



## Board Report

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**File #:** 2021-0139, **File Type:** Informational Report

**Agenda Number:** 35.

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**CONSTRUCTION COMMITTEE  
APRIL 15, 2021**

**SUBJECT: FISCAL YEAR 2022 PROGRAM MANAGEMENT ANNUAL PROGRAM EVALUATION**

**ACTION: RECEIVE AND FILE**

**RECOMMENDATION**

RECEIVE AND FILE status report on FY22 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 FY22 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**

**FY22 Results**

For the FY22 APE, Program Management focused on new projects, and projects that will carry-over through FY22, with project costs estimated at \$5 million or greater. Program Management staff evaluated 54 projects, including 10 Major Transit Construction projects, 17 Other Transit Capital projects, 22 Highway projects, and five Regional Rail projects (see Attachment A presentation for a complete project listing), which total approximately \$19.8 billion. The program size has decreased

1.5% from \$20.1 billion in FY20 to \$19.8 billion in FY21.

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 FY22 is reported in the FY22 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, 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:

- 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
- Address Contractor claims in a fair and equitable manner consistent with contractual requirements
- Achieve continuous improvement in project delivery through innovation and application of best practices and lessons learned

### Strategic Initiatives

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

- Conduct Annual Program Evaluation of Metro's capital program
- Establish reliable Life-of-Project budgets
- Continue use of robust management and support services consulting teams to augment technical expertise and resources
- Improved Best Practices/Lessons Learned Program
- Conduct readiness reviews before projects are released
- Utilize project delivery method selection process
- Evaluate reasons for rail project cost increases and implement recommended actions

## **FINANCIAL IMPACT**

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The FY22 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.

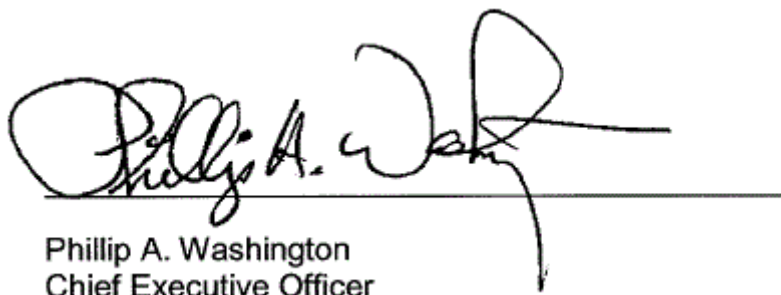
### **NEXT STEPS**

Program Management will request the resources required for project delivery success through the FY22 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 FY23 Program Management APE report will be presented to the Board in Spring 2022.

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Reviewed by:

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Phillip A. Washington  
Chief Executive Officer

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**Fiscal Year 2022**  
**Program Management**  
*Annual Program Evaluation*



# Presentation Overview

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- Purpose and Process
- Capital Program Status
- Capital Program Costs and Schedules
- Adjustments for FY22
- Summary
- Next Steps



# Purpose

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- 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

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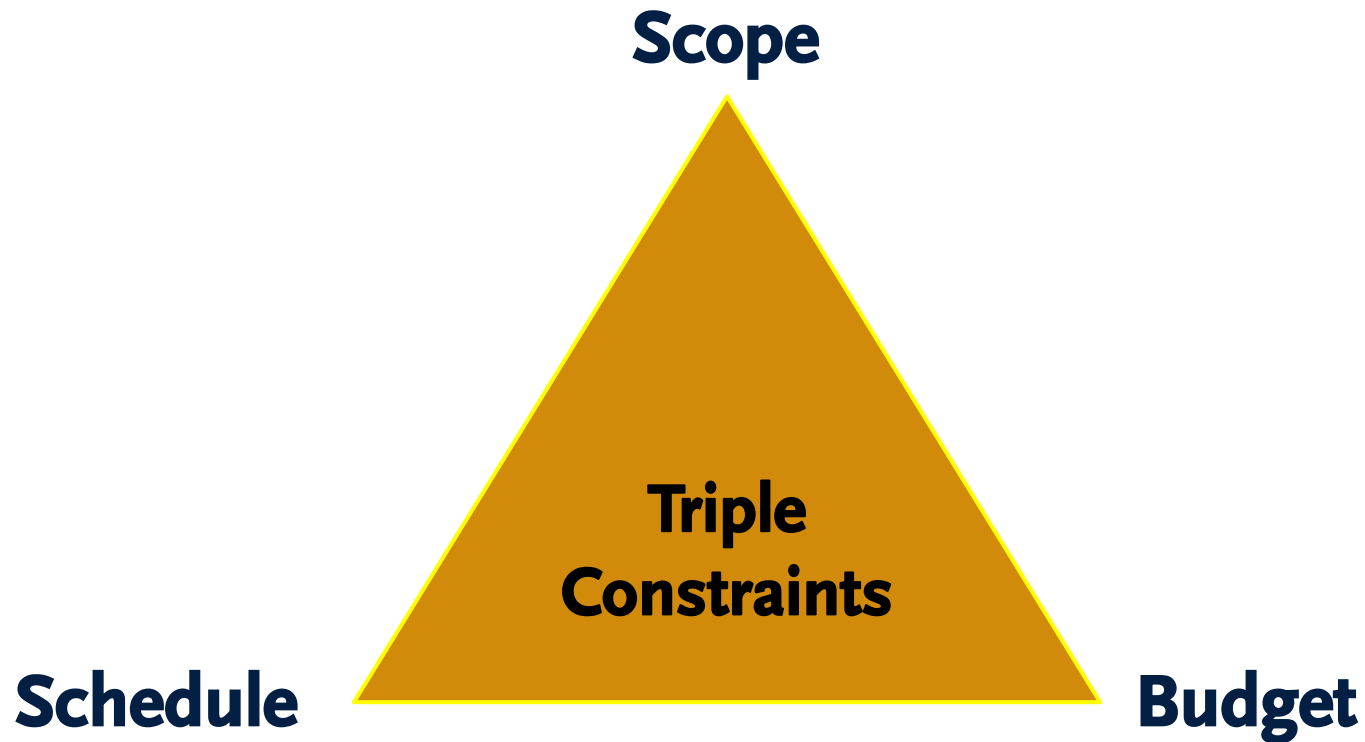
- A detailed review of project costs and schedules
- Update project capital cost estimates to current conditions, including price trends and changes
- Focus on budget to complete current project phase/milestone
- Include APE results in the FY22 Budget review and adoption by the Board



# Project Management

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





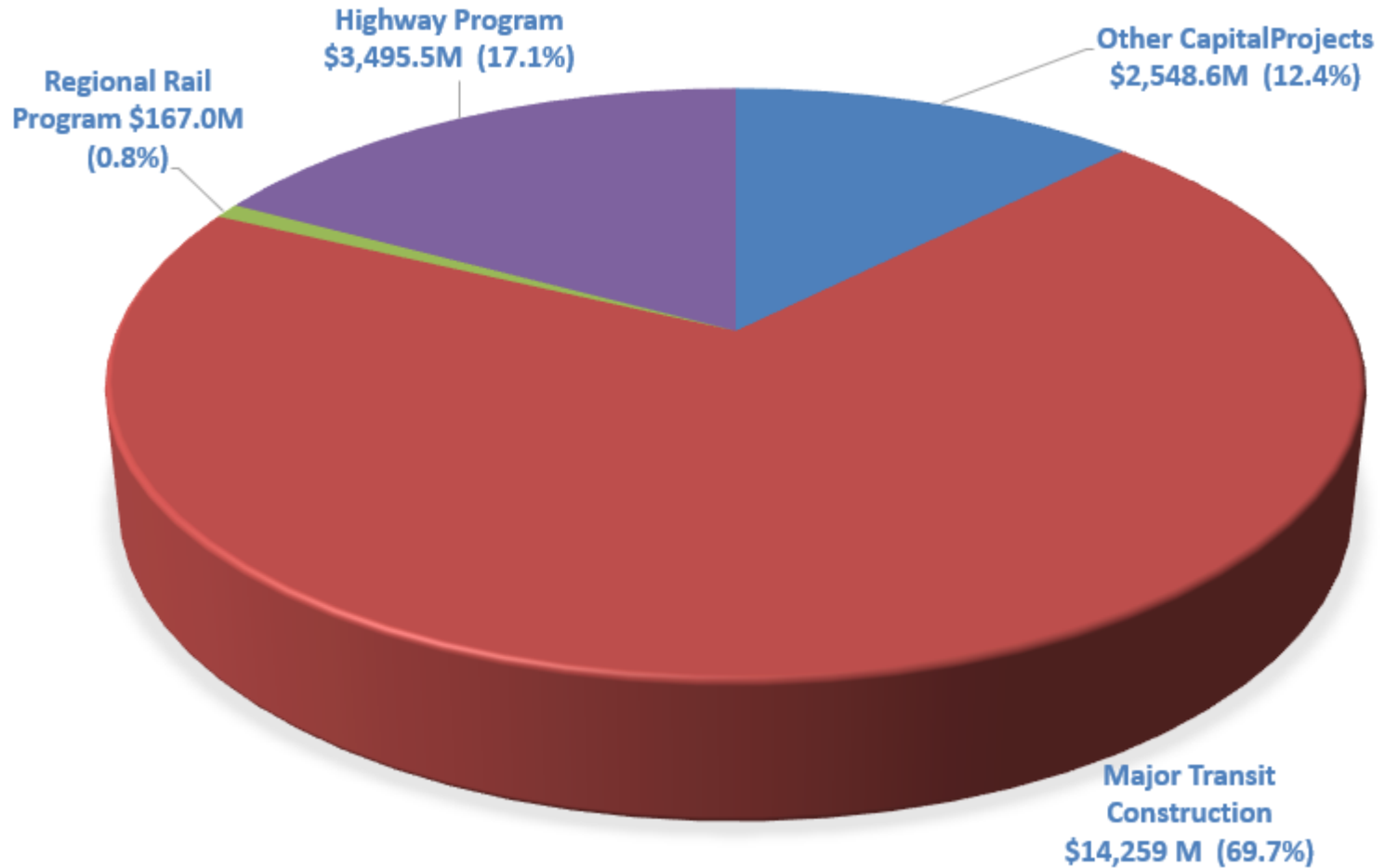
# FY22 Program

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- APE focuses only on those capital projects, managed by Program Management, with a total project cost greater than \$5M:
  - 10 Major Transit Construction Projects
  - 17 Other Transit Capital Projects
  - 5 Regional Rail Projects
  - 22 Highway
- 54 projects valued at approximately \$20.5 billion in approved budget in the FY22 APE review which is an increase of 2% from \$20.1 billion in FY21.
- Project budgets shown are approved by the Board.

# FY22 Program: \$20.5 B

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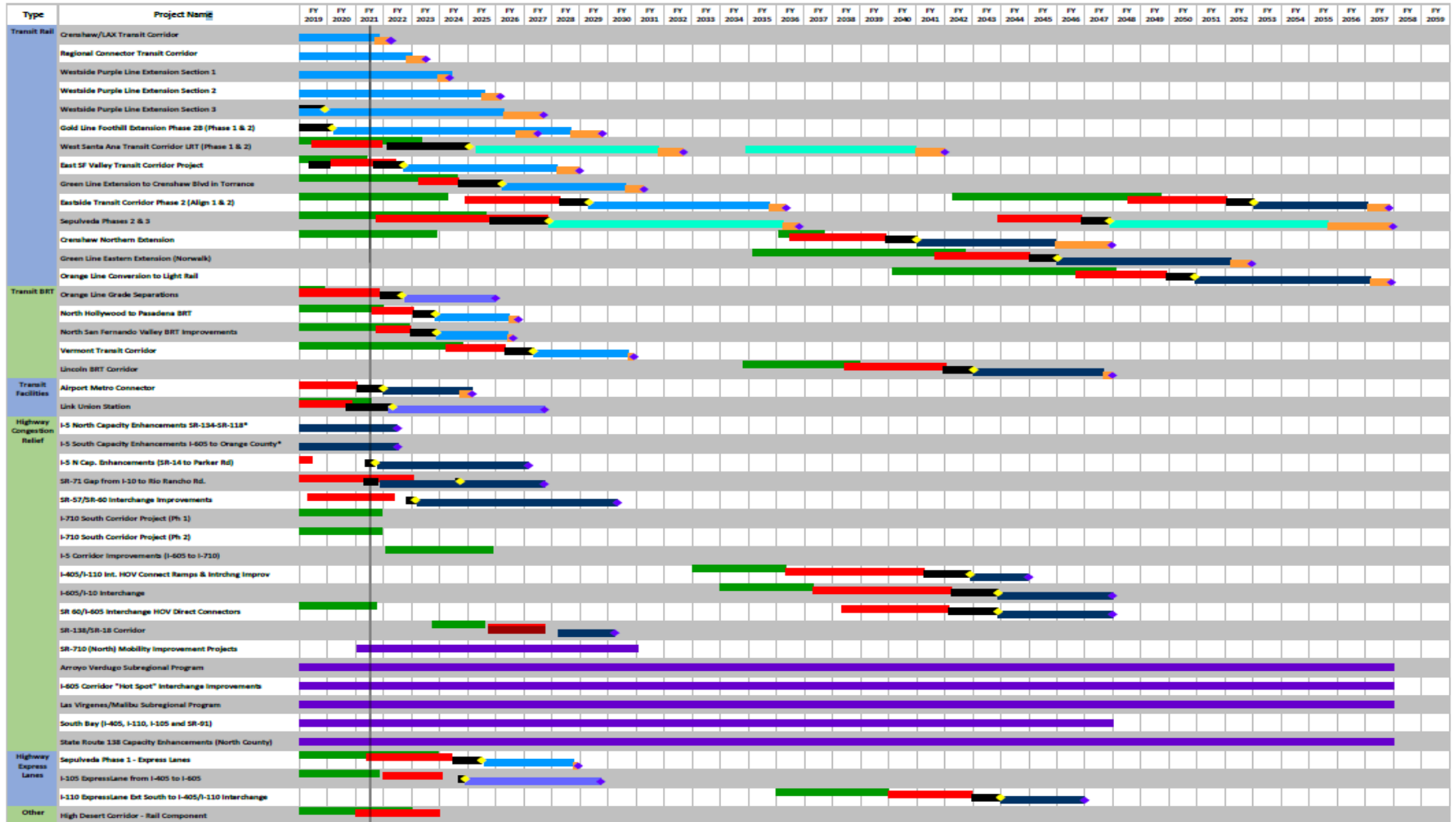


# Program Highlights

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- In addition to the projects in APE, Program Management manages/oversees 40+ projects less than \$5M.
- Including projects within the APE, there are approximately 100 projects being managed by Program Management throughout the fiscal year.
- **Overall Program dollars increased 2% from \$20.2 billion in FY21 to \$20.6 billion in FY22.**
- With the financial impacts associated with Covid-19, the capital program will be reassessed and may result in some projects being completed later than planned.

# Metro Program Management Master Schedule



\*Scheduled completion date is Open to Traffic Date

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

Current as of Jan. 2021

Legend					
Environmental	Engineering	Bid	D/B Construction	D/B/B Construction	Groundbreaking Date
Right of Way	Program Implementation	PS Construction	CMGC/PDB (Dsgn/Const)	Testing	Forecasted Date

# Program Challenges

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- 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
- Address contractor claims in a fair and equitable manner consistent with contractual requirements
- Achieve continuous improvement in project delivery through innovation and application of best practices and lessons learned

# COVID-19 Impacts

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## Challenges

- Financial impacts as a result of Covid-19: FY21 pre-COVID projected total revenues declined by 16.3%.
- Disruptions, delays, and productivity decreased because of canceled deliveries, lack of inspection approvals, and absent workers.
- Financial struggles for small business contractors.
- Cutbacks in public agency capital budgets.
- Impact from commodity price fluctuations.

## Opportunities

- Federal funding from stimulus packages.
- Increase in the labor pool available for construction projects due to a high unemployment.
- Acceleration of work in some projects during this period of light traffic.
- Favorable bidding.

# Unique Challenges of Mega Projects

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- Mega projects costs are increasing at a rate greater than inflation.
- Mega projects durations are longer than in the past and contractors have experienced issues not considered at bid time.
- It is more difficult to assess risks adequately for long-term projects.
- Third party and regulatory requirements may change during the life of the project.
- Staff turnover is more likely to occur on long term projects.
- There are a limited number of contractors that have the capacity to bid mega projects.
- Once a contractor(s) secures a mega project, they are less likely to have bonding capacity to bid on other mega projects.
- As many bids on mega projects are from international firms, there are potential issues regarding knowledge of local requirements.

# Strategic Initiatives

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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
- Continue use of robust management and support services consulting teams to augment technical expertise and resources
- Improve Best Practices/Lessons Learned Program
- Conduct readiness reviews before projects are released
- Utilize project delivery method selection process
- Evaluate reasons for rail project cost increases and implement recommended actions



# Metro Transit Program



# Metro Project Completion Summary

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## Project Completion in FY21:

- I-5 South – San Antonio, Imperial Hwy and Orr Day
- I-5 South – Florence Ave. Interchange
- I-5 North – Magnolia Blvd to SR 134
- FY17-FY19 UST Replacement and Repair Project
- Metro Red Line Civic Center Station Escalator/Elevator Modernization
- Metro Blue Line Pedestrian Safety Enhancement at Grade Crossings
- Patsaouras Plaza Busway Station
- Systemwide Elevator Installations (Vertical Systems)

## Project Completion Planned in FY22:

- Crenshaw/LAX Transit Project
- New Blue Projects (Yard Signaling)
- Blue Line Rehabilitation/Willowbrook Station

# Metro Transit Capital Projects

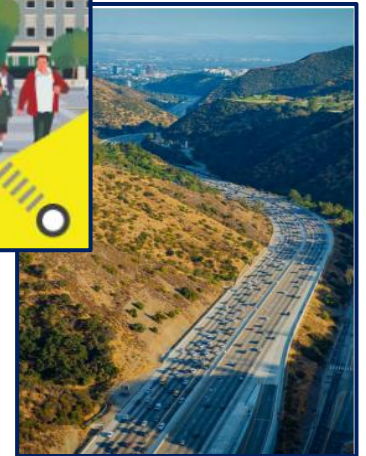
Type	Project Budget (in millions)	# of Projects
Major Transit Construction	\$14,259.6	10
Other Transit Capital	\$2,548.7	17
Misc. Capital	\$1,920.4	7
Security/Safety	\$153.2	2
Rail Facilities	\$136.9	2
Wayside Systems	\$221.3	2
Bus Facilities	\$116.8	4
<b>Total Transit Capital Program</b>	<b>\$16,808.3</b>	<b>27</b>

# Metro Transit Capital Program Summary

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## Planned Transition to Program Management in FY22:

- North Hollywood to Pasadena Bus Rapid Transit Project
- North San Fernando Valley BRT Project
- I-105 ExpressLanes from I-405 to I-605



# Crenshaw/LAX Transit Project



# Crenshaw/LAX Transit Project

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Project Budget: \$2,148.0M

Project Completion: 2021

Projected Budget: \$2,148.0M

Project Complete: 98%

## Accomplishments:

- Contractor enhanced and strengthened project management team.
- Collaborative same day review of critical submittals with Contractor.

## Challenges/Risks:

- Contractor not applying sufficient work force to complete their remaining work.
- Contractor must complete remaining complex electric and systems tests prior to substantial completion.
- Additional funding may be required if contractor progress continues to slip.
- Pending claims from the contractor.

# Regional Connector Transit Project



# Regional Connector Transit Project

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**Project Budget: \$1,829.0 M**

**Project Completion: 2022**

**Project Complete: 78%**

## Accomplishments:

- Structural concrete at all 3 stations near complete (with exception of Historic Broadway Entrance); only emergency exits & appendages remain; Alameda guideway structural concrete operations continue on-schedule
- Completed Flower St. cut-and-cover concrete operations; follow-up Mechanical, Electrical and Plumbing (MEP) in progress ahead of rail installation.
- Bus Bridge connecting Union Station, Aliso Pico and Little Tokyo in full-swing; Temple/Alameda intersection temporarily closed while utilities are addressed & guideway is excavated – to be followed by structural concrete.
- Completed placement of running rail throughout guideway between the Alameda Wye and 5th/Flower; special trackwork installations are now underway at Historic Broadway Crossover and the Alameda Wye.
- Initiated Overhead Catenary Rail and signals system installations in both guideways; systems installations in stations underway.

## Challenges/Risks:

- Maintain pace with multiple specialty contractors focused on systems installations and testing, together with stations' MEP and finishes – often in shared work areas restricted by COVID protocols.
- Secure and retain qualified technical and craft labor resources to safely, and efficiently prosecute the work.
- Maintaining stakeholder support for necessary traffic controls, extended work-hour permits, and general disruptions inherent with utility relocations; temporary road closures, street restorations; bus bridges, etc.
- Cooperative management in conjunction with Operations and Fire Life Safety of systems cut-overs, local acceptance testing, systems integrated testing, training and rail activation to efficiently deliver revenue service.





# Westside Purple Line Extension Project



# Westside Purple Line Extension Section 1

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**Project Budget: \$2,978.9 M**

**Forecast Completion: 2024**

**Project Complete: 68%**

## Accomplishments:

- Completed welding of running rail at the Division 20 Rail Yard.
- Commenced plenum beam installation at Wilshire/La Brea Station.
- 1st concrete placement of 2nd lift walls (high bay) at Wilshire/La Cienega Station.
- Completed placement of invert slab at Wilshire/Fairfax entrance structure.
- 1st concourse concrete placement at Wilshire/Fairfax Station.
- Red TBM started Reach #3 Tunnel Drive.
- Commenced backfilling/installation of permanent utilities at Wilshire/La Brea Station."
- Complete all tunnel mining operations.
- Commence Tunnel Reach 1 track installation.
- Complete Tunnel Reaches 2 & 3 cross passage construction.
- Obtain permanent power at Wilshire/La Brea Station.
- Complete concourse concrete placements at Wilshire/Fairfax & Wilshire/La Cienega Stations.

## Challenges/Risks:

- Due to the impacts associated with the Reach 3 tunnel anomaly, there is a possibility that the Revenue Service Date (RSD) will not achieve the FFGA target date of October 31, 2024. The current schedule forecast for RSD is the 4th quarter of 2024.
- The current project budget may not be sufficient to cover current and future project cost exposures due to the impacts associated with the Reach 3 tunnel anomaly.

# Westside Purple Line Extension Section 2

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Project Budget: \$ 2,440.9 M

Forecast Completion: 2025

Project Complete: 42%

## Accomplishments:

- Started second tunnel boring machine and resumed excavation with first TBM upon completion of oil well abandonment at Beverly Hills High School by BHUSD (First TBM passed underneath all buildings on the BHHS campus).
- Completed excavation, pile installation and temporary street decking of Wilshire/Rodeo Station.
- Commenced pile installation & temporary street decking at Century City Constellation Station.
- Obtained access to all parcels needed for construction staging.
- Settled outstanding NEPA litigation by City of Beverly Hills.
- Execute Heavy Rail vehicle option.
- Complete excavation of both tunnels.
- Complete invert slab and start concourse deck level construction at Wilshire/Rodeo Station
- Complete mass excavation and start station entrance wall construction at Century City Constellation Station.

## Challenges/Risks:

- TBM breaks down in tunnel and must be repaired/retrieved.
- Resource constraints at private utility companies delay schedule.

# Westside Purple Line Extension Section 3

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Project Budget: \$3,223.6 M

Forecast Completion: 2027  
Project Complete: 19%

## Accomplishments:

- Tunnels Contract: complete final design and Tunnel Boring Machines fully operational in both tunnels.
- Stations Contract: continue final design, VA Station utility work complete, and Westwood UCLA Station utility work in progress.

## Challenges/Risks:

- ROW negotiations in the alignment between Constellation and UCLA may require longer negotiations and result in schedule delay and increased project cost.
- Delay of contract turnover from tunnels to stations.

# Gold Line Foothill Extension Phase 2B



-  Gold Line Rail Corridor (shared with freight)
-  Metrolink Rail Corridor
-  Gold Line Station
-  Gold Line Station and Metrolink Station (not shared)
-  Planned Grade Separation for Gold Line Trains Only



# Gold Line Foothill Extension Phase 2B

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**Project Budget: \$1,532.9 M**

**Forecast Completion: 2026 (2028 to MCL)**

**Project Complete: 16%**

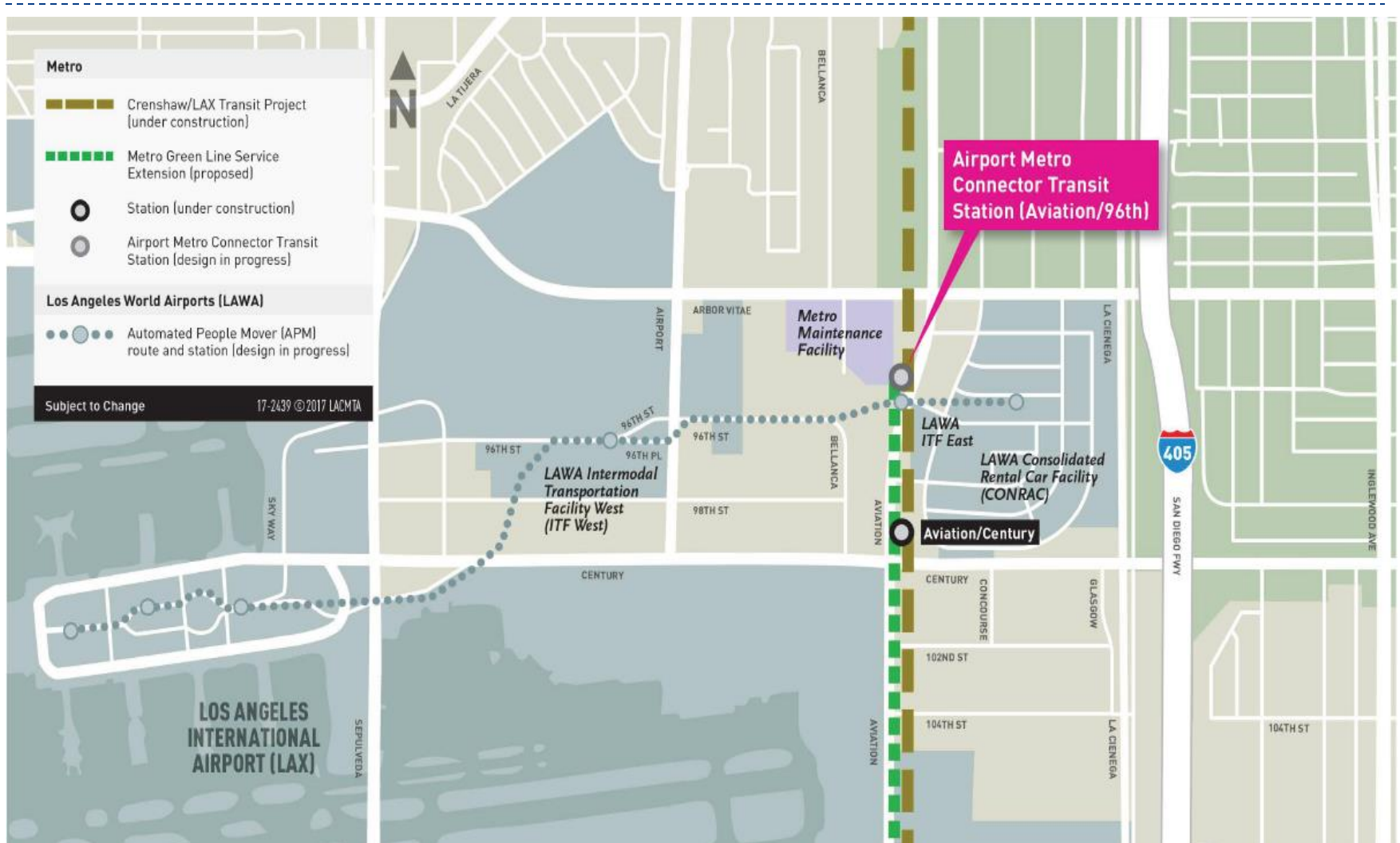
## **Accomplishments:**

- Major construction commenced January 2021, with grade crossing work, freight track removal, and mid-block clearing and grubbing.
- The pole line elimination project contractor continued work on final punch list and contract closeout.
- CPUC has approved 48 of 49 grade crossings to date, with the remaining one within the contract option.
- Contract awarded and NTP to Kiewit Parsons Joint Venture (KPJV).

## **Challenges/Risks:**

- Due to unfavorable economic conditions affecting bid prices, the alignment contract was restructured to terminate in Pomona with a two-year option to extend to Montclair.
- Securing \$450 million for remaining initial proposed alignment to Claremont.

# Airport Metro Connector



# Airport Metro Connector

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**Current Estimated Project Budget: \$898.6 M**

**Forecast Completion: 2024**

**Project Complete: 13%**

## Accomplishments:

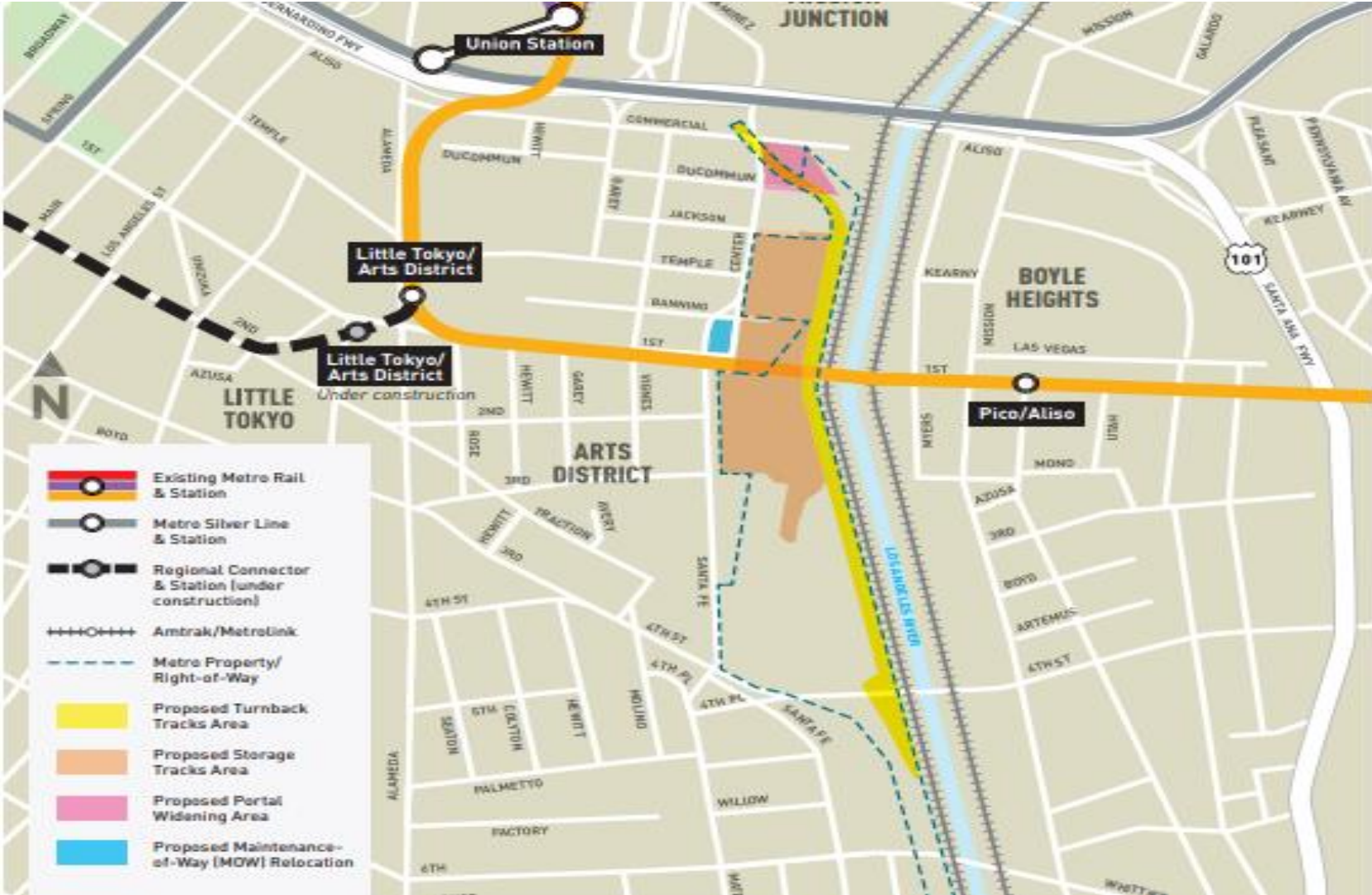
- Real Estate is in the process of finalizing the acquisition of Hertz property and is anticipating finalized sale and ownership by end of FY21.
- AMC Station design completed.
- Early Works Contract (Demolition, grading and installation of turnbacks) - Price and schedule negotiations completed.
- Main AMC Contract - Solicitation Advertised on July 28, 2020.
- Bids due on March 11, 2021; Award (May/June 2021); NTP (July/August 2021).

## Challenges/Risks:

- Finalizing the acquisition of the Hertz Property/ROW Final Negotiations.
- Coordination with CLAX team.
- Schedule impacts with other projects.
- CLAX construction delays and as-built conditions.
- Interface with CLAX SIT-2 and CLAX Operation.
- LAWA design and construction delays, as-built conditions, and coordination with LAWA.
- Bid price (LOP).



# Division 20 Portal Widening Turnback



# Division 20 Portal Widening Turnback

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**Project Budget: \$801.7M**

**Forecast Completion: 2024**

**Project Complete: 20%**

## Accomplishments:

- IPMO Build Out and Renovation.
- Track Removals: MOW tracks, TT1 and TT2, and TRK 2 and TRK 3.
- Demolition of Smoke Slab on First Street Bridge; Support of Excavation for the West Portal Wall.
- CCTV of LA County Storm Drains/Cleaning of Storm Drains; Completed Ducommon bracing.
- Commenced Ductbank Installation, DWP Lines into the front of the Division parking lot.
- Installation of micropiles under First Street Bridge
- Procurement of manholes/Special Trackwork.

## Challenges/Risks:

- Coordination with Active Rail Yard - Rail Operations must remain active.
- Multiple Cutovers throughout Project.
- Adjacent Projects Coordination (ESOC, Link US, RCC, PLE Rail Welding Yard, Center Street).
- Choke Point at Portal: Operations, Maint., other Projects need access to Main Line at Portal.
- DWP – Power Response Time.
- Procurement of long lead items: very large power substation, 60+ turnouts, continuous welded rail, signal materials, and Bridge Materials.
- Project budget may not be sufficient to cover current and future project cost exposures due to the impacts associated with design revisions, hazardous material, and 3rd party unforeseen interfaces.

# Orange Line Bus Rapid Transit Improvements



# Orange Line Bus Rapid Transit Improvements

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Current Authorized Project Budget: \$36.1 M

Forecast Completion: 2025

Project Complete: 5%

## Accomplishments:

- Completed 30% design of Sepulveda Grade Separation, 15% design of Van Nuys Grade Separation, and 65% design of Gates.
- Completed 100% design of Pilot Gate.
- Continue ROW process, advanced utility work and bus operation technology assessment.

## Challenges/Risks:

- Gate activation/platooning for bus transit does not exist in US; new technology to be developed; future PUC regs requires approval for gates with bus operations. Traffic impacts/mitigation due to gates.
- Interface with fleet services.
- ROW acquisitions and major utility relocations.
- Integration with Sepulveda and ESFV Transit Corridor projects.
- Maintaining existing bus operation during construction.
- Sepulveda Transit Corridor project may affect OL Grade Separation at Sepulveda.
- City Agency review and approval time may delay project schedule.

# Patsaouras Plaza Busway Station

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Project Budget: \$50.9 M

Project Completion: 2021

Project Complete: 95%

## Accomplishments:

- Station opened to the public in Dec. 2020

## Challenges/Risks:

- Prepare a final report of paleontological and archeological discoveries
- Complete Regional Integration of Intelligent Transportation Systems work.
- Coordination with Gas Company for Ramirez Street remediation and sidewalk work



# Metro Blue Line Signal Rehabilitation Project

Project Budget: \$119.0 M

Project Completion: 2021

Project Complete: 90%

## Accomplishments:

- Substantial completion for the Yard work in December 2020.
- Due to a list of betterments Metro desires to implement, the project team is working with the contractor to extend contract and perform the change order work in the coming months.
- Work at Rail Yard remains; however, the project team is currently negotiating outstanding requests for changes and Change Orders with contract closeout by FY21.

## Challenges/Risks:

- Acceleration costs and schedule delays associated with Rail Yard work.
- Negotiation of outstanding requests for change.



New train control



Project adds 4 Crossovers

# Willowbrook/Rosa Parks Station Project

Project Budget: \$128.3 M

Project Completion: 2021  
Project Complete: 80%

## Accomplishments:

- Completed relocation of utilities and improvements to the Non-Revenue rail crossing.
- Construction of the Customer Service building and Bike Hub is complete and open to the public.
- Renovation of A Line platform and mezzanine to C line 90% complete.



## Challenges/Risks:

- For final phase of construction:
  - Unforeseen existing conditions underground at west and central Green Line Plazas.
  - Further cost escalation and labor impacts due to COVID crisis.
  - Additional county utility requirements.

# Center Street Project

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**Project Budget: \$130.7 M**

**Project Completion: 2023**

## Accomplishments:

- Awarded DB contract to S.J. Amoroso Construction Co. for \$83.7 million on October 2020.
- Aligned the LOP Budget from \$112.7 million to \$130.7 million.
- Demolition and excavation activities in progress since Dec 2020.

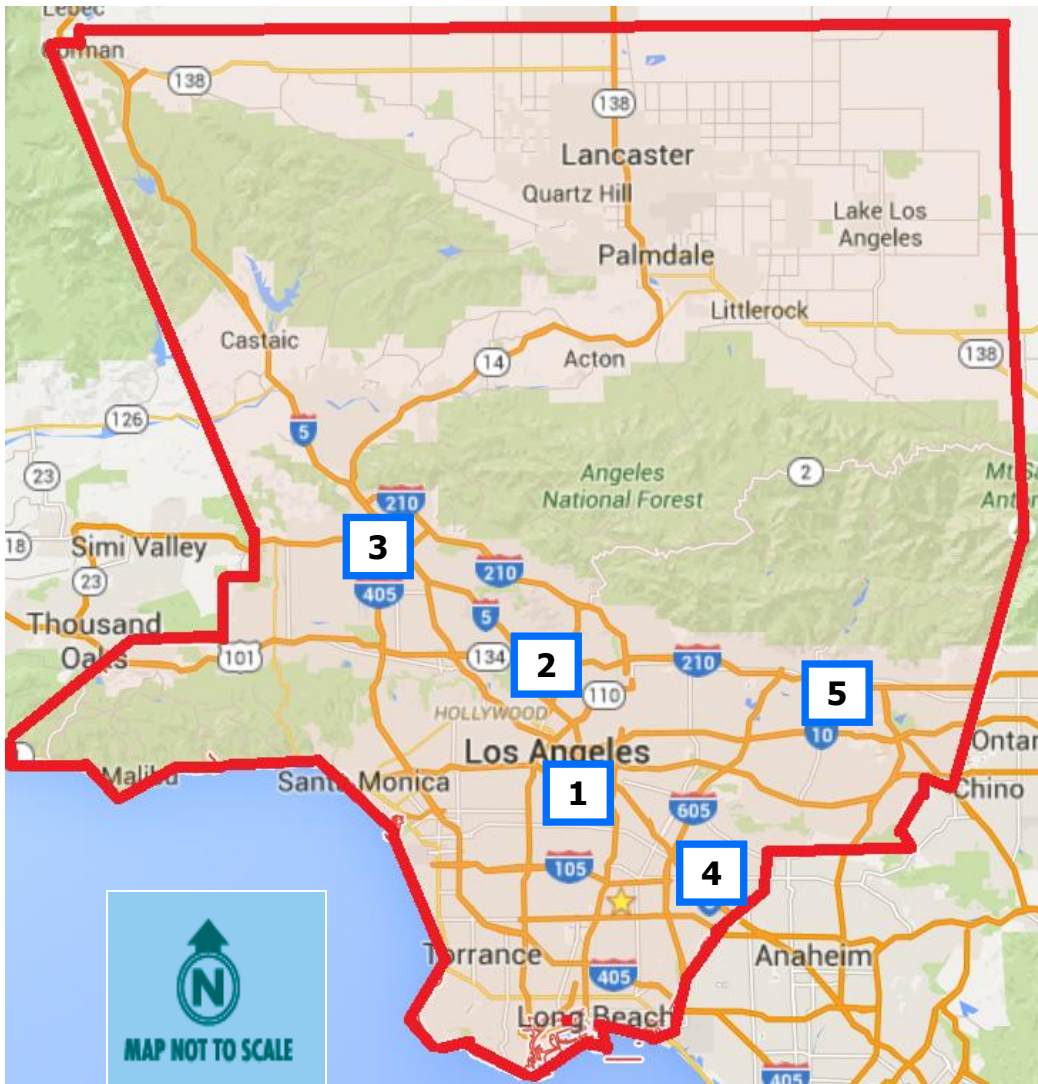
## Challenges/Risks:

- As part of the scope reduction, ROC/BOC is not included in the Project. However, provisions to accommodate a future 2<sup>nd</sup> floor expansion for Emergency Security Operation is included.
- Accelerating design to expend State funds of \$38 million by March 2021 for foundation and structural plans.





# 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	\$99.8	2021
2	Doran Street and Broadway/ Brazil Grade Separation Project	Environmental/PE	\$14.0	2022
3	Brighton to Roxford Double Track Project	Environmental/ Final Design	\$16.7	2022
4	Rosecrans/Marquardt Grade Separation Project	Environmental; Plan, Specification & Estimate Final Design, Real Estate Acq.	\$26.5	2021
5	Lone Hill to White Double Track Project	Environmental & Final Design	\$10.0	2020
Total Regional Rail Program			\$167.0	

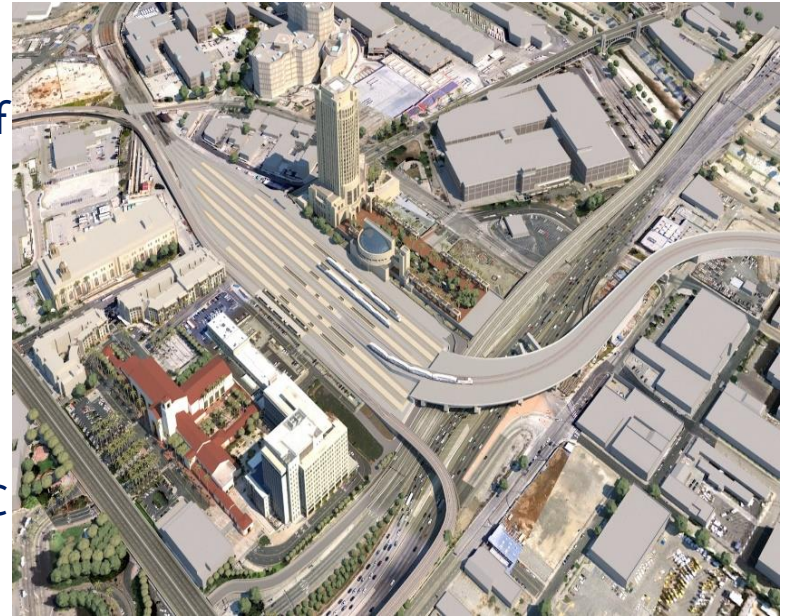
# Link Union Station (LINK US)

Estimated Cost to Complete Environmental/PE: \$99.8 M

Current Phase Completion Date: 2021

## Accomplishments:

- Phase A is funded with a total of 950.4 million of which \$423.3 million has been approved by the CHSRA Board in April 2020.
- CMGC RFQ was released in August 2020 and the CMGC RFP will be released in March 2021. CMGC Support Services RFP will be released in May 2021. Staff is anticipating returning to the Board in December 2021 for award of the CMGC and CMGC Support Services.



## Challenges/Risks:

- The funding partners modified the scope of work to environmentally clear the partial relocation of the BNSF tracks on the West Bank and improvements to BNSF Malabar Yard in City of Vernon. Staff is processing a CEQA Amendment for the partial relocation of the BNSF storage tracks and BNSF Malabar Yard improvements.
- Third Party for Utility Relocations in time for construction of run through structure.

# Doran Street and Broadway/Brazil Grade Separation Project

Est. Cost to Complete Final Design: \$14.0 M

Current Phase Completion Date: 2022

## Accomplishments:

- Completed construction of Broadway/Brazil Traffic Signal Improvements.
- Metro Board Approved in January 2021 an additional \$2.4 million to get design to a shovel ready level.
- 100% Draft Submittal for At-Grade Improvements at Doran Street.
- Completion of geotechnical borings for construction work surrounding the Verdugo Wash for ultimate configurations.
- Ultimate configuration preparing for 35% submittal in March 2021.

## Challenges/Risks:

- Obtaining construction and maintenance agreement with Metrolink on interim improvements.
- Obtaining construction funding for the interim improvements at Doran Street and improvements for the grade separation by Summer 2021.



# Brighton to Roxford Double Track Project

Estimated Cost to Complete Final Design: \$16.7 M

Current Phase Completion Date: 2022

## Accomplishment:

- Project environmentally cleared under CEQA in May 2020.
- Established separate third-party agreements with City of LA departments for project support.
- Construction cost for segment 1, Brighton to McKinley fully funded through the Antelope Valley Line Service and Capacity Improvements project.

## Challenges/Risks:

- 90% Final Design anticipated to be completed in Summer 2021.
- Segment 3, Van Nuys Boulevard to Sylmar/San Fernando station, coordination for shared 2.5-mile corridor.



# Rosecrans/Marquardt Grade Separation Project

**Current Estimate for Total Project: \$26.5 M**  
**Current Phase Completion Date: 2021**

## Accomplishments:

- Early 3rd party utility relocations began, in early 2020 with SCE. SoCal Gas and Verizon relocated facilities in conflict with the project
- 100% Draft Submittal for plans in November 2020
- Metro received ROW Certifications from Caltrans for all real estate acquisitions in December 2020.
- CTC approved a 20-Month Extension to allocate STIP and TCEP Funding until February 2022.

## Challenges/Risks:

- SCE utility relocation Phases-1&2 need to finish in Summer 2021.
- The project must be ready for advertisement/issued for bid and award for construction by October 2021 to comply with other funding source regulations.
- Increase in construction costs due to shortage of labor and increasing prices for materials caused by COVID-19.



# Lone Hill to White Double Track

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

Current Phase Completion Date: 2020 (currently on hold)

## Accomplishments:

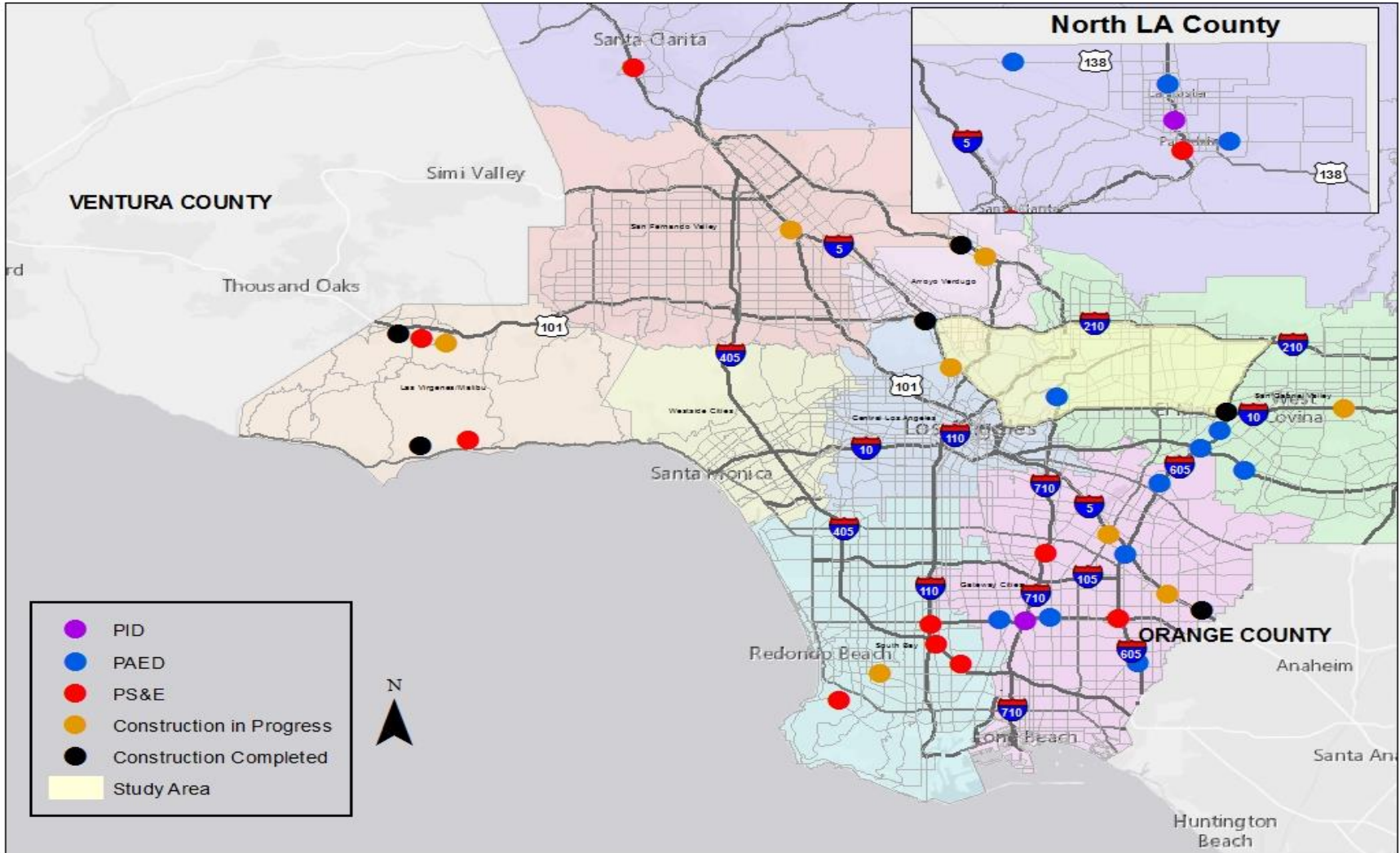
- Categorical Exclusion environmental documents filed in Fall 2019.
- Preliminary Engineering is complete.
- RFP for final design released January 2021.

## Challenges/Risks:

- There is no funding yet for construction.



# Highway Program







# Measure R Highway Projects Status

#	Lead	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Scheduled Completion
1	Caltrans	I-5 North – North of Buena Vista to South of Magnolia Blvd (Segment 3)*	Construction	\$397.0	2021
2	Caltrans	I-5 South Valley View Interchange (Segment 2)*	Construction	\$651.2	2022
3	Caltrans	I-405 Crenshaw Blvd On and Off Ramp Improvements*	Construction	\$98.4	2024
4	Caltrans	Soundwall Package 10	PS&E/ROW	\$11.7	2021
			<b>Caltrans Measure R Highway Subtotal</b>	<b>\$1,158.3</b>	

PAED – Project Approval and Environmental Document

PS&E – Plans, Specifications and Estimates

ROW – Right of Way

Projects partially funded by Measure R

\* Scheduled completion date is Open to Traffic Date

# Measure R Highway Projects Status

#	Lead	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Scheduled Completion
5	Metro	I-405 Auxiliary Lanes – I-105 to Artesia Blvd	PS&E/ROW	\$21.7	2023
6	Metro	I-405 from I-110 (Main St) to Wilmington	PAED	\$3.4	2023
7	Metro	I-605 Corridor Hot Spots – I-605/I-5 Interchange Improvements (Rosecrans to Slauson)	PAED	\$34.6	2022
8	Metro	I-605 Corridor Hot Spots – I-605/SR 60 Interchange Improvements (Slauson to Ramona Blvd)	PAED	\$41.5	2022
9	Metro	I-605 Corridor Hot Spots – I-605 Beverly Interchange Improvements	PAED/PS&E	\$3.8	2021
10	Metro	I-605/Valley Boulevard Interchange Improvements	PAED/PS&E/ ROW	\$2.8	2022
11	Metro	SR-91 (EB) Atlantic Avenue to Cherry Avenue Auxiliary Lane Improvements	PAED/PS&E	\$7.6	2022
12	Metro	SR-91 Acacia Court to Central Avenue	PAED	\$5.6	2021
13	Metro	SR-91 (WB) Shoemaker to Alondra Improvements*	PS&E/ROW	\$41.7	2022

PAED – Project Approval and Environmental Document

PS&E – Plans, Specifications and Estimates

ROW – Right of Way

\*Project Partially Funded by non-Measure R funds

# Measure R Highway Projects Status

#	Lead	Project	Current Phase	Estimated Cost through Current Phase (\$mil)	Scheduled Completion
14	Metro	I-710 (South) Corridor Improvement Projects	PAED	\$91.0	2021
15	Metro	I-710 (South) Early Action Projects Soundwalls (Bell Gardens, Commerce, Compton, East Los Angeles, Long Beach)	PS&E/ROW	\$12.5	2021
16	Metro	I-710 Integrated Corridor Management (ICM)	PID/PAED/PS&E	\$5.2	2022
17	Various	SR-710 (North) Mobility Improvement Projects *	Various	\$1,026.5	Varies
18	Metro	I-605 from SR-91 to South Street Improvements	BID	\$23.1	2023
			<b>Subtotal Measure R Metro Highway Projects</b>	<b>\$1,321.0</b>	

PID – Project Initiation Document

PAED – Project Approval and Environmental Document

PS&E – Plans, Specifications and Estimates

ROW – Right of Way

\* Program partially funded by State and Federal Funds

# Measure M Highway Projects Status

#	Lead	Project	Current Phase	Estimated Cost through Current Phase (\$mill)	Scheduled Completion
19	Metro	SR-57/SR-60 Interchange Improvements *	PS&E/ROW	\$120.9	2022
20	Caltrans	SR 71: Interstate 10 to Mission Blvd (North)**	PS&E/ROW	\$40.4	2023
21	Caltrans	SR 71: Mission Blvd to SR-60 (South) *	Construction	\$175.5	2024
22	Metro	I-5 North HOV Project SR 14 to Parker Road *	BID	\$679.4	2026
			<b>Measure M Funded Highway Projects Subtotal:</b>	<b>\$1,016.2</b>	
			<b>TOTAL HIGHWAY PROGRAM:</b>	<b>\$3,495.5</b>	

PS&E – Plans, Specifications and Estimates

ROW – Right of Way

\* Project partially funded by non-Measure M funds

\*\* Currently funded through Caltrans

# I-5 Construction Projects (By Caltrans)

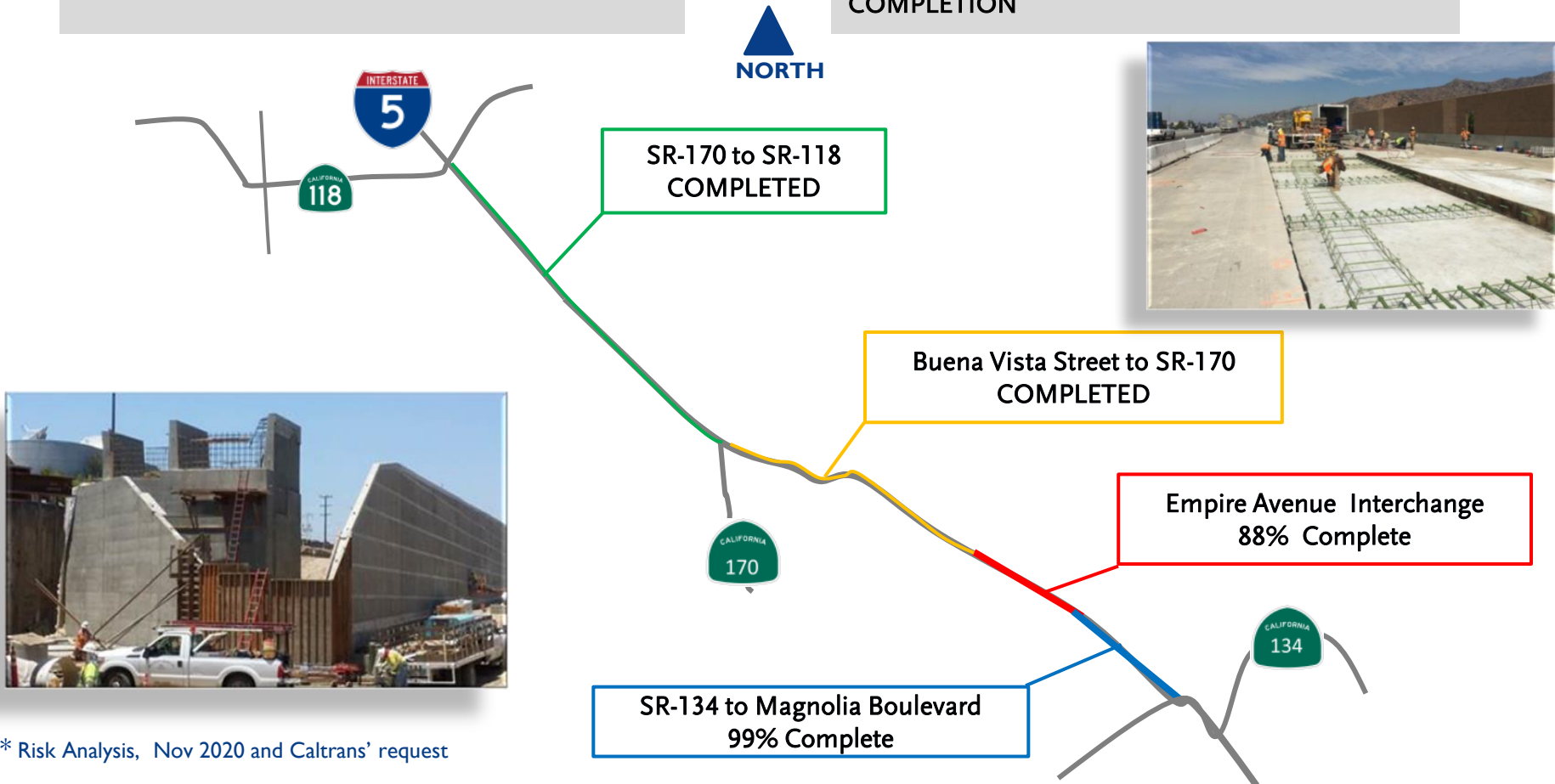


# I-5 North: SR-118 to SR-134



BUDGET		
TOTAL COST	Current	Forecast
	\$880.9M	\$954.1M*

SCHEDULE		
ANTICIPATED PROJECT COMPLETION	Current	Forecast*
	Fall 2022	Spring 2023



\* Risk Analysis, Nov 2020 and Caltrans' request



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

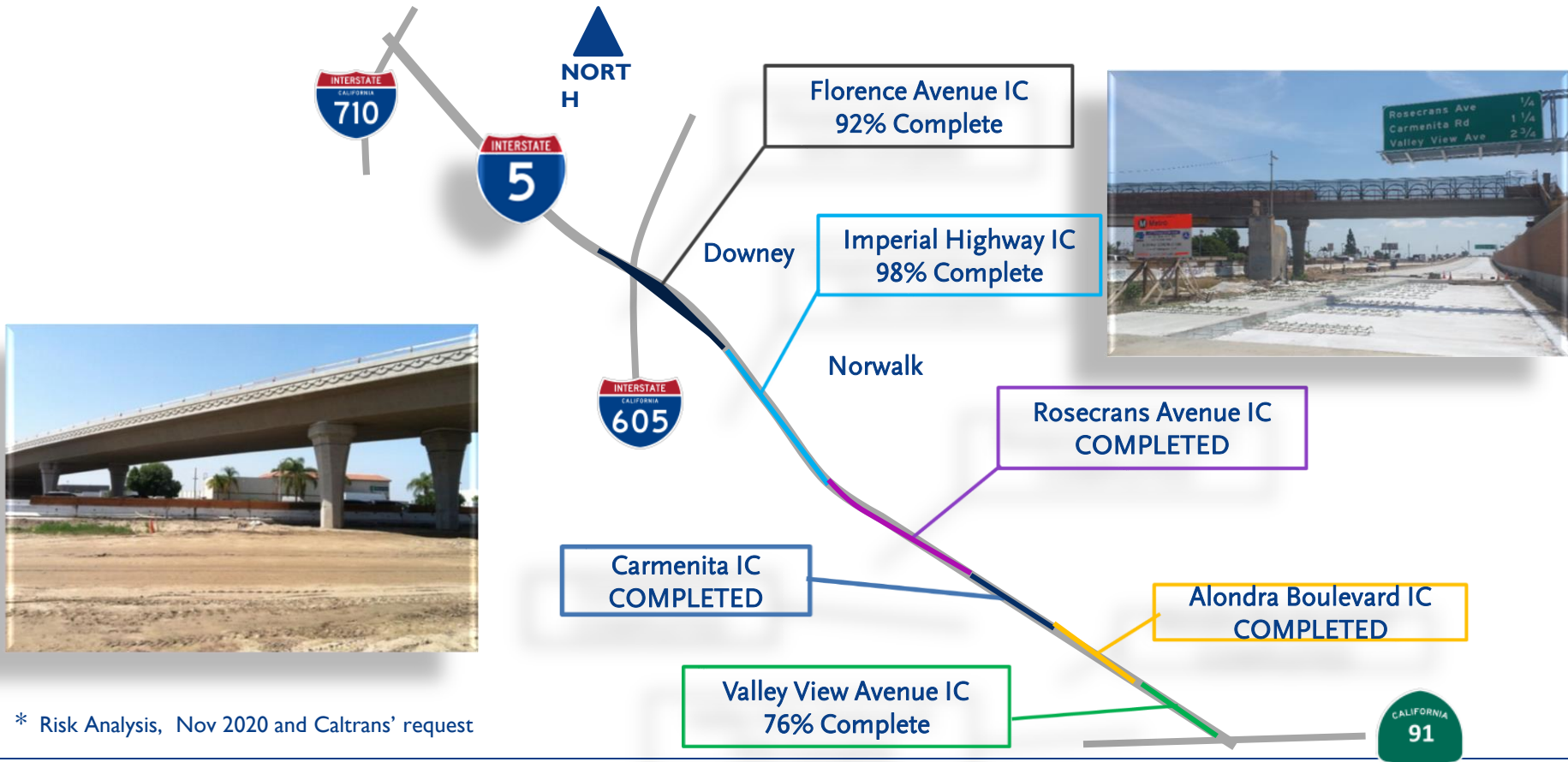


## BUDGET

	Current	Forecast
TOTAL COST	\$1.888B	\$1.888B*

## SCHEDULE

	Current	Forecast*
ANTICIPATED PROJECT COMPLETION	Winter 2022	Spring 2023



\* Risk Analysis, Nov 2020 and Caltrans' request

# I-5 North Capacity Enhancements Construction (SR14 to Parker Road)

PHASE: Moving to Construction  
Estimated Budget: \$679.4 M

## Accomplishments:

- Secured \$47M in INFRA - Federal Funding  
\$247M in TCEP - SB1 State Funding
- Board approved Construction Support Services Contract to be awarded to Hill International on August 27, 2020
- Anticipating to enter Construction phase in April 2021

## Challenges/Risks:

- Modification of Metro IFB Contract to incorporate Caltrans requirements.





# SR57/SR60 Interchange Improvements

PHASE: PS&E & ROW

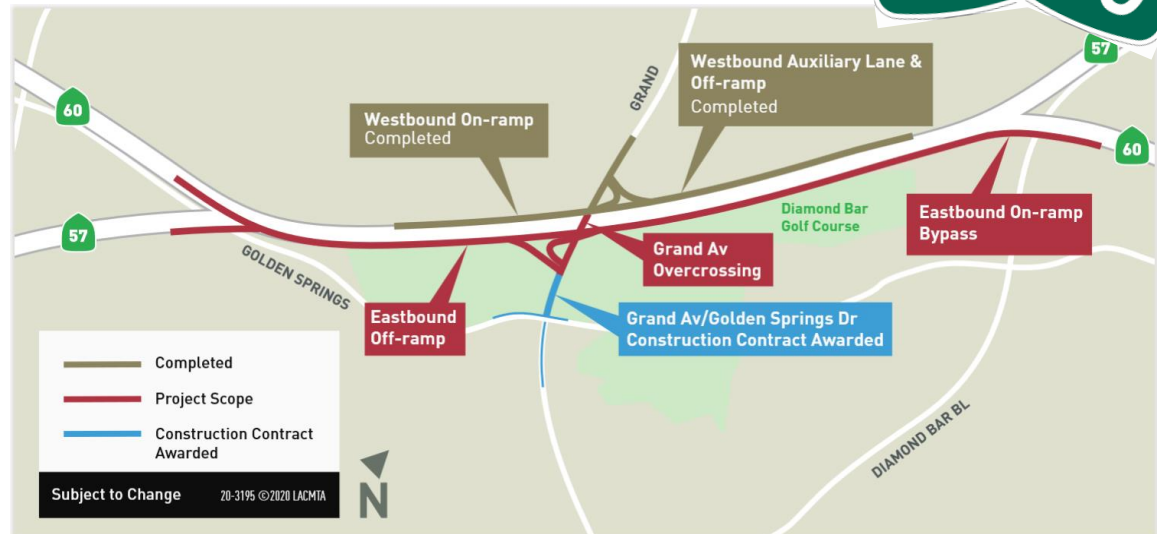
Approved Budget: \$26.9 M

Estimated Cost to Complete Current Project Phases: \$120.9 M



## Accomplishments:

- \$22 M TCEP grant awarded for current PS&E/ROW phase
- Secured \$217.9M SB-1/TCEP Grant for Construction Phase
- Project on track to complete design in November 2021
- Construction projected to start in Fall, 2022 by San Gabriel Valley COG



## Challenges/Risks:

- Acquisitions of parcels, utility relocation, modifications to the public golf course, and revised alignment for the project.
- Timely completion of the project consistent with the grant requirements/schedule of use of funds.

# I-405 Corridor Projects

PHASE: Various

Approved Budget : \$103.6 M

Estimated Cost to Complete Current Project Phases: \$123.5 M

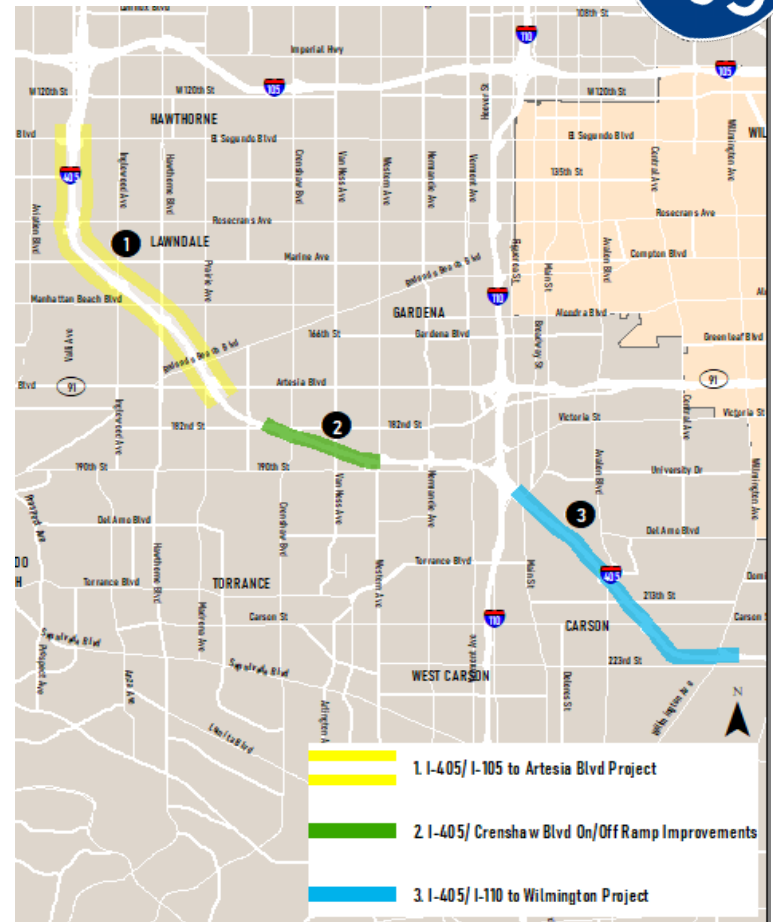


## Accomplishments:

- I-405 Connector and Aux lane Construction led by Caltrans completed in Winter of 2020
- I-405/Crenshaw on/off ramps - Construction to Start Spring 2021, led by Caltrans
- I-405 Aux Lanes from 105 to Artesia Blvd
  - PAED Completed Summer 2020
  - Design Phase preparation in progress
- I-405 Aux lanes from 110 to Wilmington
  - PSR Completed in Winter 2020
  - PAED Phase preparation in progress

## Challenges/Risks:

- Acquiring full funding for the projects



# I-605 Freeway “Hot Spots”

PHASE: Various

Approved Budget: \$137.6M

Estimated Cost to Complete Current Project Phases: \$137.6M

## Accomplishments:

- Pursuing early action projects parallel to the development of the I-605 corridor environmental document.
- Initiated PAED and PS&E for multiple projects now in progress, estimated completions through 2022.
- Continuing strong collaborative work with local agencies and communities in developing new projects to relieve congestion in the corridor.
- 3 Hot Spot projects awarded \$135 M in SB-1/TCEP Grant Funding.

## Challenges/Risks:

- Prioritization of investments and leveraging of local funds – there are more projects/need than there is funding.



# I-710 (South) Corridor Improvement Projects

PHASE: Various    Approved Budget : \$108.6 M

Estimated Cost to Complete Phase:    \$108.6 M

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

- Metro Board adopted Locally Preferred Alternative in March 2018.
- Early Action Projects underway – Soundwalls and Integrated Corridor Management.

## Next Steps:

- Environmental phase expected completion by Summer 2021 contingent upon EPA/Caltrans document approvals.
- Continue pursuing early action arterial projects during the development of the corridor environmental document.
- Investment in clean truck initiative.

## Challenges/Risks:

- Approval of the environmental document
- Funding to pursue design and construction of all potential early action projects and the proposed corridor improvements.



# SR-710 North Mobility Improvement Projects

PHASE: Various

Approved Program Budget : \$1,026.5 M

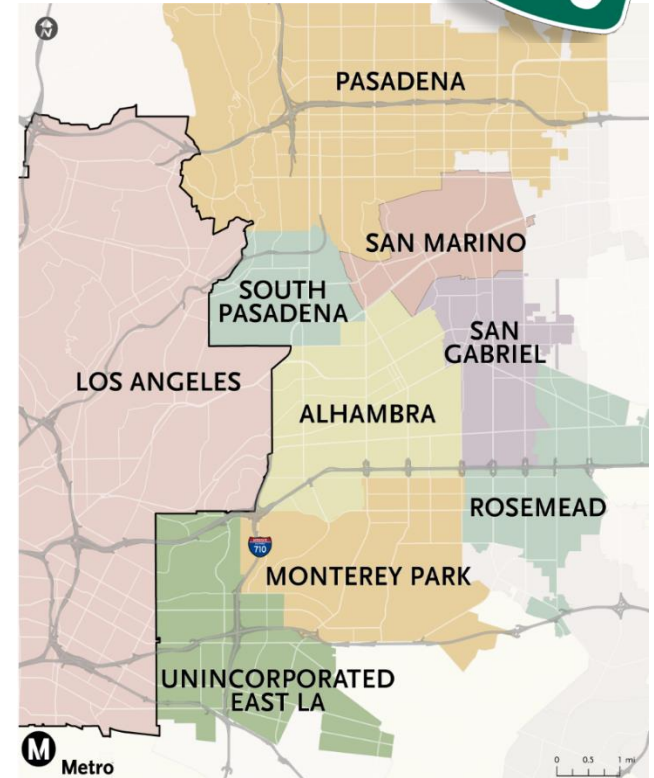
Estimated Cost to Complete Program of Projects:

\$1,026.5 M



## Accomplishments:

- Approved Measure R (with additional State and Federal) funds for over 100 mobility improvement projects throughout western San Gabriel Valley and northeast Los Angeles.
- The Mobility Improvement Projects (MIPs) Include:
  - Local street/corridor improvements
  - Freeway/local interchange and ramp improvements
  - Local street intersection improvements
  - Intelligent transportation system/signal improvements
- Most projects planned will be completed in the next 10 years delivering regional and local benefits
- \$46.5M in projects implemented as of January 2021



## Next Steps:

- Coordinate and execute funding agreements for projects approved by the Board
- Assist local jurisdictions with limited resources to deliver their projects expeditiously

# FY22 Summary

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

- Rail to Rail Corridor Active Transportation Connector Project
- Systemwide Signage
- East San Fernando Valley

## **Existing Projects with Potential Adjustments to LOP Budget**

(separate Board action required):

- Westside Purple Line Extension Section 1
- Division 20 Portal Widening Turnback

# Next Steps

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- Continue to assess project impacts as a result of Covid-19.
- 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.



# Appendix: Project Listing by Type

	TRANSIT CAPITAL PROJECTS W/TOTAL PROJECT COSTS > \$5 M	TYPE	BUDGET(\$ MIL.)
1	Crenshaw/LAX Transit Project	Major Construction	\$2,148.0
2	Regional Connector Transit Project	Major Construction	\$1,829.0
3	Westside Purple Line Extension Section 1 Project	Major Construction	\$2,978.9
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	\$1,532.9
7	Orange Line Bus Rapid Transit Improvements	Major Construction	\$36.1 (a)
8	West Santa Ana Branch	Major Construction	\$15.3 (a)
9	East San Fernando Valley	Major Construction	\$44.2 (a)
10	Sepulveda Transit Corridor Project	Major Construction	\$10.7 (a)
		<b>Major Transit Construction Total</b>	<b>\$14,259.6</b>
11	Airport Metro Connector Project	Misc. Capital Projects	\$898.6 (a)
12	Division 20 Portal Widening Turnback Facility	Misc. Capital Projects	\$801.7
13	Rail to Rail Corridor Active Transportation Connector Project	Misc. Capital Projects	\$12.9 (a)
14	Metro Eastside Access Improvements Project	Misc. Capital Projects	\$29.7
15	Sounwall Package 10	Misc. Capital Projects	\$50.9
16	Soundwall Package 11	Misc. Capital Projects	\$102.5
17	Systemwide Signage	Misc. Capital Projects	\$24.1 (a)
		<b>Misc. Capital Projects Total</b>	<b>\$1,920.4</b>
18	Metro Gold Line I-210 Barrier Replacement Phase I	Security/Safety	\$22.5
19	Metro Center Street Project (Emergency Security Operations Center)	Security/Safety	\$130.7
		<b>Security/Safety Total</b>	<b>\$153.2</b>
20	Light Rail Transit Freeway Stations Sound Enclosures	Rail Facilities Improvements	\$8.6
21	Willowbrook/Rosa Parks Station Improvement	Rail Facilities Improvements	\$128.3
		<b>Rail Facilities Improv. Total</b>	<b>\$136.9</b>
22	Metro Blue Line Track and System Refurbishment	Wayside Systems	\$102.3
23	Metro Blue Line Signal System Rehabilitation	Wayside Systems	\$119.0
		<b>Wayside Systems Total</b>	<b>\$221.3</b>
24	Fuel Storage Tank Program (FY20 - FY22)	Bus Facilities Improvements	\$23.4
25	Division 1 Improvements	Bus Facilities Improvements	\$20.9
26	Bus Facility Maintenance Improvements & Enhancements Phase III	Bus Facilities Improvements	\$21.7
27	Patsaouras Plaza Bus Station Construction	Bus Facilities Improvements	\$50.9
		<b>Bus Facilities Improv. Total</b>	<b>\$116.8</b>
		<b>TRANSIT CAPITAL TOTAL</b>	<b>\$16,808.3</b>



# Appendix: Project Listing by Type

	REGIONAL RAIL	TYPE	CURRENT EST. (\$M.)
1	LINK Union Station Project (Phases A and B)	Regional Rail	\$99.8
2	Doran Street and Broadway/Brazil Safety and Access Project	Regional Rail	\$14.0
3	Brighton to Roxford Double Track Project	Regional Rail	\$16.7
4	Rosecrans/Marquardt Grade Separation Project	Regional Rail	\$26.5
5	Lone Hill to White Double Track Project	Regional Rail	\$10.0
		<b>REGIONAL RAIL TOTAL</b>	<b>\$167.0</b>
	<b>HIGHWAY</b>		
1	I-5 North – North of Buena Vista to South of Magnolia Blvd	Measure R Highway Capital Project	\$397.0
2	I-5 South – Valley View Interchange	Measure R Highway Capital Project	\$651.2
3	I-405 Crenshaw Blvd On and Off Ramp Improvements	Measure R Highway Capital Project	\$98.4
4	Soundwall 10	Measure R Highway Capital Project	\$11.7
		<b>Caltrans Measure R Highway Subtotal</b>	<b>\$1,158.3</b>
5	I-605 Corridor Hot Spots – I-605/I-5 Interchange Improvement	Measure R Highway Capital Project	\$34.6
6	I-605 Corridor Hot Spots – I-605/SR 60 Interchange Improvement	Measure R Highway Capital Project	\$41.5
7	I-605 – Beverly Interchange Improvement Project	Measure R Highway Capital Project	\$3.8
8	I-605/Valley Boulevard Interchange Improvements	Measure R Highway Capital Project	\$2.8
9	EB SR-91 Atlantic Ave. to Cherry Ave. Auxiliary Lane Improvements	Measure R Highway Capital Project	\$7.6
10	I-405 Auxiliary Lanes - Artesia Blvd to I-105	Measure R Highway Capital Project	\$21.7
11	I-405 from I-110 (Main St) to Wilmington	Measure R Highway Capital Project	\$3.4
12	I-710 (South) Corridor Improvement Projects	Measure R Highway Capital Project	\$91.0
13	I-710 (South) Early Action Projects - Soundwall Projects (3 locations)	Measure R Highway Capital Project	\$12.5
14	I-710 Integrated Corridor Management (ICM)	Measure R Highway Capital Project	\$5.2
15	SR-91 Acacia Court to Central Ave.	Measure R Highway Capital Project	\$5.6
16	SR-91 (WB) Shoemaker to Alondra Improvements	Measure R Highway Capital Project	\$41.7
17	SR-710 (North) Mobility Improvement Projects	Measure R Highway Capital Project	\$1,026.5
18	I-605 from SR-91 to South Street Improvements	Highway Construction	\$23.1
		<b>Measure R Highway Subtotal</b>	<b>\$1,321.0</b>
19	SR 57/SR 60 Interchange Improvements	Measure M Highway Capital Project	\$120.9
20	SR 71: Interstate 10 to Mission Blvd	Measure M Highway Capital Project	\$40.4
21	SR 71: Mission Blvd to SR-60 (South)	Measure M Highway Capital Project	\$175.5
22	I-5 North HOV Project SR 14 to Parker Road	Highway Construction	\$679.4
		<b>Measure M Highway Subtotal</b>	<b>\$1,016.2</b>
		<b>HIGHWAY PROGRAM TOTAL</b>	<b>\$3,495.5</b>
		<b>TOTAL PROGRAM</b>	<b>\$20,470.7</b>