16	I-405 Auxiliary Lanes – I-105 to Artesia Blvd	PAED & PS&E	\$4.1	2020
17	I-710 (South) Corridor Improvement Projects	PAED & PS&E	\$91.0	2019
18	I-710 (South) Early Action Projects Soundwalls (Bell Gardens, Commerce, Compton, East Los Angeles, Long Beach)	PS&E & ROW	\$10.1	2019
19	SR-710 (North) Corridor EIR/EIS	PAED	\$47.1	2019

FY20 APE

Highway Program Status Summary (Measure R and M Funded)

	#	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Current Phase Completion
New	20	SR-710 (North) TSM/TDM	PS&E/ROW/Construction	\$45.0	TBD
New	21	SR-710 (North) Mobility Improvement Projects	PAED/PS&E/Construction	\$515.0	TBD
	22	Soundwall Package 10	PS&E/ROW	\$11.8	2020
	23	Soundwall Package 11	Construction	\$89.2	2021
			Subtotal Measure R & M Highway Projects:	\$2,721.4 M	

Highway Program Status Summary (Non-Measure R and M Funded)

#	Project	Current Phase	Estimated Cost through Current Phase (\$mill)	Current Phase Completion
24	SR-57/SR-60 Interchange Improvements (Eastbound and Westbound flyover off-ramp to Grand Ave, Eastbound on-ramp SR-60)	PS&E & ROW	\$74.0	2021
25	SR 71: Interstate 10 to Mission Blvd (North)	PS&E & ROW	\$60.9	2022
26	SR 71: Mission Blvd to SR-60 (South)	PS&E & ROW	\$35.2	2019
		Subtotal Non-Measure R & M Funded Highway Projects:	\$170.1	
		TOTAL HIGHWAY PROGRAM:	\$2,891.5 M	

Projects Completed in FY19
I-5 South – Alondra Blvd Overcrossing
I-5 South – Shoemaker, Rosecrans, Bloomfield
I-5 South – Carmenita Interchange
I-5 North – HOV from SR 118 to SR 170
I-5 North – HOV SR 170 to North of Buena Vista

Project Completion Planned in FY20
I-5 North – HOV from Magnolia to SR-134
I-5 South – Imperial Highway

FY20 APE

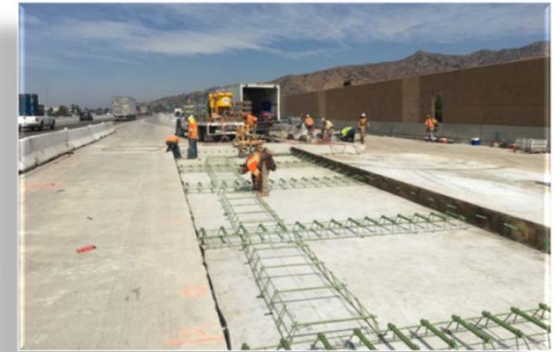
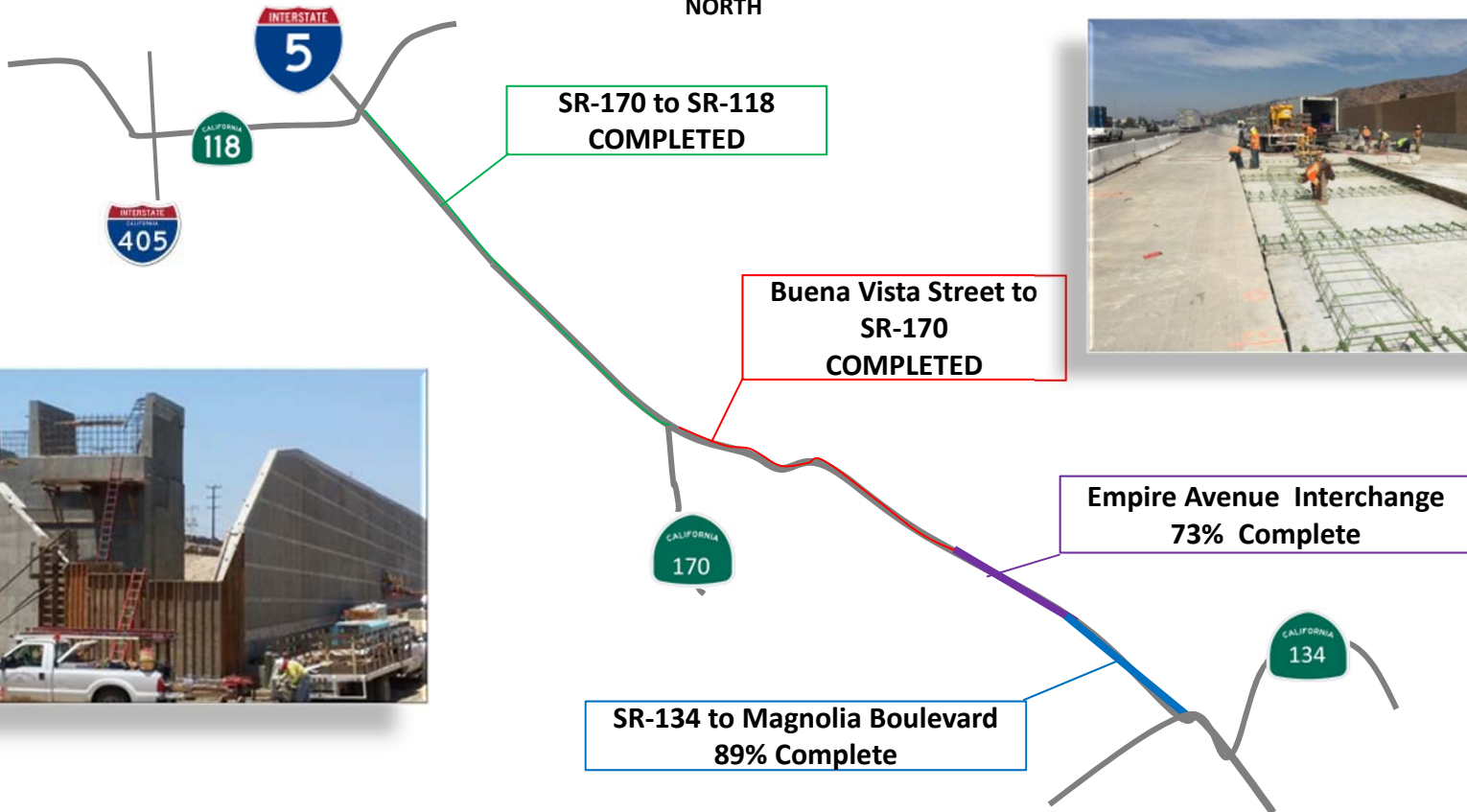
I-5 Construction Projects (By Caltrans)



I-5 NORTH: SR 118 TO SR 134

Project Budget	Current	Forecast
	\$880.9M	TBD

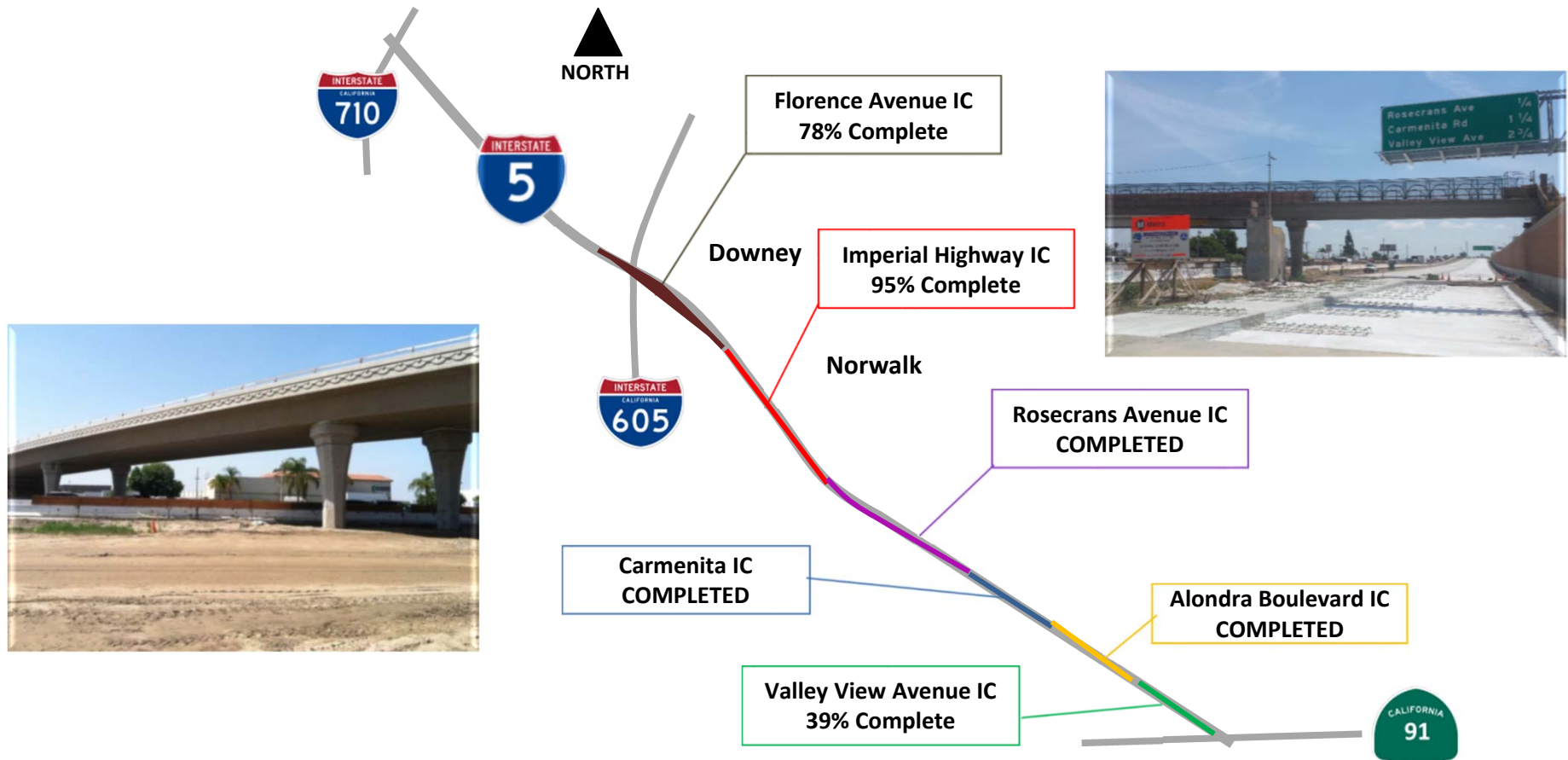
ANTICIPATED PROJECT COMPLETION	Current	Forecast
	Spring 2022	Summer 2022



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

	Current	Forecast
Project Budget	\$1.888B	TBD

	Current	Forecast
ANTICIPATED PROJECT COMPLETION	Summer 2022	Fall 2022



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



PHASE: PS&E

Approved Budget: \$51.4M

Estimated Cost to Complete Project: \$657.4 M
(includes all phases)

Accomplishments:

- 100% of PS&E submitted to Caltrans in December of 2018.
- Preparing for construction phase - projected to start in January, 2020.

Challenges/Risks:

- Coordination with Caltrans' ongoing pavement rehabilitation project.
- Coordination with projects by others.
- Project now classified by FHWA as a major project, requiring additional coordination and documentation.



I-605 “Hot Spots”



PHASE: Various

Approved Budget : \$101.0 M

Estimated Cost to Complete Current Project Phases:
\$101.0 M

Accomplishments:

- Final PAED for the Westbound SR-91 From Shoemaker to Alondra completed in January, 2019.
- Pursuing early action projects parallel to the development of the I-605 corridor environmental document.
- Initiated PAED and PS&E for multiple Early Action Interchange projects now in progress, with estimated completions through 2021.
- Continuing strong collaborative work with local agencies, communities in developing new projects and programs to address congestion in the corridor.

Challenges/Risks:

- Continue to break down corridor mega projects into smaller, fundable projects with independent utility.



I-710 South Corridor Improvement Projects

PHASE: PAED

Approved Budget : \$91.0M

Estimated Cost to Complete Phase: \$91.0M

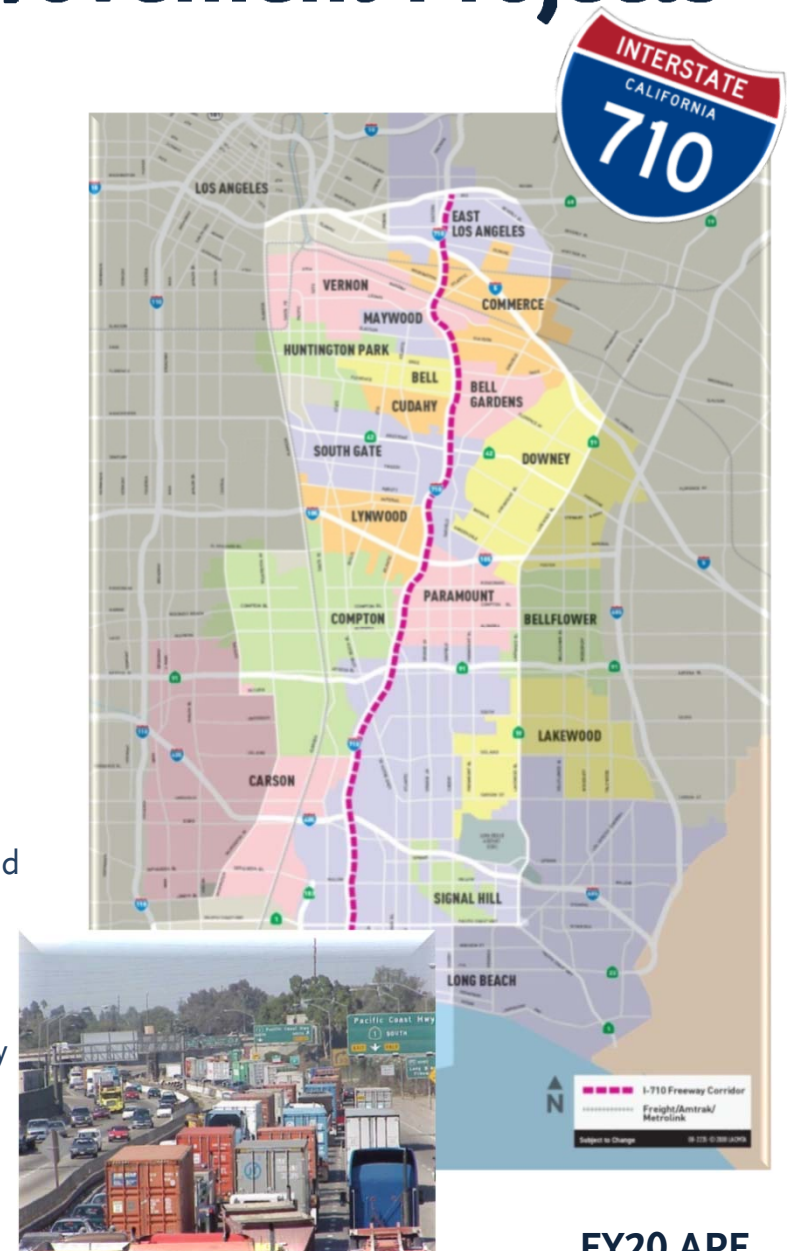
Subsequent phases include specific freeway and interchange improvements, arterial and local crossing projects

Accomplishments:

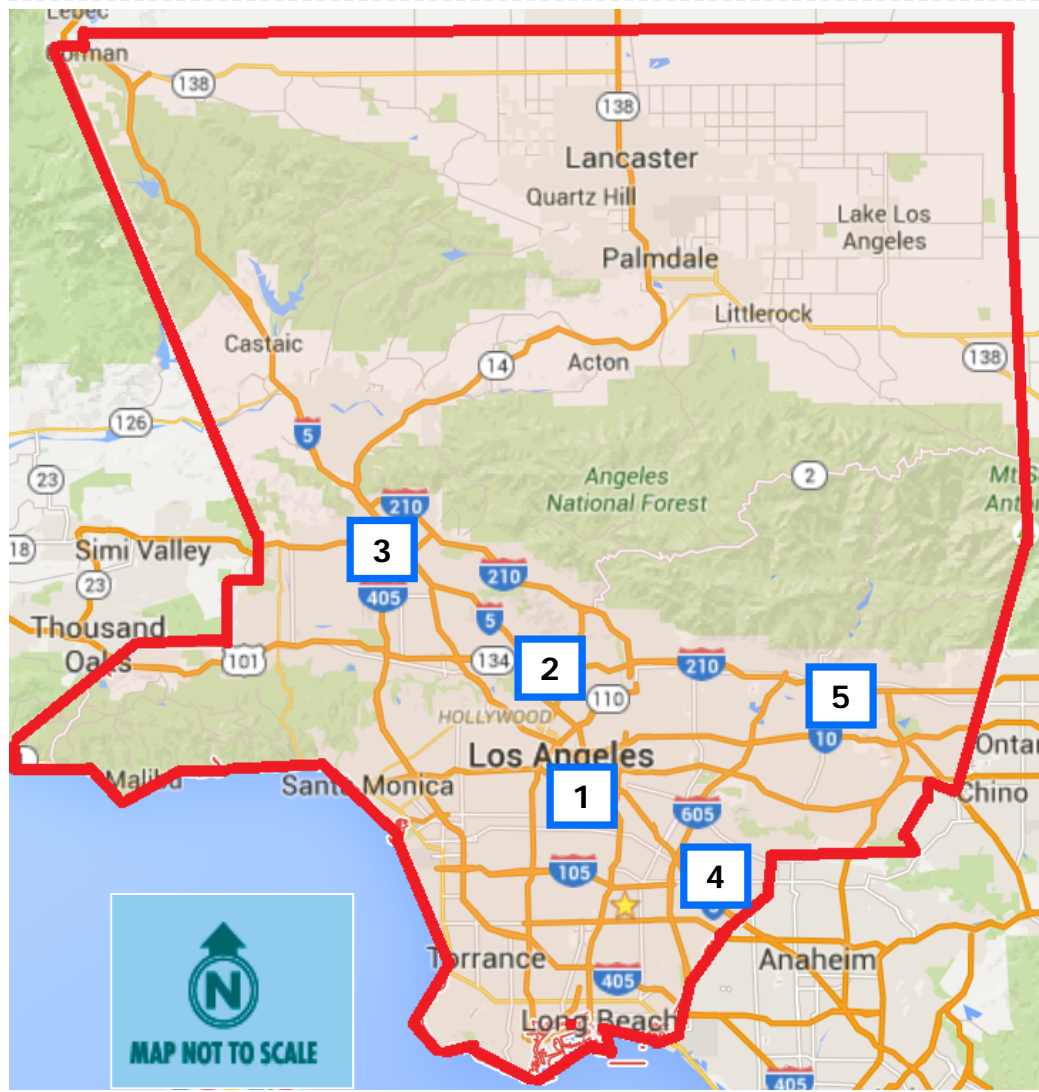
- The Recirculated DEIR/SDEIS was released in July 2017
- Metro Board adopted Locally Preferred Alternative in March 2018. In Summer 2019, staff to seek board approval of I-710 South Initial Stage Program for Alternative 5C, currently in development. Environmental phase will be completed by Summer 2019 with Caltrans approval of the document.
- Pursuing early action local projects during the development of the corridor environmental documents
- Strong collaborative work with local agencies, communities, and Metro Board members in addressing community concerns.

Challenges/Risks:

- Funding to pursue design and construction of all potential early action projects and the proposed corridor improvements
- Strategy to resolve: Pursuing funding and implementation of early action projects with independent utility.



Regional Rail Program (LA County)



1. LINK Union Station
2. Doran Street and Broadway/Brazil Grade Separation Project
3. Brighton to Roxford Double Track Project
4. Rosecrans/Marquardt Grade Separation Project
5. Lone Hill to CP White Double Track Project

Los Angeles County:



Regional Rail Program Summary

#	Project	Current Phase	Estimated Costs through Current Phase (\$mil)	Current Phase Completion
1	LINK Union Station Project	Environmental & PE	\$70.4	2019
2	Doran Street and Broadway/ Brazil Grade Separation Project	Environmental/PE	\$8.6	2020
3	Brighton to Roxford Double Track Project	Environmental/ Final Design	\$16.7	2020
4	Rosecrans/Marquardt Grade Separation Project	Environmental; Plan, Specification & Estimate Final Design, Real Estate Acq.	\$156.4 (including construction)	2021
5	Lone Hill to White Double Track Project	Environmental & Final Design	\$10.0	2020
	Total Regional Rail Program		\$262.1	

Project Completed in FY19

Bob Hope Airport/Hollywood Way Metrolink Station

Project Closed in FY19

Raymer to Bernsen Double Track



Link Union Station (LINK US)

Estimated Cost to Complete Environmental/PE: \$70.4 M

Current Phase Completion Date: 2019

Accomplishments:

- Phase A of the project is funded with a total of \$950 Million. Received concurrence from funding partners on the project scope for Phase A, including number of run-through tracks and the northern loop track, so that Phase A could be completed within the budget of \$950 Million.
- On January 17 2019, the Draft EIR was released for public review and comment. The DEIR includes both Phases A and B of the project.



Challenges/Risks:

- Board approval of contract modification to complete the Preliminary Engineering and Environmental Clearance as early as Spring 2019.
- \$423 Million in Prop 1A HSR funds need to be secured as soon as possible to mitigate the risk that funding may become unavailable with the uncertainty of the overall CHSR program.
- Acquisition for the BNSF property by the State/CHSRA .
- Additional environmental documentation may be required if the NEPA process result in a different outcome than the CEQA process.



Doran Street and Broadway/ Brazil Grade Separation Project

Est. Cost to Complete Environmental/Design: \$8.6 M
Current Phase Completion Date: 2020

Accomplishments:

- Received CPUC approval to modify the one-way interim at-grade improvements at Doran Street crossing to a two-way configuration with quiet zone ready improvements on 1/10/19.
- Received CTC staff recommendation on 12/28/2018, under ATP cycle 4, for \$16.3M of the \$22.2M needed for design and construction of both structures.

Challenges/Risks:

- Board approval of active transportation elements to the project.
- Obtaining construction funding for the interim improvements at Doran Street and improvements for the grade separation.
- An additional \$500K in third party costs to account for the scope of work modifications.



Brighton to Roxford Double Track Project

Estimated Cost to Complete Environmental/Final Design: \$16.7M

Current Phase Completion Date: 2020

Accomplishment:

- July 2018, Board approved programming \$11,528,416 for professional services for the B2R project to accommodate the changes necessary to accommodate the East San Fernando Valley Transit Corridor (ESFVTC) Project and a new pedestrian underpass for the Burbank Airport North Metrolink Station and other design changes to a 100% design level.
- January 2019 Planning and Programming Committee approved contract mod. to get design team restarted.

Challenges/Risks:

- Shifting of Metrolink tracks east to accommodate ESFVTC; grade crossings to be designed to accommodate 4 tracks to avoid unnecessary future rework; transforming existing single-main-track alignment with passing sidings into double mainline track segment.
- ESFVTC could no longer accommodate the second track shown on B&R plans resulting in \$3M increase and right-of-way and construction impacts of approximately \$65M.
- If federal funds are applied, NEPA process must be followed adding time to the schedule.



Rosecrans/Marquardt Grade Separation Project

Current Estimate for Total Project: \$156.4 M

Current Phase Completion Date: 2021

Accomplishments:

- NEPA Clearance (Environmental Assessment approved: 5/02/18, and FONSI approved: 11/07/18); Funding agreement with CHSRA executed: 5/01/18; C&M agreement with BNSF executed: 3/22/18; Cooperative & Funding agreement with City of SFS executed: 7/13/18.
- All funding sources intact; right-of-way acquisitions and design work are in progress - all appraisal for all full take properties have been completed and acquisition efforts are in progress; project plans & specs being progressed towards 90% submittal milestone scheduled for April 24, 2019.

Challenges/Risks:

- June 2020 deadline for all real estate work, ROW certifications and SCE utility relocation work completed while using TCEP funds under Senate Bill 1.
- Project must be ready to issue bid and award construction by November 2020 to comply with other funding sources.
- Duration of ROW acquisition could substantially delay ROW Certification required to bid project; possibility of TCE's part takes to turn into full takes; possibility of SCE's pole relocation work not 100% complete before start of construction contract.



Lone Hill to White Double Track

Estimated Cost to Complete Environmental/Final Design: \$10.0 M

Current Phase Completion Date: 2020

Accomplishment:

- Preliminary Engineering phase completed.

Challenges/Risks:

- Staff will be seeking Board approval to advance the final design of this project in the Spring in 2019.



FY20 Summary

New Projects with Planned Adoption of Life-of-Project Budget:

- Orange Line Bus Rapid Transit Improvement Project
- North Hollywood to Pasadena Bus Rapid Transit Project
- East San Fernando Valley Transit Corridor Project
- West Santa Ana Branch Project
- Division 20 Portal Widening Turnback Facility
- Airport Metro Connector Project
- Metro Eastside Access Improvement Project
- Rail Operations Center and a new Bus Operations Center
- I-5 North HOV Project

Existing Projects with Potential Adjustments to LOP Budget (separate Board action required):

- Patsaouras Plaza Busway Station
- Metro Gold Line I-210 Barrier Replacement Phase I
- Emergency Security Operations Center
- I-5 North: SR 118 to SR 134



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 budgets 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 Twenty-eight by 2028



Appendix: Project Listing by Type

	TRANSIT CAPITAL PROJECTS WITH TOTAL PROJECT COSTS > \$5 M	TYPE	BUDGET(\$ MIL.)	
1	Crenshaw/LAX Light Rail Transit: Construction	Major Construction	\$2,058.0	
2	Regional Connector: Construction	Major Construction	\$1,795.8	
3	Westside Purple Line Extension Section 1 Project	Major Construction	\$2,778.9	
4	Westside Purple Line Extension Section 2 Project	Major Construction	\$2,440.9	
5	Westside Purple Line Extension Section 3 Project	Major Construction	\$3,223.6	
6	Gold Line Foothill Extension Phase 2B Project	Major Construction	\$1,406.9	
7	Orange Line Bus Rapid Transit Improvements	Major Construction	\$22.0	(a)
8	West Santa Ana Branch	Major Construction	\$26.5	(a)
9	East San Fernando Valley	Major Construction	\$21.2	(a)
		Major Transit Construction Total	\$13,773.8	
10	Pasadena Bus Plaza Paver Retrofit	Misc. Capital Projects	\$9.1	
11	Division 20 Portal Widening Turnback Facility	Misc. Capital Projects	\$188.7	(a)
12	Division 22 Paint and Body Shop	Misc. Capital Projects	\$11.0	
13	Rail to Rail Corridor Active Transportation Connector Project	Misc. Capital Projects	\$11.4	(a)
14	Metro Eastside Access Improvements Project	Misc. Capital Projects	\$21.0	(a)
15	Airport Metro Connector Project	Misc. Capital Projects	\$151.1	(a)
		Misc. Capital Projects Total	\$392.3	
16	Metro Gold Line I-210 Barrier Replacement Phase I	Security/Safety	\$11.1	
17	Metro Emergency Security Operations Center	Security/Safety	\$112.7	
		Security/Safety Total	\$123.8	
18	Southwestern Maintenance Yard	Rail Facilities Improvements	\$157.0	
19	Systemwide Elevator Installations (Vertical Systems)	Rail Facilities Improvements	\$8.0	
20	Light Rail Transit Freeway Stations Sound Enclosures	Rail Facilities Improvements	\$8.6	
21	Metro Red Line Civic Center Station Escalator/Elevator Modernization	Rail Facilities Improvements	\$12.0	
22	Willowbrook/Rosa Parks Station Improvement	Rail Facilities Improvements	\$109.4	
		Rail Facilities Improvements Total	\$295.0	
23	Metro Blue Line Pedestrian Safety Enhancement at Grade Crossings	Wayside Systems	\$31.4	
24	Metro Blue Line Track and System Refurbishment	Wayside Systems	\$102.3	
25	Metro Blue Line Signal System Rehabilitation	Wayside Systems	\$118.9	
		Wayside Systems Total	\$252.6	
26	Bus Rapid Transit Freeway Station Sound Enclosure	Bus Facilities Improvements	\$5.8	
27	Fuel Storage Tank Program (FY17 - F19)	Bus Facilities Improvements	\$13.2	
28	Metro Silver Line Improvements & Upgrades	Bus Facilities Improvements	\$7.8	
29	Division 1 Improvements	Bus Facilities Improvements	\$20.9	
30	Bus Facility Maintenance Improvements & Enhancements Phase II	Bus Facilities Improvements	\$20.9	
31	Bus Facility Maintenance Improvements & Enhancements Phase III	Bus Facilities Improvements	\$21.7	
32	Pasadena Plaza Bus Station Construction	Bus Facilities Improvements	\$39.8	
		Bus Facilities Improvements Total	\$130.0	
		TRANSIT CAPITAL TOTAL	\$14,967	

(a) Based on projected budget through FY20, prior to Board adoption of life-of-project budget.

Appendix: Project Listing by Type

	HIGHWAY	TYPE	CURRENT ESTIMATE (\$ MIL.)
1	I-5 South – Valley View Interchange	Measure R Highway Capital Project	\$631.1
2	I-5 South – San Antonio, Imperial Hwy and Orr Day	Measure R Highway Capital Project	\$323.3
3	I-5 South – Florence Ave. Interchange	Measure R Highway Capital Project	\$211.7
4	I-5 North – North of Buena Vista to South of Magnolia Blvd	Measure R Highway Capital Project	\$399.4
5	I-5 North – Magnolia Blvd to SR 134	Measure R Highway Capital Project	\$165.9
6	I-5 North HOV Project SR 14 to Parker Road	Measure R Highway Capital Project	\$51.4
7	I-605 Corridor Hot Spots – I-605/I-5 Interchange Improvement	Measure R Highway Capital Project	\$30.3
8	I-605 Corridor Hot Spots – I-605/SR 60 Interchange Improvement	Measure R Highway Capital Project	\$41.2
9	I-605 Corridor Hot Spots – SR-91 Westbound Widening at I-605 Interchange	Measure R Highway Capital Project	\$9.3
10	I-605 – Beverly Interchange Improvement Project	Measure R Highway Capital Project	\$4.2
11	I-605 from SR-91 to South St. Improvements Project	Measure R Highway Capital Project	\$4.4
12	I-605/Valley Boulevard Interchange Improvements	Measure R Highway Capital Project	\$2.1
13	SR-60/7th Avenue Interchange Improvements	Measure R Highway Capital Project	\$2.0
14	EB SR-91 Atlantic Avenue to Cherry Avenue Auxiliary Lane Improvements	Measure R Highway Capital Project	\$7.4
15	I-405 Crenshaw Blvd On and Off Ramp Improvements	Measure R Highway Capital Project	\$24.4
16	I-405 Auxiliary Lanes - Artesia Blvd to I-105	Measure R Highway Capital Project	\$4.1
17	I-710 (South) Corridor Improvement Projects	Measure R Highway Capital Project	\$91.0
18	I-710 (South) Early Action Projects - Soundwall Projects (3 locations)	Measure R Highway Capital Project	\$10.1
19	I-710 (North) Corridor EIR/EIS	Measure R Highway Capital Project	\$47.1
20	SR-710 (North) TSM/TDM	Measure R Highway Capital Project	\$45.0
21	SR-710 (North) Mobility Improvement Projects	Measure R Highway Capital Project	\$515.0
22	Soundwall Package 10	Measure R Highway Capital Project	\$11.8
23	Soundwall Package 11	Measure R Highway Capital Project	\$89.2
		Measure R Highway Total	\$2,721.4
24	SR 57 and SR 60 Mixed Flow Interchange	Other Highway Projects	\$74.0
25	SR 71: Interstate 10 to Mission Blvd	Other Highway Projects	\$60.9
26	SR 71: Mission Blvd to Rio Rancho Road	Other Highway Projects	\$35.2
		Other Highway Total	\$170.1
		HIGHWAY PROGRAM TOTAL	\$2,891.5
	REGIONAL RAIL	TYPE	CURRENT ESTIMATE (\$ MIL.)
1	LINK Union Station Project	Regional Rail	\$70.4
2	Doran Street and Broadway/Brazil Safety and Access Project	Regional Rail	\$8.6
3	Brighton to Roxford Double Track Project	Regional Rail	\$16.7
4	Rosecrans/Marquardt Grade Separation Project	Regional Rail	\$156.4
5	Lone Hill to White Double Track Project	Regional Rail	\$10.0
		REGIONAL RAIL PROGRAM TOTAL	\$262.1
		Total Program:	\$18,121