

# Crenshaw/LAX Transit Project



# **CRENSHAW/LAX TRANSIT PROJECT**

## **MONTHLY PROJECT STATUS REPORT**

THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (FTA).

**NOVEMBER 2015**

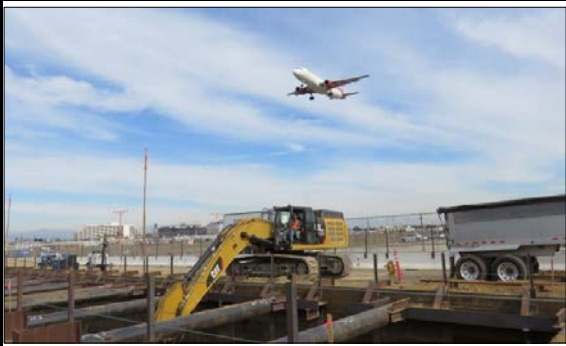
## **TABLE OF CONTENTS**

|                                                            | Page No. |
|------------------------------------------------------------|----------|
| Project Summary.....                                       | 1        |
| Project Overview & Status.....                             | 2-4      |
| Management Issues.....                                     | 5-6      |
| Project Alignment.....                                     | 7        |
| Project Scope.....                                         | 8-9      |
| Project Status                                             |          |
| • Project Schedule                                         |          |
| ◦ Key Milestones Six-Month Look Ahead.....                 | 10       |
| ◦ Project Summary Schedule.....                            | 11       |
| ◦ Schedule Measurements.....                               | 12       |
| ◦ Overall Construction Progress Curve.....                 | 13       |
| ◦ Major Equipment Delivery .....                           | 14       |
| ◦ Design-Builder's (C0988) Long Lead Item List.....        | 15       |
| ◦ Critical Path Narrative.....                             | 16       |
| ◦ Project Schedule Contingency Drawdown.....               | 17       |
| ◦ Project Schedule Contingency Drawdown Analysis.....      | 17       |
| • Project Cost                                             |          |
| ◦ Project Cost .....                                       | 18       |
| ◦ Project Cost Analysis.....                               | 18-20    |
| ◦ Project Cost Contingency Drawdown.....                   | 21       |
| ◦ Project Cost Contingency Drawdown Analysis.....          | 21-22    |
| ◦ Disadvantaged Business Enterprise (DBE).....             | 23       |
| ◦ Project Labor Agreements (PLA) Status.....               | 23       |
| ◦ Summary of Contract Modifications.....                   | 24-25    |
| • Financial/Grant                                          |          |
| ◦ Financial/Grant .....                                    | 26       |
| ◦ Status of Funds Anticipated.....                         | 27       |
| • Staffing                                                 |          |
| ◦ Total Project Staffing.....                              | 28       |
| ◦ Metro Staffing.....                                      | 29       |
| ◦ Construction Management Support Services Consultant..... | 29       |
| ◦ Engineering Services Consultant.....                     | 30       |

## **TABLE OF CONTENTS (Continued)**

|                                                                     | Page No. |
|---------------------------------------------------------------------|----------|
| • Real Estate.....                                                  | 31       |
| • Quality Assurance.....                                            | 32       |
| • Environmental.....                                                | 33       |
| • Construction Relations.....                                       | 34       |
| • Systemwide Design and Art Program.....                            | 35       |
| • Safety and Security.....                                          | 35       |
| • Third Party Agreement and Advanced Utility Relocation.....        | 36       |
| • Peak Hour and Nighttime Construction Variances.....               | 37       |
| • California Public Utilities Commission (CPUC) Crossing Summary... | 38       |
| • Chronology of Events.....                                         | 39-42    |
| • Construction Contracts                                            |          |
| o Contract C0988 .....                                              | 43       |
| o Contract C0990. ....                                              | 44       |
| o Contract C0991 .....                                              | 45       |
| o Contract C0992.....                                               | 46       |
| o Contract C0992A.....                                              | 47       |
| • Construction Photographs.....                                     | 48-59    |
| Appendices                                                          |          |
| • Project Cost Status – Southwestern Yard.....                      | 60-61    |
| • Cost and Budget Terminology.....                                  | 62       |
| • List of Acronyms.....                                             | 63-68    |

## PROJECT SUMMARY

|                                                                                                                                                                                                                                                            |                |                 |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |              |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|-------------------|
| <b>LOCATION:</b> Crenshaw Blvd at Exposition to Green Line<br><b>DESIGN/CONSULTANT:</b> Hatch Mott                                                                                                                                                         |                |                 |                  | <b>CONSTRUCTION MANAGEMENT CONSULTANT:</b> Stantec<br><b>CONTRACTOR:</b> Walsh-Shea Corridor Constructors (WSCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |              |                   |
| <b>PROJECT PHOTO:</b> Design-builder excavating at underground structure #1 next to LAX runways .                                                                                                                                                          |                |                 |                  | <b>WORK COMPLETED PAST MONTH:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |              |                   |
|                                                                                                                                                                           |                |                 |                  | <ul style="list-style-type: none"> <li>o Design-builder continues final design.</li> <li>o Continued Tier 2 bracing installation for UG#1 near LAX airport runways.</li> <li>o Continued superstructure construction for Century bridge.</li> <li>o Completed soldier pile installation &amp; water line relocation at UG#1</li> <li>o Continued CIDH pile installation for bridge over I-405.</li> <li>o Continued TBM assembly at the Bellanca Ave yard.</li> <li>o Continued superstructure construction for the La Brea bridge.</li> <li>o Continued pot holing at Park Mesa area.</li> <li>o Continued soil excavation at Leimert Park and MLK Stations</li> <li>o Continued preparation for first invert placement at Expo Station.</li> <li>o Continued real estate acquisitions with emphasis on remaining partial-takes and temporary construction easements.</li> <li>o Southwestern Yard contractor continues design.</li> </ul> |            |              |                   |
| <b>EXPENDITURE STATUS</b><br>(\$ In Millions)                                                                                                                                                                                                              |                |                 |                  | <b>SCHEDULE ASSESSMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |              |                   |
| ACTIVITIES                                                                                                                                                                                                                                                 | CURRENT BUDGET | EXPENDED AMOUNT | PERCENT EXPENDED | MAJOR SCHEDULE ACTIVITIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | PRIOR PLAN | CURRENT PLAN | VARIANCE WEEKS    |
| <b>DESIGN</b>                                                                                                                                                                                                                                              | \$ 136.7       | \$ 114.4        | 83.7%            | <b>Environmental</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |              |                   |
|                                                                                                                                                                                                                                                            |                |                 |                  | FEIS/FEIR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sep-11     | Sep-11       | Complete          |
|                                                                                                                                                                                                                                                            |                |                 |                  | Record of Decision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Dec-11     | Dec-11       | Complete          |
| <b>RIGHT-OF-WAY</b>                                                                                                                                                                                                                                        | \$ 127.4       | \$ 109.6        | 86.0%            | <b>Design</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |              |                   |
|                                                                                                                                                                                                                                                            |                |                 |                  | Preliminary Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Nov-11     | Nov-11       | Complete          |
| <b>CONSTRUCTION</b>                                                                                                                                                                                                                                        | \$ 1,353.1     | \$ 445.9        | 33.0%            | Final Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sep-15     | May-16       | 8.5 months behind |
| <b>OTHER</b>                                                                                                                                                                                                                                               | \$ 440.8       | \$ 125.7        | 28.5%            | <b>Right-of-Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |              |                   |
| <b>TOTAL</b>                                                                                                                                                                                                                                               | \$ 2,058.0     | \$ 795.6        | 38.7%            | Full-take parcels available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Jan-15     | Jan-15       | Complete          |
| Note: cost expended as of November 28, 2015.                                                                                                                                                                                                               |                |                 |                  | Part-take and TCE parcels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sep-15     | Dec-15       | 3.5 months behind |
| <b>AREAS OF CONCERN</b>                                                                                                                                                                                                                                    |                |                 |                  | <b>Construction</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |              |                   |
| <ul style="list-style-type: none"> <li>o Design-builder's ability to mitigate schedule delays.</li> <li>o Timely review of WSCC's design submittals by City of Los Angeles.</li> <li>o 96th street station cost and schedule potential impacts.</li> </ul> |                |                 |                  | D-B Notice to Proceed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sep-13     | Sep-13       | Complete          |
|                                                                                                                                                                                                                                                            |                |                 |                  | D-B Substantial Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Oct-18     | Mar-19       | 4.7 months behind |
|                                                                                                                                                                                                                                                            |                |                 |                  | Revenue Service Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Oct-19     | Oct-19       | On schedule*      |
|                                                                                                                                                                                                                                                            |                |                 |                  | The D-B Substantial Complete prior plan was modified by a 35-day concurrent delay contract modification in March 2015.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |              |                   |
|                                                                                                                                                                                                                                                            |                |                 |                  | *Note: Current Revenue Service Date includes a reduction in contingency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |              |                   |
| <b>ROW ACQUISITION</b>                                                                                                                                                                                                                                     | PLAN           | ACQUIRED        | REMAINING        | <b>CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |              |                   |
| FULL TAKES                                                                                                                                                                                                                                                 | 35             | 35              | 0                | <ul style="list-style-type: none"> <li>o Prepare for launch of TBM at Expo Station.</li> <li>o Complete excavation at MLK and Leimert Park Stations.</li> <li>o Commence work on Park Mesa area.</li> <li>o Continue working on Green Line Tie-in, Century, Imperial, La Brea, Manchester and I-405 aerial structures.</li> <li>o Commence concrete placement for walls/roof at UG#1.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |              |                   |
| PARTIAL TAKES                                                                                                                                                                                                                                              | 26             | 21              | 5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |              |                   |
| TEMPORARY EASEMENTS                                                                                                                                                                                                                                        | 12             | 12              | 0                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |              |                   |
| <b>TOTAL PARCELS</b>                                                                                                                                                                                                                                       | 73             | 68              | 5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |              |                   |

## **PROJECT OVERVIEW**

### **Construction**

**Contract C0990** - The advanced utility relocations contractor, Metro Builders and Engineers Group, LTD was substantially completed on August 21, 2014. Contract is now in close-out phase. *Metro and Metro Builders and Engineers Group held mediation meeting in November 2015 to have positions heard on outstanding claims.*

**Design- Build Contract C0988** – The design-builder, Walsh-Shea Corridor Constructors (WSCC) continues final design with preparation of required contract submittals. The designer is completing design for the most critical items that support the commencement of construction in the various areas of the project. Construction efforts by the design-builder continued along all major areas.

**Design- Build Contract C0991** – The design-builder, Hensel Phelps / Herzog JV was issued a notice-to-proceed on June 29, 2015. *The design-builder continues work on final design.*

### **Right-of-Way**

There are a total of 73 parcels; one more parcel was added in October 2013 which was originally an encroachment. There are 35 full takes, 26 partial takes and 12 temporary construction easements (TCE's). There have been 68 parcels acquired through November 2015. Thirty-five full takes and 33 part takes/ temporary construction easements have been provided to design-builder WSCC. There are five remaining part takes/temporary construction easements that are required for base work to be turned over to WSCC.

Metro has acquired all full takes required for the construction of the Project. Focus now is on completing the acquisition of part-takes and entering into agreements for temporary construction easements that are required for the Project. As the design-builder continues design, they have identified some additional TCE's and partial takes that may be required. Metro will work with the design-builder regarding any additional parcel acquisitions that may be required. These additional parcels may be required for street restoration or other non-critical scope of work.

### **Systems**

Metro staff initiated a study to explore possible alternative layouts to accommodate the central control functions associated with new project needs, such as Crenshaw/LAX project, within the existing ROC facility as an interim measure. Metro has determined that the best interim course of action is to expand the existing functional operations at the ROC under a Phase 1 approach to support five new rail lines and extensions including the Crenshaw/LAX Project. The existing ROC will be expanded and will reconfigure the existing ROC service control and closed circuit television monitoring areas to increase overall space requirements by approximately 22 percent. A full build-out of a combined BOC/ROC is also being planned under a Phase 2 approach on land to be acquired by Metro as a separate Capital Improvement Project near Division 20.

## **PROJECT OVERVIEW (Continued)**

Final design of the ROC Reconfiguration Plan was completed and issued for review on February 28, 2014. The initial ROC reconfiguration effort will be for Exposition Phase II and Foothill Gold Line Projects. Crenshaw/LAX Transit Project ROC reconfiguration will be initiated in June 2017 and completed by February 2019.

### **Program Management**

In May 2013, the Board approved a Motion that amended the fiscal year 2014 Proposed Metro Budget to include funding for an underground station at Leimert Park Village and an at-grade station at Hindry as part of the baseline project. This Motion added \$135 million to the LOP budget which included \$80 million in uncommitted fiscal year 2014 funding and \$55 million from the City of Los Angeles. Metro reached agreement with the City of Los Angeles to cover the incremental cost of the stations above the \$80 million identified in fiscal year 2014 funding which the Metro Board approved in May 2013.

With board approval on June 27, 2013, the additional \$135 million is included in the sources of funds chart as well as the additional \$160.1 million for the increased cost of the base work. All recommendations were approved by the Board on June 27, 2013 except that change order authority was maintained at \$500,000. This board action amended the life of project budget to \$2,058 million.

The Board approved on May 28, 2015 an increase in the amount of funding that the Crenshaw/LAX Project is contributing toward the total cost of the Southwestern Yard Project. An additional \$10.8 million is required to be funded by drawdown from the Unallocated Contingency Current Budget SCC 90 and added to the Southwestern Yard Current Budget SCC 30. The current budget includes the 49% cost allocation share that the project is responsible for paying which includes funding of the design and construction for the Southwestern Yard. This amount is revised to \$150.2 million out of a new total of \$307.2 million adopted by the Board.

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$150.2 million allocation and Environmental/Planning budget of \$26.0 million is \$1,881.8 million.

The LOP budget is funded by various sources of funds which include local, state and federal funding. The TIFIA Loan is categorized under local funds as the loan is secured by a pledge of Measure R local sales tax funds. The funding percentages are as follows: local funding 79.9%, state funding 8.8% and federal funding 11.3%.

*The project commitments thru November 2015 are \$1,794.4 million or 87.2% of the Current Budget. The project expenditures thru November 2015 are \$795.6 million or 38.6% of the Current Budget.*

## **PROJECT OVERVIEW (Continued)**

The current period expenditures are for design-builders monthly design and construction costs as well as right-of-way and professional services costs. The expenditures to date also include the Southwestern Yard expenditures that are part of the 49% cost allocation share that the Project is responsible for paying for.

*This month the project schedule reflects a 21 day reduction in project contingency due to the design-builder reporting a loss of 21-calendar day delay for the tunneling effort in their November 2015 Schedule Update. Metro has not accounted for the extensive projected delay within the Park Mesa area reported by the design-builder in their November 2015 Schedule Update. Metro did not include in the Project's Master Schedule the additional delay as Metro and the design-builder are currently in discussions on ways to mitigate some or all of the potential delays related to the Park Mesa scope of work. The design-builder stated in their monthly update that they are developing measures to mitigate some of the forecast delays but they did not incorporate any in their latest schedule update.*

*Metro is reporting a projected 143 calendar day delay to the design-builder's contract substantial completion milestone (2019). This is in contrast to the design-builder's forecast delay to their substantial completion milestone of 232 calendar days. The design-builder reported a gain of seven (7) days for the Park Mesa at-grade section of the project this month for a total projected delay of 232 calendar day delay.*

## **MANAGEMENT ISSUES**

**Concern No. 1:** Execution of 3% Local Match funding agreement with the City of Inglewood.

**Status/Action** Metro and the City of Inglewood continue to work through various issues and may have solutions to outstanding issues so an agreement can be executed in the future.

**Concern No. 2:** Timely future reviews of WSCC final design submittals by City of Los Angeles.

**Status/Action** Metro is coordinating with all third party agencies in advance of WSCC final design submittals to ensure that timely review requirements will be met to support WSCC's current schedule submittal dates. The final design submittals will be submitted for review by third parties according to the most critical submittals to ensure the third party agencies are reviewing the most important designs first. Also, along with the concern above is the potential for third party agencies review comments leading to potential change requests outside of the original design signed off by the agencies during the preliminary engineering phase of the project. Metro will take action and strictly monitor the review comments from the agencies.

**Concern No. 3:** Additional scope of work for the design-builder to accommodate the Los Angeles World Airports (LAWA) Specific Plan Amendment Study (SPAS).

**Status/Action** The scope of work is for Metro to undertake a parallel design effort and construct changes in the vicinity of the Aviation/Century Station to accommodate elements of the SPAS. The Crenshaw/LAX Transit Project obtained Metro Board authorization to Proceed in December 2013 with the required future design or construction effort. Four changes have been executed with WSCC, three for design and one for construction. Metro is also working with LAWA on additional changes that may be considered by the Metro Board of Directors in the near future. The existing and any potential new changes to WSCC are not funded by the Crenshaw/LAX Transit Project but are funded by other funding sources.

**Concern No. 4:** Relocations of utilities by outside third parties required to be performed in advance of the main Crenshaw/LAX Design Build Contractor's work.

**Status/Action** Metro will complete the remaining advance utility relocation by December 2015.

## **MANAGEMENT ISSUES (Continued)**

**Concern No. 5:** Design-builders design submittal schedule

**Status/Action** WSCC is submitting submittals in advance of the construction need date but may potentially be at risk of late design submittals impacting future start of various construction activities. Metro has been working closely with WSCC and the cities to address the submittal schedule changes so as not to impact the project schedule critical path. Metro and the cities have also accelerated submittals specified as critical by WSCC so as not to impact construction. *WSCC is now scheduled to issue their last submittal in June 2016. WSCC is approximately 97% complete and will continue design services during the construction phase.*

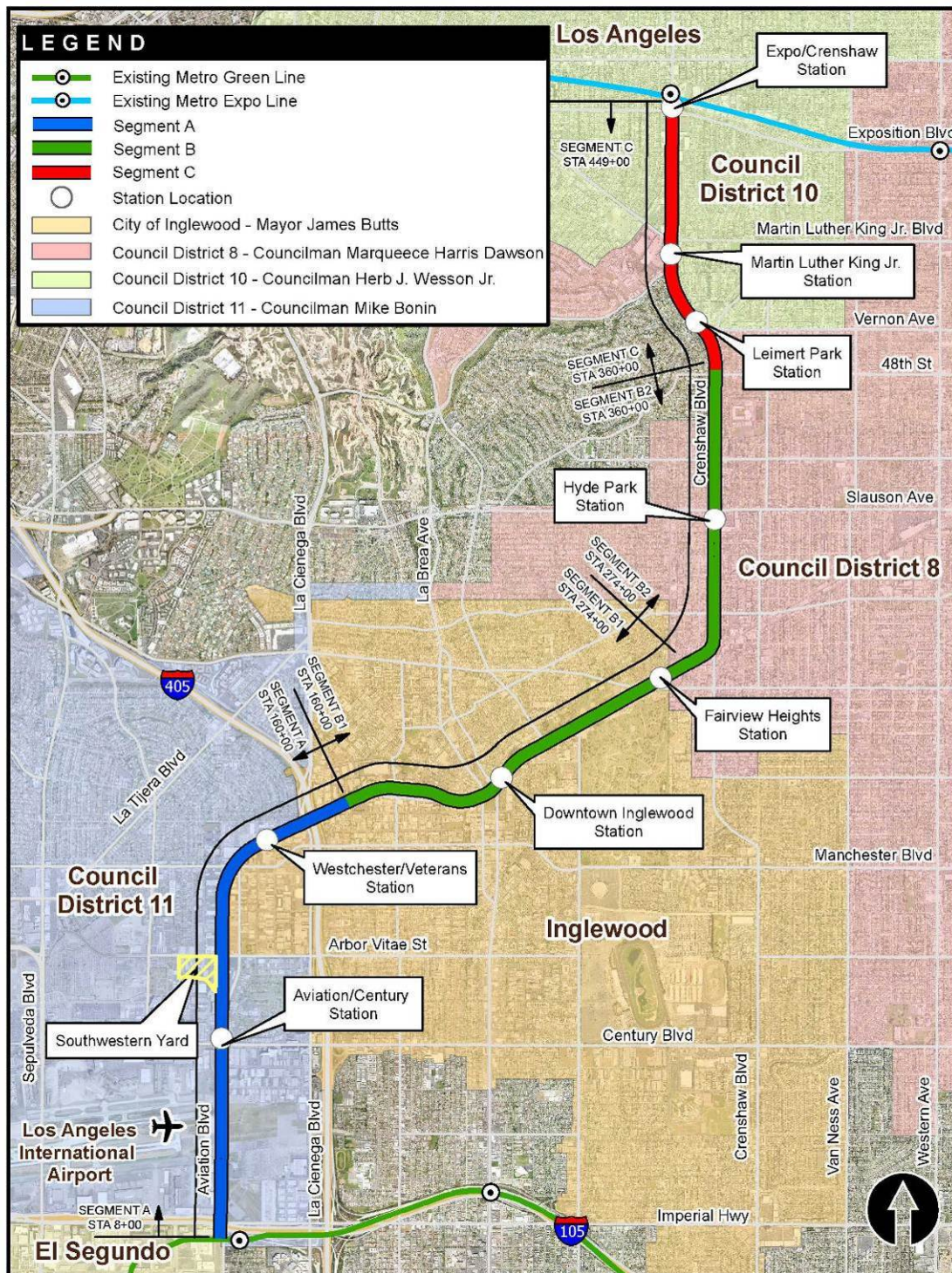
**Concern No. 6:** Design-builders construction schedule

**Status/Action** This month the project schedule reflects a 21-day reduction in project contingency due to the design-builder reporting a loss of 21-calendar day delay for the tunneling effort in their November 2015 Schedule Update. Metro has not accounted for the extensive projected delay for Park Mesa work reported by the design-builder in their November 2015 Schedule Update. Metro did not include in the Project's Master Schedule the additional delay as Metro and the design-builder are currently in discussions on ways to mitigate some or all of the potential delays related to the Park Mesa scope of work. The design-builder will update their schedule once an agreement is reached with Metro.

**Concern No. 7:** Cost and schedule impacts on the Crenshaw/LAX Transit Project to accommodate the future Airport Metro Connector Transit Station at 96<sup>th</sup> Street.

**Status/Action** In May 2015, the Metro Board approved Design Option 3 implementing changes required to the design-builder's design to accommodate the ultimate track configuration required for the future Airport Metro Connector Transit Station. Metro continues to work with the design-builder to minimize the impact to current design as well as any construction impacts. A comprehensive modification is being negotiated with WSCC to finalize cost and schedule impacts.

## PROJECT ALIGNMENT



## **PROJECT SCOPE**

The Crenshaw/LAX Transit Corridor is a north/south corridor that serves the cities of Los Angeles, Inglewood, Hawthorne and El Segundo as well as portions of unincorporated Los Angeles County. The alignment extends 8.5 miles, from the intersection of Crenshaw and Exposition Boulevards to a connection with the Metro Green Line at the Aviation/LAX Station. The project provides major connections with the Los Angeles International Airport (LAX) as well as links to the Metro Green Line, the Exposition Line and countywide bus network. The Board adopted a light rail system as the Locally Preferred Alternative (LPA) in December 2009.

The alignment is comprised of a double-tracked right-of-way consisting of sections of at-grade in-street, at-grade within railroad right-of-way, aerial, and below-grade guideway sections, eight stations, park and ride facilities at three locations, utilities, landscaping, roadway improvements required by the project and a maintenance & storage facility (Southwestern Yard).

The scope of work for the three construction contracts and two owner-supplied equipment contracts is shown below.

### **Contract C0990 Crenshaw/LAX Advanced Utility Relocations**

The design of several early utility relocations was advanced sufficiently into final design to allow for bidding of critical early utility relocations. This contract includes relocating three (3) existing duct banks that feed various NAVAIDS on the south airfield complex. New ductbank infrastructure will be built by Metro with the fiber replacement work and cut-over by FAA/LAWA. These ductbanks contain fiber lines and power lines which belong to both LAWA and FAA. Since the track alignment is below grade at these crossings, the ductbanks have to be relocated in advance to allow for the construction of the track alignment. In addition, other wet utilities along the Harbor Branch and Crenshaw Boulevard segments of the corridor that can be relocated in advance are included as part of this contract.

The project delivery method for this contract was bid-build Invitation for Bid (IFB).

### **Design-Build Contract C0988 Crenshaw/LAX Transit Corridor**

This is the largest project contract which will complete final design and construction of the infrastructure required along the corridor alignment. The structures required to be constructed are eight stations, grade separations including flyover structures, cut and cover trenching, tunneling and three park-n-ride facilities. The scope of work will include all the necessary systems work including train control, traction power supply substations and distribution, overhead catenary, communications, and systems tie-in to the existing Metro Green Line. The project delivery method for this contract was design-build utilizing a two-step best value procurement approach with submittal of qualification statements through a RFQ process, pre-qualification of qualified proposers followed by release of a RFP soliciting technical and price proposals with an option at Metro's discretion for best and final offers (BAFO).

## **PROJECT SCOPE (Continued)**

### **Design-Build Contract C0991 Southwestern Yard**

The Board-adopted 2009 Long Range Transportation Plan (LRTP) for Los Angeles County envisioned one new central Light Rail Transit (LRT) Maintenance facility to be used by all projects. Since the LRTP adoption, substantial progress on light rail system planning and development, including more accurate vehicle assignments, cost estimates, and functional requirements, has led Metro to conclude that two new LRT yards, an Eastern Yard and a Southwestern Yard, are necessary. This contract will construct the Southwestern Yard which will consolidate maintenance facility requirements for this project as well as the operating Metro Green Line, proposed South Bay Metro Green Line Extension and proposed Metro Green Line to LAX. The cost of constructing the Southwestern Yard will be proportionately split among the four projects.

The project delivery method for this contract was a two-step design-build IFB approach.

### **Owner-Supplied Equipment - Contract C0992 Crenshaw/LAX Concrete Ties and Assembly Items**

Metro added a contract for procuring owner-supplied equipment for the Design-Build Contract C0988 Crenshaw/LAX Transit Corridor Contractor. The equipment within the contract scope of work includes concrete ties and assembly items.

The project delivery method for this contract was bid-build IFB approach.

### **Owner-Supplied Equipment - Contract C0992A Crenshaw/LAX Rail and Bumping Posts Procurement**

Metro added a contract for rebidding the procurement of running rail and bumping posts for the Design-Build Contract C0988 Crenshaw/LAX Transit Corridor Contractor.

The project delivery method for this contract was bid-build IFB approach.

### **Start Up**

The commencement of pre-revenue operations will be determined by Metro Operations. The design-builder will have completed Phase I systems integration testing (SIT) and Metro will have subsequently completed and passed Phase II SIT. Metro may conduct some Phase II SIT efforts concurrently with the start of pre-revenue operations at the discretion of Metro Operations. All testing will be required to include and pass a "stress test" of maximum operational service levels to be acceptable. Pre-revenue operations includes: 1) train runs, especially those involving multiple trains, on the integrated and fully operational extension; 2) rehearsal of expected revenue operations scenarios; 3) as well as abnormal and emergency scenarios in which random combinations of system interactions are tested; 4) equipment "burned-in"; and 5) training of metro personnel who will eventually operate and maintain the extension and for emergency services personnel. Activities occurring during pre-revenue operations are carried out by a designated Metro Project Rail Activation Group.

**KEY MILESTONES SIX- MONTH LOOK AHEAD**

|                                                             | Milestone Date | Nov-15                                                                             | Dec-15                                                                              | Jan-16                                                                                | Feb-16                                                                                | Mar-16                                                                                | Apr-16                                                                                |
|-------------------------------------------------------------|----------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Contract C0988 Complete Soldier Pile - UG #4                | 11/04/15A      |  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Complete Excavation & Mud Slab - Expo        | 11/17/15A      |  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Base Invert Slab - Expo                | 11/23/15A      |  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start MSE Wall - Aerial Structure #1         | 11/30/15       |  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Station Platform - Florence / West     | 12/15/15       |                                                                                    |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Station Platform - Florence / Hindry   | 12/21/15       |                                                                                    |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start MSE Wall - Manchester Bridge           | 12/24/15       |                                                                                    |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Invert Slab - UG #1                    | 01/04/16       |                                                                                    |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 TPSS-10 Permanent Power Drop (power for TBM) | 01/06/16       |                                                                                    |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Platform Level Lower Wall - Expo       | 01/11/16       |                                                                                    |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Expo Station Ready for TBM Machine           | 01/15/16       |                                                                                    |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Excavation - UG #3                     | 01/16/16       |                                                                                    |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start TBM Muck Handling System               | 01/18/16       |                                                                                    |                                                                                     |  |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Complete Excavation & Mud Slab - Vernon      | 01/22/16       |                                                                                    |                                                                                     |  |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start MSE Wall - I-405 Bridge                | 01/26/16       |                                                                                    |                                                                                     |  |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Start Roadway Construction - Park Mesa       | 01/27/16       |                                                                                    |                                                                                     |  |                                                                                       |                                                                                       |                                                                                       |
| Contract C0988 Complete Excavation & Mud Slab - MLK         | 02/02/16       |                                                                                    |                                                                                     |                                                                                       |  |                                                                                       |                                                                                       |
| Contract C0988 Complete 111th St Bridge Superstructure      | 02/09/16       |                                                                                    |                                                                                     |                                                                                       |  |                                                                                       |                                                                                       |
| Contract C0988 Start Assemble EPBM                          | 02/10/16       |                                                                                    |                                                                                     |                                                                                       |  |                                                                                       |                                                                                       |
| Contract C0988 Submit Approved for Construction - Seg A     | 03/04/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0991 Demo Early Access Date                       | 03/08/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 TBM SB Launch @ Expo Station                 | 03/16/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Start Base Invert Slab - MLK                 | 03/17/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Complete Excavation - UG #4 U Section        | 03/18/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Complete Superstructure - La Brea Bridge     | 03/22/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Complete Assemble EPBM                       | 03/22/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Submit Approved for Construction - Seg C     | 03/24/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Complete Excavation - UG #1                  | 03/28/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Start MSE Wall - 111th St Bridge             | 03/30/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |
| Contract C0988 Start Platform - Aviation / Century          | 04/05/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |                                                                                       |  |
| Contract C0988 Complete Platform Level Lower Wall - Expo    | 04/26/16       |                                                                                    |                                                                                     |                                                                                       |                                                                                       |                                                                                       |  |



MTA Staff



MTA Board Action



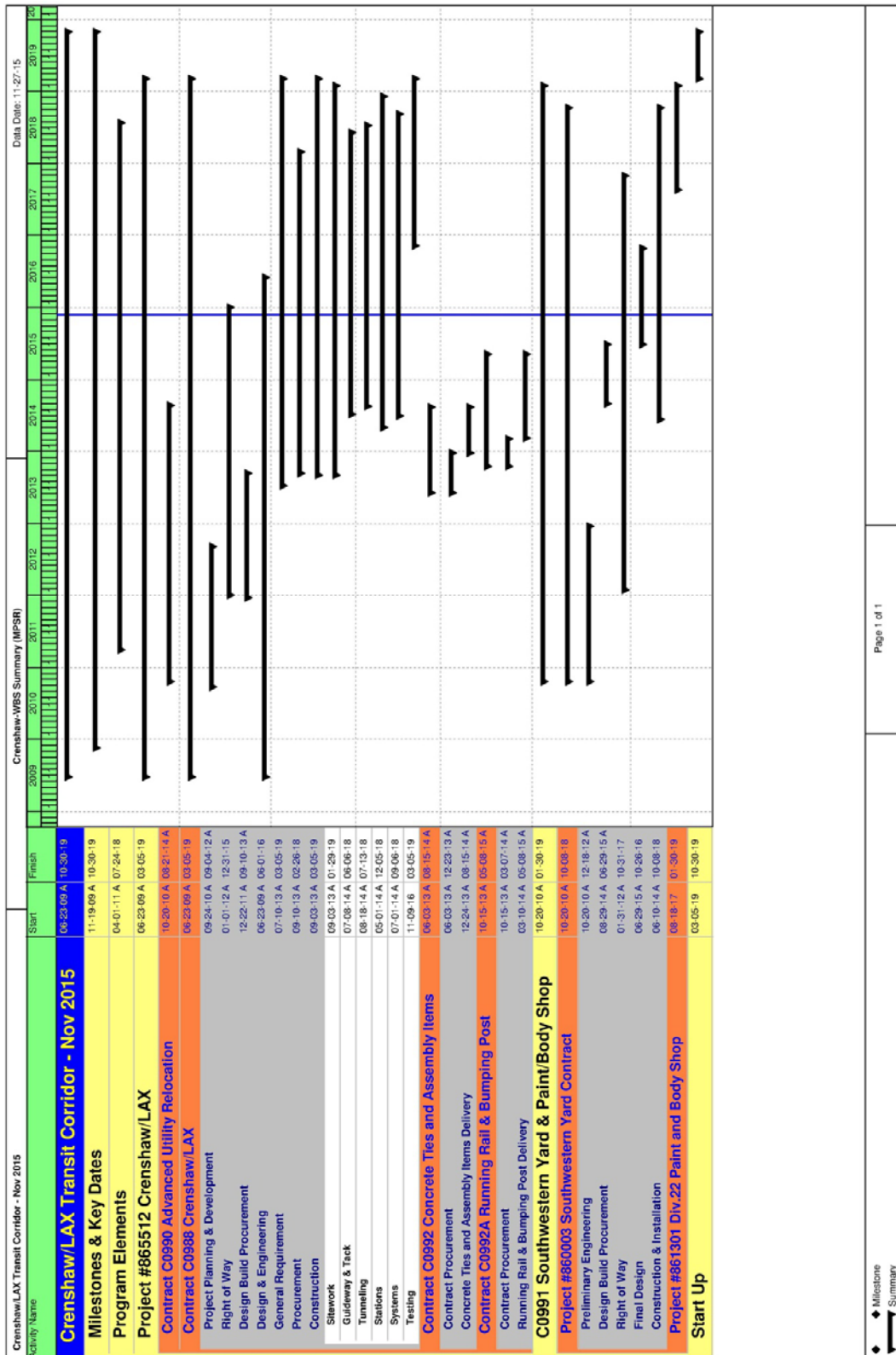
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Other

"A" following date is actual and completed

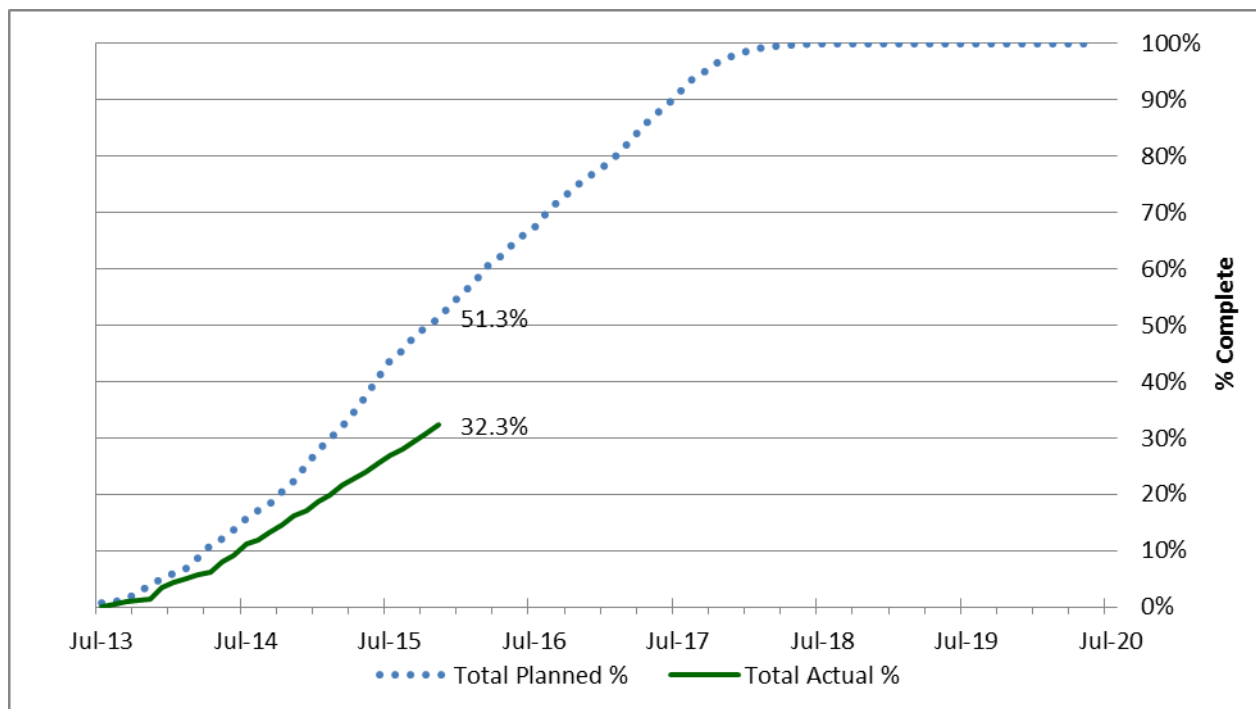
## PROJECT SUMMARY SCHEDULE



## SCHEDULE MEASUREMENTS

|                                         | Status     | Change<br>from Last<br>Period | Comment                  |
|-----------------------------------------|------------|-------------------------------|--------------------------|
| Current Revenue Service:                | 10/30/2019 | None                          |                          |
| Forecast Revenue Service:               | 10/30/2019 | None                          |                          |
| TIFIA Revenue Service:                  | 10/30/2019 | None                          |                          |
|                                         |            |                               |                          |
| <b>Final Design Progress:</b>           |            |                               |                          |
| Contract C0988                          | 96.6%      | 0.3%                          | Behind Schedule          |
| Contract C0990                          | 100%       | None                          | Design Completed         |
| Contract C0991                          | 9.5%       | 0%                            | Baseline to be submitted |
| Contract C0992                          | 100%       | None                          | Design Completed         |
| Contract C0992A                         | 100%       | None                          | Design Completed         |
|                                         |            |                               |                          |
| <b>Construction Contracts Progress:</b> |            |                               |                          |
| Contract C0988                          | 24.9%      | 1.6%                          | Behind Schedule          |
| Contract C0990                          | 100%       | 0%                            | Substantially Completed  |
| Contract C0991                          | 0%         | -                             | Baseline to be submitted |
| Contract C0992                          | 100%       | 0%                            | Substantially Completed  |
| Contract C0992A                         | 100%       | 0%                            | Substantially Completed  |
|                                         |            |                               |                          |

## OVERALL CONSTRUCTION PROGRESS CURVE STATUS



The actual overall construction progress is 32.3% versus a planned progress of 51.3% through November 2015. The progress curves represent a composite percentage for the physical progress of work performed to complete the project's construction contracts, including the major design-build (C0988), advance utility relocation (C0990), and two equipment procurement contracts-concrete ties (C0992) and running rail (C0992A). The Southwestern Yard Contract C0991 is excluded in the composite percentage until the baseline schedule is submitted and accepted by Metro.

The physical progress percentage excludes non-construction items such as contractor's early design and construction mobilization costs and all general requirement costs not tied specifically to a construction work effort.

## **MAJOR EQUIPMENT DELIVERY STATUS**

### **Tunnel Boring Machine**

WSSC, the design-builder for Contract C0988, will procure the tunnel boring machine (TBM) and equipment.

Following are the major milestone dates for TBM procurement:

|                                                   | Baseline | Oct-15    | Nov-15    | Monthly Variance |
|---------------------------------------------------|----------|-----------|-----------|------------------|
| Submit Final Design Details for TBM               | 01/03/14 | 04/01/15A | 04/01/15A |                  |
| Fabricate & Deliver TBM                           | 09/22/14 | 11/21/14A | 11/21/14A |                  |
| Procure & Deliver TBM Rolling Stock & Accessories | 06/23/14 | 03/02/15A | 03/02/15A |                  |
| TBM SB Tunnel Launch at Expo                      | 04/28/15 | 02/25/16  | 03/16/16  | -20              |
| TBM SB Break through at Vernon                    | 09/17/15 | 07/05/16  | 07/25/16  | -20              |
| TBM NB Tunnel Launch at Expo                      | 10/29/15 | 08/17/16  | 09/07/16  | -21              |
| TBM NB Break through at Vernon                    | 03/21/16 | 12/29/16  | 01/19/17  | -21              |

### **Light Rail Vehicles**

The Board approved exercising Option 1 of Contract P3010 with Kinkisharyo International to provide light rail vehicles (LRV) for the Crenshaw/LAX project. By exercising this option prior to August 20, 2013, the Project avoided price escalation costs. The total number of vehicles in the option is 28 which include 20 LRVs for the Crenshaw/LAX project and two additional cars for spares.

The first two pilot cars for the initial order of cars (non-option) were ready on July 7, 2015; then four cars will be delivered every month starting from Aug 2015 with the last group of cars to be delivered on Jan 2017.

Mobilization of Option 1 will commence after completion of the initial order. First delivery of Option 1 cars will be February 2017 and the last of the cars in September 2017.

### **Ticket Vending Machines**

Procurement of the ticket vending machines will commence after the design-builder completes final design and the total requirements for the project are known.

### **Concrete Ties and Assembly Items**

All 19,936 concrete ties that have been delivered to the job site have been determined to be Buy America compliant.

### **Running Rail & Bumping Post**

All required running rail & bumping post have been delivered to the job site.

## DESIGN-BUILDER'S (C0988) LONG LEAD ITEM LIST

| Item                                                    | Initiate<br>Procurement | Submittal<br>Needed By | Delivery     | Installation<br>Date |
|---------------------------------------------------------|-------------------------|------------------------|--------------|----------------------|
| Tunnel Boring Machine                                   | Executed                | Complete               | Completed    | 9/1/2015             |
| Stations- Elevators                                     | Executed                | 3/25/2015              | Pits 10/5/15 | Pits 10/5/15         |
| Stations- Escalators                                    | Selected                | 5/22/2015              | 7/1/2016     | 10/5/2016            |
| Track- Special Trackwork                                | Selected                | 3/21/2015              | 10/26/2015   | 11/12/2015           |
| Track- Restraining Rail and Grade Crossing Ties         | 4/13/2015               | 5/1/2015               | 2/10/2016    | 4/1/2016             |
| TPSS- Substation 1                                      | 4/8/2015                | 5/23/2015              | 4/2/2016     | 6/1/2016             |
| TPSS- Substation 2                                      | 6/8/2015                | 7/23/2015              | 6/2/2016     | 8/1/2016             |
| TPSS- Substation 3                                      | 8/10/2015               | 9/24/2015              | 8/4/2016     | 10/3/2016            |
| TPSS- Substation 5                                      | 10/8/2015               | 11/22/2015             | 10/2/2016    | 12/1/2016            |
| TPSS- Substation 6                                      | 1/7/2016                | 2/21/2016              | 1/1/2017     | 3/2/2017             |
| TPSS-Substation 7                                       | 3/7/2016                | 4/21/2016              | 3/2/2017     | 5/1/2017             |
| TPSS- Substation 8                                      | 1/7/2016                | 2/21/2016              | 1/1/2017     | 3/2/2017             |
| TPSS- Substation 9                                      | 12/9/2016               | 1/23/2016              | 12/3/2016    | 2/1/2017             |
| Train Houses                                            | 3/1/2015                | 5/30/2015              | 3/27/2017    | 5/1/2017             |
| OCS Poles                                               | 3/1/2015                | 5/30/2015              | 6/27/2016    | 8/1/2016             |
| Traffic Signal Poles                                    | 3/15/2015               | 4/15/2015              | 8/1/2015     | 6/1/2015             |
| LED Lighting Figures                                    | 3/15/2015               | 4/15/2015              | 8/1/2015     | 3/1/2016             |
| Jet Fan- UG3                                            | 5/5/2016                | 4/7/2016               | 12/31/2016   | 3/1/2017             |
| Jet Fan- UG4                                            | 11/5/2016               | 1/4/2017               | 7/3/2017     | 9/1/2017             |
| Artwork- Century                                        | 1/6/2016                | 3/6/2016               | 9/2/2016     | 11/1/2016            |
| Artwork- Hindry                                         | 1/6/2016                | 3/6/2016               | 9/2/2016     | 11/1/2016            |
| Artwork- La Brea                                        | 11/6/2015               | 1/5/2016               | 7/3/2016     | 9/1/2016             |
| Artwork- West                                           | 4/7/2016                | 6/6/2016               | 12/3/2016    | 2/1/2017             |
| Artwork- Slauson                                        | 10/5/2016               | 12/4/2016              | 6/2/2017     | 8/1/2017             |
| Artwork-Vernon Concourse                                | 2/4/2017                | 4/5/2017               | 10/2/2017    | 12/1/2017            |
| Artwork- Vernon Plaza                                   | 10/5/2016               | 12/4/2016              | 6/2/2017     | 8/1/2017             |
| Artwork- MLK Concourse                                  | 2/4/2017                | 4/5/2017               | 10/2/2017    | 12/1/2017            |
| Artwork- MLK Plaza                                      | 4/7/2017                | 6/6/2017               | 12/3/2017    | 2/1/2018             |
| Artwork- Expo Concourse                                 | 7/5/2017                | 9/3/2017               | 3/2/2018     | 5/1/2018             |
| Artwork- Expo Plaza                                     | 7/5/2017                | 9/3/2017               | 3/2/2018     | 5/1/2018             |
| TVM- Century                                            | N/A                     | 7/5/2015               | 1/1/2016     | 3/1/2016             |
| TVM- Hindry                                             | N/A                     | 4/5/2016               | 10/2/2016    | 12/1/2016            |
| TVM- La Brea                                            | N/A                     | 9/3/2016               | 3/2/2017     | 5/1/2017             |
| TVM- West                                               | N/A                     | 7/4/2016               | 12/31/2016   | 3/1/2017             |
| TVM-Slauson                                             | N/A                     | 11/3/2016              | 5/2/2017     | 7/1/2017             |
| TVM- Vernon                                             | N/A                     | 2/3/2017               | 8/2/2017     | 10/1/2017            |
| TVM- MLK                                                | N/A                     | 3/6/2017               | 9/2/2017     | 11/1/2017            |
| TVM- Expo                                               | N/A                     | 5/6/2017               | 11/2/2017    | 1/1/2018             |
| Trees and Landscaping- La Brea                          | 8/6/2015                | 10/5/2015              | 4/2/2016     | 6/1/2016             |
| Irrigation and Landscape Planting- MLK                  | 2/4/2017                | 4/5/2017               | 10/2/2017    | 12/1/2017            |
| Landscape- West Park and Ride                           | 8/6/2015                | 10/5/2015              | 4/2/2016     | 6/1/2016             |
| Traffic Signal Controllers- Market and Florence         | 9/3/2014                | 11/2/2014              | 5/1/2015     | 6/30/2015            |
| Traffic Signal Controllers- Locust Bus Bay and Florence | 9/10/2014               | 11/9/2014              | 5/8/2015     | 7/7/2015             |
| Traffic Signal Controllers- 111th and Aviation          | 3/11/2015               | 5/10/2015              | 11/6/2015    | 1/5/2016             |
| Traffic Signal Controllers- Imperial and Aviation       | 11/26/2015              | 1/25/2015              | 7/23/2016    | 9/21/2016            |
| Traffic Signal Controllers- Florence and High           | 4/17/2015               | 6/16/2015              | 12/13/2015   | 2/11/2016            |
| Traffic Signal Controllers- Centinela and Florence      | 5/8/2015                | 7/7/2015               | 1/3/2016     | 3/3/2016             |
| Traffic Signal Controllers- West and 71st               | 5/8/2015                | 7/7/2015               | 1/3/2016     | 3/3/2016             |
| Traffic Signal Controllers- Hindry and Florence         | 1/1/2016                | 3/1/2016               | 8/28/2016    | 10/27/2016           |
| Traffic Signal Controllers- La Brea and Florence        | 2/6/2016                | 4/6/2016               | 10/3/2016    | 12/2/2016            |
| Traffic Signal Controllers- 104th and Aviation          | 9/30/2015               | 11/29/2015             | 5/27/2016    | 7/26/2016            |
| Traffic Signal Controllers- Oak and Florence            | 3/5/2015                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| Traffic Signal Controllers- Cedar and Florence          | 3/5/2015                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| Traffic Signal Controllers- Eucalyptus and Florence     | 3/5/2015                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| Traffic Signal Controllers- Ivy Florence and Cable      | 3/5/2015                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| Traffic Signal Controllers-Century and Aviation         | 3/5/2015                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| Traffic Signal Controllers- La Cienega and Florence     | 8/1/2016                | 5/4/2015               | 10/31/2015   | 12/30/2015           |
| SF6 Gas Insulated Switches * Metro top/bottom           | 3/13/2015               | 6/1/2015               | 8/2/2016     | 10/1/2016            |

## **CRITICAL PATH NARRATIVE**

### **Critical Path:**

The longest path to project substantial completion begins with final design of the Design/Build Contract #C0988 Crenshaw/LAX Transit Corridor.

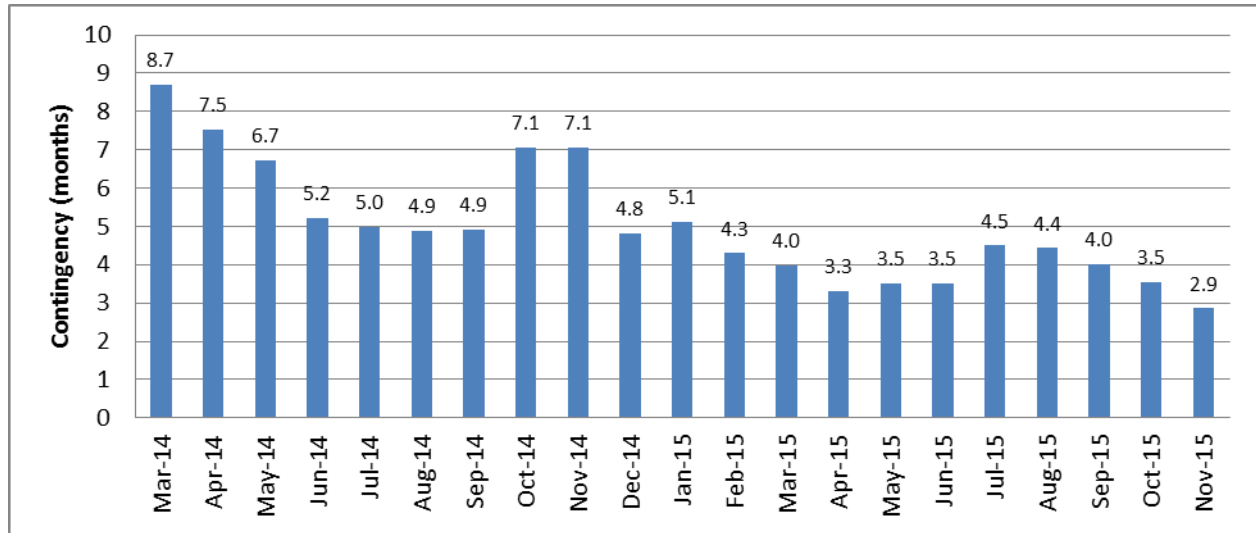
The most critical and longest path starts with the Expo Station support of excavation (SOE) and decking, excavation & invert construction; TBM mining operation; cross passage excavation, tunnel invert and walkway construction; track and system installation, while the MLK station SOE and decking, excavation & invert construction, OCS/Traction power and Train Control/Communication System installation follow closely as the secondary critical path.

However, WSCC in the September 2015 schedule update submittal shifted the critical longest path from Expo Station work to Park Mesa work. In November 2015 Schedule update WCSS reported 232 calendar days delay at Park Mesa. Metro is reviewing for correctness of the contractor's schedule update and analyzing the schedule slip as forecast by the Design-Builder. Metro did not include the Park Mesa potential delay in the Project's Master Schedule.

Critical work concludes with phase I systems integration testing by the C0988 contractor, phase 2 systems integration testing by MTA and then pre-revenue operations.

The current critical path indicates Milestone 1 - Contract Substantial Completion date is March 5, 2019, which is 143 calendar days behind the current contract date.

## PROJECT SCHEDULE CONTINGENCY DRAWDOWN



## PROJECT SCHEDULE CONTINGENCY DRAWDOWN ANALYSIS

The project schedule contingency drawdown is based on the revenue service date of October 30, 2019. The change of LOP Contingency is due to design-builder reforecast of their substantial completion milestone.

Metro this month reduced the forecast of the available project contingency by 21 calendar days. This 21 calendar days is the delay in the contractor's schedule for the Expo/Crenshaw station construction efforts which has been the critical path since the beginning of the design-build contract (September 2013).

The total contingency remaining is 2.9 months.

## PROJECT COST STATUS

| UNITS IN DOLLARS |                                                          |                      |                |                      |                   |                      |                   |                    |                  |                      |                                   |
|------------------|----------------------------------------------------------|----------------------|----------------|----------------------|-------------------|----------------------|-------------------|--------------------|------------------|----------------------|-----------------------------------|
| SCC CODE         | DESCRIPTION                                              | ORIGINAL BUDGET      | CURRENT BUDGET |                      | COMMITMENTS       |                      | EXPENDITURES      |                    | CURRENT FORECAST |                      | CURRENT BUDGET/ FORECAST VARIANCE |
|                  |                                                          |                      | PERIOD         | TO DATE              | PERIOD            | TO DATE              | PERIOD            | TO DATE            | PERIOD           | TO DATE              |                                   |
| 10               | GUIDEWAYS                                                | 471,335,000          | -              | 452,500,001          | 659,101           | 443,195,043          | 10,718,443        | 98,011,094         | 0                | 450,354,375          | (2,145,626)                       |
| 20               | STATIONS, STOPS, TERMINALS, INTERMODAL                   | 153,906,000          | -              | 316,050,000          | -                 | 301,494,334          | 3,577,064         | 113,989,426        | -                | 315,050,000          | (1,000,000)                       |
| 30               | SUPPORT FACILITIES (SOUTHWEST YARD)                      | 66,673,000           | -              | 73,245,544           | -                 | 70,713,923           | 357,355           | 3,764,307          | -                | 71,164,000           | (2,081,544)                       |
| 40               | SITEWORK/SPECIAL CONDITIONS                              | 235,576,000          | -              | 348,565,999          | 658,042           | 360,399,106          | 3,077,724         | 228,530,386        | 134,864          | 372,456,872          | 23,890,873                        |
| 50               | SYSTEMS                                                  | 125,132,000          | -              | 169,311,000          | 1,191,161         | 152,437,255          | 364,652           | 1,641,993          | -                | 169,436,000          | 125,000                           |
|                  | <b>CONSTRUCTION SUBTOTAL (10-50)</b>                     | <b>1,052,622,000</b> | <b>-</b>       | <b>1,359,672,544</b> | <b>2,508,304</b>  | <b>1,328,239,660</b> | <b>18,095,237</b> | <b>445,937,206</b> | <b>134,864</b>   | <b>1,378,461,247</b> | <b>18,788,703</b>                 |
| 60               | RIGHT-OF-WAY                                             | 132,294,000          | -              | 127,400,000          | 35,000            | 113,573,301          | 79,340            | 109,578,767        | -                | 127,490,000          | 90,000                            |
| 70               | VEHICLES / BUSES                                         | 87,780,000           | -              | 82,100,000           | -                 | 82,050,901           | -                 | 11,452,422         | -                | 82,100,000           | -                                 |
| 80               | PROFESSIONAL SERVICES                                    | 273,147,000          | -              | 300,093,178          | 15,722,023        | 244,945,072          | 5,754,114         | 203,101,398        | 1,746,116        | 335,280,971          | 35,187,793                        |
|                  | <b>SUBTOTAL (10-80)</b>                                  | <b>1,545,843,000</b> | <b>-</b>       | <b>1,869,265,722</b> | <b>18,265,327</b> | <b>1,768,808,933</b> | <b>23,928,691</b> | <b>770,069,793</b> | <b>1,880,980</b> | <b>1,923,332,218</b> | <b>54,066,496</b>                 |
| 90               | UNALLOCATED CONTINGENCY                                  | 177,157,000          | -              | 162,734,278          | -                 | -                    | -                 | -                  | (1,880,980)      | 108,667,782          | (54,066,496)                      |
| 100              | FINANCE CHARGES                                          | -                    | -              | -                    | -                 | -                    | -                 | -                  | -                | -                    | -                                 |
|                  | <b>TOTAL PROJECT 865512 (10-100)</b>                     | <b>1,723,000,000</b> | <b>-</b>       | <b>2,032,000,000</b> | <b>18,265,327</b> | <b>1,768,808,933</b> | <b>23,928,691</b> | <b>770,069,793</b> | <b>-</b>         | <b>2,032,000,000</b> | <b>-</b>                          |
|                  | ENVIRONMENTAL/PLANNING - 405512                          | 5,526,150            | -              | 5,526,150            | -                 | 5,526,150            | -                 | 5,526,150          | -                | 5,526,150            | -                                 |
|                  | ENVIRONMENTAL/PLANNING - 465512                          | 20,473,850           | -              | 20,473,850           | -                 | 20,023,237           | -                 | 20,023,237         | -                | 20,473,850           | -                                 |
|                  | <b>TOTAL PROJECTS 405512 &amp; 465512 (ENV / PLAN'G)</b> | <b>26,000,000</b>    | <b>-</b>       | <b>26,000,000</b>    | <b>-</b>          | <b>25,549,388</b>    | <b>-</b>          | <b>25,549,388</b>  | <b>-</b>         | <b>26,000,000</b>    | <b>-</b>                          |
|                  | <b>TOTAL PROJECTS 405512, 465512 &amp; 865512</b>        | <b>1,749,000,000</b> | <b>-</b>       | <b>2,058,000,000</b> | <b>18,265,327</b> | <b>1,794,358,321</b> | <b>23,928,691</b> | <b>795,619,181</b> | <b>-</b>         | <b>2,058,000,000</b> | <b>-</b>                          |

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 28, 2015.

## PROJECT COST ANALYSIS

The project numbers 405512, 465512, 865512, and 860003 are internal to Metro and are used to differentiate between environmental/planning and construction components of the project.

### Original Budget:

The Board in October 2011 established the Life-of-Project (LOP) budget of \$1,749 million for the Crenshaw/LAX Transit Project.

### Current Budget:

There have been two increases in the LOP to date:

- The Board in December 2012 approved an increase of \$13.9 million for a new LOP total of \$1,762.9 million. The Unallocated Contingency Standard Cost Category (SCC) 90 budget line item was increased by the \$13.9 million for a new total of \$191.1 million.
- The Board in June 2013 approved an increase of \$295.1 million for a new LOP total of \$2,058.0 million. The total increase was based on two actions:
  - Increase LOP base project scope in the amount of \$160.1 million, and
  - Increase LOP to include the options for Crenshaw/Vernon Station (Leimert Park Village) and Florence/Hindry Station in the amount of \$135.0 million.

The Board during May approved an increase in the amount of funding that the Crenshaw/LAX project is contributing toward the total cost of the Southwestern Yard Project. An additional \$10.8 million is required to be funded by drawdown from the Unallocated Contingency Current Budget SCC 90 and added to the Southwestern Yard Current Budget SCC 30. The current budget includes the 49% cost allocation share that the project is responsible for paying which includes funding of the design and construction for the Southwestern Yard. This amount is revised to

## **PROJECT COST ANALYSIS (Continued)**

\$150.2 million out of a new total of \$307.2 million adopted by the Board. The \$150.2 million is spread among the SCC 30, 40, 60, 80 and 90 in the Cost Report by Element table above.

A project cost status chart depicting the adopted budget for Southwestern Yard Project is included this month in the appendix section of this report.

The amount of funding available for the Crenshaw/LAX Transit Project, excluding the Southwestern Yard Project \$150.2 million allocation and Environmental/Planning budget of \$26.0 million, has been revised to \$1,881.8 million.

### **Current Forecast:**

The total project current forecast is \$2,058 million.

### **Commitments:**

The commitments are cumulative through November 28, 2015. The total commitments increased by \$18.3 million this period primarily due to the following:

- SCC-10 (Guideways) has increased by \$0.7 due to executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor
- SCC-40 (Sitework and Special Conditions) has increased by \$0.7 million primarily due to executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor, third party utility relocation scope of work with Cable Engineering Services and Crown Castle NG Networks Inc. The total commitment of \$360.4 million includes \$37.7 million for the Southwestern Yard 49% allocation.
- SCC-50 (Systems) has increased by \$1.2 million due to executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor. The total commitment of \$152.4 million includes \$33 million for the Southwestern Yard 49% allocation.
- SCC-80 (Professional Services) has increased of \$15.7 due to executed contract modifications with Engineering and Design Contract E0117, Metro project administration, non-federally funded community relation services, construction management support services contract MC069, legal services, community relation services, material lab testing and environmental consultant services. The total commitment of \$224.9 million includes \$16.4 million for the Southwestern Yard 49% allocation.

The \$1,794.4 million in commitments to date represents 87.2% of the current budget.

### **Expenditures:**

The expenditures are cumulative through November 28, 2015. The total expenditures increased by \$23.9 million this period due to the following:

- SCC-10 (Guideways) has increased by \$10.7 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$3.6 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.

## PROJECT COST ANALYSIS (Continued)

- SCC-30 (Southwestern Yard) has increased by \$0.3 million for costs associated with Contract C0991 Division 16: Southwestern Yard (Design/Build) and third party utility relocation scope of work with HHS Construction, Inc.
- SCC-40 (Sitework and Special Conditions) has increased by \$3.1 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and third party utility relocation scope of work with Cable Engineering Services. The total expenditure of \$228.5 million includes \$3.8 million for the Southwestern Yard 49% allocation.
- SCC-50 (Systems) has increased by \$0.4 million due executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-60 (Right-Of-Way) has decreased \$0.1 million for costs associated with real estate relocation. The total expenditure of \$109.6 million includes \$52.5 million for the Southwestern Yard 49% allocation.
- SCC-80 (Professional Services) has increased by \$5.7 million for costs associated with Engineering and Design Contract E0117, Contract C0988 Crenshaw/LAX Transit Corridor , Contract C0991 Division 16: Southwestern Yard (Design/Build), Metro project administration, IPMO field office lease and utilities, non-federal funded community relation services, construction management support services, legal services, third party coordination by Los Angeles City Departments, project management assistance support, community relation, labor compliance monitoring and environmental consultant services. The total expenditure of \$203.1 million includes \$5.1 million for the Southwestern Yard 49% allocation.

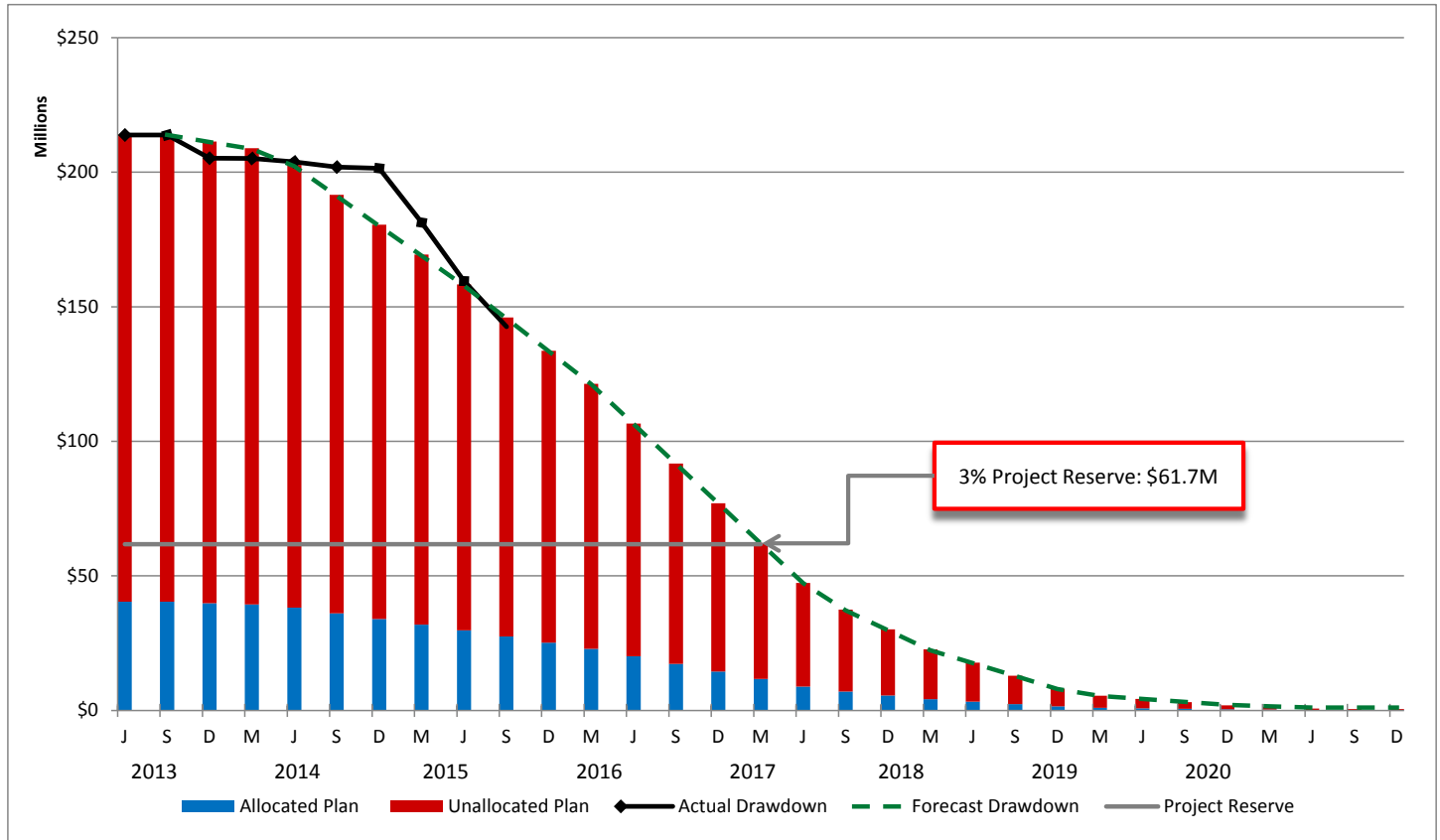
The \$795.6 million in expenditures to date represents 38.6% of the current budget.

### Non-Crenshaw/LAX Transit Project Funded Scope of Work

The costs shown in the table below are not part of Crenshaw/LAX Transit Project costs but are funded by other Metro projects using the services of the design-builder (Contract C0988).

| C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK |                  |                |                  |             |                  |              |                  |                  |                  |                   |
|-------------------------------------------------------------|------------------|----------------|------------------|-------------|------------------|--------------|------------------|------------------|------------------|-------------------|
| DESCRIPTION                                                 | ORIGINAL BUDGET  | CURRENT BUDGET |                  | COMMITMENTS |                  | EXPENDITURES |                  | CURRENT FORECAST |                  | FORECAST VARIANCE |
|                                                             |                  | PERIOD         | TO DATE          | PERIOD      | TO DATE          | PERIOD       | TO DATE          | PERIOD           | TO DATE          |                   |
| 405556 SYSTEMWIDE TRANSIT PLANNING                          | 139,236          | -              | 139,236          | -           | -                | -            | -                | -                | 139,236          | -                 |
| 210090 FARE GATE PROJECT                                    | 2,310,000        | (66,254)       | 2,482,746        | -           | 2,482,746        | -            | 172,746          | (66,254)         | 2,482,746        | -                 |
| 460303 AIRPORT METRO CONNECTOR                              | 366,400          | 853,142        | 1,860,920        | -           | 1,025,112        | -            | 1,007,778        | 1,974,888        | 3,000,000        | 1,139,080         |
| 500013 C/LAX LAWA SCOPE OF WORK                             | 1,575,362        | -              | 1,575,362        | -           | 531,125          | -            | 228,387          | -                | 1,575,362        | -                 |
| <b>TOTAL</b>                                                | <b>4,390,998</b> | <b>786,888</b> | <b>6,058,264</b> | <b>-</b>    | <b>4,038,983</b> | <b>-</b>     | <b>1,408,911</b> | <b>1,908,634</b> | <b>7,197,344</b> | <b>1,139,080</b>  |

## PROJECT COST CONTINGENCY DRAWDOWN



Through 28-Nov-2015

## PROJECT COST CONTINGENCY DRAWDOWN ANALYSIS

The project current budget of \$2,058,000,000 includes an “unallocated contingency” amount of \$173,500,000 which is included as a separate Standard Cost Category (SCC) element. Also included within the current budget is an “allocated contingency” of \$40,366,792 which is allocated, where applicable, to specific contracts within each SCC element. The allocated contingency is not broken out separately in the current budget, as this amount covers anticipated but unknown contract modifications issued by Metro. The total project cost contingency is \$213,866,792 or 10.4%.

Included in the project contingency drawdown is a 3% project reserve line. Metro’s Board is to be notified when it becomes necessary to drawdown contingency below the project reserve threshold to cover project costs. This notification request was adopted by the Metro Board of Directors in September 2012.

The project contingency drawdown curve is based on an October 2019 revenue service date.

## **PROJECT CONTINGENCY DRAWDOWN ANALYSIS (Continued)**

There has been a cumulative drawdown of \$75,187,426 or 35.2% for both allocated and unallocated contingency through November 2015.

- The unallocated contingency was decreased by \$1,880,980 due to executed contract modifications for the design-build contract C0988 Crenshaw/LAX Transit Corridor, environmental contract EN078 and community relations services contracts.
- Allocated contingency was decreased by \$265,461 due to executed contract modifications for the design-build contract C0988 Crenshaw/LAX Transit Corridor.

| <b>PROJECT COST CONTINGENCY (through 28-Nov-2015)</b> |                                     |                     |                    |                     |                                        |
|-------------------------------------------------------|-------------------------------------|---------------------|--------------------|---------------------|----------------------------------------|
| <b>UNITS IN DOLLARS</b>                               |                                     |                     |                    |                     |                                        |
|                                                       | Original<br>Contingency<br>(Budget) | Previous<br>Period  | Current<br>Period  | To-Date             | Remaining<br>Contingency<br>(Forecast) |
| Unallocated Contingency                               | 173,500,000                         | (62,951,238)        | (1,880,980)        | (64,832,218)        | 108,667,782                            |
| Allocated Contingency                                 | 40,366,792                          | (10,089,747)        | (265,461)          | (10,355,208)        | 30,011,584                             |
| <b>Total Contingency</b>                              | <b>213,866,792</b>                  | <b>(73,040,985)</b> | <b>(2,146,441)</b> | <b>(75,187,426)</b> | <b>138,679,366</b>                     |

## **DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS**

### **Contract C0988 Crenshaw/LAX Transit Corridor Design-Build**

(Reported Data as of October 15, 2015)

- DBE Goal – Design 20%
- Current DBE Commitment \$20,232,929 (20.81%)
- Current DBE Participation \$22,991,571 (25.22%)
- Twenty (20) Design subcontractors have been identified to-date
  
- DBE Goal – Construction 20%
- DBE Commitment \$236,116,671 (20%)
- Current DBE Commitment \$107,393,492 (9.11%)
- Current DBE Participation \$86,684,912 (25.48%)
- Sixty-three (63) Construction subcontractors have been identified to-date.

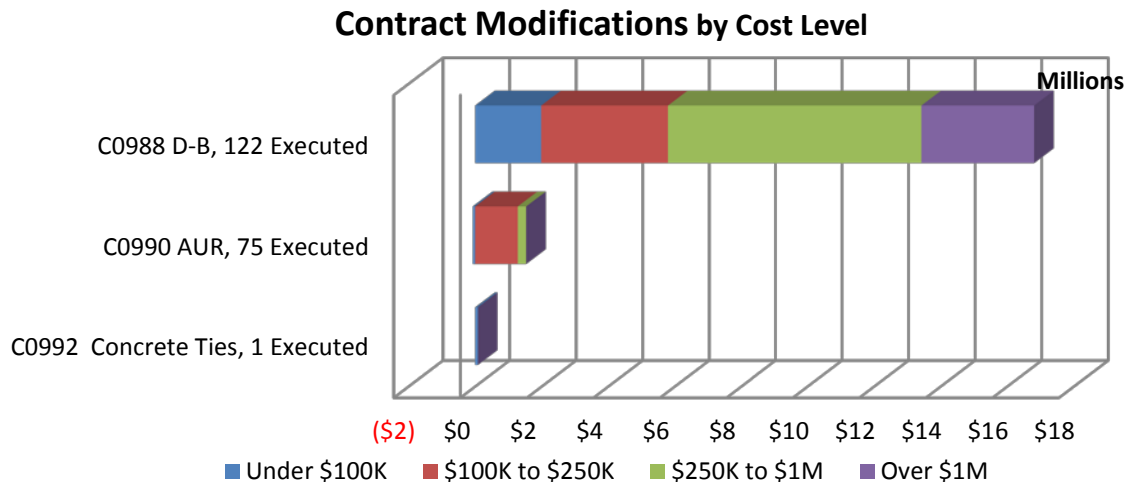
## **PROJECT LABOR AGREEMENTS (PLA) STATUS**

### **Contract C0988 Crenshaw/LAX Transit Corridor Design-Build**

(Reported Data as of October 17, 2015)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 59.33%
  
- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 17.76%
  
- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 10.31%

## SUMMARY OF CONTRACT MODIFICATIONS



|                      | C0988                | C0990               | C0992            |
|----------------------|----------------------|---------------------|------------------|
|                      | 122 Executed         | 75 Executed         | 1 Executed       |
| Under \$100K         | \$ 1,983,727         | \$ (70,251)         | \$ 81,738        |
| \$100k to \$250K     | \$ 3,810,137         | \$ 1,280,184        | \$ -             |
| \$250K to \$1M       | \$ 7,624,632         | \$ 251,864          | \$ -             |
| Over \$1M            | \$ 3,386,736         | \$ -                | \$ -             |
| <b>Total</b>         | <b>\$ 16,805,233</b> | <b>\$ 1,461,797</b> | <b>\$ 81,738</b> |
| <b>% of Contract</b> | <b>1.32%</b>         | <b>18.68%</b>       | <b>3.78%</b>     |

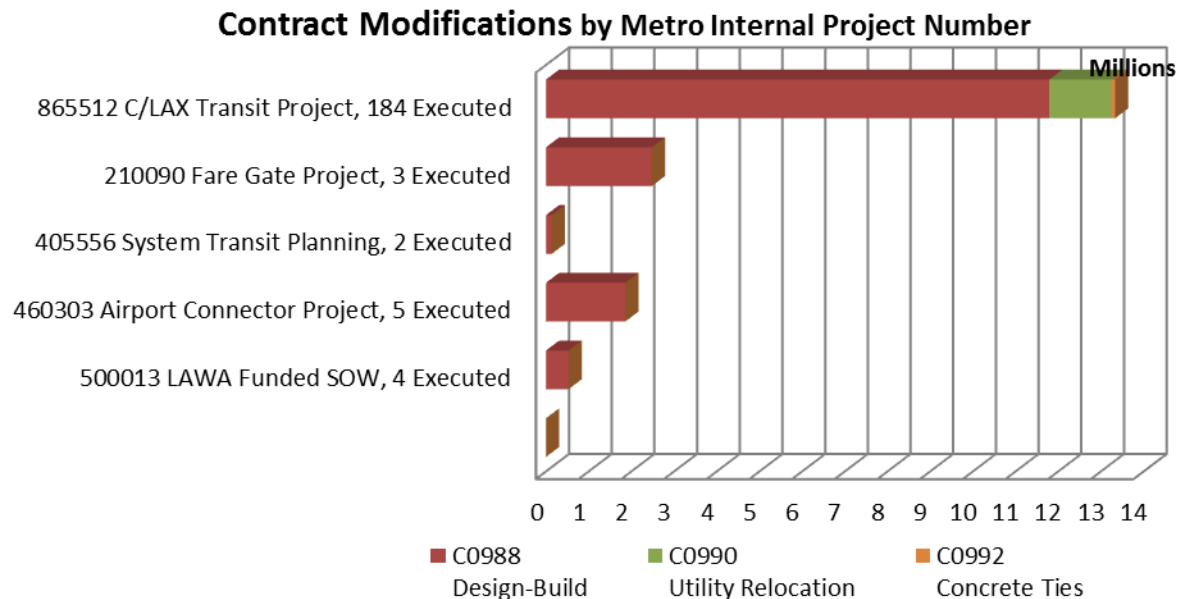
Percent of Contract equals the total Change value divided by the Contract Award amount

One hundred and twenty two (122) changes with a total value of \$16.81 million have been executed since execution of Contract C0988. There are additional eight (8) changes with a total value of \$1.57 million pending the administrative approval process.

Seventy-five (75) changes with a total value of \$1.46 million have been executed since execution of Contract C0990.

One change with a value of \$81,738 has also been executed since execution of Contract C0992.

## SUMMARY OF CONTRACT MODIFICATIONS



|                 | 865512        | 210090       | 405556     | 460303       | 500013     |
|-----------------|---------------|--------------|------------|--------------|------------|
|                 | Executed      | Executed     | Executed   | Executed     | Executed   |
| <b>C0988</b>    | 108           | 3            | 2          | 5            | 4          |
| <b>C0998 \$</b> | \$ 11,791,115 | \$ 2,482,746 | \$ 139,236 | \$ 1,860,920 | \$ 531,216 |
| <b>C0990</b>    | 75            | 0            | 0          | 0            | 0          |
| <b>C0990 \$</b> | \$ 1,461,797  | \$ -         | \$ -       | \$ -         | \$ -       |
| <b>C0992</b>    | 1             | 0            | 0          | 0            | 0          |
| <b>C0992 \$</b> | \$ 81,738     | \$ -         | \$ -       | \$ -         | \$ -       |
| <b>Total</b>    | 184           | 3            | 2          | 5            | 4          |
| <b>Total \$</b> | \$ 13,334,650 | \$ 2,482,746 | \$ 139,236 | \$ 1,860,920 | \$ 531,216 |

One hundred and eighty four (184) changes with a total value of \$13.33 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are additional eight (8) changes with a total value of \$1.57 million pending the administrative approval process.

Three (3) changes with a value of \$2.48 million have been executed for Project 210090 Fare Gate Project.

Two (2) changes with a value of \$139,236 have been executed for Project 405556 System Transit Planning.

Five (5) changes with a value of \$1.86 million have been executed for Project 460303 Airport Connector Project.

Four (4) changes with a total value of \$0.53 million have been executed for Project 500013 Crenshaw/LAX LAWA Statement of Work.

**FINANCIAL/GRANT STATUS**

\$ in millions

| SOURCE                            | (A)<br>ORIGINAL<br>BUDGET | (B)<br>TOTAL<br>FUNDS<br>ANTICIPATED | (C)<br>TOTAL<br>FUNDS<br>AVAILABLE | (D)<br>COMMITMENTS<br>\$ | (D/B)<br>%   | (E)<br>EXPENDITURES<br>\$ | (E/B)<br>%   | (F)<br>BILLED to FUNDING<br>SOURCE<br>\$ | (F/B)<br>%   |
|-----------------------------------|---------------------------|--------------------------------------|------------------------------------|--------------------------|--------------|---------------------------|--------------|------------------------------------------|--------------|
|                                   |                           |                                      |                                    |                          |              |                           |              |                                          |              |
| FEDERAL - CMAQ                    | 68.2                      | 54.0                                 | 54.0                               | 54.0                     | 100%         | 46.0                      | 85%          | 46.0                                     | 85%          |
| FEDERAL - SECTION 5309 BUS CAPT   | 8.6                       | 8.6                                  | 8.6                                | 8.6                      | 100%         | 8.4                       | 98%          | 8.4                                      | 98%          |
| FEDERAL - REGIONAL STP            | 20.0                      | 120.9                                | 73.7                               | 120.9                    | 100%         | 73.7                      | 61%          | 38.4                                     | 32%          |
| FEDERAL - ALTERNATIVE ANALYSIS    | 1.2                       | 1.2                                  | 1.2                                | 1.2                      | 100%         | 1.2                       | 100%         | 1.2                                      | 100%         |
| FEDERAL - TIGER II                | 0.0                       | 13.9                                 | 13.9                               | 13.9                     | 100%         | 13.9                      | 100%         | 13.9                                     | 100%         |
| FEDERAL REGIONAL IMPROV PROG      | 34.3                      | 34.4                                 | 0.0                                | 34.4                     | 100%         | 0.0                       | 0%           | 0.0                                      | 0%           |
| STATE REGIONAL IMPROVEMENT PROG   | 2.2                       | 2.2                                  | 2.2                                | 2.2                      | 100%         | 2.2                       | 100%         | 2.2                                      | 100%         |
| STATE PPM                         | 0.178                     | 0.178                                | 0.178                              | 0.178                    | 100%         | 0.178                     | 100%         | 0.178                                    | 100%         |
| STATE PROP 1B PTMISEA             | 201.2                     | 128.6                                | 128.6                              | 128.6                    | 100%         | 128.6                     | 100%         | 128.6                                    | 100%         |
| STATE PROP 1 B LOCAL PARTNER PROG | 0.0                       | 49.5                                 | 49.5                               | 49.5                     | 100%         | 49.5                      | 100%         | 49.5                                     | 100%         |
| MEASURE R - TIFIA LOAN            | 545.9                     | 545.9                                | 331.1                              | 545.9                    | 100%         | 241.4                     | 44%          | 241.4                                    | 44%          |
| MEASURE R                         | 661.1                     | 661.1                                | 502.8                              | 661.1                    | 100%         | 214.0                     | 32%          | 172.9                                    | 26%          |
| OTHER FUNDS*                      | 52.4                      | 187.5                                | 13.0                               | 13.0                     | 0%           | 8.0                       | 4%           | 8.0                                      | 4%           |
| PROP C 25% HIGHWAY                | 148.9                     | 189.5                                | 3.7                                | 110.5                    | 58%          | 3.7                       | 2%           | 3.7                                      | 2%           |
| PROP C 40% DISCRETIONARY          | 0.0                       | 10.2                                 | 0.0                                | 0.0                      | 0%           | 0.0                       | 0%           | 0.0                                      | 0%           |
| PROP A 35% RAIL CAPITAL           | 4.8                       | 50.4                                 | 4.9                                | 50.4                     | 0%           | 4.9                       | 0%           | 4.9                                      | 10%          |
| <b>TOTAL</b>                      | <b>1,749.0</b>            | <b>2,058.0</b>                       | <b>1,187.3</b>                     | <b>1,794.4</b>           | <b>87.2%</b> | <b>795.6</b>              | <b>38.7%</b> | <b>719.2</b>                             | <b>34.1%</b> |

NOTE: Expenditures are cumulative through November 2015.

Original Budget based on Board approved October 2011 Funding/Expenditure Plan

Total Funds Anticipated based on Board approved June 2013 Revised Funding

\* Other funds include: Local Agency Funds (\$107.470), CNG Tax Credit (\$54.000) and 3rd Party Lease Contingency (\$26.000)

## **STATUS OF FUNDS ANTICIPATED**

**FEDERAL – CMAQ:** Metro submitted to FTA in October 2013 a draft grant application of \$30M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant was approved in December 2014. Funds are available for drawdown. Metro submitted to FTA in January 2015 a grant application of \$24M for approval. Grant was approved on September 23, 2015. Funds are available for drawdown.

**FEDERAL – RSTP:** FTA approved a grant of \$45M in May 2014 to fund the project rail cars. Funds are available for drawdown. Metro submitted to FTA in October 2013 a draft grant application of \$28.2M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant was approved in December 2014. Funds are available for drawdown.

**STATE PROP 1B – PTMISEA:** An allocation request for \$12M was approved in May 2012 and funds are available for drawdown. In March 2013, allocation requests of \$11.4M and \$98.9M were submitted to Caltrans. The \$11.4M allocation request was approved in June 2013. Funds are available for drawdown. The \$98.9M allocation request was approved on February 6, 2014. Funds are available for drawdown. A new allocation request of \$6.170M was submitted in June 2014 to Caltrans for approval. The allocation request was approved on February 4, 2015. Funds are available for drawdown.

**STATE PROP 1B LP:** An allocation request of \$49.5M was submitted in April 2013 and approved in July 2013. The allocation request was executed by Caltrans in December 2013. Funds are available for drawdown.

**MEASURE R – TIFIA LOAN (Transportation Infrastructure Finance & Innovation Act):** Application for a loan of \$545.9M was submitted to the US Department of Transportation (DOT) in November 2011. Loan agreement was executed on September 12, 2012. *A total of \$331.1M has been disbursed through November 2015.*

**MEASURE R:** \$502.753M has been allocated to the project through FY2016. Funds are available for drawdown.

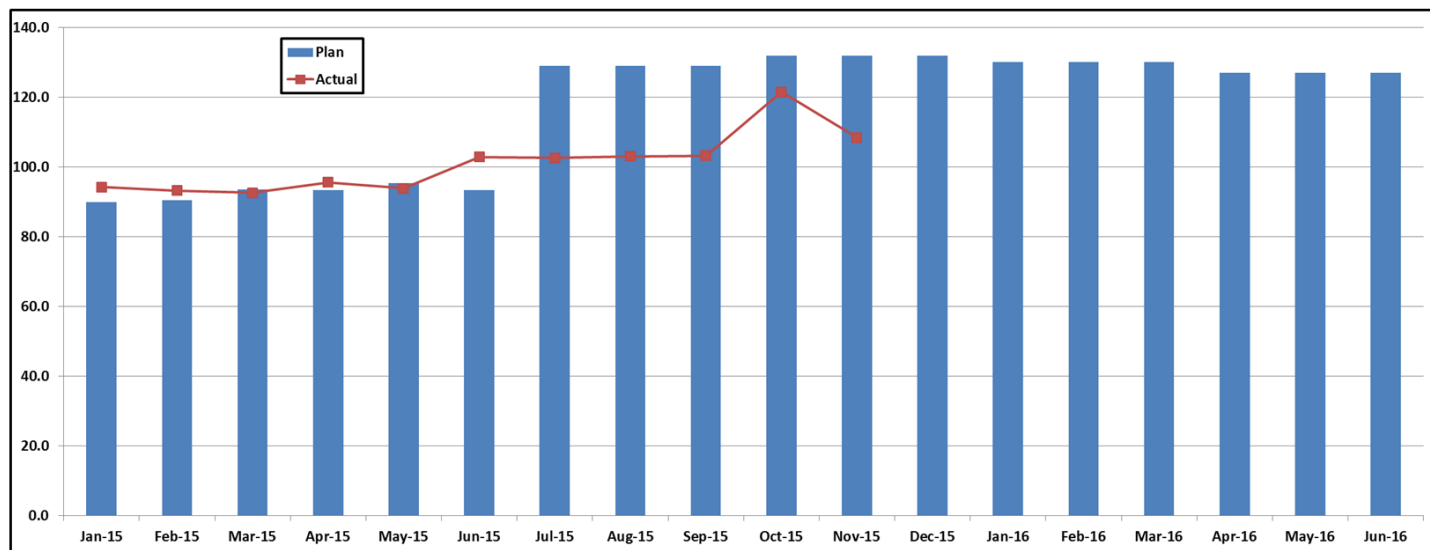
**OTHER FUNDS:** City of LA: Based on the funding agreement between Metro and the City of LA. \$13M is available for drawdown through FY2016.

**PROP C 25% HIGHWAY:** \$3.8M has been allocated to the project based on the June 2014 TIFIA Financial Model Funding Plan. Funds are available for drawdown.

**PROP A 35% RAIL CAPITAL:** \$4.8M has been allocated to the project based on the June 2014 TIFIA Financial Model.

## STAFFING STATUS

### Total Project Staffing – FTES



#### Notes:

1. FTE = Full Time Equivalent
2. Staffing levels include the Southwestern Yard Project.
3. Actual staffing levels are cumulative through November 2015.

## TOTAL PROJECT STAFFING

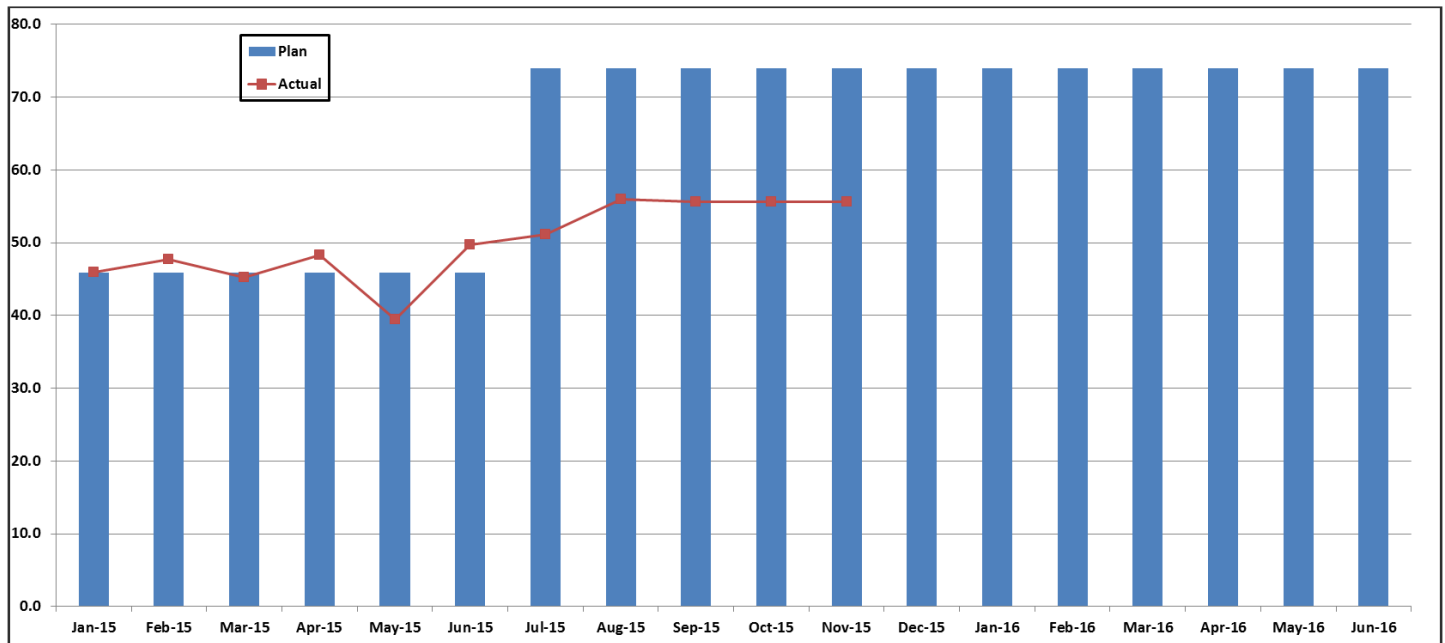
With the start of the 2016 fiscal year in July; the staffing for the Southwestern Yard Project is also included along with the Crenshaw/LAX Project for Metro and the Construction Management and Engineering Services consultants.

The planned staffing includes 11 new positions that were authorized by the Board in July 2015. Actual staffing will continue to be less than plan until new positions are filled throughout fiscal year 2016 and planned construction work increases with corresponding increases in staffing requirements.

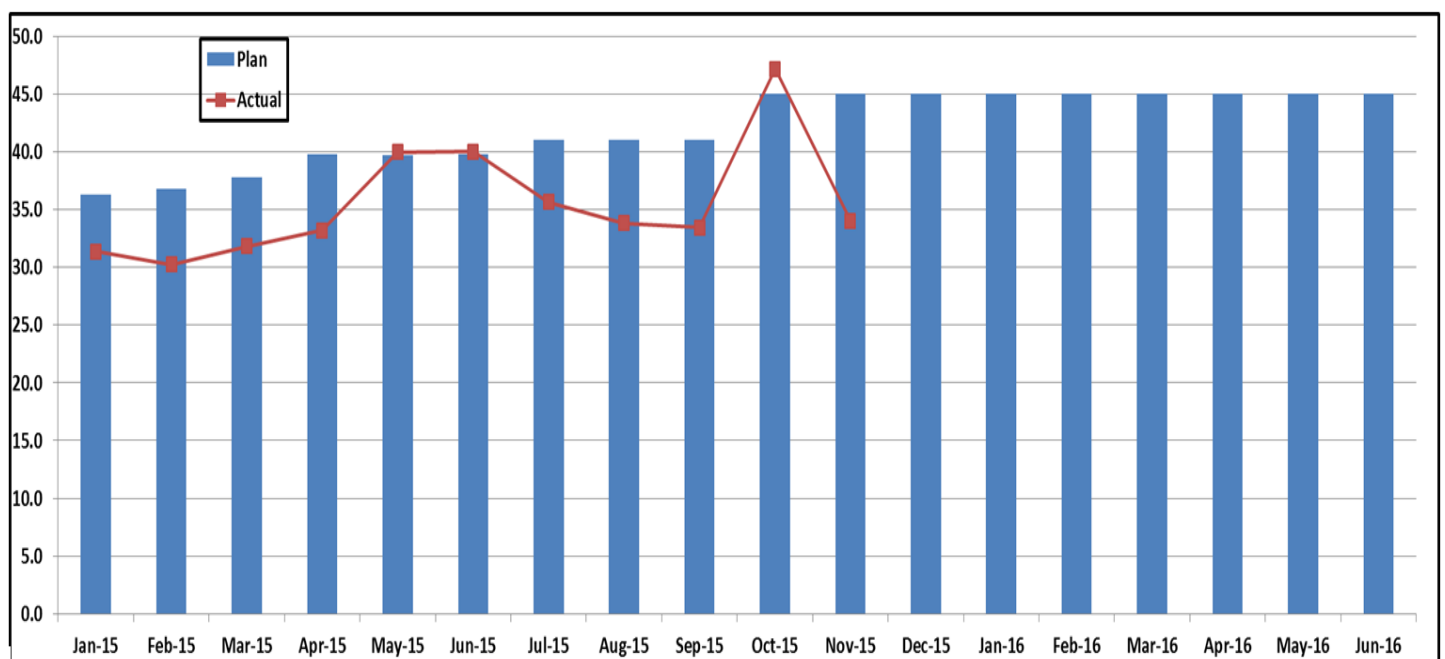
The next three charts show actual staffing versus planned staffing for the three major project participants.

## STAFFING STATUS (Continued)

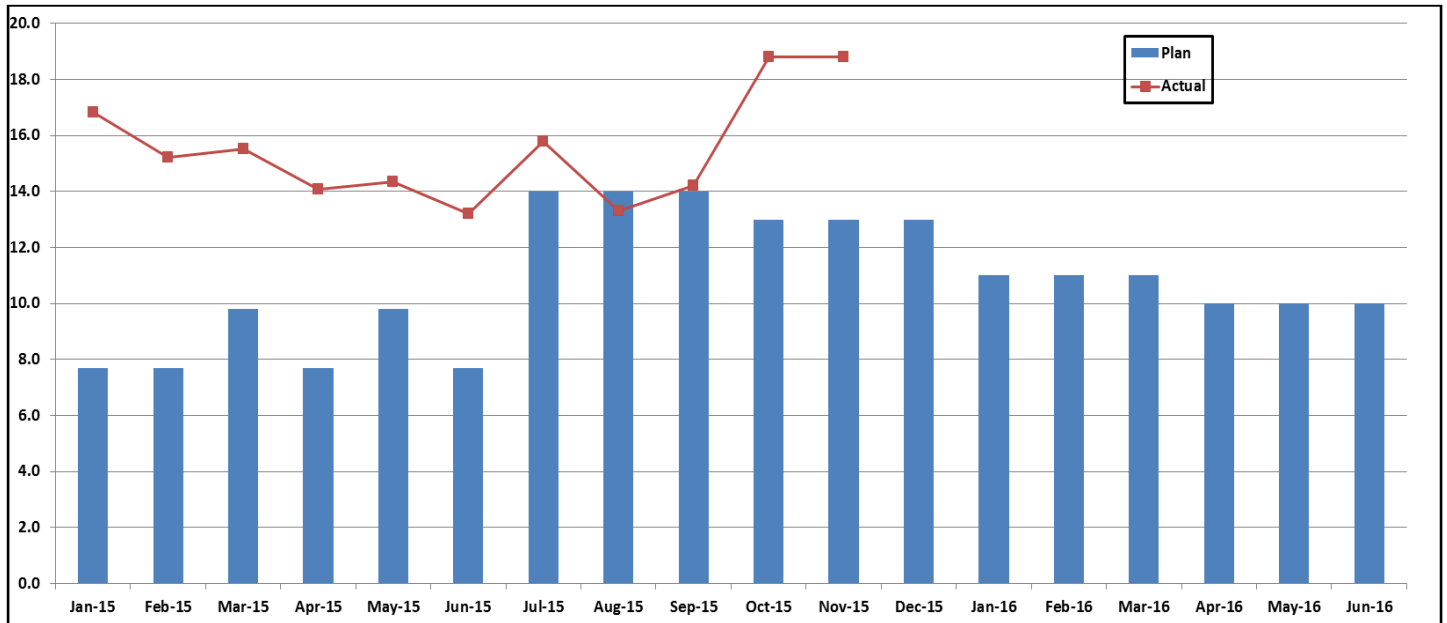
### METRO STAFFING – FTES



## CONSTRUCTION MANAGEMENT SUPPORT SERVICES CONSULTANT – FTES



**STAFFING STATUS (Continued)**  
**ENGINEERING SERVICES CONSULTANT – FTES**



## REAL ESTATE STATUS

| Contract No.                                    | Number of Parcels | Certified | Decertified | Appraisals Complete | Offers Made | Agreements Signed | Condemnations Filed | Relocations Complete | Parcels Available to WSCC |
|-------------------------------------------------|-------------------|-----------|-------------|---------------------|-------------|-------------------|---------------------|----------------------|---------------------------|
| <b>C0988 C/LAX Transit Corridor (D-B):</b>      |                   |           |             |                     |             |                   |                     |                      |                           |
| <b>Crenshaw Subdivision</b>                     |                   |           |             |                     |             |                   |                     |                      |                           |
| Full Takes                                      | 12                | 12        |             | 12                  | 12          | 7                 | 5                   | 12                   | 12                        |
| Part Takes (PT or SE)                           | 10                | 9         | 1           | 9                   | 9           | 2                 | 6                   |                      | 9                         |
| TCE                                             | 10                | 10        |             | 10                  | 10          | 1                 | 8                   |                      | 10                        |
| <b>Subtotal Parcels</b>                         | <b>32</b>         | <b>31</b> | <b>1</b>    | <b>31</b>           | <b>31</b>   | <b>10</b>         | <b>19</b>           | <b>12</b>            | <b>31</b>                 |
| <b>Harbor Subdivision</b>                       |                   |           |             |                     |             |                   |                     |                      |                           |
| Full Takes                                      | 16                | 14        |             | 15                  | 15          | 8                 | 7                   | 12                   | 15                        |
| Part Takes (PT or SE)                           | 18                | 17        | 2           | 18                  | 16          | 7                 | 9                   |                      | 12                        |
| TCE                                             | 3                 | 2         | 1           | 2                   | 2           |                   | 2                   | 1                    | 2                         |
| <b>Subtotal Parcels</b>                         | <b>37</b>         | <b>33</b> | <b>3</b>    | <b>35</b>           | <b>33</b>   | <b>15</b>         | <b>18</b>           | <b>13</b>            | <b>29</b>                 |
| <b>Total CR/HS Parcels:</b>                     | <b>69</b>         | <b>64</b> | <b>4</b>    | <b>66</b>           | <b>64</b>   | <b>23</b>         | <b>37</b>           | <b>25</b>            | <b>60</b>                 |
| <b>Southwestern Yard</b>                        |                   |           |             |                     |             |                   |                     |                      |                           |
| Full Takes                                      | 8                 | 8         |             | 8                   | 8           | 3                 | 4                   | 7                    | 8                         |
| Part Takes                                      | 0                 |           |             |                     |             |                   |                     |                      |                           |
| TCE                                             | 0                 |           |             |                     |             |                   |                     |                      |                           |
| <b>Subtotal Parcels:</b>                        | <b>8</b>          | <b>8</b>  | <b>0</b>    | <b>8</b>            | <b>8</b>    |                   | <b>4</b>            | <b>7</b>             | <b>8</b>                  |
| <b>Total SW Parcels:</b>                        | <b>8</b>          | <b>8</b>  | <b>0</b>    | <b>8</b>            | <b>8</b>    | <b>6</b>          | <b>4</b>            | <b>7</b>             | <b>8</b>                  |
| <b>C0990 C/LAX Advance Utility Relocations:</b> |                   |           |             |                     |             |                   |                     |                      |                           |
| <b>Total Parcels:</b>                           | <b>0</b>          |           |             |                     |             |                   |                     |                      |                           |
| <b>Total Project Parcels</b>                    | <b>77</b>         | <b>72</b> | <b>4</b>    | <b>74</b>           | <b>76</b>   | <b>28</b>         | <b>41</b>           | <b>32</b>            | <b>68</b>                 |

- **76 parcels** were certified originally. **4** were decertified due to changes in design and **1** property was added.
- **68 parcels** acquired: **35** full takes (including HS-2706) and **33** part takes/Temporary Construction Easement (TCE) provided to WSCC.
- HS-1904-1 and 1907-1 (TCEs for the underground pedestrian easement) have been obtained and turned over to the contractor. The remaining TCE and part takes in these two parcels are anticipated to be turned over shortly pending final agreement with owner and acceptance of street easements by the City of Inglewood.

## **QUALITY ASSURANCE STATUS**

### **C0988 Crenshaw/LAX Transit Corridor Design-Build Contract**

- Attended weekly Quality Staff Meetings with City of Los Angeles, Los Angeles Bureau of Contract Administration, HNTB, and WSCC Lead Quality personnel.
- *WSCC Quality Assurance issued one NCR's during the month and closed out one NCR. Additionally, they issued one Potential NCR (PNCR) this month.*
- *WSCC Quality Assurance completed two Surveillance Reports this month. One report covered the Mobile Test Lab at the Arlington Yard which resulted in four observations being noted.*
- *Participated in Construction Work Package Reviews and related Readiness Reviews for Conduit Installation, Bridge Deck Post Tensioning and TPSS Foundation Pads.*
- *Submitted the Annual Metro Audit Report of WSCC Project activities. A total of four issues were identified concerning As-Built Drawings, Daily Inspection Reports, Field Drawings and WSCC QA Audits/Surveillances. WSCC's formal response to the Audit Report is due in December 2015.*
- *A field trip to CSI-Hanson to view the Tunnel Ring Assembly Testing is planned for December.*

## **ENVIRONMENTAL STATUS**

### **C0988 Crenshaw/LAX Transit Corridor Design Build**

- Reviewed and commented on the following Contractor Submittals:
  - o Weekly Noise Monitoring Data for Expo Station, MLK Station, Vernon Station, La Brea Station and Century Station
  - o Green Construction Plan Monthly Report
  - o Sustainability Plan Monthly Reports
  - o Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
  - o Weekly Fugitive Dust Inspection Reports
  - o Various Construction Work Plans
- Continue to document compliance with the Project Mitigation Monitoring and Reporting Plan (MMRP).
- Obtained a Waste Discharge Permit from the Regional Water Quality Control Board for the injection of chemical grout into the groundwater at the Expo and MLK Station.
- *Monitored groundwater dewatering activities at the Expo Station. Metro receives and reviews Weekly Dewatering Reports.*
- *A hole was observed during the removal of the Underground Storage Tank at the Faithful Central Bible Church. Soil samples were collected from under the tank indicating minor levels of hydrocarbons. Metro will excavate the impacted soil below the tank.*
- *Submitted a Work Plan to conduct additional soil investigation at Parcel 2101.*
- *Coordinated additional Phase 2 soil investigation at Victoria Yard and Parcel CR-2802 to determine the extent of TPH soil contamination.*

## **CONSTRUCTION RELATIONS STATUS**

- *Concluded outreach for the 40-day closure of Crenshaw Blvd between 43rd Street and 48<sup>th</sup> Street.*
- *Organized and facilitated multiple meetings with businesses in the closure area along with WSCC, BIF and BSC staff.*
- *Held a meeting with local businesses impacted by the UG4 40-Day Crenshaw Blvd. Closure to discuss reduced customers and income, excessive dust and lack of compensation to shopkeepers.*
- *Worked to resolve numerous complaints about cut-through traffic on McClung Drive and Victoria Avenue.*
- *Requested additional traffic patrols and enforcement from the CHP and La County Sheriff's.*
- *Met with LA County Traffic staff to identify potential changes to the closure at the intersection of Victoria and Vernon.*
- *Held a meeting with local residents to identify solutions to cut-through traffic issues including better signage and Traffic Control Officers.*
- *Worked with WSCC to implement a three phase water service interruption to replace a 24" and 12" LADWP water line.*
- *The owner of a strip mall at the intersection of Hyde Park and Crenshaw Blvd. complained about blocked access to one driveway. WSCC worked with LADOT to reconfigure the temporary light standard.*
- *A CLC Workgroup Meeting was held in November to discuss Quality of Life, Community Engagement and Economic Development. As part of this meeting, a safety tour of the Expo Line was given to residents.*
- *The TBM Artwork and Naming Contest ended. The selection panel narrowed the submissions to the Top 10 and public voting began on the CLAX website.*

## **SYSTEMWIDE DESIGN AND ART PROGRAM STATUS**

- Responded to RFIs and submittal drawings.
- Continued work with a non-profit arts education organization for construction phase artworks developed by local youths to be installed in three locations in the City of Los Angeles and the City of Inglewood.
- Worked with Design Builder to refine artwork technical requirements and schedule.
- Worked with artists to refine their designs for submission to fabricators.
- Participated in Systemwide Design integration reviews and presentations.
- Assisted Procurement with information to respondents regarding RFP's for mosaic fabricators to translate artist's designs for three underground stations.
- *Worked with Design Builder to identify safety spacing requirements for art fencing.*
- *Worked with Design Builder and fabricator to manufacture two fence panels for review.*

## **SAFETY & SECURITY STATUS**

- Participated in weekly progress meetings with WSCC's Management and Construction Management Team to discuss safety/security/quality related issues and construction schedules.
- Monitored construction activities on a daily basis including nights and weekends to ensure compliance with contract specifications.
- Conducted bi-weekly Site Safety Walks with WSCC's Safety personnel to enhance overall safety awareness. Minor safety hazards observed and corrected immediately.
- *Conducted All Hands Safety/Security Meeting covering Holiday Safety/Security coverage, incident reporting and submittal updates.*
- *Participated in WSCC's Executive Safety Committee Meeting on November 4, 2015.*
- Attended Walsh/Shea's Safety Tail Gate Huddle Meetings at the Expo, Vernon and Bellanca Yards.
- *Attended Walsh/Shea's Readiness Review Meeting for the Conduit Facilities and Stations, Green-Line Tie In and counter-weight removal.*
- *Metro and WSCC's Safety personnel conducted security sweeps in preparation for Thanksgiving Holiday street closures.*
- *Conducted an above ground Project Tour for the Construction Public Relations Group.*
- *Walsh/Shea reported 131,000 work hours and no recordable incident for the month of November 2015. Total Project-to-Date work hours are 1,888,385 and fifteen recordable incidents. The Project Incident Rate is 1.6. The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work-hours is 3.2.*

### THIRD PARTY AGREEMENT STATUS

| Third Party                               | Type of Agreement                         | Forecast Execution Date | Required Need Date | Status/ Comments                                                                                                                                                           |
|-------------------------------------------|-------------------------------------------|-------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| City of Los Angeles                       | Amendment to Master Cooperative Agreement | N/A                     | N/A                | Parties will work under 2003 MCA.                                                                                                                                          |
| City of Inglewood                         | Master Cooperative Agreement              | 2/16                    | N/A                | Executed Letter of Agreement April 2012. Metro working on outstanding issues.                                                                                              |
| Los Angeles Department of Water and Power | Amendment to Memorandum of Understanding  | N/A                     | N/A                | Metro and LADWP will work under 2002 Utility Cooperative Agreement which remains in effect.                                                                                |
| Los Angeles County Public Works           | Letter of Agreement                       | 4/11                    | 3/12               | Executed                                                                                                                                                                   |
| Caltrans                                  | Amendment                                 | 8/11                    | 3/12               | Executed                                                                                                                                                                   |
| Private Utilities                         | LOA, MOU or UCA                           | 5/11 to 5/13            | N/A                | Metro is working with affected third party utilities under work orders unless license agreements dictate relocation by utility company. No additional agreements required. |

### ADVANCED UTILITY RELOCATION STATUS

- Tesoro Oil – design completed for 8” gas line. Construction should be completed by December 2015.

## **Crenshaw/LAX Transit Project Peak Hour & Nighttime Construction Variances for the City of LA**

- *WSCC has permit variances for nighttime and early morning construction for Segments A thru E.*
- *All permits have to be renewed every six months from date of issuance by the Los Angeles Police Commission.*



## CPUC CROSSING SUMMARY

- *The CPUC has approved all packages.*

| Application | Location                                               | Type                        | City                  |
|-------------|--------------------------------------------------------|-----------------------------|-----------------------|
| A1211018    | Eucalyptus Avenue                                      | Grade Crossing              | Inglewood             |
| A1211018    | Centinela Avenue                                       | Grade Crossing              | Inglewood             |
| A1211018    | Pedestrian Crossing                                    | Grade Separated (Underpass) | Inglewood             |
|             |                                                        |                             |                       |
| A1212030    | Oak Street                                             | Grade Crossing              | Inglewood             |
| A1212030    | Cedar Avenue                                           | Grade Crossing              | Inglewood             |
| A1212030    | Ivy Avenue                                             | Grade Crossing              | Inglewood             |
| A1212030    | High Street                                            | Grade Crossing              | Inglewood             |
|             |                                                        |                             |                       |
| A1212029    | Arbor Vitae Street                                     | Grade Crossing              | Inglewood             |
| A1212029    | Hindry Avenue                                          | Grade Crossing              | Inglewood             |
| A1212029    | Pedestrian Crossing at Florence/West station           | Grade Crossing              | Inglewood             |
| A1212029    | West Boulevard                                         | Grade Crossing              | Los Angeles/Inglewood |
| A1212029    | Brynhurst Avenue                                       | Grade Crossing              | Los Angeles           |
|             |                                                        |                             |                       |
| A1301012    | West 59th Street                                       | Grade Crossing              | Los Angeles           |
| A1301012    | Slauson Avenue                                         | Grade Crossing              | Los Angeles           |
| A1301012    | West 57th Street                                       | Grade Crossing              | Los Angeles           |
| A1301012    | West 54th Street                                       | Grade Crossing              | Los Angeles           |
| A1301012    | West 52nd Street                                       | Grade Crossing              | Los Angeles           |
| A1301012    | West 50th Street                                       | Grade Crossing              | Los Angeles           |
| A1301012    | West 48th Street                                       | Grade Crossing              | Los Angeles           |
|             |                                                        |                             |                       |
| A1302025    | Hornet Way                                             | Grade Separation            | El Segundo            |
| A1302025    | Aviation Boulevard                                     | Grade Separation            | Los Angeles           |
| A1302025    | I-105 Freeway                                          | Grade Separation            | Los Angeles           |
| A1302025    | Imperial Highway                                       | Grade Separation            | Los Angeles           |
| A1302025    | 111th Street                                           | Grade Separation            | Los Angeles           |
| A1302025    | 104th Street                                           | Grade Separation            | Los Angeles           |
| A1302025    | Century Boulevard                                      | Grade Separation            | Los Angeles           |
| A1302025    | Manchester Avenue                                      | Grade Separation            | Inglewood             |
| A1302025    | La Cienega Boulevard                                   | Grade Separation            | Inglewood             |
| A1302025    | I-405 Freeway                                          | Grade Separation            | Inglewood             |
| A1302025    | Hyde Park Boulevard                                    | Grade Separation            | Inglewood             |
| A1302025    | La Brea Avenue                                         | Grade Separation            | Inglewood             |
| A1302025    | Pedestrian Crossing at La Brea-Florence Station (East) | Grade Crossing              | Inglewood             |
| A1302025    | Pedestrian Crossing at La Brea-Florence Station (West) | Grade Crossing              | Inglewood             |
|             |                                                        |                             |                       |

= Highlighted grade crossing/grade separations have been approved.

## **CHRONOLOGY OF EVENTS**

|                   |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 2003              | Major Investment Study                                                                                                                 |
| April 2007        | Board authorized the CEO to award Contract PS 4330-1968 to complete environmental clearance and conceptual engineering.                |
| December 2009     | Board adopted the LRT Alternative as the Locally preferred Alternative and received and filed the Crenshaw Transit Corridor DEIS/DEIR. |
| December 2009     | Board authorized the CEO to award Contract No. EO117 for Phase I, Advanced Conceptual Engineering.                                     |
| September 2010    | Board authorized the CEO to exercise option with Contract No. EO117 for Phase II Preliminary Engineering.                              |
| April 2011        | Board adopted the Arbor Vitae/Bellanca (Site 14) LPA for the Maintenance Facility Site                                                 |
| July 2011         | Board approved Southwestern Yard cost allocation.                                                                                      |
| September 2011    | Board approved Project Definition and certified Final Environmental Impact Report                                                      |
| October 2011      | Board approved the Life-of-Project Budget of \$1.749 billion.                                                                          |
| December 15, 2011 | CTC reviewed the FEIS/FEIR and adopted the required resolution for future funding consideration.                                       |
| December 23, 2011 | Request for Qualifications for Contract C0988 C/LAX Transit Corridor was released to Industry.                                         |
| December 30, 2011 | Received Record of Decision from FTA.                                                                                                  |
| February 10, 2012 | Released Invitation for Bid for Contract C0990 Crenshaw/LAX Advanced Utility Relocations.                                              |
| March 12, 2012    | Received Statement of Qualifications for Contract C0988 C/LAX Transit Corridor.                                                        |

### **CHRONOLOGY OF EVENTS (Continued)**

|                    |                                                                                                                                                                        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 16, 2012       | Notification of pre-qualified proposers for Contract C0988 C/LAX Transit Corridor.                                                                                     |
| May 30, 2012       | Awarded Contract No. C0990 C/LAX Advanced Utility Relocations to Metro Builders and Engineers Group LTD.                                                               |
| June 22, 2012      | Released Request for Proposals for Contract C0988 C/LAX Transit Corridor.                                                                                              |
| August 24, 2012    | Received approval from the Surface Transportation Board regarding BNSF Railway Company abandonment along five-mile Crenshaw Segment of the Harbor Branch ROW.          |
| September 4, 2012  | Preparation of a FONSI for Supplemental Environmental Assessment to the FEIS was approved by FTA.                                                                      |
| September 28, 2012 | Completed abandonment process with BNSF.                                                                                                                               |
| September 28, 2012 | TIFIA and TIGER II Grants approved.                                                                                                                                    |
| December 6, 2012   | Received proposals for Contract C0988 C/LAX Transit Corridor.                                                                                                          |
| February 22, 2013  | Issued Amendment No. 8 requesting Best and Final Offers (BAFO) for Contract C0988 C/LAX Transit Corridor.                                                              |
| March 15, 2013     | Received BAFO's for Contract C0988 C/LA Transit Corridor.                                                                                                              |
| May 23, 2013       | Board amended the Agency's FY14 Proposed Budget to include funding of \$80 million for an underground station at Leimert Park Village as part of the baseline project. |
| June 27, 2013      | The Board awarded Contract C0988 Crenshaw/LAX Transit Corridor to Walsh-Shea Corridor Constructors.                                                                    |
| July 10, 2013      | Issued notice of award to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Corridor.                                                              |

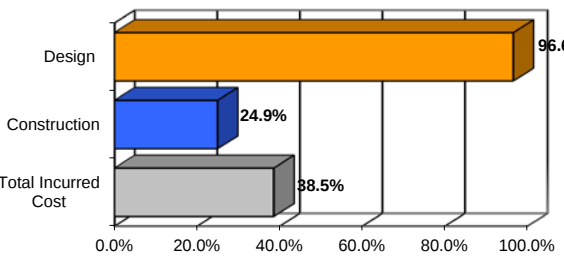
## **CHRONOLOGY OF EVENTS (Continued)**

|                    |                                                                                                                                                                                                                        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| August 1, 2013     | United States Department of Transportation approves Metro's request to increase the Crenshaw/LAX Project Budget to \$2,058 million.                                                                                    |
| August 8, 2013     | Issued notice of execution of the contract was issued to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Corridor.                                                                               |
| September 10, 2013 | Issued Notice to Proceed to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Project.                                                                                                             |
| December 5, 2013   | The Board approved Memorandum of Understanding with the Los Angeles World Airports for a parallel design and possible construction modifications near Aviation/Century Station to accommodate elements of LAWA's SPAS. |
| December 5, 2013   | The Board awarded Contract C0992 with Rocla Concrete Tie, Inc; for the procurement of concrete ties and assembly items.                                                                                                |
| January 21, 2014   | A Groundbreaking Ceremony was held at the Crenshaw/Exposition Station.                                                                                                                                                 |
| January 23, 2014   | The Board awarded Contract C0992A Rail and Bumping Posts to LB Foster Rail Technologies Corp.                                                                                                                          |
| July 25, 2014      | Century Crunch" – weekend demolition of the defunct Century railroad bridge at the intersection of Century Blvd. and Aviation.                                                                                         |
| August 21, 2014    | Substantial Completion issued for Advanced Utility Relocations Contract C0990.                                                                                                                                         |
| August 29, 2014    | Released Invitation for Bid for Contract C0991 Crenshaw/LAX Southwestern Yard (Division 16) Maintenance Facility.                                                                                                      |
| September 19, 2014 | CPUC has approved all five (5) grade crossing applications and no further actions are required.                                                                                                                        |
| January 22, 2015   | Received Technical and Price Bids for the Southwestern Yard (Division 16) Maintenance Facility.                                                                                                                        |
| March 25, 2015     | Opened Price Bids for the Southwestern Yard (Division 16) Maintenance Facility.                                                                                                                                        |

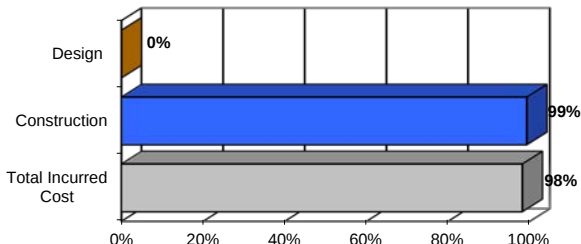
### **CHRONOLOGY OF EVENTS (Continued)**

|               |                                                                                                                                                                                                                               |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 28, 2015  | The Board awarded Contract C0991 Division 16: Southwestern Yard to Hensel Phelps/Herzog JV. Also increased by \$22.0 million the Life of Project Budget for the Southwestern Yard Project to a new amount of \$307.2 million. |
| May 28, 2015  | The Board approved Design Option 3 for the track alignment to accommodate the future Metro Connector Transit Station (96 <sup>th</sup> St. Station).                                                                          |
| June 29, 2015 | Issued Notice to Proceed to Hensel Phelps/Herzog JV, Contract C0991 Division 16: SouthwesternYard.                                                                                                                            |
| July 23, 2015 | The Board approved the Official and Operational Names of the eight stations.                                                                                                                                                  |

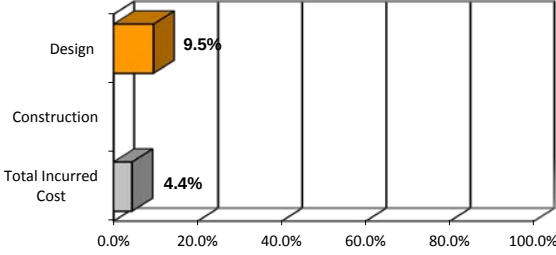
**CONTRACT C0988 STATUS**  
**Crenshaw/LAX Transit Corridor**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
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| <b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b><br><b>CM Consultant: Stantec</b><br><b>Contractor: - Walsh Shea Corridor Constructors (WSCC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                  |          | <b>Contract No.: C0988</b><br><b>Status as of Nov 30, 2015</b><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| <b>Progress/Work Completed:</b><br><b>Design</b><br>- Submitted Segment B 85% Street Lighting Plans.<br><br><b>Construction</b><br>- Continued potholing along the Grade Crossing, Park Mesa UG #3 & #4.<br>- Continued geotechnical monitoring at Vernon, MLK, Expo, UG#4, #3 & #1.<br>- Continued Chemical Grouting for TBM Break-out.<br>- Continued grounding grid, mud slab, waterproofing & protective slab construction at Expo Station.<br>- Commenced Invert slab, conduit & plumbing at Expo Station.<br>- Completed Soil Excavation at Expo Station.<br>- Continued soil excavation & SOE installation at Vernon & MLK Station.<br>- Continued the TBM assembly at the Bellanca Yard.<br>- Commenced Jet Grouting for Cross Passage #2.<br>- Completed soldier pile installation & water line relocation at UG #4.<br>- Commenced Utility Hanging at UG #4.<br>- Commenced SOE Installation at UG#3.<br>- Continued MSE wall panel erection/back fill at La Brea & I-405 South.<br>- Continued superstructure work at the La Brea bridge & Century Bridge.<br>- Completed fine grading of the segment B1 guideway.<br>- Continued OCS foundation construction on segment B1.<br>- Commenced structural concrete work at the Pedestrian Underpass.<br>- Commenced abutment footing at I-405 Bridge.<br>- Continued excavation & installation at UG#1.<br>- Continued abutment stem wall at the 111th Bridge.<br>- Continued column & falsework construction at the Green Line Tie-In. |                   |                  |          | <b>Areas of Concern:</b><br>- Possible cobbles and boulders found during excavation at Expo and MLK station.<br>- Contaminated materials (weathered gasoline with high levels of TPH) discovered at Expo site.<br>- Station excavation to be impacted by excessive water inflow at EXPO Station.<br>- Segment A guideway work may be impacted by implementation of westward shifting of the LRT tracts in Guideway at Segment A for the future 96th Street Station.<br>- Street package decision by the city family reviews may impact the start of the Park Mesa street work.<br>- Contractor's schedule does not accurately forecast its work efforts. |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| <b>Schedule Assessment:</b><br>Contractor's Nov 2015 schedule update indicates Milestone 1 - Contract Substantial Completion is 143 calendar days behind the current contract date. Full delay would have been 232 calendar days. However, Metro is reviewing and analyzing the extraordinary delay at Park Mesa and only includes the additional 21 calendar days delay at Expo.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                  |          | <b>Cost Assessment:</b><br>The current construction contract cost forecast is \$1,289.05 million and is within the Board authorized budget.<br><br>The Contractor submitted their 27th payment application in the approved amount of \$18,088,647.88.<br><br>*Please note that not all executed modifications may have been included in the Contractor current payment application.                                                                                                                                                                                                                                                                      |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| <b>Schedule Summary:</b><br><table><tr><td>1. Date of Award:</td><td>08/01/13</td></tr><tr><td>2. Notice to Proceed:</td><td>09/10/13</td></tr><tr><td>3. Original Substantial Completion Duration:</td><td>1824</td></tr><tr><td>4. Current Substantial Completion Duration:</td><td>2002</td></tr><tr><td>5. Elapsed Time from NTP:</td><td>808</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                  |          | 1. Date of Award:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 08/01/13          | 2. Notice to Proceed: | 09/10/13 | 3. Original Substantial Completion Duration: | 1824                                          | 4. Current Substantial Completion Duration: | 2002     | 5. Elapsed Time from NTP: | 808  | <b>Cost Summary:</b><br><table><tr><td colspan="2"><b>\$ In millions</b></td></tr><tr><td>1. Award Value:</td><td>1,272.63</td></tr><tr><td>2. Executed Modifications:</td><td>13.77</td></tr><tr><td>3. Approved Change Orders:</td><td>2.65</td></tr><tr><td>4. Current Contract Value (1 + 2 + 3):</td><td>1,289.05</td></tr><tr><td>5. Incurred Cost:</td><td>496.90</td></tr></table> |          | <b>\$ In millions</b> |          | 1. Award Value: | 1,272.63                           | 2. Executed Modifications: | 13.77    | 3. Approved Change Orders: | 2.65 | 4. Current Contract Value (1 + 2 + 3):                    | 1,289.05 | 5. Incurred Cost: | 496.90   |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 1. Date of Award:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 08/01/13          |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 2. Notice to Proceed:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 09/10/13          |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 3. Original Substantial Completion Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1824              |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 4. Current Substantial Completion Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2002              |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 5. Elapsed Time from NTP:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 808               |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| <b>\$ In millions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 1. Award Value:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,272.63          |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 2. Executed Modifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.77             |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 3. Approved Change Orders:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.65              |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 4. Current Contract Value (1 + 2 + 3):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,289.05          |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| 5. Incurred Cost:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 496.90            |                  |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| <table><tr><td>Milestones</td><td>Original Contract</td><td>Current Contract</td><td>Forecast</td><td>Calendar Day Variance</td></tr><tr><td>Milestone 1 - Contract Substantial Completion</td><td>09/08/18</td><td>10/13/18</td><td>03/05/19</td><td>-143</td></tr><tr><td>Milestone 2 - UFS Completion</td><td>03/09/18</td><td>04/13/18</td><td>08/28/18</td><td>-137</td></tr><tr><td>Milestone 3 - Commence SIT Phase I</td><td>06/09/18</td><td>07/14/18</td><td>12/06/18</td><td>-145</td></tr><tr><td>Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103</td><td>12/04/15</td><td>12/04/15</td><td>03/03/16</td><td>-90</td></tr><tr><td>Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104</td><td>06/05/17</td><td>06/05/17</td><td>04/10/17</td><td>56</td></tr><tr><td>Milestone 6 - Const./Turnover Parcels SW-0001</td><td>08/01/17</td><td>08/01/17</td><td>06/28/17</td><td>34</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                  |          | Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Original Contract | Current Contract      | Forecast | Calendar Day Variance                        | Milestone 1 - Contract Substantial Completion | 09/08/18                                    | 10/13/18 | 03/05/19                  | -143 | Milestone 2 - UFS Completion                                                                                                                                                                                                                                                                                                                                                               | 03/09/18 | 04/13/18              | 08/28/18 | -137            | Milestone 3 - Commence SIT Phase I | 06/09/18                   | 07/14/18 | 12/06/18                   | -145 | Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103 | 12/04/15 | 12/04/15          | 03/03/16 | -90 | Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104 | 06/05/17 | 06/05/17 | 04/10/17 | 56 | Milestone 6 - Const./Turnover Parcels SW-0001 | 08/01/17 | 08/01/17 | 06/28/17 | 34 | <p><b>PERCENT COMPLETE</b><br/>from 9/10/13 to 11/27/15</p>  <p>Construction physical percent complete excludes mobilization and general requirements</p> |  |
| Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Original Contract | Current Contract | Forecast | Calendar Day Variance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 1 - Contract Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 09/08/18          | 10/13/18         | 03/05/19 | -143                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 2 - UFS Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 03/09/18          | 04/13/18         | 08/28/18 | -137                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 3 - Commence SIT Phase I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 06/09/18          | 07/14/18         | 12/06/18 | -145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12/04/15          | 12/04/15         | 03/03/16 | -90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 06/05/17          | 06/05/17         | 04/10/17 | 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |
| Milestone 6 - Const./Turnover Parcels SW-0001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 08/01/17          | 08/01/17         | 06/28/17 | 34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                       |          |                                              |                                               |                                             |          |                           |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |                       |          |                 |                                    |                            |          |                            |      |                                                           |          |                   |          |     |                                                                 |          |          |          |    |                                               |          |          |          |    |                                                                                                                                                                                                                                               |  |

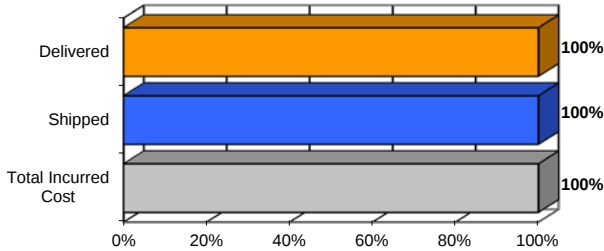
**CONTRACT C0990 STATUS**  
**Crenshaw/LAX Advanced Utility Relocations**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          |                                                                                                                                                                                                                                               |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
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| <b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b><br><b>CM Consultant: Stantec</b><br><b>Contractor: - Metro Builders and Engineers Group LTD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                  |          | <b>Contract No.: C0990</b><br><b>Status as of Nov 30, 2015</b>                                                                                                                                                                                |                   |  |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
| <b>Progress/Work Completed:</b><br>- The construction was substantially completed on Aug 21, 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                  |          | <b>Areas of Concern:</b>                                                                                                                                                                                                                      |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
| <b>Schedule Assessment:</b><br>Metro has agreed to grant a total of 124 calendar day time extension as a result of lost production due to sandy soil conditions and revised installation methodology for sewer line work at 59th & Crenshaw, and traffic control and work hour restriction to 67th & Crenshaw. .<br><br>Metro granted substantial completion to Metro Builders, the Advanced Utility Contractor on August 21, 2014, which is 276 calendar days behind.                                                                                                                                           |                   |                  |          | <b>Cost Assessment:</b><br>The current construction contract cost is \$9.29 million and within the Board authorized budget.<br><br>The unpaid amount is the scope deletion from the base contract and remaining balance of provisional sums . |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
| <b>Schedule Summary:</b><br><br>1. Date of Award: 05/30/12<br>2. Notice to Proceed: 07/17/12<br>3. Original Substantial Completion Duration: 365<br>4. Current Substantial Completion Duration: 468<br>5. Elapsed Time from NTP: 753                                                                                                                                                                                                                                                                                                                                                                             |                   |                  |          | <b>Cost Summary:</b> <b>\$ In millions</b><br><br>1. Award Value: 7.83<br>2. Executed Modifications: 0.97<br>3. Approved Change Orders: 0.49<br>4. Current Contract Value (1 + 2 + 3): 9.29<br>5. Incurred Cost: 9.12                         |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
| <table><tr><td>Milestones</td><td>Original Contract</td><td>Current Contract</td><td>Forecast</td><td>Calendar Day Variance</td></tr><tr><td>Milestone 1 - Contract Substantial Completion</td><td>07/17/13</td><td>11/18/13</td><td>08/21/14</td><td>-276</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> |                   |                  |          | Milestones                                                                                                                                                                                                                                    | Original Contract | Current Contract                                                                    | Forecast | Calendar Day Variance | Milestone 1 - Contract Substantial Completion | 07/17/13 | 11/18/13 | 08/21/14 | -276 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <div><p><b>PERCENT COMPLETE</b><br/>from 7/17/12 to 8/21/14</p><p>0% 20% 40% 60% 80% 100%</p><p><b>Percent Complete Progress</b></p><p>Construction physical percent complete excludes mobilization and general requirements</p></div> |  |  |  |
| Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Original Contract | Current Contract | Forecast | Calendar Day Variance                                                                                                                                                                                                                         |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
| Milestone 1 - Contract Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 07/17/13          | 11/18/13         | 08/21/14 | -276                                                                                                                                                                                                                                          |                   |                                                                                     |          |                       |                                               |          |          |          |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                            |  |  |  |
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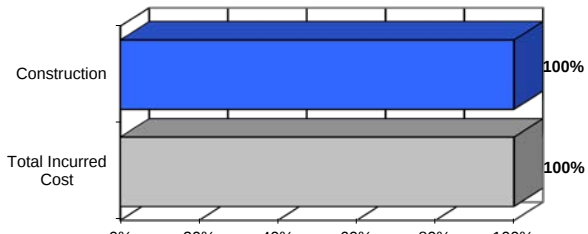
**CONTRACT C0991 STATUS**  
*Southwestern Yard*

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
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| <b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b><br><b>CM Consultant: Stantec</b><br><b>Contractor: - Hensel Phelps / Herzog JV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                  |           | <b>Contract No.: C0991</b><br><br><b>Status as of Nov 30, 2015</b>                                                                                                                                                                                                                                      |                   |  |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| <b>Progress/Work Completed:</b> <ul style="list-style-type: none"><li>- Contractor is working on early contract required submittals.</li><li>- Initial 120 Day schedule has been approved.</li><li>- IPMO location is West Century Blvd and move-in is projected for December 14, 2015.</li><li>- Initial pre-construction meeting held with key stakeholders.</li><li>- Design workshop #1 meeting was held with key stakeholders.</li><li>- Design submittal 60% of APDU 1 was submitted on November 1st.</li><li>- Baseline schedule was submitted on November 16th and was rejected on November 23rd.</li></ul>                                                                                                                                                                                                                                                                  |                       |                  |           | <b>Areas of Concern:</b> <ul style="list-style-type: none"><li>- None.</li></ul>                                                                                                                                                                                                                        |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| <b>Schedule Assessment:</b> <ul style="list-style-type: none"><li>- Change Order # CO-0004 was issued extending contract duration by 90 calendar days. New substantial completion date is 01/30/2019.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                  |           | <b>Cost Assessment:</b> <ul style="list-style-type: none"><li>- Contract to Hensel Phelps / Herzog JV was awarded for \$172.3 million.</li><li>- Third pay application has been approved by Metro.</li><li>- Fourth pay application is pending resubmittal and approval of baseline schedule.</li></ul> |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| <b>Schedule Summary:</b> <table><tr><td>1. Date of Award:</td><td>28-May-15</td></tr><tr><td>2. Notice to Proceed:</td><td>29-Jun-15</td></tr><tr><td>3. Original Substantial Completion Duration:</td><td>1,220</td></tr><tr><td>4. Current Substantial Completion Duration:</td><td>1,311</td></tr><tr><td>5. Elapsed Time from NTP:</td><td>151</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |                  |           | 1. Date of Award:                                                                                                                                                                                                                                                                                       | 28-May-15         | 2. Notice to Proceed:                                                               | 29-Jun-15 | 3. Original Substantial Completion Duration: | 1,220      | 4. Current Substantial Completion Duration: | 1,311 | 5. Elapsed Time from NTP: | 151 | <b>Cost Summary:</b> <table><tr><td></td><td><b>\$ In millions</b></td></tr><tr><td>1. Award Value:</td><td>172.30</td></tr><tr><td>2. Executed Modifications:</td><td>0.00</td></tr><tr><td>3. Approved Change Orders:</td><td>0.00</td></tr><tr><td>4. Current Contract Value (1 + 2 + 3):</td><td>172.30</td></tr><tr><td>5. Incurred Cost:</td><td>7.53</td></tr></table> |           |           |           |   | <b>\$ In millions</b>                        | 1. Award Value: | 172.30    | 2. Executed Modifications: | 0.00 | 3. Approved Change Orders:            | 0.00      | 4. Current Contract Value (1 + 2 + 3): | 172.30    | 5. Incurred Cost: | 7.53                                          |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 1. Date of Award:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 28-May-15             |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 2. Notice to Proceed:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 29-Jun-15             |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 3. Original Substantial Completion Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,220                 |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 4. Current Substantial Completion Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,311                 |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 5. Elapsed Time from NTP:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 151                   |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>\$ In millions</b> |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 1. Award Value:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 172.30                |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 2. Executed Modifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.00                  |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 3. Approved Change Orders:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.00                  |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 4. Current Contract Value (1 + 2 + 3):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 172.30                |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| 5. Incurred Cost:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.53                  |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| <table><tr><td></td><td>Original Contract</td><td>Current Contract</td><td>Forecast</td><td>Calendar Day Variance</td></tr><tr><td>Milestones</td><td></td><td></td><td></td><td></td></tr><tr><td>MS#1 Yard and Main Shop Design Completion</td><td>26-Oct-16</td><td>26-Oct-16</td><td>26-Oct-16</td><td>0</td></tr><tr><td>MS#2 Main Shop Communication Room Completion</td><td>15-Jan-18</td><td>16-Apr-18</td><td>16-Apr-18</td><td>0</td></tr><tr><td>MS#3 Main Shop Substantial Completion</td><td>30-Apr-18</td><td>30-Jul-18</td><td>30-Jul-18</td><td>0</td></tr><tr><td>MS#4 Southwestern Yard Substantial Completion</td><td>31-Oct-18</td><td>30-Jan-19</td><td>30-Jan-19</td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> |                       |                  |           |                                                                                                                                                                                                                                                                                                         | Original Contract | Current Contract                                                                    | Forecast  | Calendar Day Variance                        | Milestones |                                             |       |                           |     | MS#1 Yard and Main Shop Design Completion                                                                                                                                                                                                                                                                                                                                     | 26-Oct-16 | 26-Oct-16 | 26-Oct-16 | 0 | MS#2 Main Shop Communication Room Completion | 15-Jan-18       | 16-Apr-18 | 16-Apr-18                  | 0    | MS#3 Main Shop Substantial Completion | 30-Apr-18 | 30-Jul-18                              | 30-Jul-18 | 0                 | MS#4 Southwestern Yard Substantial Completion | 31-Oct-18 | 30-Jan-19 | 30-Jan-19 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <div><p><b>PERCENT COMPLETE</b><br/><i>from 06/29/15 to 11/27/15</i></p><p>Construction physical percent complete excludes mobilization and general requirements</p></div> |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Original Contract     | Current Contract | Forecast  | Calendar Day Variance                                                                                                                                                                                                                                                                                   |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| MS#1 Yard and Main Shop Design Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26-Oct-16             | 26-Oct-16        | 26-Oct-16 | 0                                                                                                                                                                                                                                                                                                       |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| MS#2 Main Shop Communication Room Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15-Jan-18             | 16-Apr-18        | 16-Apr-18 | 0                                                                                                                                                                                                                                                                                                       |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| MS#3 Main Shop Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30-Apr-18             | 30-Jul-18        | 30-Jul-18 | 0                                                                                                                                                                                                                                                                                                       |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
| MS#4 Southwestern Yard Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 31-Oct-18             | 30-Jan-19        | 30-Jan-19 | 0                                                                                                                                                                                                                                                                                                       |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                  |           |                                                                                                                                                                                                                                                                                                         |                   |                                                                                     |           |                                              |            |                                             |       |                           |     |                                                                                                                                                                                                                                                                                                                                                                               |           |           |           |   |                                              |                 |           |                            |      |                                       |           |                                        |           |                   |                                               |           |           |           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |

**CONTRACT C0992 STATUS**  
*Concrete Ties*

| <b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b><br><b>CM Consultant: Stantec</b><br><b>Contractor: Rocla Concrete Tie Inc.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                  |          |                       | <b>Contract No.: C0992</b><br><br><b>Status as of Nov 30, 2015</b>                                                                                                                                                 |                   |  |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|----------|-----------------------|-----------------------------------------------|----------|----------|----------|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| <b>Progress/Work Completed:</b><br>- All 19,936 concrete ties have been received onsite by the design-builder (Contract C0988).<br>- Contract is in close-out pending resolution of any Buy America issues.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                  |          |                       | <b>Areas of Concern:</b><br>- Compliance with Buy America requirement under review by FTA.                                                                                                                         |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
| <b>Schedule Assessment:</b><br><br>Metro has agreed to grant a 15 calendar day time extension as a result of limited access to the yard due to the operation of Burlington Northern Santa Fe (BNSF),which was beyond the reasonable control of RCTI.<br><br>All concrete ties have been delivered to job site by August 15, 2014.                                                                                                                                                                                                                                                                                                                |                   |                  |          |                       | <b>Cost Assessment:</b><br><br>The current construction contract cost is \$2.25 million and has been completely paid to contractor.<br>.                                                                           |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
| <b>Schedule Summary:</b><br><br>1. Date of Award: 12/10/13<br>2. Notice to Proceed: 12/23/13<br>3. Original Substantial Completion Duration: 220<br>4. Current Substantial Completion Duration: 235<br>5. Elapsed Time from NTP: 235                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                  |          |                       | <b>Cost Summary:</b> <b>\$ In millions</b><br><br>1. Award Value: 2.16<br>2. Executed Modifications: 0.09<br>3. Approved Change Orders:<br>4. Current Contract Value (1 + 2 + 3): - 2.25<br>5. Incurred Cost: 2.25 |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
| <table><thead><tr><th>Milestones</th><th>Original Contract</th><th>Current Contract</th><th>Forecast</th><th>Calendar Day Variance</th></tr></thead><tbody><tr><td>Milestone 1 - Contract Substantial Completion</td><td>07/31/14</td><td>08/15/14</td><td>08/15/14</td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> |                   |                  |          |                       | Milestones                                                                                                                                                                                                         | Original Contract | Current Contract                                                                    | Forecast | Calendar Day Variance | Milestone 1 - Contract Substantial Completion | 07/31/14 | 08/15/14 | 08/15/14 | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  |  | <div><p><b>PERCENT COMPLETE</b><br/>from 12/23/2013 to 8/15/14</p><p>Construction physical percent complete excludes mobilization and general requirements</p></div> |  |  |  |  |
| Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Original Contract | Current Contract | Forecast | Calendar Day Variance |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
| Milestone 1 - Contract Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 07/31/14          | 08/15/14         | 08/15/14 | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          | 0                     |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          |                       |                                                                                                                                                                                                                    |                   |                                                                                     |          |                       |                                               |          |          |          |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                          |  |  |  |  |

**CONTRACT C0992A STATUS**  
*Running Rail and Bumping Posts*

| <b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b><br><b>CM Consultant: Stantec</b><br><b>Contractor: LB Foster Rail Technology Corp</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                  |          |                       | <b>Contract No.: C0992A</b><br><br><b>Status as of Nov 30, 2015</b>                                                                                                                                        |                   |  |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|----------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|----------|-----------------------|-----------------------------------------------|----------|----------|----------|-----|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| <b>Progress/Work Completed:</b><br>- All 115RE SS Blank Stick Rails have been delivered to the job site.<br>- All 115RE HH rail have been delivered to job site.<br>- All Bumping Posts have been delivered to job site on 5/8/2015.                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                  |          |                       | <b>Areas of Concern:</b><br>.                                                                                                                                                                              |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
| <b>Schedule Assessment:</b><br><br>All running rails and bumping posts have been delivered ahead of the schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                  |          |                       | <b>Cost Assessment:</b><br><br>The current contract cost is \$5,2 million and has been completely paid to contractor.                                                                                      |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
| <b>Schedule Summary:</b><br><br>1. Date of Award: 01/23/14<br>2. Notice to Proceed: 03/07/14<br>3. Original Substantial Completion Duration: 300<br>4. Current Substantial Completion Duration: 558<br>5. Elapsed Time from NTP: 448                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                  |          |                       | <b>Cost Summary:</b> <b>\$ In millions</b><br><br>1. Award Value: 5.2<br>2. Executed Modifications:<br>3. Approved Change Orders:<br>4. Current Contract Value (1 + 2 + 3): - 5.2<br>5. Incurred Cost: 5.2 |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
| <table><thead><tr><th>Milestones</th><th>Original Contract</th><th>Current Contract</th><th>Forecast</th><th>Calendar Day Variance</th></tr></thead><tbody><tr><td>Milestone 1 - Contract Substantial Completion</td><td>12/31/14</td><td>09/30/15</td><td>05/08/15</td><td>145</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> |                   |                  |          |                       | Milestones                                                                                                                                                                                                 | Original Contract | Current Contract                                                                    | Forecast | Calendar Day Variance | Milestone 1 - Contract Substantial Completion | 12/31/14 | 09/30/15 | 05/08/15 | 145 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  | 0 |  |  |  |  |  | <div><p><b>PERCENT COMPLETE</b><br/><i>from 3/7/2014 to 05/29/15</i></p><p>Construction physical percent complete excludes mobilization and general requirements</p></div> |  |  |  |  |
| Milestones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Original Contract | Current Contract | Forecast | Calendar Day Variance |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
| Milestone 1 - Contract Substantial Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12/31/14          | 09/30/15         | 05/08/15 | 145                   |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          | 0                     |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          | 0                     |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          | 0                     |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          | 0                     |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          | 0                     |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                  |          |                       |                                                                                                                                                                                                            |                   |                                                                                     |          |                       |                                               |          |          |          |     |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |  |                                                                                                                                                                                                                                                                |  |  |  |  |

## **CONSTRUCTION PHOTOGRAPHS**



**GREENLINE UNDERPASS** - Subgrade compaction for falsework erection.



**CENTURY BRIDGE** – Super Structure Rebar.

## CONSTRUCTION PHOTOGRAPHS (Continued)



**MSE (Wall 3, 60L&R):** Precast Panel erection, placement of soil reinforcement, backfilling and compaction testing ongoing.



**UG#1 -** Struts and wales being installed per plan. Tier 2 lifts and kickers being installed in preparation for tier 2 walers and struts. Treated lagging installation ongoing as excavation continues.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



**UG1 – On-going excavation.**



**111<sup>TH</sup> STREET BRIDGE - Abutment 2 formwork installation.**

## CONSTRUCTION PHOTOGRAPHS (Continued)



**111<sup>th</sup> UNDERPASS** - Abutment 1 and return wall formwork and concrete placement.



**I-405 BRIDGE** - Abutment 5 footing construction ongoing.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



**UG3** – Vibrating piles at UG3 looking north (Near Crenshaw and 58<sup>th</sup> Pl.).



**FAITHFUL CENTRAL BIBLE CHURCH - Pedestrian Underpass:**  
Wall steel placed for tunnel/walkway structure.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



**LA BREA BRIDGE - Back wall formwork.**



**UG4 – Welding cross braces for the deck beams looking east.**

## CONSTRUCTION PHOTOGRAPHS (Continued)



**UG4** – Setting precast deck panels looking south.



**UG4** – Excavation operation around utilities.

## CONSTRUCTION PHOTOGRAPHS (Continued)



UG4 – Decking complete; looking north from Vernon.



LEIMERT PARK STATION – Looking north into Vernon station from UG4.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



**LEIMERT PARK STATION – Tier 2 wale welding operation.**



**MARTIN LUTHER KING JR. STATION – Excavation operation toward Tier 3.**

## CONSTRUCTION PHOTOGRAPHS (Continued)



**MARTIN LUTHER KING STATION – TBM Break-out chemical grout operations.**



**CROSS PASSAGE 2 – Jet grouting operation.**

## CONSTRUCTION PHOTOGRAPHS (Continued)



**EXPO/CRENSHAW STATION** – Installation of wall forms for center trench mud slab.



**EXPO/CRENSHAW STATION** – Welding waterbar to previously installed HCR membrane.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



**EXPO/CRENSHAW STATION** – Phase 2 mud slab installed at the central portion of Expo station box.



**EXPO/CRENSHAW STATION** – Installation of rebar for invert slab.

## APPENDIX

### PROJECT COST STATUS – SOUTHWESTERN YARD

UNITS IN DOLLARS

| SCC CODE | DESCRIPTION                 | ORIGINAL BUDGET | CURRENT BUDGET |             | COMMITMENTS |             | EXPENDITURES |             | CURRENT FORECAST |             | FORECAST VARIANCE |
|----------|-----------------------------|-----------------|----------------|-------------|-------------|-------------|--------------|-------------|------------------|-------------|-------------------|
|          |                             |                 | PERIOD         | TO DATE     | PERIOD      | TO DATE     | PERIOD       | TO DATE     | PERIOD           | TO DATE     |                   |
| 10       | GUIDEWAYS                   | 0               | 0              | 0           | 0           | 0           | 0            | 0           | 0                | 0           | 0                 |
| 20       | STATIONS                    | 0               | 0              | 0           | 0           | 0           | 0            | 0           | 0                | 0           | 0                 |
| 30       | SUPPORT FACILITIES (Y & S)  | 85,546,835      | 0              | 85,189,999  | 0           | 86,532,695  | 0            | 0           | 0                | 86,889,531  | 1,699,532         |
| 40       | SITWORK(SPECIAL CONDITIONS) | 35,932,000      | 0              | 38,273,000  | 172,597     | 37,895,520  | 488,676      | 3,936,904   | 0                | 38,273,000  | 0                 |
| 50       | SYSTEMS                     | 25,784,616      | 0              | 32,991,000  | 0           | 32,991,000  | 0            | 0           | 0                | 32,991,000  | 0                 |
| (10-50)  | CONSTRUCTION                | 147,263,451     | 0              | 156,453,999 | 172,597     | 157,419,215 | 488,676      | 3,936,904   | 0                | 158,153,531 | 1,699,532         |
| 60       | RIGHT-OF-WAY                | 99,910,000      | 0              | 100,000,000 | (5,320,626) | 91,045,831  | 0            | 90,953,927  | 0                | 100,000,000 | (0)               |
| 70       | VEHICLES                    | 0               | 0              | 0           | 0           | 0           | 0            | 0           | 0                | 0           | 0                 |
| 80       | PROFESSIONAL SERVICES       | 35,601,095      | 0              | 33,639,631  | 706,803     | 21,327,396  | 2,634,473    | 9,359,332   | 0                | 31,815,199  | (1,824,432)       |
| 90       | PROJECT CONTINGENCY         | 13,659,732      | 0              | 17,106,370  | 0           | 0           | 0            | 0           | 0                | 17,231,270  | 124,900           |
| TOTAL    |                             | 296,434,278     | 0              | 307,200,000 | (4,441,226) | 269,792,442 | 3,123,149    | 104,250,163 | 0                | 307,200,000 | (0)               |

#### C0991 PAINT & BODY SHOP PROJECT

| DESCRIPTION                     | ORIGINAL BUDGET | CURRENT BUDGET |            | COMMITMENTS |           | EXPENDITURES |         | CURRENT FORECAST |            | FORECAST VARIANCE |
|---------------------------------|-----------------|----------------|------------|-------------|-----------|--------------|---------|------------------|------------|-------------------|
|                                 |                 | PERIOD         | TO DATE    | PERIOD      | TO DATE   | PERIOD       | TO DATE | PERIOD           | TO DATE    |                   |
| 861301 DIV 22 PAINT & BODY SHOP | 11,000,000      | 0              | 11,000,000 | 101         | 6,915,432 | 101          | 193,148 | 0                | 11,000,000 | 0                 |

|                     |             |   |             |             |             |           |             |   |             |     |
|---------------------|-------------|---|-------------|-------------|-------------|-----------|-------------|---|-------------|-----|
| PROJECT GRAND TOTAL | 307,434,278 | 0 | 318,200,000 | (4,441,126) | 276,707,874 | 3,123,250 | 104,443,311 | 0 | 318,200,000 | (0) |
|---------------------|-------------|---|-------------|-------------|-------------|-----------|-------------|---|-------------|-----|

### PROJECT COST ANALYSIS

The project number 865512, 860003 and 861301 are internal to Metro and are used to differentiate between various components of the project.

#### Original Budget:

The Board in May 2015 established the Life-of-Project (LOP) budget of \$307.2 million for the Southwestern Yard Project.

#### Current Budget:

The Board in May 2015 approved an increase for the funding for the Southwestern Yard by \$22.0 million to increase the Life-of-Project (LOP) budget to \$307.2 million to allow for the award of design-build Contract C0991 Southwestern Yard Project. Of the total \$307.2 million, \$150.2 million is funded in the Crenshaw/LAX Transit Project life of project budget which includes the original 49% allocation amount of \$139.4 million plus a new \$10.8 million reduction from the Crenshaw/LAX Transit Project contingency line item in the budget. There is no increase in the LOP for the Crenshaw/LAX Transit Project. The original 51% share associated with future Green Line related extensions in an amount of \$145.8 million was increased by \$11.2 million for a new total of \$157.0 million.

In addition to the \$307.2 million there is another \$11.0 million that is the budget for the paint and body shop, under another Metro internal cost project number, which funding was approved by a prior agreement for a paint and body shop to support the Green Line shops and was required for the award of the design-build Contract C0991 Southwestern Yard Project.

The grand total of the combined cost is \$318.2 million.

**APPENDIX**  
**PROJECT COST ANALYSIS (Continued)**

**Current Forecast:** The project forecast of \$318.2 million is maintained for month ending November 28, 2015. There is no forecast variance between the total budget and total forecast. There are no changes in the current forecast line items.

**Commitments:**

The commitments are cumulative through November 28, 2015.

Total commitments decreased by \$4.4 million for this period due to ROW adjustment between the 49% of project 865512 and 51% of project 860003.

The \$276.7 million in commitments to date represents 87.0% of the current budget.

**Expenditures:**

The expenditures are cumulative through November 28, 2015.

The total expenditures increased by \$3.1 million for this period due to Hensel Phelps/Herzog and XO Communications billings and Agency expenditure.

The \$104.4 million in expenditures to date represents 32.8% of the current budget.

## **APPENDIX**

### **COST AND BUDGET TERMINOLOGY**

#### **Project Cost Descriptions -**

|                  |                                                                                                                                                                                                                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGINAL BUDGET  | The Original Project Budget as established by the Metropolitan Transportation Authority (Metro) Board on October 27, 2011.                                                                                                                                                                            |
| CURRENT BUDGET   | The Original Budget plus all budget amendments approved by formal Metro Board action. Also referred to as Approved Budget.                                                                                                                                                                            |
| COMMITMENTS      | The total of actual contracts awarded, executed change orders or amendments, approved work orders of Master Cooperative Agreements, offers accepted for purchase of real estate, and other Metro actions which have been spent or result in the obligation of specific expenditures at a future time. |
| EXPENDITURES     | The total dollar amount of funds expended by Metro for contractor or consultant invoices, third party invoices, staff salaries, real estate and other expenses that is reported in Metro's Financial Information System (FIS).                                                                        |
| CURRENT FORECAST | The best estimate of the final cost of the project when all checks have been issued and the project is closed out. Current Forecast is composed of actual costs incurred to date, the best estimate of work remaining and a current risk assessment for each budgeted cost item.                      |

#### **Cost Report by Element Descriptions -**

|                       |                                                                                                                                                                                |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONSTRUCTION          | Includes construction contracts. Cost associated with Guideways, Stations, Southwestern Yard, Sitework/Special Conditions and Systems.                                         |
| RIGHT-OF-WAY          | Includes purchase cost of parcels, easements, right-of-entry permits, escrow fees, contracted real estate appraisals and tenant relocation.                                    |
| VEHICLES              | Includes the purchase of LRT vehicles and spare parts for the project.                                                                                                         |
| PROFESSIONAL SERVICES | Includes design engineering, project management assistance, construction management support services, legal counsel, agency staff costs, and other specialty consultants.      |
| CONTINGENCY           | A fund established at the beginning of a project to provide for anticipated but unknown additional costs that may arise during the course of the project.                      |
| PROJECT REVENUE       | Includes all revenue receivable to the Metro as a direct result of project activities. This includes cost sharing construction items, insurance premium rebates, and the like. |

## **APPENDIX**

### **LIST OF ACRONYMS**

|          |                                                           |
|----------|-----------------------------------------------------------|
| ACE      | Advanced Conceptual Engineering                           |
| ADA      | Americans with Disabilities Act                           |
| ADR      | Alternative Dispute Resolution                            |
| AFC      | Approved for Construction                                 |
| ALJ      | Administrative Law Judge                                  |
| AMC      | Airport Metro Connector                                   |
| APM      | Automated People Mover                                    |
| ATC      | Alternative Technical Concept                             |
| ATC      | Automatic Train Control                                   |
| ATSAC    | Automated Traffic Surveillance and Control                |
| BAFO     | Best and Final Offer                                      |
| BID      | Business Improvement Development                          |
| BIM      | Building Information Modeling                             |
| BLS      | Bureau of Labor Statistics                                |
| BNSF     | Burlington Northern Santa Fe Railway Company              |
| BOC      | Bus Operations Control                                    |
| CADD     | Computer Aided Drafting and Design                        |
| CALTRANS | California Department of Transportation                   |
| CARB     | California Air Resources Control Board                    |
| CCTV     | Closed Circuit Television                                 |
| CD       | Calendar Day                                              |
| CD       | Council District                                          |
| CDRL     | Contract Data Requirement List                            |
| CE       | Categorical Exemption                                     |
| CEQA     | California Environmental Quality Act                      |
| CFR      | Code of Federal Regulations                               |
| CIDH     | Cast in Drilled Hole                                      |
| CIP      | Cast in Place                                             |
| CLC      | Community Leadership Council                              |
| CM       | Construction Manager                                      |
| CMAQ     | Congestion Mitigation and Air Quality Improvement Program |
| CMU      | Concrete Masonry Unit                                     |
| CN       | Change Notice                                             |
| CO       | Change Order                                              |
| COI      | City of Inglewood                                         |
| COLA     | City of Los Angeles                                       |
| CONAD    | City of Los Angeles Contract Administration               |
| CPM      | Critical Path Method                                      |
| CPUC     | California Public Utilities Commission                    |
| CR       | Camera Ready                                              |
| CRMMP    | Cultural Resources Monitoring and Mitigation Plan         |
| CSM      | Cutter Soil Mixing                                        |
| CSP      | Cost and Schedule Proposal                                |
| CSPP     | Construction Safety Phasing Plan                          |

## APPENDIX

### LIST OF ACRONYMS (Continued)

|       |                                                   |
|-------|---------------------------------------------------|
| CTB   | Cement Treated Base                               |
| CTC   | California Transportation Commission              |
| CUD   | Contract Unit Description                         |
| CWP   | Construction Work Plan                            |
| DB    | Design Build                                      |
| DBB   | Design Bid Build                                  |
| DBE   | Disadvantaged Business Enterprise                 |
| DDR   | Design Deviation Report                           |
| DOT   | Department of Transportation                      |
| DRB   | Dispute Review Board                              |
| DWP   | Department of Water and Power                     |
| E&O   | Error and Omission                                |
| EEO   | Equal Employment Opportunity                      |
| EIR   | Environmental Impact Report                       |
| EIS   | Environmental Impact Statement                    |
| ENC   | Equipment Noise Certification                     |
| EPA   | Environmental Protection Agency                   |
| EPBM  | Earth Pressure Balance Machine                    |
| ESA   | Environmental Site Assessment                     |
| FAA   | Federal Aviation Administration                   |
| FAR   | Federal Acquisition Regulation                    |
| FAT   | Factory Acceptance Testing                        |
| FCBC  | Faith Central Bible Church                        |
| FD    | Final Design                                      |
| FEIR  | Final Environmental Impact Report                 |
| FEIS  | Final Environmental Impact Statement              |
| FEMA  | Federal Emergency Management Agency               |
| FFGA  | Full Funding Grant Agreement                      |
| FIS   | Financial Information System                      |
| FLSR  | Fire Life Safety Report                           |
| FONSI | Finding of No Significant Impact                  |
| FRA   | Federal Railroad Administration                   |
| FSEIR | Final Supplemental Environmental Impact Report    |
| FSEIS | Final Supplemental Environmental Impact Statement |
| FTA   | Federal Transit Administration                    |
| FTE   | Full Time Equivalent                              |
| GBR   | Geotechnical Baseline Report                      |
| GDR   | Geotechnical Data Report                          |
| GDSR  | Geotechnical Design Summary Report                |
| GFE   | Good Faith Effort                                 |
| HDPE  | High Density Polyethylene                         |
| HMM   | Hatch Mott MacDonald                              |
| HNTB  | Howard, Needles, Tammen and Bergendoff            |
| HPH   | Hensel Phelps/Herzog Joint Venture                |

**APPENDIX**  
**LIST OF ACRONYMS (Continued)**

|        |                                                          |
|--------|----------------------------------------------------------|
| IFB    | Invitation for Bid                                       |
| IFC    | Issued for Construction                                  |
| IPMO   | Integrated Project Management Office                     |
| ITF    | Intermodal Transportation Facility                       |
| JHA    | Job Hazard Analysis                                      |
| JV     | Joint Venture                                            |
| LA     | Los Angeles                                              |
| LABOE  | Los Angeles Bureau of Engineering                        |
| LABOS  | Los Angeles Bureau of Sanitation                         |
| LABSL  | Los Angeles Bureau of Street Lighting                    |
| LACO   | Los Angeles County                                       |
| LACFCD | Los Angeles County Flood Control District                |
| LACMTA | Los Angeles County Metropolitan Transportation Authority |
| LACSD  | Los Angeles Sanitation Department                        |
| LADOT  | Los Angeles Department of Transportation                 |
| LADPW  | Los Angeles Department of Public Works                   |
| LADWP  | Los Angeles Department of Water and Power                |
| LAFD   | Los Angeles Fire Department                              |
| LAPD   | Los Angeles Police Department                            |
| LAUSD  | Los Angeles Unified School District                      |
| LAWA   | Los Angeles World Airports                               |
| LAX    | Los Angeles International Airport                        |
| LNTP   | Limited Notice To Proceed                                |
| LOA    | Letter of Agreement                                      |
| LONP   | Letter Of No Prejudice                                   |
| LOP    | Life-of-Project                                          |
| LPA    | Locally Preferred Alternative                            |
| LRT    | Light Rail Transit                                       |
| L RTP  | Long Range Transportation Plan                           |
| LRV    | Light Rail Vehicle                                       |
| MBE    | Metro Builders and Engineers Group, Ltd                  |
| MCA    | Master Cooperative Agreement                             |
| MGL    | Metro Green Line                                         |
| MIC    | Microbiologically Influenced Corrosion Control System    |
| MIS    | Major Investment Study                                   |
| MMRP   | Mitigation Monitoring Reporting Plan                     |
| MOA    | Memorandum of Agreement                                  |
| MOS    | Minimum Operating Segment                                |
| MOU    | Memorandum of Understanding                              |
| MPS    | Master Program Schedule                                  |
| MPSR   | Monthly Project Status Report                            |
| MSDS   | Material Safety Data Sheet                               |
| MSF    | Maintenance & Storage Facility                           |

## APPENDIX

### LIST OF ACRONYMS (Continued)

|         |                                                                          |
|---------|--------------------------------------------------------------------------|
| N/A     | Not Applicable                                                           |
| NAVAIDS | Navigational Aid Systems                                                 |
| NEPA    | National Environmental Protection Act                                    |
| NFPA    | National Fire Protection Association                                     |
| NNC     | Notice of Noncompliance                                                  |
| NOD     | Notice of Determination                                                  |
| NPDES   | National Pollution Discharge Elimination System                          |
| NTE     | Not to Exceed                                                            |
| NTP     | Notice To Proceed                                                        |
| OCC     | Operations Control Center                                                |
| OCS     | Overhead Catenary System                                                 |
| OSHA    | Occupational Health and Safety Administration                            |
| OTS     | Over the Shoulder                                                        |
| PA/VMS  | Public Address/Visual Messaging Sign                                     |
| PDQM    | Project Design Quality Manual                                            |
| PE      | Preliminary Engineering                                                  |
| PEER    | Permit Engineering Evaluation Report                                     |
| PID     | Photo Ionization Detector                                                |
| PIP     | Project Implementation Plan                                              |
| PLA     | Project Labor Agreement                                                  |
| PM      | Project Manager                                                          |
| PMH     | Park Mesa Heights                                                        |
| PMIP    | Project Management Implementation Plan                                   |
| PMMP    | Paleontological Monitoring and Mitigation Plan                           |
| PMOC    | Project Management Oversight Consultant                                  |
| PMP     | Project Management Plan                                                  |
| P&P     | Policies & Procedures                                                    |
| POD     | Project Oriented Discussions                                             |
| PQPM    | Project Quality Program Manual                                           |
| PR      | Project Report                                                           |
| PSR     | Project Study Report                                                     |
| PTMISEA | Public Transportation Modernization, Improvement and Service Enhancement |
| QA      | Quality Assurance                                                        |
| QAR     | Quality Assurance Report                                                 |
| QC      | Quality Control                                                          |
| QPSR    | Quarterly Project Status Report                                          |
| QTIB    | Qualified Transit Improvement Bonds                                      |
| RAMP    | Real Estate Acquisition Management Plan                                  |
| RCHAR   | Rail Crossing Hazards Analysis Report                                    |
| RCMP    | Risk Assessment Management Plan                                          |
| REAP    | Rain Event Action Plans                                                  |
| RFC     | Request for Change                                                       |
| RFI     | Request for Information                                                  |

**APPENDIX**  
**LIST OF ACRONYMS (Continued)**

|        |                                                     |
|--------|-----------------------------------------------------|
| RFMP   | Rail Fleet Management Plan                          |
| RFP    | Request For Proposals                               |
| RFQ    | Request For Qualifications                          |
| RHA    | Risk Hazard Analysis                                |
| RLPE   | Red Light Photo Enforcement                         |
| ROC    | Rail Operations Center                              |
| ROD    | Record Of Decision                                  |
| ROE    | Right of Entry                                      |
| ROM    | Rough Order of Magnitude                            |
| ROW    | Right-Of-Way                                        |
| RPZ    | Runway Protection Zone                              |
| RSD    | Revenue Service Date                                |
| RSTP   | Regional Surface Transportation Program             |
| RTIP   | Regional Transportation Improvement Program         |
| RWQCB  | Regional Water Quality Control Board                |
| SAV    | Stand Alone Validator                               |
| SCADA  | Supervisory Control and Data Acquisition            |
| SCAQMD | Southern California Air Quality Management District |
| SCC    | Standard Cost Category                              |
| SCE    | Southern California Edison                          |
| SCG    | Southern California Gas Company                     |
| SCRRA  | Southern California Regional Rail Authority         |
| SHA    | State Highway Account                               |
| SHPO   | State Historic Preservation Office                  |
| SIT    | System Integration Testing                          |
| SOE    | Support of Excavation                               |
| SOP    | Standard Operating Procedure                        |
| SOQ    | Statement of Qualification                          |
| SOV    | Schedule Of Value                                   |
| SOW    | Statement Of Work                                   |
| SPAS   | Specific Plan Amendment Study                       |
| SPP    | Special Permitting Process                          |
| SSMP   | Safety and Security Management Plan                 |
| STB    | Surface Transportation Board                        |
| STIP   | State Transportation Improvement Program            |
| STP    | Surface Transportation Program                      |
| STV    | STV Group                                           |
| SWPP   | Storm Water Prevention Plan                         |
| SWY    | Southwestern Yard (Division 16)                     |
| TBD    | To Be Determined                                    |
| TBM    | Tunnel Boring Machine                               |
| TCC    | Train Control/Communications                        |
| TCE    | Temporary Construction Easement                     |

**APPENDIX**  
**LIST OF ACRONYMS (Continued)**

|       |                                                          |
|-------|----------------------------------------------------------|
| TCRP  | Traffic Congestion Relief Program                        |
| TIA   | Time Impact Analysis                                     |
| TIFIA | Transportation Infrastructure Finance and Innovation Act |
| TIGER | Transportation Investment Generating Economic Recovery   |
| TOD   | Transit Oriented Development                             |
| TPSS  | Traction Power Substation                                |
| TRACS | Transit Automatic Control System                         |
| TSC   | Traffic Signal Conduit                                   |
| TSL   | Temporary Street Lighting                                |
| TSM   | Transportation System Management                         |
| TVA   | Threat Vulnerability Analysis                            |
| TVM   | Ticket Vending Machine                                   |
| UBC   | Uniform Building Code                                    |
| UFS   | Universal Fare System                                    |
| UG    | Underground                                              |
| UOM   | Unit of Measure                                          |
| USDOT | United States Department Of Transportation               |
| UST   | Underground Storage Tank                                 |
| VE    | Value Engineering                                        |
| WBS   | Work Breakdown Structure                                 |
| WP    | Work Package                                             |
| WSCC  | Walsh/Shea Corridor Constructor                          |
| WTCP  | Work Traffic Control Plan                                |
| YOE   | Year of Expenditure                                      |