# 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 2013** 

### TABLE OF CONTENTS

Project Summary	1
Project Overview	2-4
Management Issues	5-7
Project Alignment	8
Base Project Scope	9-10
Project Status	
Project Schedule	
<ul> <li>Key Milestones Six-Month Look Ahead</li> </ul>	11
<ul> <li>Project Summary Schedule</li> </ul>	12
o Schedule Measurements	13
o Overall Construction Progress Curve	14
o Major Equipment Delivery	15
o Critical Path Narrative	16
Project Cost	
o Project Cost	17
<ul> <li>Project Cost Analysis</li> </ul>	17-18
<ul> <li>Project Contingency Drawdown</li> </ul>	19
<ul> <li>Project Contingency Drawdown Analysis</li> </ul>	19
<ul> <li>Disadvantaged Business Enterprise (DBE)</li> </ul>	20
<ul> <li>Project Labor Agreements (PLA) Status</li> </ul>	20
<ul> <li>Summary of Changes</li> </ul>	22
Financial/Grant	
<ul> <li>Financial/Grant</li> </ul>	22
<ul> <li>Status of Funds Anticipated</li> </ul>	23
Staffing	
o Total Project Staffing	24
<ul> <li>Metro Staffing</li> </ul>	25
<ul> <li>Construction Management Support Services Consultant</li> </ul>	25
o Engineering Services Consultant	26
Real Estate	27
Quality Assurance	28

# TABLE OF CONTENTS (Continued)

Page No.

		-
Environmental		29
Construction Rela	ations	30
Creative Services	s	30
Safety and Secur	ity	31
Third Party Agree	ement and Advanced Utility Relocation Status	32
Peak Hour and N	ighttime Construction Variances	33
California Public	Utilities Commission (CPUC) Summary	34
Chronology of Ev	ents	35-37
Construction Con	tracts	
o Contract C09	88 Status	38
o Contract C09	90 Status	39
o Contract C09	91 Status	40
o Contract C09	92	41
o Contract C09	92A	42
Construction Pho	tographs	43
Appendices		
Cost and Budget	Terminology	44
List of Acronyms.		45-49

### **PROJECT SUMMARY**

ion sewer w			CONSTRUCTION MANAGEMENT CONSULTANT: Stantec CONTRACTOR: Walsh-Shea Corridor Constructors (WSCC)						
	vork on Victor	ia Ave.	WORK COMPLETED PAST MONTH:						
			<ul> <li>o WSCC continued refinement of project alignment a profile.</li> <li>o WSCC continued development of traffic management plans for underground stations.</li> <li>o WSCC submitted baseline schedule.</li> <li>o WSCC continued design efforts on ground structure and local streets on all segments.</li> <li>o Metro continued real estate acquistions.</li> <li>o Metro Builders contractor continued street sewer relocations.</li> </ul>						
			SCHEDULE ASSESSMEN	NT					
URRENT STIMATE	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS			
136.7	\$ 38.7	28.3%			Complete Complete				
127.4	\$ 86.2	67.7%	Design						
1,353.1	\$ 61.2	4.5%	Preliminary Engineering Final Design	Nov-11 Sep-15		Complete On Schedule			
440.8	\$ 59.3	13.5%	Right-of-Way						
2,058.0	\$ 245.4	11.9%							
			D-B Notice to Proceed	Sep-13	Sep-13	Complete			
ecast dates	are trending la	ter than	D-B Substantial Complete	Sep-18	Sep-18	On schedule			
			Revenue Service Date	Oct-19	Oct-19	On schedule			
planned. o Timely future reviews of WSCC's designs by City of Los Angeles, City of Inglewood, Caltrans, FAA and Los Angeles World Airports. o CPUC suspension of 164-D process has delayed approval of crossing applications. o Construction variances required from the City of LA. o Various utility relocations by third parties required prior to WSCC construction.									
PLAN	ACQUIRED	REMAINING							
34	10	24	o WSCC continue de	velopment	of early w				
40	0	40	o WSCC prepare var	ious permit	application	ons.			
74	10	64	<ul> <li>o WSCC commence geotecnnical exploration.</li> <li>o Metro continue turning over properties to WSCC.</li> <li>o Metro Builders contractor continue street sewer relocations.</li> </ul>						
	STIMATE 136.7 127.4 1,353.1 440.8 2,058.0 ecast dates SCC's desig AA and Los process ha uired from the r third partie PLAN 34 40	STIMATEAMOUNT136.7\$38.7127.4\$86.21,353.1\$61.2440.8\$59.32,058.0\$245.4SCC's designs by City of LAA and Los Angeles Worlprocess has delayed appuired from the City of LA.third parties required price91ACQUIRED3410400	STIMATEAMOUNTEXPENDED136.7\$ 38.728.3%127.4\$ 86.267.7%1,353.1\$ 61.24.5%440.8\$ 59.313.5%2,058.0\$ 245.411.9%SCC's designs by City of Los Angeles, AA and Los Angeles World Airports. process has delayed approval ofAirports.PLANACQUIREDREMAINING34102440040	Plans for undergroup or WSCC submittee or WSCC continued or WSCC continued or Metro Builders carelocations.         URRENT       EXPENDED       PERCENT       MAJOR SCHEDULE         STIMATE       AMOUNT       EXPENDED       AATIVITIES         136.7       \$ 38.7       28.3%       FEIS/FEIR         127.4       \$ 86.2       67.7%       Design         140.8       \$ 59.3       13.5%       FIIS/FEIR         2,058.0       \$ 245.4       11.9%       All parcels available         Construction         0-B Notice to Proceed         2,058.0       \$ 245.4       11.9%       All parcels available         Construction         D-B Notice to Proceed         D-B Substantial Complete         Revenue Service Date         SC's designs by City of Los Angeles,         A and Los Angeles World Airports.         process has delayed approval of       o WSCC continue de       o WSCC continue de         a WSC Continue de       o WSCC continue de	Plans for underground stations o WSCC submitted baseline s o WSCC continued design efficient of the city of LA.         URRENT INTER EXPENDED AMOUNT EXPENDED STIMATE AMOUNT EXPENDED AMOUNT EXPENDEMAMOUNT EXPENDED AMOUNT EXPENDED AMOUNT EXPENDED	URRENT       EXPENDED       PERCENT       MAJOR SCHEDULE       PRIOR       CURRENT         URRENT       EXPENDED       PERCENT       MAJOR SCHEDULE       PRIOR       CURRENT         136.7       \$ 38.7       28.3%       Telocations       Pertorental       PERCENT         136.7       \$ 38.7       28.3%       FEIS/FEIR       Sep-11       Sep-11       Sep-11         136.7       \$ 38.7       28.3%       FEIS/FEIR       Sep-11       Sep-11       Sep-11         127.4       \$ 86.2       67.7%       Besign       Sep-15       Sep-15       Sep-15         440.8       \$ 59.3       13.5%       Preliminary Engineering       Nov-11       Nov-11       Nov-11       Nov-11         440.8       \$ 59.3       13.5%       Right-of-Way       Sep-15       Sep-15       Sep-15         2.058.0       \$ 245.4       11.9%       All parcels available       Aug-14       Oct-14         2.058.0       \$ 245.4       11.9%       All parcels available       Aug-14       Oct-14         Scription       D-B Notice to Proceed       Sep-13       Sep-18       Sep-18       Sep-18         Scription       D-B Substantial Complete       Sep-18       Sep-18       Sep-18			

### **PROJECT OVERVIEW**

#### Major Contract Procurement

The recommendation for award of Contract C0992 Concrete Ties went to the Metro Construction Committee in November and is going to the full Metro Board of Directors meeting on December 5, 2013. This contract was originally one but has been split into two with a new contract number, C0992A, assigned for the rebid of running rail and bumping posts scope of work.

Contract C0992A bids were received in November and the recommended award will be going to Metro Board of Directors in January 2014.

Solicitation of the last design-build contract to be issued for this project is Contract C0991 Southwestern Yard, which is planned to be advertised in 2015.

#### **Construction**

**Contract C0990** - The advanced utility relocations Contractor, Metro Builders and Engineers Group, LTD (MBE) continues relocations along Crenshaw Blvd. The City of Los Angeles sewer relocations along 67<sup>th</sup> Street and Crenshaw is around **60%** complete and 60<sup>th</sup> Street and Crenshaw is around **85%** complete. The City of Los Angeles storm drain at Leimert Park Place is almost complete.

The LADWP (Water) scope of work for lowering and encase four water crossings on Crenshaw Blvd will commence December 2013 and complete April 2014. The contractor is working on required submittals that need to be reviewed and approved prior to commencement of starting work.

*The contractor is behind schedule and Metro has requested a recovery schedule.* The projected completion date does not appear to impact the follow-on design-build contractor C0988. See the Contract C0990 Status sheet on page 39 for more information.

**Contract C0988** – The design-builder, Walsh-Shea Corridor Constructors (WSCC) continues mobilization to the Integrated Project Management Office (IPMO) near Los Angeles International Airport. The design-builder has commenced final design and continues to prepare and submit early required contract submittals. *Facility design progress continues with interface working group meetings to address and review potential interface issues. Early work packages remain on schedule which include utility relocations, station footprint definition, maintenance of traffic drawings, tunnel liner, special trackwork, track drainage and track alignment. WSCC has submitted the baseline schedule for Metro approval.* 

Construction progress continues with the build-out of the integrated project management office near LAX Airport nearing completion, initiation of geotechnical exploration in the south section of the project, and preparing various permit applications. See the Contract C0988 Status sheet on page 38 for more information.

### **PROJECT OVERVIEW (Continued)**

#### Right-of-Way

The Real Estate Acquisition and Management Plan (RAMP) and Relocation Plan were completed on October 24, 2012. Metro requested and FTA approved increasing the threshold value for property acquisitions from \$500,000 to \$1,500,000.

There are a total of 74 parcels; one more parcel was added *in October 2013* which was originally an encroachment. There are 35 full takes, 27 partial takes and 12 temporary construction easements (TCE's) *Thirty-six offers have been made*, twelve agreements have been signed and ten parcels have been acquired. *The number of appraisals underway or completed is 72.* 

#### <u>Systems</u>

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. Preliminary engineering design has been completed and final design is scheduled to be completed by February 2014.

#### 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 will add \$135 million to the LOP budget which included \$80 million in uncommitted fiscal year 2014 funding and \$55 million from City of Los Angeles. Metro needs to secure a legally binding 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.

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 current budget includes the 49% cost allocation share that the Project is responsible for paying for the design and construction of the Southwestern Yard. This amount is \$139.4 million of the \$285.2 million forecast cost for the Southwestern Yard. The \$139.4 million is allocated in the various SCC categories.

### **PROJECT OVERVIEW (Continued)**

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$139.4 million allocation and Environmental/Planning budget of \$26.0 million is \$1,892.6 million.

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$139.4 million allocation and Environmental/Planning budget of \$26.0 million is \$1,892.6 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 federal percentages are as follows; local funding 79.9%, state funding 14.0% and federal funding 6.1%.

The project commitments thru November 2013 are \$1,607 million or 78% of the Current Budget. The project expenditures thru November 2013 are \$245.4 million or 11.9% of the Current budget. The expenditures to date are for environmental/planning, preliminary engineering, third party utility relocation work, agency reviews/coordination, Contract C0990 advance utility relocations, Contract C0988 design-build mobilization and early design, right-of-way and professional services. Expenditures to date include the Southwestern Yard expenditures that are part of the 49% cost allocation share that the Project is responsible for paying for.

The project master schedule continues to reflect a forecast of October 2019 for Revenue Service which includes the additional two station options, Leimert Park Station and Hindry Station. This Baseline Revenue Service Date reflects the award of the design-build contract and ratification of a board motion to execute the bid options in the RFP conditioned upon amendment to the TIFIA loan agreement and execution of an agreement with the City of Los Angeles.

The project schedule contingency remains the same this period at 8.7 months.

A Risk Assessment Workshop is planned for December 11 and 12 for the purpose of conducting a risk assessment of the project at a key stage of the project. This Workshop will provide a basis for updating the project's risk register and Risk and Contingency Management Plan. This will be the third of five planned Risk Assessment Workshops.

### **MANAGEMENT ISSUES**

**Concern No. 1:** Complete Construction Safety Phasing Plan (CSPP) for design-builder scope of work near LAX and receive FAA approval.

**<u>Status/Action</u>** A CSPP has been previously completed and submitted and approved by FAA for the Advanced Utility Relocation Contractor. Now a CSPP has to be submitted by the design-builder for their scope of work and get FAA approval before work can commence in the LAX area.

**Concern No. 2:** Metro has submitted five applications to the California Public Utilities Commission (CPUC) for approval of grade crossing improvements. None have been approved.

**Status/Action** Metro completed and submitted all formal applications. There have been protests on two of the five applications (1 and 4). Metro continues to work with the CPUC on at least getting approval *in February 2014* on the three applications (2, 3, and 5) that have had no protests.

One of the issues within Application No. 1 was resolved on October 31, 2013, when the CPUC adopted the consent agenda item that approved the Settlement Agreement between Metro and Faithful Central Bible Church and the Easement Agreement for the construction and governance of a pedestrian tunnel west of Eucalyptus Avenue.

The protest filed by the City of Inglewood regarding the Centinela and Eucalyptus Avenue atgrade crossing remains open. The presiding officer's decision is anticipated by end of January 2014.

The Crenshaw Subway Coalition Park-Mesa grade crossing issue remains open with a presiding officer's decision anticipated by the end of February 2014.

**Concern No. 3:** Execution of Local Match Agreements for 3 percent project funding is required with the City of Inglewood.

<u>Status/Action</u> The City of Inglewood has a draft Agreement. *Metro is working with the appropriate counterparts to have this item completed.* 

**Concern No. 4:** Execution of Grant Agreement with City of Los Angeles for \$55.0 Million.

**<u>Status/Action</u>** The Agreement that will provide for the City of Los Angeles 3% contribution for the Crenshaw/LAX is in draft form and is being circulated with the City of Los Angeles for signature. The current plan is to present as an item at the *February 2014* Metro Board of Directors meeting for approval.

### MANAGEMENT ISSUES

**Concern No. 5**: Right-of-way acquisition forecast dates are trending later than planned.

<u>Status/Action</u> Additional consultant staff has been added to support existing Metro staff in completing appraisals and support relocation efforts. Ten parcels have been turned over to the design-builder *through November 2013 with an additional eight forecast to be turned over by the end of December 2013.* 

**Concern No. 6**: Variance to nighttime working hours.

**Status/Action** Variances to nighttime working hours on all five construction segments had been approved by the Los Angeles Police Commission. See page 26 for map of variance segments. Variances have to be renewed every six months.

The variance to nighttime working hours for Segments A, B, C and E have been renewed thru June 3, 2014. The variances for Segments D for the main Crenshaw/LAX Design/Build Contract are still pending approval from Council District 8. Metro has been meeting with Council District 8 and has been successful in restoring variances from Council District 8 for the Advance Utility Relocations Contractor.

**Concern No. 7:** Timely future reviews of WSCC final design submittals by City of Los Angeles, City of Inglewood, Caltrans, *FAA* and Los Angeles World Airports.

<u>Status/Action</u> Metro is coordinating with all third party agencies in advance of the first submittals by WSCC to ensure that timely review requirements will be met to support WSCC's baseline 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.

### **MANAGEMENT ISSUES (Continued)**

**Concern No. 8:** Additional scope of work for the design-builder to accommodate the Los Angeles World Airports (LAWA) Specific Plan Amendment Study (SPAS).

<u>Status/Action</u> There is a potential 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. Crenshaw/LAX Project obtained Metro Board authorization to Proceed in December 2013 with the required future design or construction effort. This will be monitored closely to avoid impacts to the project cost and schedule.

**Concern No. 9:** Special Permitting Process (SPP).

**<u>Status/Action</u>** Requires City of Los Angeles to approve SPP for Crenshaw/LAX Project which exempts project from certain restrictions. Application has been made to City of Los Angeles for approval.

Concern No. 10: Relocations of utilities by outside third parties required to be performed in advance of the main Crenshaw/LAX Design Build Contractor's work.

<u>Status/Action</u> Metro is working closely with various third party agencies to have this work performed in accordance to the required schedule.



### **PROJECT ALIGNMENT**

### **BASE 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 will include 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 new 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 is bid-build Invitation for Bid (IFB) approach.

#### 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. Street improvements at the Slauson intersection have been added to the base work for which Metro will continue to seek partial reimbursement from the City of Los Angeles. The project delivery method for this contract is 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).

### **BASE 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 is design-build Invitation for Bid (IFB) approach with a two-step evaluation process for technical qualifications and responsive low bid.

#### **Owner-Supplied Equipment - Contract C0992 Crenshaw/LAX Procurement**

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 is bid-build Invitation for Bid (IFB) approach.

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

Metro has added a new 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 is bid-build Invitation for Bid (IFB) approach.

### **KEY MILESTONES SIX- MONTH LOOK AHEAD**

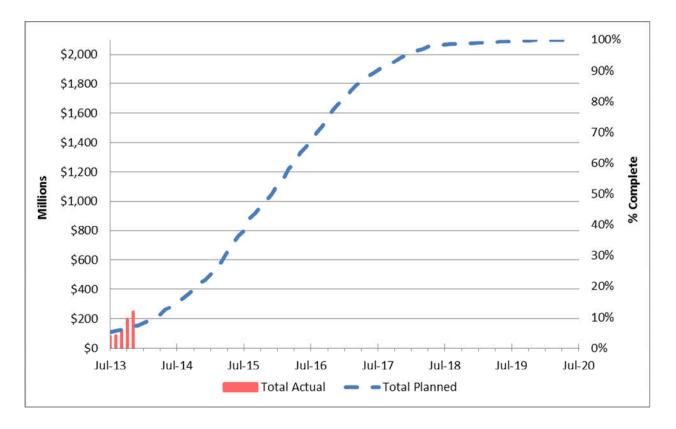
	Milestone Date	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14
ontract C0992 Rail & Tie Board Approval	12/05/13		2				
ontract C0992A Rail Board Approval	01/23/14			M			
MTA Staff     MTA Board Action	FTA (Federal	Transportatior	h Authority)				
△ Other Agencies □ Contractors		sign 📲	Walsh	Shea Corrido	r Constructor	5	
"A" following date is actual and completed	★ New						

Prenchault AV Transit Corridor - Novambar 2013	Con C	Proveshavi (MDS O Immanyi (MDSCD)
	i	
Activity Name	Start Finish	202 2014 2015 2015 2015 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2017 2018 2018 2018 2018 2018 2018 2018 2018
Crenshaw/I AX Transit Corridor - November 2013	26-Mar-09 A 30-Oct-19	Creates and AX Transition of Control of Cont
Milestones & Key Dates	19-Nov-09 A 30-Oct-19	Milestones & Key Dates
Program Elements	01-Apr-11 A 11-Feb-19	Program Elements
Droiact #865513 Cranshaw/I AY	26-Mar-09 A 07-Sep-18	Derival #DEE(1) Crassbarran AV
	00 11-0 10 0 0 0 10	
Contract #1 (C0988) Crenshaw/LAX	26-Mar-09 A 07-Sep-18	Contract #1 (C0988) Crentshaw/LAX
Project Planning & Development		beleiopment
Right-of-Way (ROW)	01-Jan-12 A 11-Oct-14	Fight-ol-Way (ROW)
Design Build Procurement	22-Dec-11 A 10-Sep-13 A	Design Build Procurement
Design & Engineering		<ul> <li>Design &amp; Engineering</li> </ul>
Construction & Installation		Construction & Installation
Sitework	4	Silework
Guideway & Track		Guideway & Track
Tunneling		Timmeling
Stations		Stations
Jacting	13-1im-18 07-Sen-18	Systems
Contract #2 (C0990) Advanced Utility Relocation	4	
Doning Duild Provincement	11. Jan. 10 & 17. Jul. 10 &	
Design & Engineering		mert
Design & Engineering Construction & Instellation		
Construction of instantation Sthework		Construction & Installation
	1/-JUI-12 A 28-Apt-14	Sitework
		Contract #4 (C0992) Rail & Tie Procurement
Contract #5 (C0992A) Running Rail & Bumping Post Procurement	15-Oct-13 A 26-Mar-14	Contract #5 (C0992A) Running Rail & Bumping Post Procurement
Project #860003 Southwestern Yard	20-Oct-10 A 15-Jun-18	Project #860003 Southwestern Yard
Contract #2 (C0001) Southwestern Vard 8. Daint/Rody Shon	20-Oct-10 A 15-Jun-18	
		Contract #3 (20391) Southwestern Yard & Pain/Body Shop
Right-of-Way (ROW)	4	Hight-aliWay (ROW)
Design Build Procurement		Design Build Frocurement
Design & Engineering		Design & Engineering
Preliminary Engineering	20-Oct-10 A 18-Dec-12 A	
Final Design		
Construction & Installation	18-Jan-17 15-Jun-18	Construction & Installation
Start Up	07-Sep-18 30-Oct-19	Start Up
Actual Level of Effort Remaining Work Summary Actual Work Summary		Page 1 of 1

### **PROJECT SUMMARY SCHEDULE**

### SCHEDULE MEASUREMENTS

		Change from	
	_	Last	
	Status	Period	Comment
Current Revenue Service:	10/1/2019	None	
Forecast Revenue Service:	10/1/2019	None	
TIFIA Revenue Service:	10/1/2019	None	
Final Design Progress:			
Contract C0988	12%	6%	NTP issued 9/10/2013
Contract C0990	100%	None	Design Completed
Contract C0991	-	-	P.E Completed only
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts Progress:			
Contract C0988	0%	0%	
Contract C0990	68%	6%	
Contract C0991	0%	-	
Contract C0992	0%	-	In Procurement Phase
Contract C0992A	0%	-	In Procurement Phase
Cumulative To Date Progress:	10.6%		



#### **OVERALL CONSTRUCTION PROGRESS CURVE STATUS**

The above progress curve is based on planned and actual program expenditures and is still considered preliminary. Upon review and approval of the C0988 baseline schedule prepared by the design-build contractor, the curve will be revised to incorporate progress as projected by the design-build contractor.

The cumulative overall final design and construction progress is 10.6%.

Construction progress for C0990 is 68%. This contractor continues to be behind schedule. See Contract C0990 Status sheet, page 39, for more information.

Final Design for C0988 commenced upon MTA issuing NTP on September 10, 2013. Cumulative final design progress to date is 12%. There is no construction progress to date. See Contract C0988 Status sheet, page 38, for more information.

### MAJOR EQUIPMENT DELIVERY STATUS

#### **Tunnel Boring Machine**

WSCC, the design-builder for Contract C0988, will procure the tunnel boring machine and equipment. A purchase order for the equipment has been released by the design-builder.

#### 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 includes 20 LRVs for the Crenshaw/LAX project and two additional cars for spares.

#### 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.

#### Running Rail and Concrete Ties

Procurement of the concrete ties is going to the MTA Board of Directors for approval in December 2013. Procurement of the running rail is out to bid and will go to the MTA Board of Directors for approval in January 2014.

### **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 critical path moves through final design for the alignment and completing shop drawings to begin procurement of the tunnel boring machines (TBMs). The TBMs are a long lead item and as packages of final design are approved for construction, work will commence on the alignment construction activities prior to the TBMs arrival, assembly and testing.

The critical path then flows to remaining construction elements: tunneling, guideway construction, station construction, and systems installation. 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.

### **PROJECT COST STATUS**

#### Crenshaw/LAX Transit Corridor COST REPORT BY ELEMENT

PERIOD ENDING: 29-NOVEMBER-2013

UNITS	IN		
UNITS	IIN	DOL	LANO

UNITS	IN DOLLARS										
SCC	DESCRIPTION	ORIGINAL	CURREN	IT BUDGET	COMMIT	MENTS	EXPEND	DITURES	CURRENT	FORECAST	FORECAST
CODE	DESCRIPTION	BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
10	GUIDEWAYS	471,335,000	-	452,500,001	-	435,500,001	5,200,000	5,200,000	-	452,500,001	-
20	STATIONS	153,906,000	-	316,050,000	-	300,550,000	627,430	669,460	-	316,050,000	-
30	SOUTHWESTERN YARD	66,673,000	-	66,673,000	-	-	-	-	-	66,673,000	-
40	SITEWORK\SPECIAL CONDITIONS	235,576,000	-	348,565,999	417,050	326,887,712	23,340,000	55,376,673	-	348,565,999	-
50	SYSTEMS	125,132,000	-	169,311,000	-	149,821,000	-	-	-	169,311,000	-
10-50	CONSTRUCTION	1,052,622,000	-	1,353,100,000	417,050	1,212,758,713	29,167,430	61,246,133	-	1,353,100,000	-
60	RIGHT-OF-WAY (Note 3)	132,294,000	-	127,400,000	1,219,299	118,907,590	3,691,321	86,153,285	-	127,400,000	-
70	LRT VEHICLES	87,780,000	-	82,100,000	73,845,812	82,050,901	7,331,542	7,331,542	-	82,100,000	-
80	PROFESSIONAL SERVICES (Note 4)	273,147,000	-	295,900,000	2,384,272	167,469,661	6,159,358	65,158,474	-	295,900,000	-
90	UNALLOCATED CONTINGENCY	177,157,000	-	173,500,000	-	-	-	-	-	173,500,000	-
	865512 & 860003 - SUBTOTAL	1,723,000,000	-	2,032,000,000	77,866,433	1,581,186,865	46,349,650	219,889,433	-	2,032,000,000	-
	ENVIRONMENTAL/PLANNING-405512	5,526,150	-	5,526,150	-	5,524,858	-	5,524,858	-	5,524,858	(1,292
	ENVIRONMENTAL/PLANNING-465512	20,473,850	-	20,473,850	-	20,475,142	-	20,023,238	-	20,475,142	1,292
	405512 & 465512 - SUBTOTAL	26,000,000	-	26,000,000	-	26,000,000		25,548,097	-	26,000,000	-
	405512, 465512, 865512 & 860003 - TOTAL	1,749,000,000	-	2,058,000,000	77,866,433	1,607,186,865	46,349,650	245,437,530	-	2,058,000,000	-

Note-1: 405512, 465512, 865512 and 860003 are internal MTA project numbers to differentiate between environmental/planning and construction components of the project. Note-2: Project 865512 & 860003 expenditures are cumulative through 29-Nov-2013.

Note-3: Includes \$58,990,963 commitments and \$58,876,196 expenditures for the Southwestern Yard project 860003 (49% of \$285.2 million forecast budget).

Note-4: Includes \$2,233,307 commitments and \$440,047 expenditures for the Southwestern Yard project 860003 (49% of \$285.2 million forecast budget).

## **PROJECT COST ANALYSIS**

#### Original Budget and Current Budget:

The Board in October 2011 established the Life-of-Project (LOP) budget of \$1,749 million for the Crenshaw/LAX Transit Corridor 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 current budget above continues to include 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 \$139.4 million of the \$285.2 million forecast cost for the Southwestern Yard. The \$139.4 million is spread among the appropriate SCC categories in the Project Cost Status table

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

on previous page. The categories include SCC 30, 60, 80 and 90. The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$139.4 million allocation and Environmental/Planning budget of \$26.0 million, is \$1,892.6 million.

#### **Current Forecast:**

The total project forecast is \$2,058 million. There is no variance with the Current Budget.

#### Commitments:

The commitments are cumulative through November 29, 2013. The total commitments increased by \$77.8 million this period primarily due to the following:

- SCC-40 (Sitework & Special Conditions) has increased by \$0.4 million for costs associated with the Advance Utility Relocation contract C0990 with Metro Builders and Engineers LTD and third party scope of work with Cable Engineering Services.
- SCC-60 (Right-of-Way) has increased by \$1.2 million for real estate appraisal, environmental, relocation, and loss of goodwill.
- SCC-70 (Vehicles) has increased by \$73.8 million for costs associated with exercising Option 1 of the P3010 Contract with KINKISHARYO INTERNATIONAL, LLC to procure 22 light rail vehicles.
- SCC-80 (Professional Services) has increased by \$2.4 million due to executed Contract C0988 Crenshaw/LAX Transit Corridor and legal services, and third party scope of work with Los Angeles City Department, signage and graphics, security services.

The \$1,607.2 million in commitments to date represents 78.0% of the current budget.

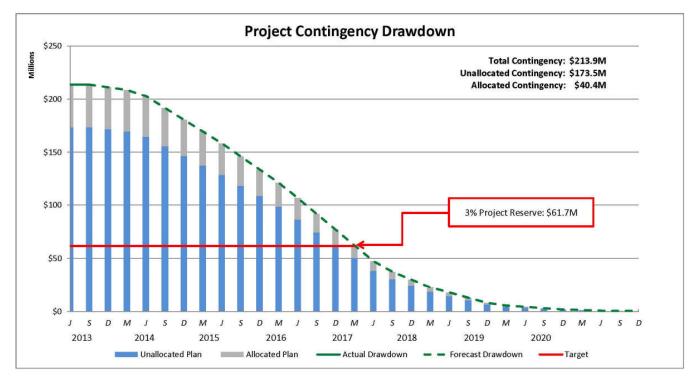
#### Expenditures:

The expenditures are cumulative through November 29, 2013. The total expenditures increased by \$46.3 million this period due to the following:

- SCC-10 (Guideways and Track) has increased by \$5.2 million for cost associated with Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$0.6 million for cost associated with Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-40 (Sitework and Special Conditions) has increased by \$23.4 million for costs associated with Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-60 (Right-of-Way) has increased by \$3.7 million for costs associated with real estate acquisition, environmental, relocation, and loss of goodwill.
- SCC-70 (Vehicles) has increased by \$7.3 million for costs associated with exercising Option 1 of the P3010 Contract with KINKISHARYO INTERNATIONAL, LLC to procure 22 light rail vehicles.
- SCC-80 (Professional Services) has increased by \$6.1 million for costs associated with Contract C0988 Crenshaw/LAX Transit Corridor, Engineering and Design Contract E0117, Metro project administration, IPMO field office lease and utilities, construction management support services, legal services, third party scope of work with Los Angeles City Departments, community relations and environmental consultant services.

The \$245.4 million in expenditures to date represents 11.9% of the Current Budget.

### PROJECT CONTINGENCY DRAWDOWN



### **PROJECT 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. The Board is to be notified when it becomes necessary to drawdown contingency below the project reserve line to cover project costs. This 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.

#### **Current Period Contingency Drawdown Status:**

There was no drawdown this period.

#### **Cumulative Contingency Status:**

The cumulative contingency remains at \$213,866,792.

### DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

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

- DBE Goal Design 20.40%
- Current DBE Commitment \$18,500,000 (20.37%)
- Current DBE Participation \$52,324 (0.28%)
- Ten design subcontractors have been identified to-date
- DBE Goal Construction 20%
- Current DBE Commitment \$8,828,909 (0.69%)
- Current DBE Participation \$0 (0.00%)

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

Contract C0988 Crenshaw/LAX Transit Corridor D	esign-Build
(Reporting Data as of November 30, 2013)	
Targeted Worker Goal –	40.00%
Targeted Worker Current Participation -	55.76%
Apprentice Worker Goal -	20.00%
Apprentice Worker Current Participation -	15.14%
Disadvantaged Worker Goal -	10.00%
Disadvantaged Worker Current Participation	32.07%

#### **SUMMARY OF CHANGES**

	Ар	proved Chan	ges by Cost	Level	
C0988, 4 Chan	ges			1	
C0990, 29 Chan	ges				
C0991, 0 Chan	ges			I	
C0992, 0 Chan	-				
C0992A, 0 Chan	ges			1	
(	\$2,000,000)	(\$1,000,000)	\$	0 9	\$1,000,000
	C0992A, 0	C0992, 0	C0991, 0	C0990, 29	C0988, 4
	Changes	Changes	Changes	Changes	Changes
Under \$100K	0	0	0	183,751	0
\$100K to \$250K	0	0	0	358,242	0
\$250K to \$1M	0	0	0	251,864	0
Over \$1M	0	0	0	(1,050,000)	0
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Twenty-nine changes have been issued since execution of Contract C0990. The project team has identified and is evaluating an additional seven potential changes valued at \$0.8 million.

### **FINANCIAL/GRANT STATUS**

\$ in millions									
	(A) ORIGINAL	(B) TOTAL	(C) TOTAL	(D) COMMITM	(D/B) /ENITS	(E) EXPENDI	(E/B) TIRES	(F) BILLED to	(F/B) FUNDING
SOURCE	BUDGET	FUNDS	FUNDS						SOURCE
		ANTICIPATED	AVAILABLE	\$	%	\$	%	\$	%
FEDERAL- CMAQ	68.2	54.0	0.0	54.0	100%	0.0	0%	0.0	0%
FEDERAL - SECTION 5309 BUS CAPT	8.6	8.6	8.6	8.6	100%	7.2	84%	7.2	84%
FEDERAL - REGIONAL STP	20.0	48.2	0.0	48.2	100%	0.0	0%	0.0	0%
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	13.3	39%	0.0	0%	0.0	0%
STATE REGIONAL IMPROVEMENT PROG	2.2	2.2	2.2	2.2	100%	22	100%	22	100%
STATE PPM	0.178	0.178	0.178	0.178	100%	0.178	100%	0.178	100%
STATE PROP 1B PTMSEA	201.2	201.2	23.4	201.2	100%	23.4	12%	23.4	12%
STATE PROP 1 BLOCAL PARTNER PROG	0.0	49.5	0.0	49.3	99%	0.0	0%	0.0	0%
MEASURE R - TIFIA LOAN	545.9	545.9	545.9	545.9	100%	0.0	0%	0.0	0%
MEASURE R	661.1	661.1	347.1	661.1	100%	189.1	29%	140.9	21%
OTHER FUNDS*	52.4	187.5	0.0	0.0	0%	0.0	0%	0.0	0%
PROPC25% HIGHWAY	148.9	189.6	3.8	3.4	2%	3.4	2%	3.4	2%
PROPC40% 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	4.9	0%	4.9	0%	4.8	10%
TOTAL	1,749.0	2,058.0	951.1	1,607.2	78.0%	245.4	11.9%	197.2	8.1%

NOTE: Expenditures are cumulative through November 2013.

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), ONG Tax Oredit (\$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. *Metro submitted a formal submittal in November 2014 for review and approval.* 

**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 is expected to be approved by December 2013.

**STATE PROP 1B LP:** An allocation request of \$49.5M was submitted in April 2013 and approved in July 2013. Expected execution from Caltrans in *December 2013.* 

**MEASURE R – TIFIA LOAN (Transportation Infrastructure Finance & Innovation Act):** Application for a loan of \$545.9 M was submitted to the US Department of Transportation (DOT) in November 2011. Loan agreement was executed on September 12, 2012. The current financial plan is to drawdown funds not prior than FY16.

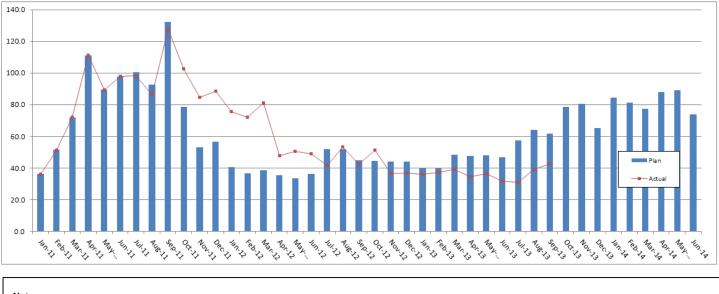
**MEASURE R:** \$53.4M has been allocated to the project based on the January 2012 Funding Plan. Funds are available for drawdown. An additional \$293.7M for FY13 has been allocated to the project based on the proposed May 2012 Measure R Extension Long Range Plan.

**PROP C 25% HIGHWAY:** \$3.8M has been allocated to the project based on the January 2012 Funding Plan. Funds are available for drawdown.

**PROP A 35% RAIL CAPITAL:** Based on November 2011 Long Range Transportation Plan, \$4.8 M of Proposition A 35% Rail Capital was allocated in FY2012 for the project. No Proposition A 35% Rail Capital Funds are allocated for Fiscal 2013 and 2014.

### **STAFFING STATUS**

### Total Project Staffing – FTES



#### Notes:

1. FTE = Full Time Equivalent

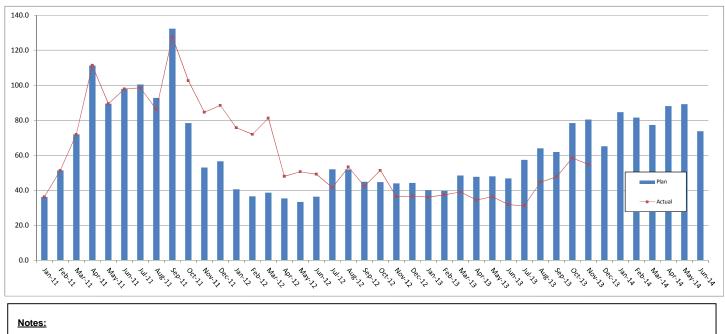
2. Staffing levels are for project 865512 only.

3. Actual staffing levels are cumulative through November 2013.

### TOTAL PROJECT STAFFING

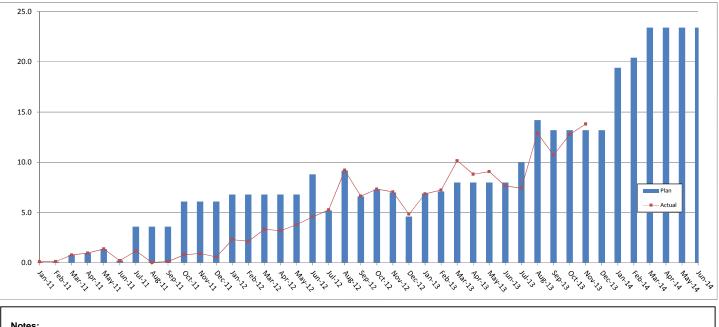
For November 2013, there were a total of 27.1 FTE's for MTA's Project Administration staff and 27.6 FTE's for consulting staff. The total project staffing was 54.7 FTE's for November 2013. The overall FY14 Total Project Staffing plan averages 75.1 FTE's per month.

### STAFFING STATUS (Continued) METRO STAFFING – FTES



- 1. FTE = Full Time Equivalent
- 2. Staffing levels are for project 865512 only.
- 3. Actual staffing levels are cumulative through November 2013.

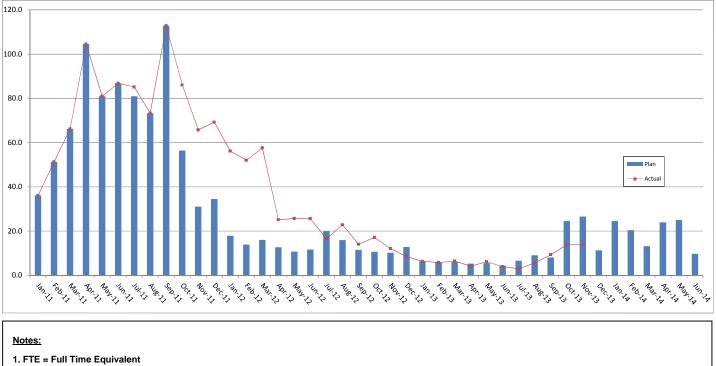
#### CONSTRUCTION MANAGEMENT SUPPORT SERVICES CONSULTANT – FTES



#### Notes:

- 1. FTE = Full Time Equivalent
- 2. Staffing levels are for project 865512 only.
- 3. Actual staffing levels are cumulative through November 2013.

## STAFFING STATUS (Continued) ENGINEERING SERVICES CONSULTANT - FTES



2. Staffing levels are for project 865512 only.

3. Actual staffing levels are cumulative through November 2013.

### **REAL ESTATE STATUS**

Contract No.	Number of Parcels	Certified	Decertified	Appraisals in Process/Compl	Offers Made	Agreements Signed	Condemnation Filed	Relocations Complete	Parcels Available
C0988 C/LAX Transit Corrido	or (D-B):								
Crenshaw									
Full Takes	12	12		12	10	4	5	2	3
Part Takes (PT or SE)	10	9	1	9	1	1			
TCE	10	10		9					
Subtotal Parcels	32	31	1	30	11	5	5	3	3
Relocations	15							2	
C0988 Harbor Subdivision									
Full Takes	14	14		14	14	4	6	5	6
Part Takes (PT or SE)	19	18	1	18	3				
TCE	3	2	1	2					
Subtotal Parcels	36	34	2	34	17	4	5	5	6
Relocations	34							5	
Total HS/CR Parcels:	68	65	3	64	28	9	9	8	9
C0991Southwestern Yard (D	-B):								
Full Takes	8	8		8	8	3	11	1	1
Part Takes	0								
TCE	0								
Subtotal Parcels:	8	8	0	8	8	3	4	1	1
Relocations	4							0	
C0990 C/LAX Advance Utility	Relocation	ıs:							
Total Parcels:	0								
Total Project Parcels	76	74 *	3	72	36	12	16	9	10

- **72** appraisals in various stages of completion.
- 36 environmental investigations underway.
- 41 owner and tenant relocations in various stages.
- **36** offers made to property owners.
- 12 agreements have been signed.
- 10 parcels acquired.

\* One parcel did not require certification as it was not included as one of the parcels listed in the Environmental Impact Report due to its original status as an encroachment.

### QUALITY ASSURANCE STATUS

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

- WSCC formally submitted their Project Quality Program Manual to Metro and it was approved.
- WSCC generated its first Construction Work Plans (CWP's) and conducted its first Readiness Review Meeting as required by specification section 01.43.10.

### **ENVIRONMENTAL STATUS**

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

- Reviewed Phase II Reports and Hazardous materials Reports with the Contractor as they pertain to contaminated soil, construction dewatering and hazardous material abatement issues as parcels are turned over to the Contractor.
- Reviewed and provided comments to the following Contractor Submittals:
  - Contractor Generated Hazardous Waste Management Plan
  - Baseline Schedule
  - o Draft Sustainability Management Plan
- Attend Contractor Weekly Progress meeting, Environmental Breakout meeting, various over-the-shoulder submittal meetings with Contractor.
- Completed mold abatement and clearance sampling at Airport IPMO.

#### **C0990 Advanced Utilities Contract**

• Continued monitoring for Archaeological, Stormwater and Hazardous Materials issues.

#### **Real Estate**

• Continued to review available Phase I, Phase II Assessment Reports, and Asbestos/Lead-Based Paint Reports for property acquisitions.

### **CONSTRUCTION RELATIONS STATUS**

- Joined project staff in meeting with Baldwin Hills Plaza owner, Capri. Discussed upcoming design and construction activities.
- Joined project staff in field visit with City of Los Angeles Councilmember Bernard Parks at triangle property located at Crenshaw Blvd. and Degan Blvd. regarding holiday Christmas tree installation coordination.
- Participated in bi-weekly briefing with the Office of Supervisor Mark Ridley-Thomas.
- Held project briefing with bank owner regarding intersection of Crenshaw Blvd. and Slauson Avenue.
- Participated in Crenshaw Leadership Council's Safety Project Oriented Development Meeting.
- Provided project briefing to Crenshaw Leadership Council's Construction Coordination Project Oriented Development Meeting.
- Participated in project staff and Walsh-Shea Corridor Constructors staff in weekly meeting regarding community issues and project communications.
- Joined project staff in meeting regarding parking/street configuration issues.
- Joined project staff in briefing and tour of alignment for David Skillman, Deputy Chief of Staff and Counsel for Congressman Earl Blumenauer.

#### Social Media

Website: 7,196 views

Twitter: 193 followers

Facebook: 393 likes

### **CREATIVE SERVICES STATUS**

#### Art Program

- Artist selection development.
- Ongoing community outreach.
- Design Build Mobilization.

Design Studio

- Designed banners for project office.
- Designed hardhat sticker for project workers.

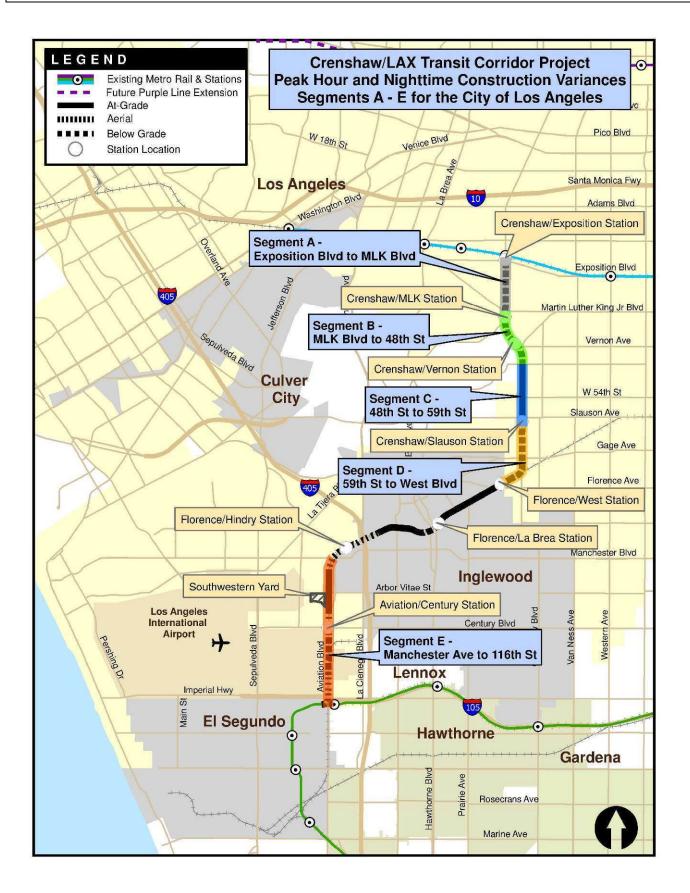
### **SAFETY & SECURITY STATUS**

- Participated in weekly progress meetings with Construction Manager and Contractor Management to discuss safety/security related issues and construction schedule.
- IPO staff participated in Construction Safety Orientation conducted by Walsh & Shea Safety personnel.
- Monitored construction activities on a daily basis including night construction activities to ensure compliance with contract specifications.
- Reviewed contractor submittals and work plans to ensure compliance with contract specifications.
- Met with Walsh/Shea's management personnel to review underground reclassification.
- Met with the City of Inglewood Police Department to review safety/security procedures to address issues along the alignment.
- Metro Builders reported 3,421 work hours and zero incidents. Walsh/Shea reported 23,684 work hours and no accidents for the month of November 2013. Total Project-to-Date work hours are 86,725 with one recordable incident. The incident rate for the project is 2.3. The national recordable rate average is 3.8.

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	12/13	N/A	Executed Letter of Agreement April 2012. City still working and reviewing draft MCA.
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 Private Utilities	Amendment LOA, MOU or UCA	8/11 5/11 to 5/ <b>13</b>	3/12 N/A	Executed 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

- Relocation of Qwest ducts near completion, cable placement *and cut-over* in progress, should complete by end of year 2013.
- Relocation of DWP-Power conduits, and manholes completed at Manchester Avenue; Installation of cable started **and cut-over should complete by March 2014.**
- Advance relocation of DWP-Power conduits, manholes and conduits completed at MLK and Expo Station sites. Installation of the cable started in August 2013. Work to be complete by March 2014.
- Design complete by DWP-Water for advance relocation of eleven (11) water lines along Crenshaw Boulevard. Construction will start in late September 2013. Work is forecast to complete by April 2014.
- Design in progress by SCE for advance relocation of fiber crossings and pole supports along the Harbor Subdivision. Completion expected by December 2013.
- Design in progress by SCE for the advance relocation of power crossings and pole supports on Redondo Blvd. at High St. completion expected June 2014.



## **CPUC CROSSING SUMMARY**

**CPUC CROSSING SUMMARY** 

Package	PE Consultant submits RCHAR* to MTA	MTA submits RCHAR* to CPUC	Field Diagnostic Meeting	CPUC Preliminary Recommendations to MTA	Revise RCHAR* & Submit to PUC for Additional Technical Evaluation	Submit Formal Application to PUC	CPUC Approval	
1	1/26/2012A	2/6/2012A	03/28/12 - 3/30/12A	8/1/2012A	9/24/12A	Nov12/Feb13A	04/28/14	
2	1/26/2012A	2/6/2012A	03/28/12 - 3/30/12A	8/1/2012A	9/24/12A	Nov12/Feb13A	02/17/14	
3	1/26/2012A	2/6/2012A	03/28/12 - 3/30/12A	8/1/2012A	9/24/12A	Nov12/Feb13A	02/17/14	
4	1/26/2012A	2/6/2012A	03/28/12 - 3/30/12A	8/1/2012A	9/24/12A	Nov12/Feb13A	04/28/14	
5	1/26/2012A	2/6/2012A	03/28/12 - 3/30/12A	8/1/2012A	9/24/12A	Nov12/Feb13A	02/17/14	
(*)	Rail Crossing Hazard Analysis Report (RCHAR)							

	Packag	ge Description	
1	Harbor Subdivision At Grade	4	Crenshaw At Grade
•	Centinela Av 25-FA		West 48th Striet 5FA
	Ivy Avenue 27-FA		West 50th Street 6-FA
	Eucalyptus Avenue 28-FA		West 52nd Street 7-FA
	North Cedar Avenue 29-FA		West 54th Street 8-FA
	Oak Street 30-FA		West 57th Street 9-FA
	Arbor Vitae Street 36-FA		Crenshaw Boulevard/West 59th Street 11-FA
2	Harbor Subdivision At Grade		Slauson Avenue 10-FA
	Victoria Avenue 21-88B	5	Crenshaw Grade Separation
	Brynhurst Avenue 22-88B		Rodeo Road 2-FA
	West Boulevard 23-FA		Rodeo Place 3-FA
	Redondo (Closure)		Coliseum Street 4-FA
	Hindry 34-FA		Crenshaw Boulevard/West 60th Street 13-16
	La Brea Station Pedestrian Crossing		Crenshaw Boulevard/West 63rd Street 14-16
	High Street		Crenshaw Boulevard/West 66th Street 16-16
3	Harbor Subdivision Grade Separation		Crenshaw Boulevard/West 66th Place 17-1
	La Brea Street 26-88B		Crenshaw Boulevard/West 67th Street 18-16
	San Diego (SR 405) UP 32-164D		Hyde Park Boulevard 31-88B
	La Cienega Boulevard 33-88B		Crenshaw Boulevard/West Vernon Avenue
	Manchester (SR105) 35-88B		Crenshaw Boulevard/West 43rd Place
	Century Boulevard UP37-164D		Crenshaw Boulevard/West 43rd Street
	104th Street 38 (87?)-88B		Crenshaw Boulevard/West Stocker Street
	111th Street 39-88B		Crenshaw Boulevard/West Martin Luther King Boulevard
	Imperial Highway 40-164D		Crenshaw Boulevard/West Mall Entrance
	I-405		Crenshaw Boulevard/West 39th Street
	West Hyde Park		Crenshaw Boulevard/West Coliseum Place

CPUC General Order No. 164-D process has been suspended by Commission. Project has been directed to file formal applications.

Protests were received on CPUC Application Packages 1 and 4. A pre-hearing was held April 9, 2013 on Package 1 to review the elements of the protests. A pre-hearing for a Protest received on Package 4 was held on June 14, 2013. The Administrative Law Judge at the meeting encouraged all parties to seek Alternative Dispute Resolution and established the overall process time line concluding in April 2014.

Since no protests were received to packages 2, 3 and 5, Metro anticipates CPUC approval by February 2014.

## 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.
November 21, 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.

## **CONTRACT C0988 STATUS**

Crenshaw/LAX Transit Corridor

PE Design Contractor: Hatch M CM Consultant: Stantec	ott MacDo	onald (HM	M)		Contract No.: C0988	- Alland
Contractor: - Walsh Shea Corri	dor Consr	uctors (W	Status as of November 29, 2013			
Progress/Work Completed: - MTA issued NTP to Contract CO98 - Contractor submitted Draft CADD F LIDAR field data report. - Continued development of Traffic M Traffic Plans for Expo, MLK & Verno - Station Footprint Early Drawing Pac - Continued refinement of Project Alin work on Ground Improvements pack - Design for City of LA Storm Drain a Storm Drain and Water was initiated. - Continued development of the 3D r for Track/Trackway and Ductbank, - Continued design efforts on ground on all Segments - Continued design confirmation effo	Plan and cor Ianagement In Stations, ckages com gnment and age for Cros nd Sanitary nodel and d structures,	tinued dev Plan and I Pleted Profile and Sever and esign Conf substations	Areas of Concern: - None			
Schedule Assessment:					Cost Assessment:	
Contractor 120 day schedule submit	al was appr	oved by M	TA.		The current construction contract cost f and within the Board authorized budget	
Contractor first baseline schedule submitted on Nov 8, 2013 and is currently under review by MTA.					The Contractor submitted their 3nd pay approved amount of \$30,616,988.	ment application in the
Schedule Summary:					Cost Summary:	\$ In millions
1. Date of Award:		08/01/13			1. Award Value:	1,272.63
2. Notice to Proceed:		09/10/13			2. Executed Modifications:	
3. Original Substantial Completion	Duration:	1824			3. Approved Change Orders:	
4. Current Substantial Completion D	Ouration:	1824			4. Current Contract Value (1 + 2 + 3):	1,272.63
5. Elapsed Time from NTP:		80			5. Incurred Cost:	94.19
Milestones Milestone 1 - Contract Substantial	Original Contract 09/08/18	Current Contract 09/08/18	Forecast	Calendar Day Variance	PERCENT C from 9/10/13	
Completion					Design	
Milestone 2 - UFS Completion Milestone 3 - Commence SIT Phase I	03/09/18	03/09/18			Construction	
Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103	12/04/15	12/04/15			Total Incurred	
Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104	06/05/17	06/05/17			Cost 0% 20% 40%	60% 80% 100%
Milestone 6 - Const./Turnover Parcels SW-0001	08/01/17	08/01/17			Percent Com	plete Progress
					Construction physical percent mobilization and general requi	

## **CONTRACT C0990 STATUS**

Crenshaw/LAX Advanced Utility Relocations

PE Design Contractor: Hatch CM Consultant: Stantec Contractor: - Metro Builders a			-		Contract No.: C0990 Status as of November 29, 2013	01
Progress/Work Completed: - Contractor continued development control plans, shop drawings for Ci - Work has continued at 59th Street sewer shoring, bedding/laying of sever bedding/laying of sewer pipe. - Work has continued at Crenshaw excavation, shoring, bedding/laying	nt of constru- ity and DWF et & Crensha ewer pipe, a er relocation v & Liemert I	uction work Putility relo aw with sev and sewer : excavation Park storm	a plans, tra ocations. wer excava encaseme on, shoring	Areas of Concern: - Sandy soil conditions at 59th & Crenshaw har slower than anticipated rate of excavation for s with an estimated production loss of 82%. The conditions are anticipated at 67th & Crenshaw.	ewer relocation se sandy soil	
Schedule Assessment: The forecast dates for Contract Mi based on the contractor's Oct13 S MTA's assessment of the contract the table below (and projected cur completion of April, 2014. The Contractor submitted TIA#3 re to contract completion as a result of 59th & Crenshaw. MTA has review (59 calendar day) as a result of los The Contractor submitted TIA#4 re which was rejected by MTA as no methodology and construction wor 59th & Crenshaw The Contractor submitted TIA#5 w work delays were concurrent with the	chedule Up or's forecas: rent cash flo equesting ar of continued ved TIA#3 a st production equesting ar approved re k plans exis hich was re	date. t completic ow burn rat a extensior Sandy So nd agrees n. evised insta st for the se jected by N	on date sho res) is a p of 56 wor bil Conditio to 42 work n of 39 wor allation ewer line w MTA as the	Cost Assessment: The current construction contract cost forecas within the Board authorized budget. The foreca from the previous reporting period primarily du change orders. The Contractor previously submitted their 12th in the approved amount of \$176,819. Increase in costs to the construction contract a result of design enhancements and change on the result of scope deletions.	ast has increased e to approved Payment application award value are a	
Schedule Summary:					Cost Summary:	\$ In millions
1. Date of Award:		05/30/12			1. Award Value:	7.83
2. Notice to Proceed:		07/17/12			2. Executed Modifications:	(0.51)
3. Original Substantial Completion	Duration:	365			3. Approved Change Orders:	0.25
4. Current Substantial Completion	Duration:	468			4. Current Contract Value (1 + 2 + 3):	7.57
5. Elapsed Time from NTP:		500			5. Incurred Cost:	5.29
Milestones Milestone 1 - Contract Substantial	Original Contract 07/17/13	Current Contract 10/28/13	Forecast 04/28/14	Calendar Day Variance -182	PERCENT COMPLE from 7/17/12 to 11/1/1	
Completion					Design Construction Total Incurred Cost 0% 20% 40% 60% Percent Complete Pri	68% 70% 80% 100% pgress
					Construction physical percent comple mobilization and general requirements	

## **CONTRACT C0991 STATUS**

Southwestern Yard

PE Design Contractor: Hatch CM Consultant: Stantec Contractor: - TBD	Mott MacDo	onald (HM	Contract No.: C0991 Status as of: November 29, 2013				
Progress/Work Completed: - PE drawing package completed I - IFB contract package on hold. Re approach slated for April 2014.	December 201 eaffirmation of	2. contract de	elivery		Areas of Concern: - None.		
Schedule Assessment:					Cost Assessment:		
Schedule Summary: 1. Date of Award:					Cost Summary: \$ In millions		
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> </ol>					Award Value:     Executed Modifications:		
<ol> <li>Original Substantial Completion</li> </ol>	Duration.				3. Approved Change Orders:		
4. Current Substantial Completion					<ol> <li>4. Current Contract Value (1 + 2 + 3): -</li> </ol>		
<ol> <li>5. Elapsed Time from NTP:</li> </ol>	Duration.				5. Incurred Cost:		
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	PERCENT COMPLETE		
				0	Design 0%		
				0			
				0	Construction 0%		
				0	Total Incurred 0%		
				0	0% 20% 40% 60% 80% 100%		
				0	Percent Complete Progress		
					Construction physical percent complete excludes mobilization and general requirements		

## **CONTRACT C0992 STATUS**

Concrete Ties

PE Design Contractor: Hatch N CM Consultant: Stantec Contractor: - TBD Progress/Work Completed: - Bids received on August 27, 2013 - Going to the December 5th, 2013			Contract No.: C0992 Status as of: November 29, 2013 Areas of Concern: - None.		
Schedule Assessment: Schedule Summary:					Cost Assessment: Cost Summary: \$ In millions
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion</li> <li>Current Substantial Completion</li> <li>Elapsed Time from NTP:</li> </ol>					<ol> <li>Award Value:</li> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ol>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance 0 0 0 0 0 0 0	PERCENT COMPLETE fromto Design Construction Total Incurred 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

#### **CONTRACT C0992A STATUS**

Running Rail and Bumping Posts

PE Design Contractor: Hatch M CM Consultant: Stantec Contractor: - TBD	ott MacDo	onald (HM		Contract No.: C0992A Status as of: November 29, 2013	
Progress/Work Completed: - Bids received on August 27, 2013. - Contract C0992 was split into two c now under new Contract C0992A. - Contract C0992A was advertised or - Bids were received on November 21 - Forecast to go to Metro Board for an	n October 1 0, 2013.	5, 2013.	g posts	Areas of Concern: - None.	
Schedule Assessment:					Cost Assessment:
Schedule Summary:					Cost Summary: \$ In millions
1. Date of Award:					1. Award Value:
2. Notice to Proceed:					2. Executed Modifications:
3. Original Substantial Completion D	Juration:				3. Approved Change Orders:
4. Current Substantial Completion D	uration:				4. Current Contract Value (1 + 2 + 3): -
5. Elapsed Time from NTP:					5. Incurred Cost:
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	PERCENT COMPLETE
	Connidor			0	
					Design 0%
				0	Construction 0%
				0	Construction
				0	Total Incurred 0%
				0	Cost
				0	0% 20% 40% 60% 80% 100% Percent Complete Progress
				U	Construction physical percent complete excludes
					mobilization and general requirements



## **CONSTRUCTION PHOTOGRAPHS**

Advanced Utility Relocation sewer work on Victoria Avenue.



Excavation for 10" VCP Sewer on 60<sup>th</sup> Street.

## 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 Elemen	t 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
ADR	Alternative Dispute Resolution
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
BNSF	Burlington Northern Santa Fe Railway Company
BOC CADD	Bus Operations Control
CALTRANS	Computer Aided Drafting and Design California Department of Transportation
CALINANS	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
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CR	Camera Ready
CSPP	Construction Safety Phasing Plan
CTC CUD	California Transportation Commission Contract Unit Description
CWP	Construction Work Plan
DB	Design Build
DBB	Design Bid Build
DBE	Disadvantaged Business Enterprise
DOT	Department of Transportation
DRB	Dispute Review Board
DWP	Department of Water and Power
EEO	Equal Employment Opportunity
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPBM	Earth Pressure Balance Machine

FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FD	Final Design
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
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
GDSR	Geotechnical Design Summary Report
GFE	Good Faith Effort
HMM	Hatch Mott MacDonald
IFB	Invitation for Bid
IPMO	Integrated Project Management Office
ITF	Intermodal Transportation Facility
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
LACFCD	Los Angeles County Flood Control District
	Los Angeles County Metropolitan Transportation Authority
	Los Angeles Department of Transportation
LADPW LADWP	Los Angeles Department of Public Works
LAUSD	Los Angeles Department of Water and Power Los Angeles Unified School District
LAUSD	Los Angeles World Airports
LAWA	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
LRTP	Long Range Transportation Plan
LRV	Light Rail Vehicle
LRV	Light Rail Vehicle

MBE MCA MIS	Metro Builders and Engineers Group, Ltd Master Cooperative Agreement Major Investment Study
MOS	Minimum Operating Segment
MOU	Memorandum of Understanding
MPS	Master Program Schedule
MPSR	Monthly Project Status Report
MSF	Maintenance & Storage Facility
N/A	Not Applicable
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
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 PEER	Preliminary Engineering
PEER	Permit Engineering Evaluation Report Project Implementation Plan
PLA	Project Labor Agreement
PM	Project Manager
PMIP	Project Management Implementation 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
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
RFC	Request For Change

RFMP RFP RFQ RFSC RHA RLPE ROC ROD ROM ROW RPZ RSD RTIP SAV SCAQMD SCADA SCC SCE SCG SCRRA SHA SHPO SIT SOQ SOV SOV SP SPAS SPAS SPP STP STP STP STP STP STP STV SWPP TBD TBM TCE TCRP TIFIA	Rail Fleet Management Plan Request For Proposals Request For Qualifications Request for Special Consideration Risk Hazard Analysis Red Light Photo Enforcement Rail Operations Center Record Of Decision Rough Order of Magnitude Right-Of-Way Runway Protection Zone Revenue Service Date Regional Transportation Improvement Program Stand Alone Validator Southern California Air Quality Management District Supervisory Control and Data Acquisition Standard Cost Category Southern California Edison Southern California Edison Southern California Regional Rail Authority State Highway Account State Historic Preservation Office System Integration Testing Statement of Qualification Schedule Of Value Statement Of Work Special Provision Specific Plan Amendment Study Special Permitting Process Safety and Security Management Plan Surface Transportation Improvement Program Strace Transportation Program STV Group Storm Water Prevention Plan To Be Determined Tunnel Boring Machine Temporary Construction Easement Traffic Congestion Relief Program Transportation Infrastructure Finance and Innovation Act

- TOD Transit Oriented Development
- TPSS Traction Power Substation
- TRACS Transit Automatic Control System
- TVA Threat Vulnerability Analysis
- TVM Ticket Vending Machine
- UFS Universal Fare System
- USDOT United States Department Of Transportation
- VE Value Engineering
- WBS Work Breakdown Structure
- WP Work Package
- WSCC Walsh/Shea Corridor Constructor
- YOE Year of Expenditure