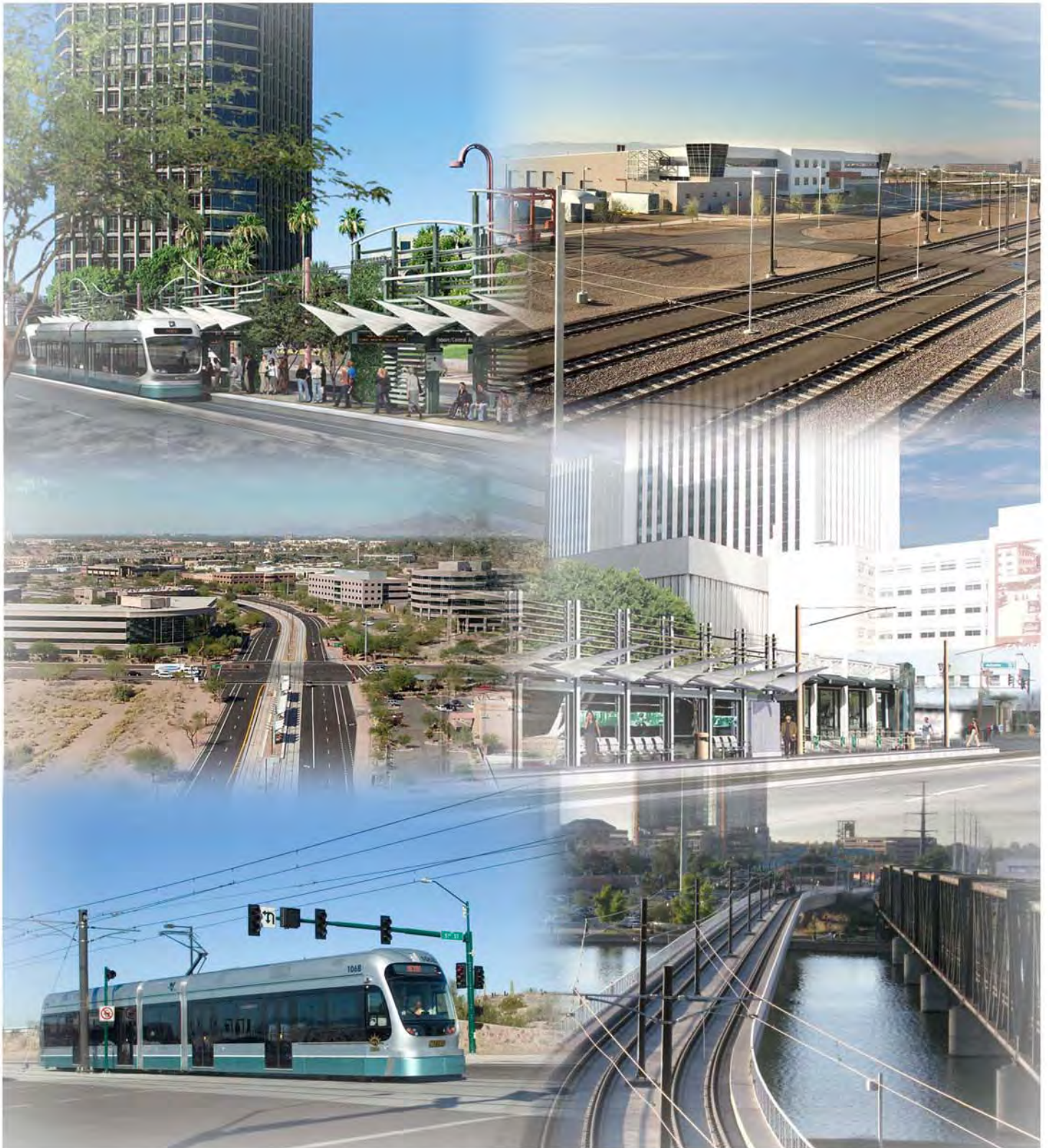




# LIGHT RAIL PROGRESS REPORT

Central Phoenix/East Valley Light Rail Transit Project







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## 1. Executive Summary

The Central Phoenix/East Valley (CP/EV) Light Rail Transit Project includes the design and construction of a 19.6 mile, double track, Minimum Operable Segment that extends from 19th Avenue near Bethany Home Road in North Central Phoenix through the downtown area to and through the City of Tempe, then crosses into the City of Mesa where the project terminates at Main Street and Sycamore. The track alignment is mostly in-street median and includes 27 passenger stations and eight surface parking lots, seven of which are newly constructed, and one existing lot owned by the City of Tempe near an LRT station site that will be dedicated to transit use at no cost to the Project. An initial fleet of 36 LRVs is part of the Project. The Project also includes an Operations and Maintenance Center (formally known as the Maintenance and Storage Facility) to support the 36 light rail vehicles located South of Washington Street and East of 48th Street in Phoenix. Propulsion power for the LRVs will be delivered by a Traction Electrification System consisting of wayside substations distributing propulsion power through an Overhead Catenary System (OCS). The Project will also include a Signals and Communications System consisting of both wayside and traffic signals. The entity responsible for project delivery, Valley Metro Rail (METRO), is a sub-recipient to the grantee, the City of Phoenix. The Project has a budget of \$1,412,000,000, with a Revenue Operations Date of December 2008.

Construction during the month of June surpassed 91 percent completion. Major stretches of paving were completed in Line Section One and Line Section Two bringing both Line Sections to near completion in the month of June. Line Section Three also performed some base paving between 7<sup>th</sup> Street and 26<sup>th</sup> Street in anticipation of rubberized asphalt paving beginning in July. Line Section facilities construction is winding down and remaining work includes striping, traffic signals and punchlist work.

The Station Finishes contractor has asked for substantial completion on about two thirds of the platforms for the project. Station finishes work continues in Line Sections One and Two and artwork installation continues across the alignment. The Park-n-Ride contracts have made significant progress in June with the 38<sup>th</sup> Street and Washington Park-n-Ride nearing substantial completion. Many sites have subgrade prepped and ready for pavement along with screenwall and building construction in progress.

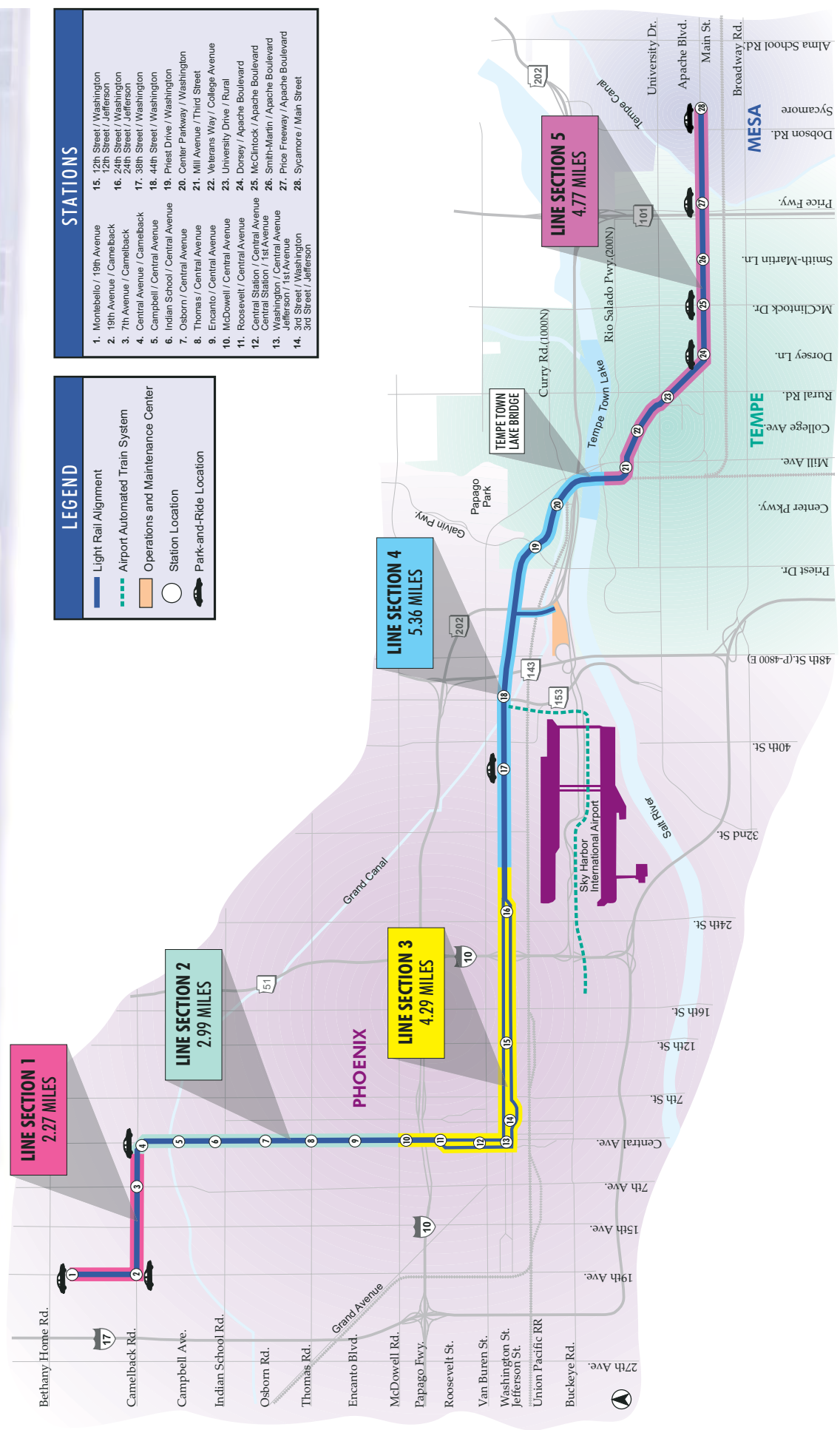
The Systems contracts continued to progress through downtown and up Line Sections One and Two. OCS wire was installed from 7<sup>th</sup> Avenue on Line Section One down to around Indian School in Line Section Two. The systems contractor also performed live wire testing in Line Section Five this month marking the first time a vehicle has been on the tracks all the way to the end of the line in Mesa.

Vehicle assembly and testing continue to progress on schedule. Thirty-nine vehicles have been accepted as delivered and are being tested and burned in. Multiple vehicles can be seen in the test track area on a daily basis now being tested and burned-in. The Operations Control Center is being outfitted with software and computer equipment. Early testing of communications with vehicles and station platforms has started.

The project remains on schedule for a December 27, 2008 opening.



# METRO LIGHT RAIL STARTER LINE



STATIONS	
1.	Montebello / 19th Avenue
2.	19th Avenue / Camelback
3.	7th Avenue / Camelback
4.	Central Avenue / Camelback
5.	Campbell / Central Avenue
6.	Indian School / Central Avenue
7.	Osborn / Central Avenue
8.	Thomas / Central Avenue
9.	Encanto / Central Avenue
10.	McDowell / Central Avenue
11.	Roosevelt / Central Avenue
12.	Central Station / Central Avenue
13.	Washington / Central Avenue
14.	Jefferson / Central Avenue
15.	12th Street / Washington
16.	24th Street / Washington
17.	38th Street / Washington
18.	44th Street / Washington
19.	Priest Drive / Washington
20.	Center Parkway / Washington
21.	Mill Avenue / Third Street
22.	Veterans Way / College Avenue
23.	University Drive / Rural
24.	Dorsey / Apache Boulevard
25.	McClintock / Apache Boulevard
26.	Smith-Martin / Apache Boulevard
27.	Price Freeway / Apache Boulevard
28.	Sycamore / Main Street

LEGEND	
	Light Rail Alignment
	Airport Automated Train System
	Operations and Maintenance Center
	Station Location
	Park-and-Ride Location



## CONTRACT LOG - JUNE 2008

ITEM	CONTRACT NUMBER	CONTRACT DESCRIPTION	CONTRACTOR
<b>1. PROGRAM MANAGEMENT &amp; ENGINEERING</b>			
1	LRT-99-001	GEC - DEIS/FEIS/PE	PB Americas, Inc.
2	LRT-02-001	GEC - Final Design	PB Americas, Inc.
3	LRT-02-001	GEC - DSDC	PB Americas, Inc.
4	LRT-98-001-PMC	Project Management Consultant	HDR, Inc. and Parsons Transportation Group, Inc., a Joint Venture
5	LRT-03-005-CAC	Construction Administration Services	Post, Buckley, Schuh & Jernigan, Inc., and PGH Wong Engineering, Inc., a Joint Venture
<b>2. CONSTRUCTION</b>			
6	LRT-03-007-B48	48th Street Bridge Replacement	FNF Construction, Inc.
7	LRT-04-017-MSF	Maintenance & Storage Facility (MSF)	Sundt/Stacy & Witbeck, Joint Venture
8	LRT-04-020-LS1	Line Section 1	Kiewit Western Co
9	LRT-04-019-LS2	Line Section 2	Herzog Contracting Corp
10	LRT-04-021-LS3	Line Section 3	Archer Western Contractors
11	LRT-04-018-LS4	Line Section 4	Sundt/Stacy & Witbeck, Joint Venture
12	LRT-04-022-LS5	Line Section 5	Sundt/Stacy & Witbeck, Joint Venture
13	LRT-05-042-PNR	Park and Rides Montebello & 19th Avenue 19th Avenue & Camelback Central & Camelback 38th St. & Washington	Kiewit Western Company Kiewit Western Co. MRM Construction Services MRM Construction Services
14	LRT-05-042-PNR-RB	Park and Rides (Re-Bid) Price & Apache Sycamore & Main	Sundt / Stacy and Witbeck, Joint Venture
15	LRT-04-028-SF	Station Finishes	Archer Western Contractors
16	LRT-04-040-TLB	Town Lake Bridge	PCL Civil Constructors, Inc.
17	LRT-05-036-WPM	Wheel Profiling Machine	Simmons Machine Tool Corp
<b>3. SYSTEM ELEMENTS</b>			
18	LRT-03-001	Light Rail Vehicles (LRV)	Kinkisharyo International, L.L.C. and Mitsui & Co. (U.S.A), Inc., CPEV Joint Venture
19	LRT-04-039-S&C	Signals and Communications	Mass Electric Corp.
20	LRT-04-014-TES	Traction Electrification System	Mass Electric Corp.
21	LRT-06-053-FCS	Fare Collection System	Scheidt & Bachmann USA, Inc.
22	LRT-06-071-LCM	Light Rail Car Mover	Brandt Road Rail Corp
23	LRT-07-076-MSFF	Modular Furniture for MSF	Southwest Business Furnishings
24	LRT-06-060-MMIS	Maintenance Management Information System	Mincom, Inc.
<b>4. PUBLIC ART</b>			
25	02-002-04	LS4 Design Team Artist/Station Artist	Laurie Lundquist
26	02-002-03	LS2 Design Team Artist/Station Artist	Ilan Averbuch
27	02-002-04	LS1 Design Team Artist/Station Artist	Robert Adams
28	02-002-05	LS5 Design Team Artist/Station Artist	Norie Sato/Bill Will
29	02-002-01	LS3 Design Team Artist	Janet Zweig
30	05-041-ART	Bridge Design Team Artist	Buster Simpson
31	02-002-07	LS3 Design Team Artist	Laurie Lundquist
32	02-002-08	LS3 Design Team Artist	Robert Adams
33	02-002-09	44th Street Station Artist	Mona Higuchi
34	02-002-10	38th Street Station Artist	Stuart Keeler/Michael Machnic
35	02-002-11	Central / Roosevelt Station Artist	Peter Richards
36	02-002-12	Central / McDowell Station Artist	Michael Maglich
37	02-002-13	First Street Station Artist	Stephen Farley
38	02-002-14	Third Street Station Artist	Cliff Garten
39	02-002-15	Central Station, Station Artist	Ries Niemi
40	02-002-16	12th Street Station Artist	Victor Zaballa
41	02-002-17	Fifth Street / College Station Artist	Tad Savinar
42	02-002-18	Central / Campbell Station Artist	Al Price
43	02-002-19	Central / Indian School Station Artist	Mary Lucking
44	02-002-20	Central / Osborn Station Artist	Thomas Sayre
45	02-002-21	Central / Thomas Station Artist	Brian Goldbloom
46	02-002-23	Third Street / Mill Station Artist	Catherine Widgery
47	02-002-24	Apache Stations - Lighting Artist	Dan Corson



## CONTRACT LOG - JUNE 2008

ITEM	CONTRACT NUMBER	CONTRACT DESCRIPTION	CONTRACTOR
48	02-002-25	Apache Stations - Cultural Weave Artist	Christine Bourdette
49	02-002-26	Apache Stations - Vertical Objects Artist	Suikang Zhao
50	02-002-27	Apache Stations - Paving Artist	Benson Shaw
51	02-002-28	Longmore Station Artist	Brad Konick
52	02-002-29	19th Avenue / Camelback Station Artist	Josh Garber
53	02-002-30	7th Avenue / Camelback Station Artist	Nubia Owens
54	02-002-31	24th Street Station Artist	Kevin Berry
55	02-002-32	Central / Encanto Station Artist	Jamex & Einar de la Torre
<b>5. MISC. CONSTRUCTION &amp; SERVICES</b>			
56	LRT-05-046-ERS	Environmental Remediation Service	Environmental Response Inc
57	LRT-04-031-PCS	Power Consulting Services	RW Beck
58	LRT-06-052-MF	Modular Furniture	Facilitec, Inc.
59	LRT-06-065-TCS	Telecom Carrier Services	Time Warner Telecom
60	LRT-06-057-WLI	WAN/LAN and IPT Voice Sys Equipment	Calence, Inc.
61	LRT-04-034-SPC	Strategic Planning Consulting Services	Davis Consulting
62	LRT-05-045-DCS	Document Control Services	LKG-CMC, Inc
63	LRT-05-037-ACS	Audit Consulting Services	Clifton Gunderson LLP
64	LRT-05-038-RMS	Risk Management Services	Ashton Tiffany, LLC
65	LRT-06-069-SSC	Safety & Security Certification Services	Booz Allen Hamilton, Inc.
66	LRT-06-067-ITS	Info Technology-Office Network Support	World Wide Technology, Inc.
67	LRT-07-082-TCS	Telecommunications Services for MSF	Qwest Communications
68	LRT-07-073-TS	Transportation Services	Alternate Concepts, Inc.
69	LRT-07-086-MSFM	Interim Maintenance Services for MSF	DMS Facility Services
70	LRT-07-088-PALS	Policy and Advisory Legal Services	Thompson Coburn, LLP
71	LRT-07-095-MAC	Marketing & Advertising Consulting Services	Park & Co.
72	LRT-08-096-EPGO	Grand Opening Event Planning Consulting Services	Entertainment Solutions, Inc.
73	LRT-08-104-ORS	Offsite Records Storage Services	Archive Systems, Inc.
<b>6. OWNER FURNISHED MATERIALS</b>			
74	LRT-04-009-MP1	Rail (MP1)	Progress Rail Corporation
75	LRT-04-010-MP2	Concrete Crossties (MP2)	CXT Inc
76	LRT-04-030-MP5	Ballasted Special Trackwork (MP5)	VAE Nortrak North America Inc
77	LRT-04-032-MP8	Girder Rail (MP8)	VAE Nortrak North America Inc
78	LRT-04-033-MP9	Girder Rail Special Trackwork (MP9)	VAE Nortrak North America Inc
79	LRT-04-015-MP3	Traffic Signal Hardware (MP3)	Various
80	LRT-06-072-SE	Shop Equipment for Maintenance Facility	Wissota Supply Company, Inc
81	LRT-07-078-MLE	Spray Paint Booth Manlifts at MSF	MGM Equipment Source
82	LRT-08-108-ADV	Aerial Device Vehicles	Altec Industries, Inc.
<b>7. FUTURE LIGHT RAIL EXTENSIONS</b>			
83	LRT-06-050-DCS	Design Criteria & Standards	Stantec Consulting
84	LRT-06-055-PSS	Planning Support Services	HDR Engineering, Inc.
85	LRT-07-077-PCES	Planning, Conceptual Engineering & Environmental Studies for Future Light Rail Extensions - Mesa-Tempe	HDR / S.R. Beard & Associates
86	LRT-07-077-PCES	Planning, Conceptual Engineering & Environmental Studies for Future Light Rail Extensions - I-10/Glendale	URS Corporation
87	LRT-07-075-PENW	Northwest LRT Extension Engineering Services	DMJM+Harris, Inc.
88	LRT-07-091-PICS-HDR	On-Call Public Involvement Consulting Services	HDR, Inc.
89	LRT-07-087D-CMNW	Northwest LRT Extension Construction Manager at Risk Design Phase Services	Sundt/Stacy & Witbeck, Joint Venture
90	LRT-07-089-NWA	Northwest LRT Extension Public Art for Glendale Station	Merge Conceptual Design, LLC
91	LRT-07-089-NWA	Northwest LRT Extension Public Art for Northern Station	Deborah Mersky
92	LRT-07-089-NWA	Northwest LRT Extension Public Art for Dunlap Parking	PhenomenArts, Inc.
93	LRT-07-089-NWA	Northwest LRT Extension Public Art for Dunlap Station	Colab Studio, LLC
94	LRT-08-102-GIS	On-Call Geographic Information Systems Consulting Services	Jacobs Carter Burgess



## **2. Cost Overview**

### **Federal 5309 Project**

The project budget for the Federal 5309 program is \$1,412,125,346. Known pending and executed change orders are valued at \$80,627,092 of the available \$100,067,589 planned contingency.

Including Project Reserve, this leaves \$23,932,994 of budgeted contingency funds available to the project.

The project is 89.4 percent complete. Construction is 88.8 percent complete.

### **Program Management and Administration**

Forecast is within budget.

### **Program Management Consultant**

Staffing plan for fiscal years 2008 and 2009 is within the overall forecast of this contract unit.

### **City Administration**

Forecasts are per agreements with the cities.

### **Right of Way Acquisition**

Forecast is currently at \$126,500,000.

### **PE/FEIS Engineering**

Activity is complete.

### **Engineering**

Budget and forecast for the remaining work are consistent with negotiated staffing plan.

### **Owner Furnished Equipment/Materials**

Forecasts are within budget.

### **Light Rail Vehicles**

Contingency appears to be sufficient to fund the work remaining

### **Facilities**

Facilities work is 91.6 percent complete. Executed and pending change orders are expected to utilize \$63,040,333 of the \$71,576,400 available contingency. Additional expected change orders for required acceleration, additional work and expected requests for equitable adjustment are challenging the available balance of contingency.



## **Systems**

Systems work is 72.2 percent complete. Executed and pending change orders are expected to utilize \$7,171,279 of the \$11,853,535 available contingency.

## **Construction Administration Services**

Budget and forecast for remaining work is consistent with the negotiated staffing plan.

## **Testing and Startup**

Forecast appears sufficient to complete the work. Current detail expenditures are tracking favorably with annual budget and forecast.

## **Art Program**

Forecast appears sufficient to complete the work.

## **Unallocated Design Contingency**

Budget was utilized to fund variances between bid amounts and original budgets.

## **Project Reserve**

The budget remains \$3,992,497.

## **Financing Costs**

The budget and forecast are \$118,400,000.

## **Concurrent Non Project Activities Project**

The budget for Concurrent Non Project Activities is \$108,386,195, based on the February 2008 Valley Metro Rail Board approved amount.

During the reporting period two new CNPA elements were added and seven change orders were processed for a cost of \$62,966. ASU, Mesa, Phoenix Streets, and Phoenix Aviation had zero change orders processed and their total forecasts remained unchanged. Tempe had two change orders processed for a total cost of \$46,640 and the forecast increased \$107,716 due to additional Mill/Overlay. Phoenix Public Transit had one change order processed for a cost of \$2,336 and the forecast increased \$928,703 due to adjustments to the 11<sup>th</sup> Street Loop CNPA Element. Phoenix Water Services had three change orders processed for a total of \$9,347 and the forecast decreased by \$53,676 due to continuing close out adjustments on the civil contracts.

**Valley Metro Rail Program Control  
CP/EV LRT Project  
Project Budget Status  
Federal 5309 Project**

2008\_06

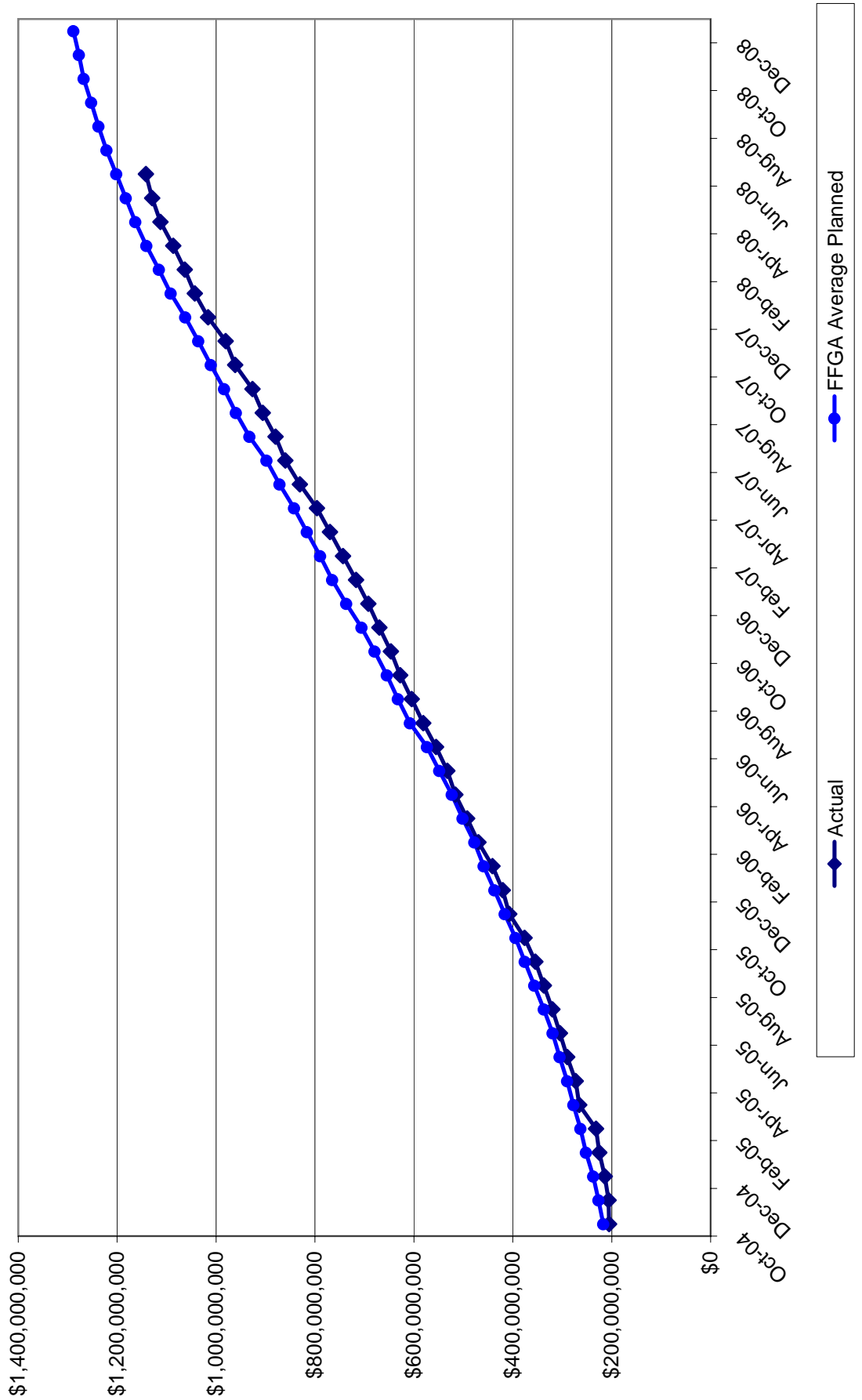
Element	Description	FFGA Attachment 3	Board Revised Budget	Current Actual \$ (To Date)	Forecast	Variance
50	LS1 19th Ave/Bethany - Camelback/Central	\$27,130,856	\$46,444,252	\$43,366,252	\$46,413,408	\$30,844
51	LS2 Camelback/Central - McDowell Road	\$38,004,059	\$53,364,811	\$50,106,169	\$53,495,122	(\$130,311)
52	LS3 McDowell Road - 28th Street	\$63,981,654	\$98,582,448	\$93,114,019	\$99,760,979	(\$1,178,531)
53	LS4 28th Street - N Approach to Town Lake	\$46,622,020	\$51,316,103	\$51,508,920	\$52,974,385	(\$1,658,282)
54	LS5 1st Street - Sycamore	\$49,680,435	\$75,873,709	\$76,429,466	\$77,476,403	(\$1,602,694)
55	Station Finishes	\$38,701,950	\$53,491,166	\$46,544,957	\$53,524,791	(\$33,625)
56	Park and Ride Facilities	\$15,104,339	\$22,402,163	\$10,208,211	\$22,437,464	(\$35,301)
57	Miscellaneous Construction	\$7,505,200	\$1,600,659	\$481,573	\$1,600,659	\$0
5K	Archaeological Investigations/Hazardous Material Removal	\$0	\$7,572,689	\$4,972,625	\$7,365,247	\$207,442
58	MSF Construction/Equipment Installation	\$57,637,721	\$65,400,000	\$65,400,001	\$65,400,001	(\$1)
5G	MSF Underfloor Wheel Profiling System	\$0	\$989,232	\$967,069	\$976,194	\$13,038
59	48th Street Bridge Restoration	\$2,014,013	\$2,824,232	\$2,837,136	\$2,837,136	(\$12,904)
5A	Town Lake Bridge	\$15,529,600	\$21,759,753	\$21,759,751	\$21,759,751	\$2
5B	Prior Rights Utility Relocations	\$22,938,000	\$25,745,721	\$28,000,701	\$32,165,723	(\$6,420,002)
81	Contingency	\$37,491,841	\$15,600,140	\$0	\$7,585,276	\$8,014,864
	<b>Facilities</b>	<b>\$422,341,688</b>	<b>\$542,967,078</b>	<b>\$495,696,850</b>	<b>\$545,772,539</b>	<b>(\$2,805,461)</b>
4A	Rail Procurement	\$1,306,200	\$1,273,506	\$1,279,492	\$1,279,492	(\$5,986)
4B	Concrete Crosstie Procurement	\$900,000	\$903,395	\$856,792	\$870,579	\$32,816
4C	Traffic Signal Hardware	\$8,060,100	\$8,063,587	\$8,334,304	\$8,334,304	(\$270,717)
4D	Ballasted Special Trackwork Procurement	\$2,532,414	\$2,291,497	\$2,257,456	\$2,257,456	\$34,041
4E	Crossing Panel Procurement	\$380,100	\$360,096	\$0	\$0	\$360,096
4F	Girder Rail Procurement	\$15,079,742	\$14,725,878	\$14,698,376	\$14,698,376	\$27,502
4G	Girder Rail Special Trackwork Procurement	\$0	\$5,712,656	\$5,517,244	\$5,712,656	\$0
81	Contingency	\$1,412,863	\$508,585	\$0	\$0	\$508,585
	<b>Owner Furnished Materials/Equipment</b>	<b>\$29,671,419</b>	<b>\$33,839,200</b>	<b>\$32,943,664</b>	<b>\$33,152,863</b>	<b>\$686,337</b>
5D	Automated Fare Collection System	\$10,755,800	\$7,137,862	\$1,846,279	\$7,137,862	\$0
5E	Traction Power Substations/Overhead Catenary System	\$62,141,100	\$61,091,525	\$51,766,999	\$61,052,683	\$38,842
5F	Communications/Signals	\$38,220,002	\$39,061,468	\$28,312,292	\$39,231,193	(\$169,725)
81	Contingency	\$8,674,000	\$5,795,886	\$0	\$4,678,818	\$1,117,068
	<b>Systems</b>	<b>\$119,790,902</b>	<b>\$113,086,741</b>	<b>\$81,925,570</b>	<b>\$112,100,556</b>	<b>\$986,185</b>
	<b>Sub Total, Construction</b>	<b>\$571,804,009</b>	<b>\$689,893,019</b>	<b>\$610,566,084</b>	<b>\$691,025,958</b>	<b>(\$1,132,939)</b>
4K	Vehicle Contract	\$115,501,823	\$118,391,301	\$95,879,531	\$118,391,301	\$0
4N	LRT Vehicle Contract Contingency	\$5,775,001	\$31,264	\$0	\$31,264	\$0
	<b>LRT Vehicles</b>	<b>\$121,276,824</b>	<b>\$118,422,565</b>	<b>\$95,879,531</b>	<b>\$118,422,565</b>	<b>\$0</b>
22	ROW Acquisition	\$116,214,150	\$117,147,157	\$119,930,713	\$126,500,000	(\$9,352,843)
23	ROW Contingency	\$20,081,000	\$9,352,843	\$0	\$0	\$9,352,843
20	<b>ROW</b>	<b>\$136,295,150</b>	<b>\$126,500,000</b>	<b>\$119,930,713</b>	<b>\$126,500,000</b>	<b>\$0</b>

**Valley Metro Rail Program Control  
CP/EV LRT Project  
Project Budget Status  
Federal 5309 Project**

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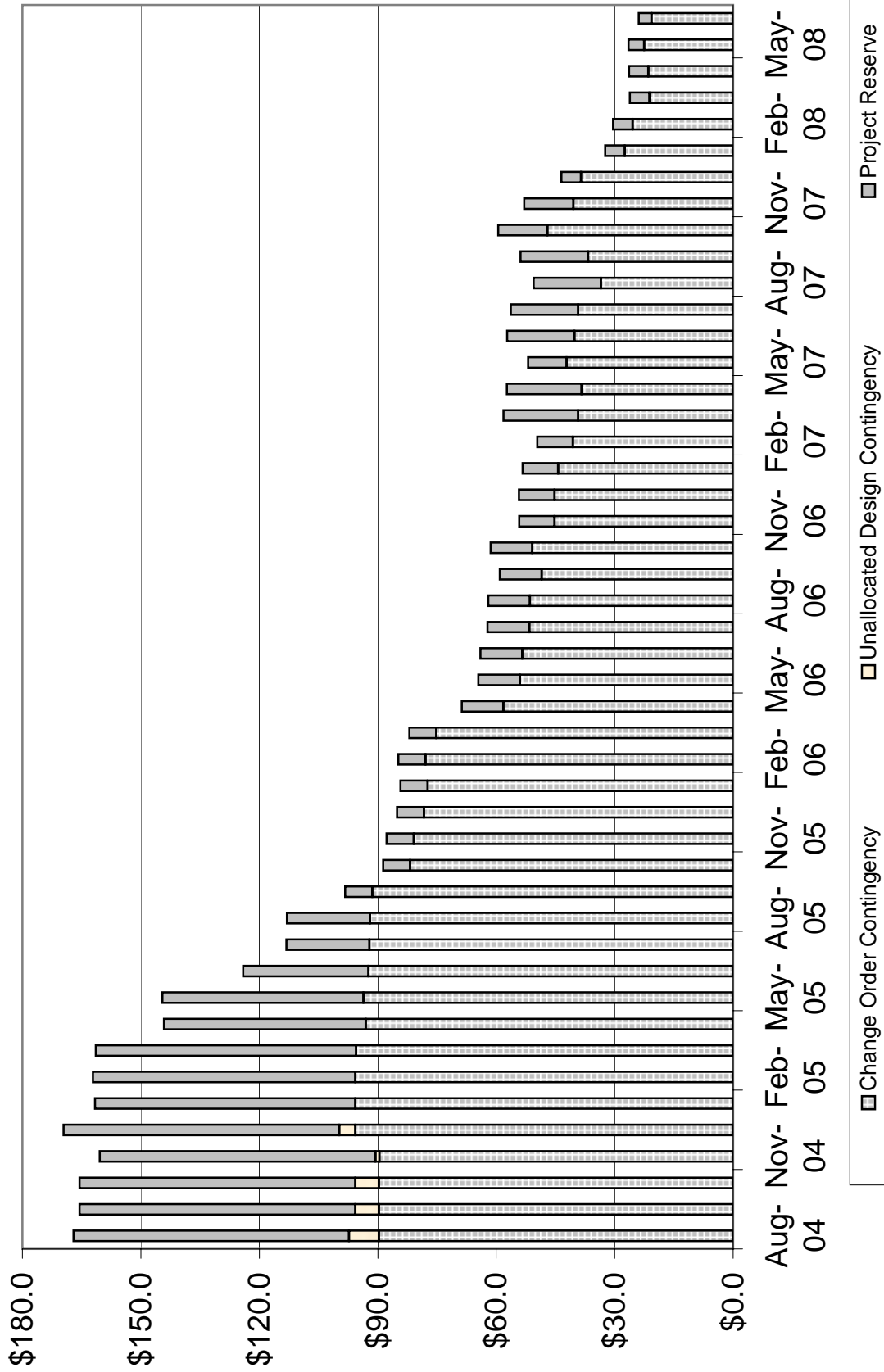
Element	Description	FFGA Attachment 3	Board Revised Budget	Current Actual \$ (To Date)	Forecast	Variance
<b>30</b>	<b>PE/FEIS Engineering</b>	<b>\$25,054,938</b>	<b>\$25,054,938</b>	<b>\$25,169,700</b>	<b>\$25,169,700</b>	<b>(\$114,762)</b>
31	Engineering	\$76,780,935	\$76,346,255	\$77,273,996	\$77,290,777	(\$944,522)
4L	Vehicle Engineering	\$5,432,358	\$6,255,358	\$5,979,910	\$6,255,358	\$0
20	ROW Engineering	\$1,016,370	\$1,321,163	\$1,266,226	\$1,266,226	\$54,937
32	Design Services During Construction	\$14,160,426	\$23,724,464	\$20,029,133	\$23,557,779	\$166,685
33	Engineering Contingency	\$0	\$0	\$0	\$0	\$0
34	DSDC Contingency	\$0	\$0	\$0	\$0	\$0
	<b>Engineering</b>	<b>\$97,390,089</b>	<b>\$107,647,240</b>	<b>\$104,549,265</b>	<b>\$108,370,140</b>	<b>(\$722,900)</b>
60	Construction Administration Services	\$37,759,127	\$54,311,124	\$49,678,280	\$54,311,124	\$0
61	CAC Contingency	\$15,244,622	\$0	\$0	\$0	\$0
	<b>Construction Administration Services</b>	<b>\$53,003,749</b>	<b>\$54,311,124</b>	<b>\$49,678,280</b>	<b>\$54,311,124</b>	<b>\$0</b>
10	PE Administrative/Management Costs	\$4,363,526	\$4,363,526	\$8,388,002	\$8,388,002	(\$4,024,476)
11	Administrative/Management - VMR	\$43,915,047	\$44,229,717	\$32,452,826	\$37,239,681	\$6,990,036
62	Construction Administration Services - VMR	\$1,697,232	\$3,067,564	\$1,614,865	\$1,897,907	\$1,169,657
67	CAB Program	\$0	\$2,500,000	\$2,377,194	\$2,500,000	\$0
21	Administrative ROW Costs	\$696,712	\$557,660	\$654,327	\$706,347	(\$148,687)
76	Administrative/Management Art Program Costs	\$414,632	\$414,632	\$0	\$414,632	\$0
16	Administrative/Management - ADOT	\$420,000	\$1,087,676	\$623,342	\$952,730	\$134,946
17	Agency Insurance Cost	\$7,000,000	\$7,000,000	\$6,572,790	\$7,000,000	\$0
18	Administrative/Management Contingency	\$388,523	\$388,523	\$0	\$1,500,000	(\$1,111,477)
	<b>Program Management</b>	<b>\$58,507,149</b>	<b>\$63,609,298</b>	<b>\$52,683,346</b>	<b>\$60,599,299</b>	<b>\$3,009,999</b>
10	PE Administrative/Management Costs	\$12,832,472	\$12,832,472	\$12,255,028	\$12,255,028	\$577,444
21	Administrative ROW Costs	\$1,016,571	\$828,502	\$791,139	\$791,139	\$37,363
76	Administrative/Management Art Program Costs	\$549,061	\$464,266	\$255,988	\$255,988	\$208,278
12	Administrative/Management - PMC	\$32,736,326	\$33,514,234	\$30,266,752	\$35,054,593	(\$1,540,359)
4M	Administrative Vehicle Costs	\$1,337,322	\$561,908	\$553,400	\$553,400	\$8,508
63	Construction Administration Services - PMC	\$4,581,527	\$5,351,897	\$3,830,927	\$4,089,852	\$1,262,045
	<b>Program Management Consultant</b>	<b>\$53,053,279</b>	<b>\$53,553,279</b>	<b>\$47,953,234</b>	<b>\$53,000,000</b>	<b>\$553,279</b>
10	PE Administrative/Management Costs	\$3,158,439	\$3,158,439	\$2,000,474	\$3,158,439	\$0
13	Administrative/Management - COP	\$2,986,000	\$5,448,000	\$3,873,692	\$3,941,907	\$1,506,093
64	Construction Administration Services - COP	\$8,347,000	\$5,885,000	\$6,831,236	\$7,391,093	(\$1,506,093)
14	Administrative/Management - COT	\$6,797,000	\$6,797,000	\$6,797,000	\$6,797,000	\$0
15	Administrative/Management - COM	\$897,000	\$897,000	\$516,426	\$897,000	\$0
	<b>City Administration</b>	<b>\$22,185,439</b>	<b>\$22,185,439</b>	<b>\$20,018,828</b>	<b>\$22,185,439</b>	<b>\$0</b>
75	Public Art Contracts	\$5,284,133	\$6,251,829	\$4,269,720	\$6,243,671	\$8,158
77	Art Program Contingency	\$999,000	\$31,304	\$0	\$39,462	(\$8,158)
	<b>Public Art</b>	<b>\$6,283,133</b>	<b>\$6,283,133</b>	<b>\$4,269,720</b>	<b>\$6,283,133</b>	<b>\$0</b>
<b>70</b>	<b>Start-Up and Testing</b>	<b>\$31,000,000</b>	<b>\$23,000,000</b>	<b>\$10,979,437</b>	<b>\$23,000,000</b>	<b>\$0</b>
<b>80</b>	<b>Unallocated Design Contingency</b>	<b>\$7,575,241</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>85</b>	<b>Project Reserve</b>	<b>\$69,829,000</b>	<b>\$3,292,497</b>	<b>\$0</b>	<b>\$4,885,174</b>	<b>(\$1,592,677)</b>
<b>SUBTOTAL</b>		<b>\$1,253,258,000</b>	<b>\$1,293,752,532</b>	<b>\$1,141,678,138</b>	<b>\$1,293,752,532</b>	<b>\$0</b>
<b>90</b>	<b>Financing Costs</b>	<b>\$158,867,346</b>	<b>\$118,372,814</b>	<b>\$34,006,411</b>	<b>\$118,372,814</b>	<b>\$0</b>
<b>TOTAL CP/EV PROJECT</b>		<b>\$1,412,125,346</b>	<b>\$1,412,125,346</b>	<b>\$1,175,684,549</b>	<b>\$1,412,125,346</b>	<b>\$0</b>

### Plan versus Actual Costs



# CP/EV LRT Contingency Drawdown

\$ Million



Valley Metro Rail Program Control  
 C/PEV LRT Project  
 Project Budget Status  
 CNPA Project

Element	Description	Board Approved Total	Revised Budget/Estimate	Current Actual \$ (To Date)	Forecast	Variance
A1	Bus Bays (LS2)	\$985,000	\$984,756	\$537,695	\$984,756	\$0
A2	Phoenix Art Museum Left Turn Signal	\$99,000	\$99,083	\$63,342	\$99,083	\$0
A5	19th/Montebello Transit Center (SF)	\$6,317,000	\$6,317,206	\$5,412,202	\$6,317,206	\$0
A6	117 Central/Camelback Transit Center (SF)	\$7,101,000	\$7,234,259	\$4,916,761	\$7,092,262	\$141,997
A7	44th Street/Washington Transit Center Real Estate	\$4,650,000	\$4,649,580	\$4,467,450	\$4,649,580	\$0
B1	Washington Street Bike Lane (LS4)	\$867,000	\$859,321	\$762,903	\$842,830	\$16,491
F4	Civic Plaza Track Support System	\$340,000	\$339,955	\$340,045	\$340,045	(\$1)
F5	Additional Water Services to the Pueblo Grande Museum - LS4	\$82,000	\$89,285	\$81,792	\$81,792	\$7,493
F6	Central/Camelback Bus Bays Relocation	\$180,000	\$180,435	\$55,927	\$180,435	\$0
F7	COP Landscape Irrigation Restoration Central Ave	\$92,000	\$93,413	\$91,807	\$91,807	\$1,606
H2	Fiber Optic COP	\$490,000	\$437,820	\$275,022	\$489,908	(\$52,088)
J6	Washington/Jefferson 16th to 26th Street, Property Access	\$3,559,000	\$3,290,749	\$2,369,375	\$2,519,817	\$770,932
K7	11th Street Loop Track	\$4,652,000	\$4,761,569	\$2,751,703	\$4,761,569	\$0
L8	PPT CNPA-3rd St/Washington APD Medallions	\$0	\$0	\$0	\$6,850	(\$6,850)
	<b>Sub Total Public Transit Department</b>	<b>\$29,414,000</b>	<b>\$29,337,520</b>	<b>\$22,125,934</b>	<b>\$28,457,940</b>	<b>\$879,580</b>
A3	6th Lane - Camelback (LS1)	\$8,955,000	\$8,954,921	\$7,914,085	\$8,954,921	\$0
D1	Additional Street/Pedestrian Lighting (LS3)	\$540,000	\$521,724	\$513,085	\$540,330	(\$18,606)
E3	Seal Coat versus Rubber Overlay (LS 1)	\$264,000	\$264,342	\$46,412	\$264,342	\$0
E4	Seal Coat versus Rubber Overlay (LS 3)	\$1,607,000	\$1,509,876	\$628,620	\$1,499,443	\$10,433
E5	Seal Coat versus Rubber Overlay (LS 4)	\$380,000	\$430,896	\$378,590	\$380,003	\$50,893
K3	Red Light Enforcement	\$61,000	\$61,067	\$49,782	\$59,753	\$1,314
M1	Removable Steel Curb at 7th/Jefferson	\$6,000	\$5,989	\$5,989	\$5,989	\$0
	<b>Sub Total Streets Department</b>	<b>\$11,813,000</b>	<b>\$11,748,815</b>	<b>\$9,536,563</b>	<b>\$11,704,781</b>	<b>\$44,034</b>
A7	44th Street/Washington Transit Center (SF)	\$3,019,000	\$3,021,023	\$2,786,092	\$3,021,023	\$0
C6	APM Utility Connections	\$23,000	\$22,997	\$22,717	\$22,717	\$280
D2	44th Street Station People Mover Foundation (LS4)	\$756,000	\$783,003	\$756,400	\$756,400	\$26,603
D6	People Mover - AFS Duct Bank @ 40th Place	\$327,000	\$326,527	\$326,527	\$326,527	\$0
E9	10" Water Line at 42nd/Washington LS 4	\$57,000	\$61,269	\$57,389	\$57,389	\$3,880
F3	Archaeological/Hazardous Material Testing (C-AC)	\$60,000	\$60,000	\$57,471	\$60,000	\$0
	<b>Sub Total Aviation Department</b>	<b>\$4,242,000</b>	<b>\$4,274,819</b>	<b>\$4,006,596</b>	<b>\$4,244,056</b>	<b>\$30,763</b>
B3	LS 1 Water/Sanitary Sewer	\$14,354,000	\$14,317,790	\$8,993,520	\$14,308,371	\$9,419
B4	LS 2 Water/Sanitary Sewer	\$8,647,000	\$8,509,623	\$4,762,839	\$8,679,377	(\$169,754)
B5	LS 3 Water/Sanitary Sewer	\$20,602,000	\$21,041,936	\$14,646,761	\$21,058,318	(\$16,382)
B6	LS 4 Water/Sanitary Sewer	\$7,208,000	\$7,148,860	\$6,290,210	\$6,988,386	\$160,474
B7	Water and Sanitary Sewer Lines - 48th St. Bridge Replacement Contract	\$156,000	\$155,767	\$142,862	\$155,767	\$0
J1	Catholic Protection for Waterlines LS1	\$744,000	\$743,645	\$264,441	\$743,645	\$0
J2	Catholic Protection for Waterlines LS2	\$605,000	\$504,657	\$385,368	\$504,657	\$0
J3	Catholic Protection for Waterlines LS3	\$29,000	\$0	\$0	\$29,192	(\$29,192)
J5	Catholic Protection for Waterlines LS4	\$350,000	\$350,000	\$85,620	\$85,620	\$264,380
	<b>Sub Total Water Services Department</b>	<b>\$52,595,000</b>	<b>\$52,772,278</b>	<b>\$35,571,621</b>	<b>\$52,553,333</b>	<b>\$218,945</b>
	<b>Total - Phoenix</b>	<b>\$98,064,000</b>	<b>\$98,133,432</b>	<b>\$71,240,714</b>	<b>\$96,960,110</b>	<b>\$1,173,322</b>

Valley Metro Rail Program Control  
 CPI/EV LRT Project  
 Project Budget Status  
 CNPA Project

Element	Description	Board Approved Total	Revised Budget/Estimate	Current Actual \$ (To Date)	Forecast	Variance
A8	5th/College Transit Center	\$635,000	\$630,730	\$600,459	\$630,730	\$0
AA	COT SRP Prior Rights TC Relocation	\$232,000	\$235,400	\$20,000	\$235,400	\$0
B8	Terrace / Apache Waterline Coordination (Design Only)	\$35,000	\$35,611	\$35,295	\$35,295	\$316
C1	Additional Communications Conduits	\$28,000	\$32,499	\$27,775	\$27,775	\$4,724
C2	COT ASU Pedestrian Signal	\$122,000	\$122,000	\$107,754	\$122,000	\$0
C7	Parking Facility 5th/Farmer	\$112,000	\$110,701	\$85,740	\$112,187	(\$1,486)
C8	COT Waterline @ Cremery Route	\$82,000	\$94,081	\$82,061	\$82,061	\$12,020
D4	COT Additional Street Lighting (LS5)	\$280,000	\$323,894	\$279,956	\$279,956	\$43,938
D7	COT Additional Conduit @ McClintock/Apache	\$8,000	\$7,990	\$7,990	\$7,990	\$0
E6	Rubberized Asphalt LS5	\$625,000	\$624,874	\$537,949	\$624,874	\$0
F2	McClintock / Apache Storm Drain	\$116,000	\$123,153	\$114,689	\$115,777	\$7,376
F9	Rubber Asphalt - Tempe	\$489,000	\$523,603	\$464,026	\$487,911	\$35,692
G1	McClintock Park and Ride - CNPA	\$5,581,000	\$5,580,729	\$5,580,729	\$5,580,729	\$0
G3	Tempe Admin Costs	\$723,000	\$0	\$722,808	\$722,808	(\$722,808)
H3	Fiber Optic COT	\$397,000	\$416,589	\$228,550	\$397,455	\$19,134
J4	Catholic Protection of Waterline LS4 CO#15	\$140,000	\$168,638	\$139,620	\$139,644	\$18,994
J9	University Drive Station Bus Interface	\$0	\$0	\$0	\$0	\$0
K1	Veteran's Way- 5th/College TC	\$8,000	\$7,645	\$6,772	\$6,772	\$873
K2	Bus Shelter Electrification	\$10,000	\$11,076	\$9,766	\$9,766	\$1,310
K4	Washington/Center Parkway Station	\$4,734,000	\$4,679,456	\$3,942,768	\$4,733,722	(\$54,266)
L1	TLB 4th of July Electrical	\$25,000	\$12,089	\$12,089	\$24,800	(\$12,711)
L2	COT CNPA - Additional Mill/Overlay	\$466,000	\$545,237	\$466,011	\$574,377	(\$29,140)
L5	COT McClintock Park & Ride	\$176,000	\$0	\$0	\$359,783	(\$359,783)
L7	COT CNPA Prince/Apache PnR Waterline	\$0	\$116,844	\$0	\$116,844	\$0
N4	Tempe Market Analysis	\$44,000	\$44,378	\$43,728	\$43,728	\$650
XX	Tempe Miscellaneous Force Account Work LS5	\$21,000	\$20,000	\$20,000	\$21,661	(\$1,661)
	<b>Sub Total Tempe</b>	<b>\$15,089,000</b>	<b>\$14,457,217</b>	<b>\$13,536,535</b>	<b>\$15,494,045</b>	<b>(\$1,036,828)</b>
A9	Main Sycamore Transit Center	\$5,355,000	\$5,397,539	\$4,246,497	\$5,356,571	\$40,968
H4	Fiber Optic Backbone LS-4 (Mesa portion)	\$879,000	\$812,014	\$384,742	\$869,872	(\$57,858)
M2	Mesa Additional Grind & Overlay	\$281,000	\$246,792	\$246,792	\$281,383	\$0
M3	Mesa Additional Grind & Overlay on Dobson	\$233,000	\$232,677	\$204,073	\$232,677	\$0
N3	Mesa Market Analysis	\$19,000	\$18,542	\$18,542	\$18,542	\$0
XX	Mesa Miscellaneous Force Account Work LS5	\$5,000	\$5,000	\$4,399	\$5,000	\$0
	<b>Sub Total Mesa</b>	<b>\$6,772,000</b>	<b>\$6,747,155</b>	<b>\$5,105,045</b>	<b>\$6,764,045</b>	<b>(\$16,890)</b>
C9	ASU Logo Additions	\$73,000	\$72,010	\$72,010	\$72,010	\$0
E2	ASU Steam Line	\$8,000	\$8,189	\$8,189	\$8,189	\$0
H1	Fiber Optic ASU	\$1,182,000	\$1,124,043	\$640,926	\$1,173,576	(\$49,533)
	<b>Sub Total ASU</b>	<b>\$1,263,000</b>	<b>\$1,204,242</b>	<b>\$721,125</b>	<b>\$1,253,775</b>	<b>(\$49,533)</b>
AB	Cityscape CNPA in LS3	\$5,000	\$34,643	\$19,203	\$34,643	\$0
E1	(APS) Duct Bank at 48th St. Utility Bridge. Archaeological Support	\$72,000	\$74,344	\$57,870	\$71,837	\$2,507
F8	Rojo Lofts Property	\$82,000	\$81,998	\$19,905	\$81,998	\$0
	<b>Sub Total Other</b>	<b>\$159,000</b>	<b>\$190,985</b>	<b>\$96,978</b>	<b>\$188,478</b>	<b>\$2,507</b>
	<b>Grand Total CNPA</b>	<b>\$121,347,000</b>	<b>\$120,733,031</b>	<b>\$90,700,397</b>	<b>\$120,660,453</b>	<b>\$72,578</b>



### 3. Schedule Overview

The current Status of the Master Schedule is based on a data date of July 1, 2008. The current forecast continues to be an on-time Program completion date of Saturday, December 27, 2008.

Design and Construction is working with Metro Operations and Mass Electric to accelerate completion and testing activities in the Signals and Communications contract in an effort to minimize the impact to METRO Operations Integrated Startup.

Track Installation							
Line Section	Bid Quantity		Installed		Remaining		% Complete
	LF	Miles	LF	Miles	LF	Miles	
Total	224,968	42.61	224,968	42.61	0	0.00	100.0 %
OCS Pole and Down Guy Anchor Foundations							
Line Section	Bid Quantity		Installed		Remaining		% Complete
Total	1,400		1,400		0		100.0%
Station Finishes							
Stations to S&C	Bid Quantity		Complete		Remaining		% Complete
Total	33		33		0		100%
Traction Electrification							
Area	Description		UM	Bid Quantity	Installed	% Complete	
TPSS# 1 Thru 15	Feeders & Negative Returns		LF	135,580	86,267	63.6%	
Yard	500 kcmil Feeder Cable		LF	2,175	2,175	100.0%	
Line Sections/Yard	OCS Pole Assemblies		EA	1,478	1,412	95.5%	
Line Sections/Yard	OCS Wire		LF	259,790	196,824	75.8%	
Line Sections/Yard	OCS Cantilever Assemblies		EA	2,027	1,566	77.3%	
Signals and Communications							
Area	Description		UM	Bid Quantity	Installed	% Complete	
Stations	Local Wire Installed		EA	44	26	59.1%	
Stations	Communications Cabinet Equipment Installed		EA	44	25	56.8%	
Stations	Communications Device Kits		EA	44	26	59.1%	
Stations	Terminate Devices		EA	44	22	50.0%	
Line Sections	Backbone Fiber		LF	140,360	115,369	82.2%	
Line Sections	Street Traffic Fiber		LF	140,360	127,920	91.1%	
Line Sections	City Use Fiber		LF	245,991	43,565	19.2%	



**Major Milestones**

**Civil:**

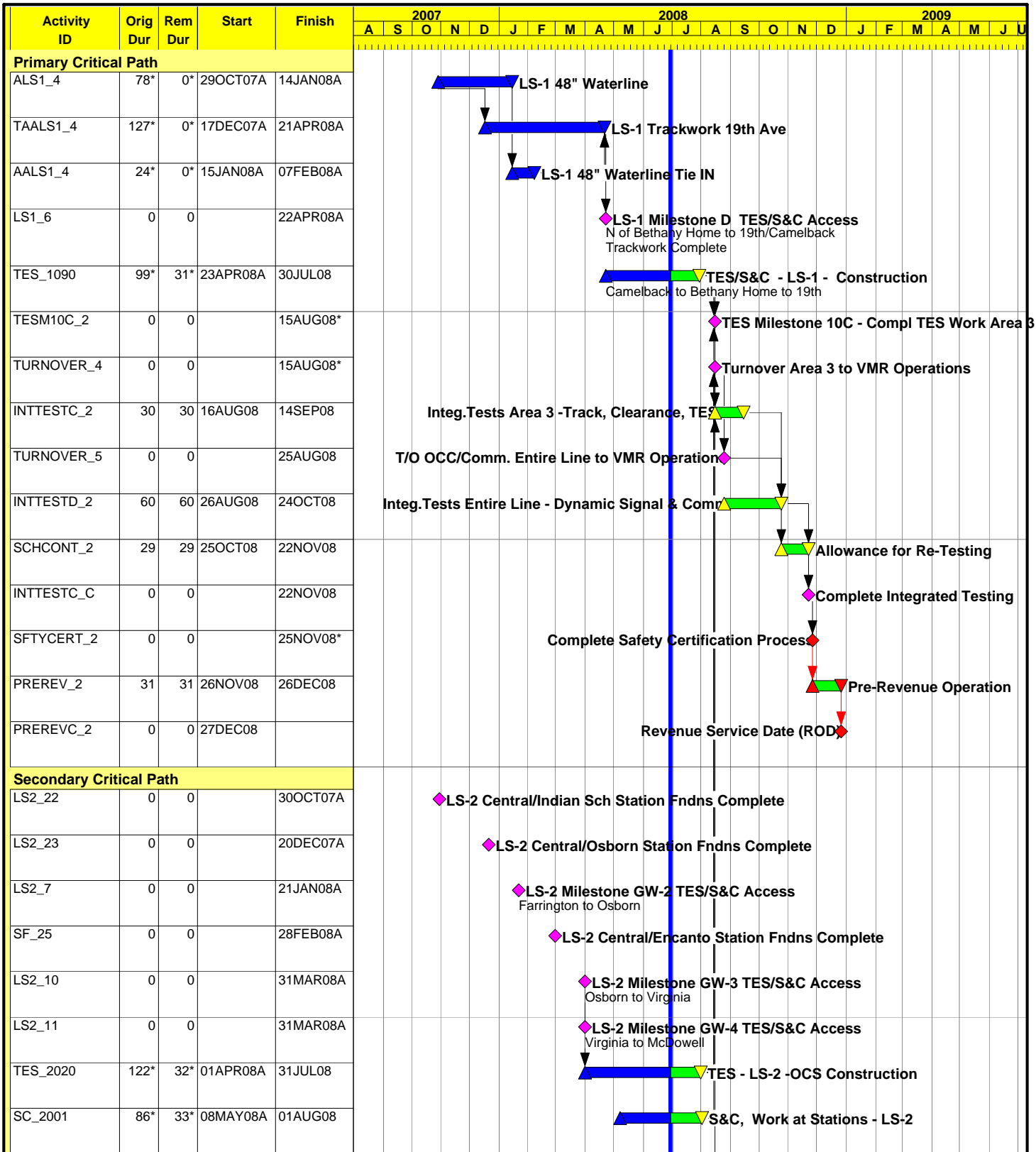
Line Section 1 Completion	July 2008
Line Section 2 Completion	June 2008
Line Section 3 Completion	June 2008
Line Section 4 Completion (Complete)	December 2007
Line Section 5 Completion (Complete)	March 2008
Station Finishes	December 2008
Park and Ride	December 2008

**Systems:**

Signals and Communications	October 2008
Fare Collection	November 2008
Traction Electrification	August 2008

**Startup:**

Start Int. Testing Area 1 (24 <sup>th</sup> Street to the Mill Pocket Track)	May 2008
Start Int. Testing Area 2 (LS3 and Balance of LS5)	June 2008
Start Integrated Testing Area 3 (All of LS2 and LS1)	August 2008



Start Date	01AUG04		Early Bar	8007	Sheet 1 of 2	<b>Critical Path</b>
Finish Date	26DEC08		Progress Bar	<b>Valley Metro Rail</b> <b>Central Phoenix/East Valley LRT</b>		
Data Date	30JUN08		Critical Activity			
Run Date	26JUN08 06:49					
© Primavera Systems, Inc.						

Activity ID	Orig Dur	Rem Dur	Start	Finish	2007					2008					2009												
					A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
TURNOVER_2	0	0		30MAY08A																							◆ Turnover Area 1 to VMR Operations
INTTESTA_2	80*	59*	09JUN08A	27AUG08																							▲ Integ.Tests Area 1 -Track, Clearance, TES
TURNOVER_3	0	0		24JUN08A																							◆ Turnover Area 2 to VMR Operations
INTTESTB_2	51*	45*	26JUN08A	15AUG08																							▲ Integ.Tests Area 2 -Track, Clearance, TES



Procurement Bid Status Report as of 6/26/08						
Title	Issue Date	Pre-Bid Conf	Bid Opening	Board Award	NTP (Anticipated)	
<b>PART I – CP/EV LRT PROJECTS</b>						
Facilities Maintenance Services: OMC and Line Buildings	4/13/08	4/23/08	5/28/08	9/17/08	10/1/08	
Janitorial, Cleaning, Graffiti Removal Services – OMC and Stations	5/26/08	6/2/08	7/16/08	9/17/08	10/1/08	
Lands Keeping Services – OMC and Stations	5/26/08	6/4/08	7/16/08	9/17/08	10/1/08	
Insurance Brokers Services	7/3/08	NA	7/30/08	9/17/08	10/1/08	
Armored Transport Service	5/27/08	6/18/08	7/10/08	9/17/08	11/1/08	
Security Services – Tempe/Mesa	6/10/08	NA	7/9/08	9/17/08	10/1/08	
Advertising on Trains	7/21/08	8/5/08	9/9/08	10/15/08	11/1/08	
<b>PART II – LONG RANGE DEVELOPMENT PROJECTS</b>						
Architectural/Engineering On-Call Consultant Services - Future Extension Projects	1/21/08	2/12/08	3/17/08	Evaluations Complete by 5/25/08	On Call List on website by 06/15/08	



## 4. Quality Assurance

### Description

The METRO Quality Assurance Manager is responsible for the establishment and implementation of a Quality Assurance Program for the Valley Metro Rail organization that meets the requirements of the Federal Transit Administration and provides adequate confidence that procured materials and services meet the technical and quality requirements of the project. The METRO Quality Assurance Manager is assisted by the Quality Assurance Managers for the GEC for design, the GEC for LRT Vehicle procurement and the CAC for construction, installation, inspection and testing.

Individually and collectively, the Quality Assurance Managers are responsible for ensuring the effective implementation of the Quality Assurance Programs for their respective organizations and contractors. The Quality Assurance Managers are responsible for approval of quality programs, assessment of compliance with quality programs through inspections, audits and surveillances and for identifying nonconforming materials, parts and services and assuring effective corrective action.

### Progress

#### METRO Activities

##### Civil and Structural

- Attended CAC bi-weekly Resident Engineer meetings.
- Attended various CAC/Contractor weekly progress and coordination meetings.
- Attended weekly rail progress and schedule review meetings.
- Attended various rail activation/coordination meetings.
- Reviewed LRT stations at Dorsey/Apache, McClintock/Apache, Smith-Martin/Apache, Price/Apache, and Sycamore/Main for quality and safety issues.
- Participated in preliminary walk-thru inspections in preparation for Substantial Completion of stations in Tempe and Mesa.
- Reviewed field activities at the various Park-N-Ride Facility sites.
- Conducted audit for Contractor's compliance with selected sections of its QC Plan for the Park-N-Ride Facilities contract LRT-05-042-PNR-RB. Audit closed.
- Conducted audit for Contractor's compliance with selected sections of its QC Plan and spec section 01789 for the Station Finishes contract LRT-04-028-SF. Audit closed.



#### Light Rail Vehicle

- Audits
  - Updates to the Engineering Change Notice books
  - Car History Books for LRV 137 and 138

#### Inspections

- Continuing inspections of the assembly and testing process
  - Mainline and yard load testing
  - Final vehicle inspections
  - Interior and exterior inspections
  - Truck inspections
  - Wiring checks and testing of communications equipment
  - Hi-Pot and Megger Testing

#### Vehicle Final Assembly

- Accepted delivery; LRV 137, 138 and 139 are being held pending installation of GeoFocus equipment.

#### Construction Administration Consultant Activities

##### Quality Manuals Reviewed

- During the month of June a portion of the Contractor's Quality Plan (the Inspection and Test Plan) for the remaining Park-N-Ride contract was submitted and returned for minor revisions. All others have been submitted and accepted.

##### General

- Attended weekly Resident Engineer meetings.
- Continued review of quality related submittals as required.
- Continued to provide assistance in regards to metal artwork of a structural nature.



NCR and QAR Logs have been revised to show all NCR's and QAR's for all contracts, including MP contracts, presently open. Columns for "New" and "Closed" represent changes in quantity(s) for this months report. Presently Mass Electric has a total of 14 NCR's open on the S&C and TES contracts combined, one initiated in the past month and one closed.

CAC Nonconformance Report Log (NCR):

Total NCR's Written	New NCR's	Closed NCR's	Remaining NCR's	NCR's Projected to be Closed in July
209	2	8	26	10

CAC Quality Action Request Log (QAR):

Total QAR's Written	New QAR's	Closed QAR's	Remaining QAR's	QAR's Projected to be Closed in July
38	0	0	13	8

Note: The QA Manager was unavailable for the first three weeks of June due to unforeseen circumstances. He returned on June 26, 2008. No QAR's were addressed during the span of this report.

**Cost and Schedule – Variance Analysis**

- Quality Assurance activities remain within budget and on schedule.

**Issues and Solutions**

- Final thermite weld joints at the Deck Park Bridge have been completed. These welds were delayed due to the addition of the rail expansion joint installations and represent the final rail welds for the project. This concludes the rail welding process for this project.
- Punch list items are being addressed at the Station Finishes Contract.

## 5. Public Involvement



### Description

The Public Involvement Section is responsible for sharing information on the Project with stakeholders along the light rail alignment, documenting questions and concerns expressed by these stakeholders and ensuring that appropriate Project staff addresses them, and providing answers and feedback to those stakeholders on the outcome. At this stage of the Project, PI Area Coordinators are working with stakeholders in their respective line sections to provide the latest information on construction status, traffic circulation, landscaping finishes, and follow-on contract progress/impacts. They are also sharing information on business assistance programs with the owners and managers of businesses located along the light rail corridor.

### Progress

- Line Section 1 is finalizing plans for a milestone event to be held on Saturday, July 12, 2008. The Rock the Rail Summer Block Party will celebrate light rail construction progress on Camelback Road and 19<sup>th</sup> Avenue. This event is designed to include businesses local residents the area. Local restaurants will be handing out samples of their food products and City of Phoenix Departments will be participating with activities for attendees. Event attendees will have opportunity to enter to win gift certificates from local retail shops; including two round-trip airfare tickets courtesy of Southwest Airlines. The Event is being co-sponsored by Kiewit Western Construction, City of Phoenix, and METRO.
- METRO Operations continues to expand vehicle testing from 26<sup>th</sup> Street and Washington to Sycamore and Main Street. In a cooperative effort to ensure safe vehicle and pedestrian interaction with in the integrated testing area, Public Involvement Staff continue their canvassing efforts to adjacent stakeholders with the distribution of METRO Safety materials. Public Involvement staff has also expanded efforts to both line Sections 2 and 3. METRO's safety message encourages the public to be aware of simple rules to stay safe around light rail.

Business Assistance



- Order and delivery of Courtesy Signage Program continues in all Line Sections. Through June, **760** signs and **452** banners (**1,212** total) have been issued for businesses in the five Line Sections. The following table illustrates the current distribution for this program:

**METRO  
Construction Signage/Banner Program  
Overall Distribution**

Line Section	Signs	Banners	Total
Line Section 1	105	89	194
Line Section 2	110	63	173
Line Section 3	269	86	355
Line Section 4	41	37	78
Line Section 5	235	177	412
<b>Totals</b>	<b>760</b>	<b>452</b>	<b>1,212</b>

METRO Business Outreach Program

The following is a break down of business outreach statistics as of June 30, 2008:

- METRO Max Program Participants – **276** businesses
- Construction Signage Program – **1,212** (760 signs and 452 banners)
- City of Tempe Asset Assistance Program – **2**
- City of Mesa/U.S. Bank Asset Assistance Program – Outreach continues
- Management Technical Assistance (MTA) Program – **329** for CP/EV and **4** for Northwest Extension businesses
- ASU Market Needs Assessment – **128** businesses (107 Complete/21 In-Progress)

- SELF Seminars/Micro Loan Assistance – **22** Businesses
- SBDC One-on-One Consultation - **18** Businesses
- Prestamos – Chicanos Por La Causa – **4** Businesses

Community Advisory Boards (CAB)

Meetings are scheduled on a monthly basis to evaluate the contractor's efforts to go "above and beyond" the contract specifications during light rail construction.



Line Section 1

- No meeting was held in June. The final meeting is scheduled for Tuesday, July 8, 2008.

Line Section 2

- CAB program concluded in May 2008.

Line Section 3

- No meeting was held in June. The final meeting is scheduled for Thursday, July 10, 2008.

Line Section 4

- CAB program concluded in November 2007.

Line Section 5

- CAB program concluded in March 2008.



### Cost Status

Total Available Incentive: **\$2,500,000.00** (10 Quarterly disbursements)

Total Miles of Street with LRT: 23.53 miles

Allocation per Mile: \$106,247.34

Total CAB Disbursement through June is **\$2,377,196**

<b>Line Section</b>	<b>Total Amount Available</b>	<b>Available for Award to Date</b>	<b>Total Award to Date</b>	<b>% Award to Date</b>
<b>LS1</b>	\$241,181	\$217,063	\$208,622	96%
<b>LS2</b>	\$317,680	\$317,680	\$314,027	99%
<b>LS3</b>	\$865,916	\$865,916	\$779,324	90%
<b>LS4</b>	\$567,361	\$567,362	\$567,362	100%
<b>LS5</b>	\$507,862	\$507,862	\$507,862	100%

### Schedule Status

- Public Involvement activities remain on schedule.

### Issues and Solutions

- None.



## 6. Disadvantaged Business Enterprise Program

### Description

It is the Disadvantaged Business Enterprise (DBE) Program Section's responsibility to administer the DBE participation requirements mandated by the Federal Government as a condition of the receipt of funding. These participation requirements are established by the City of Phoenix Equal Opportunity Department through the DBE Program Plan and are conveyed to Valley Metro Rail, as a sub-recipient, through the Civil Rights Office of the Public Transit Department.

The DBE Program Section is responsible for ensuring that procurement and contract language, specific to the program, accurately reflects current requirements. During the procurement process, the DBE Program Section is responsible for responding to Requests for Information, presenting the DBE documentation requirements at pre-bid conferences, and conducting contractor and DBE subcontractor training sessions. At Bid Opening, the accuracy of DBE documentation submitted with each bid must be verified and each bidder must be found either responsive or non-responsive. Upon contract execution, pre-construction meetings are held and reporting/compliance requirements are addressed in more detail. Monthly utilization reports are submitted by each prime contractor and are reviewed by the DBE Program Section. Field issues and variances in the planned utilization are addressed on an on-going/as-needed basis. In order to ensure adequate DBE participation and the availability of DBE contractors, on-going outreach activities are also conducted to facilitate networking of DBEs with prime contractors and to encourage DBE certification of non-certified small businesses.

### Progress

- Overall DBE participation based on amounts originally awarded is 14.44 percent, participation including change order work is at 15.16 percent and DBE's have been paid 14.68 percent of construction dollars to date.

### Procurement Activities

- There were no DBE related procurement activities this period.

### Contract Compliance

The summary below does not include DBE participation for professional services contracts related to future extensions or METRO's DBE vendors.

- Line Section 1 - Kiewit Western Contractors
  - 12.10 percent Minimum DBE Participation
  - 13.77 percent Committed at Bid
  - 15.81 percent Current DBE Participation (adjusted contract amounts)
  - \$9,185,101 Total DBE Subcontracted Amount



- Line Section 2 - Herzog
  - 12.10 percent Minimum DBE Participation
  - 15.69 percent Committed at Bid
  - 19.79 percent Current DBE Participation (adjusted contract amounts)
  - \$11,845,156 Total DBE Subcontracted Amount
- Line Section 3 - Archer Western Contractors
  - 12.30 percent Minimum DBE Participation
  - 13.59 percent Committed at Bid
  - 15.99 percent Current DBE Participation (adjusted contract amounts)
  - \$16,543,403 Total DBE Subcontracted Amount
- Line Section 4 - Sundt/Stacy and Witbeck
  - 11.50 percent Minimum DBE Participation
  - 14.47 percent Committed at Bid
  - 11.93 percent Current DBE Participation (adjusted contract amounts)
  - \$7,417,416 Total DBE Subcontracted Amount
- Line Section 5 - Sundt/Stacy and Witbeck
  - 14.90 percent Minimum DBE Participation
  - 16.73 percent Committed at Bid
  - 17.64 percent Current DBE Participation (adjusted contract amounts)
  - \$13,990,411 Total DBE Subcontracted Amount
- Station Finishes - Archer Western Contractors
  - 12.20 percent Minimum DBE Participation
  - 12.98 percent Committed at Bid
  - 14.45 percent Current DBE Participation (adjusted contract amounts)
  - \$9,501,543 Total DBE Subcontracted Amount



- Operations and Maintenance Center – Sundt/Stacy and Witbeck (Contract Closed)
  - 7.34 percent Minimum DBE Participation
  - 7.54 percent Committed at Bid
  - 8.21 percent Current DBE Participation (adjusted contract amounts)
  - \$4,973,643 Total DBE Subcontracted Amount
- Traction Electrification - Mass Electric
  - 10.00 percent Minimum DBE Participation
  - 11.17 percent Committed at Bid
  - 11.05 percent Current DBE Participation (adjusted contract amounts)
  - \$6,421,080 Total DBE Subcontracted Amount
- Signals and Communications - Mass Electric
  - 11.00 percent Minimum DBE Participation
  - 11.67 percent Committed at Bid
  - 11.05 percent Current DBE Participation (adjusted contract amounts)
  - \$4,524,834 Total DBE Subcontracted Amount
- Construction Administration Consultant - PBS&J/PGH Wong Joint Venture
  - 21.00 percent Minimum DBE Participation
  - 25.35 percent Committed at Bid
  - 32.29 percent Current DBE Participation (adjusted contract amounts)
  - \$12,288,109 Total DBE Subcontracted Amount
- Program Management Consultant - SRBA/Parsons Joint Venture
  - 1.5 percent Minimum DBE Participation (established post contract award)
  - 0 percent Committed at Bid
  - 4.25 percent Current DBE Participation (based on adjusted contract amounts)
  - \$1,704,758 Total DBE Subcontracted Amount



- General Engineering Consultant - Parsons Brinckerhoff
  - 13.00 percent Minimum DBE Participation
  - 13.89 percent Committed at Bid
  - 16.06 percent Current DBE Participation (adjusted contract amounts)
  - \$11,392,061 Total DBE Subcontracted Amount
- Fare Collection System - Scheidt Bachmann
  - 8.20 percent Minimum DBE Participation
  - 8.39 percent Committed at Bid
  - 8.39 percent Current DBE Participation (adjusted contract amounts)
  - \$627,000 Total DBE Subcontracted Amount
- Material Procurements - Multiple Suppliers
  - 3.00 percent Minimum DBE Participation
  - 3.00 percent Committed at Bid
  - 3.00 percent Current DBE Participation (adjusted contract amounts)
  - \$1,770,322.77 Total DBE Subcontracted Amount
- Tempe Town Lake Bridge - PCL Civil Constructors – Contract Closed Out
  - Final Participation 20.80 percent (adjusted contract amounts)
  - \$4,559,765.58 Total DBE Subcontracted Amount
- Archaeological Services; DBE Prime, Archaeological Consulting Services Inc.
  - \$3,240,597 Total DBE Amount
- Park & Rides; DBE Prime, MRM Construction
  - 20.50 percent Minimum DBE Participation
  - 53.00 percent Committed at Bid
  - 70.25 percent Current DBE Participation (adjusted contract amounts)
  - \$3,913,359 Total DBE Subcontracted Amount
- Park N Rides; Kiewit Western Contractors
  - 20500 percent Minimum DBE Participation
  - 23.68 percent Committed at Bid



- 23.68 percent Current DBE Participation (adjusted contract amounts)
- \$1,850,777 Total DBE Subcontracted Amount
- Park & Rides; Sundt/Stacy and Witbeck
  - 20.50 percent Minimum DBE Participation
  - 31.79 percent Committed at Bid
  - 31.83 percent Current DBE Participation (adjusted contract amounts)
  - \$2,820,372 Total DBE Subcontracted Amount

#### Outreach Activities

- METRO staff members are working in collaboration with Turner Construction, Hunt Construction, and the Associated Minority Contractors or America to develop a workshop entitled, "Straight Talk." This workshop will address the dos and don'ts of effectively growing a new business. The workshop is scheduled for August 19, 2008 at the METRO corporate office from 4:00 to 6:30 p.m.
- As a precursor to the Straight Talk workshop, an industry roundtable discussion will be hosted by METRO to gather feedback from regional small, women, minority and disadvantaged resource providers and professional associations. The feedback gathered will be incorporated into the follow-on workshop. Additionally, information will be gathered to share with small business owners regarding resources available and associations. The roundtable will take place in July 11, 2008 at the METRO corporate office from 11:00 a.m. to 1:00 p.m.
- METRO staff members are working with the City of Phoenix to host an Architectural and Engineering networking event similar to the bi-annual event currently hosted by the City for the construction industry. The event will take place July 30, 2008 at Phoenix City Hall. Currently 15 of the largest A&E firms in the Valley have committed to participate. METRO technical staffs are asked to join the staff members of the City of Phoenix and Valley Metro/RPTA for this event.
- In late November/early October METRO will host its third annual Profiles in Diversity event. The 2008 event will highlight the contributions the DBE sub-consultants and subcontractors have made to the 20-mile Central Phoenix/East Valley project. Commemorative project photos will be provided to DBE program participants.

#### **Cost and Schedule – Variance Analysis**

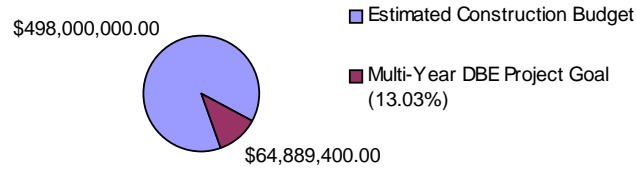
- DBE activities remain within budget and on schedule.

#### **Issues and Solutions**

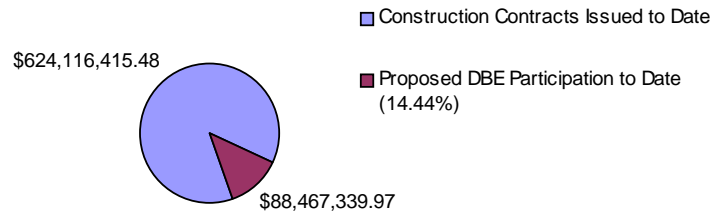
- There are no issues to report this period.



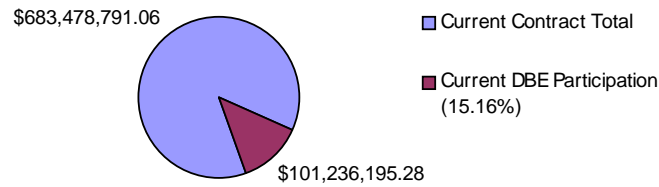
### DBE Program Overview



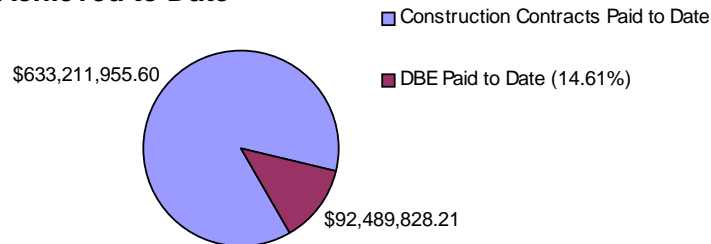
### Original Contract Amounts



### Current Participation



### Achieved to Date





## 7. System Safety and Security

### Description

The System Safety and Security Department is responsible for establishing requirements for the identification, evaluation, and minimization of safety and security risks throughout all phases of the project, including revenue operations.

The Section has developed and is administering provisions of the System Safety Program Plan, the System Security Program Plan, and the Safety and Security Certification Plan.

### Progress

- Two hundred nine METRO, consultant, contractor, utility company, and City personnel received track access safety training.
- Assisted with the filming of the driver safety video.
- Assisted the Phoenix Police Department with filming for a training video on METRO.
- Participated in the pre-proposal conference for Landscaping and Custodial contracts.
- Observed high speed LRV testing for EMI.
- Met with ADOT concerning the FY'09 State Safety Oversight budget.
- Assisted Tempe in preparing for a week long orientation session where every police officer, fire fighter and public works employee would tour an LRV parked behind the police station.
- Met with Tempe and railroad personnel at the 1<sup>st</sup> and Ash grade crossing to determine what needs to be done to implement Tempe's new "Quiet Zone" policy.
- Conducted a tabletop training exercise for rail operations personnel.
- Participated in the pre-final inspection of four stations.
- Met with representatives of the court systems to continue planning for processing citations for ordinance violations.
- Continued with the process to develop light rail codes and ordinances for traffic, public conduct, and fare inspection enforcement with the City of Phoenix Law Department.
- The June Fire/Life Safety and Security Committee, and Safety and Security Certification Review Committee meetings were cancelled.



**Safety and Security Certification Status**

Contract	# of Checklist Items	# of Checklist Items Complete	% Complete	Estimated Certification Date	Comments
Town Lake Bridge	41	41	100%	Aug 2006	<b>CLOSED.</b> Certificate of Compliance is completed.
Operations and Maintenance Center	353	353	100%	Sept 2007	<b>CLOSED.</b> Certification is completed. Supplemental report submitted by RE.
Line Segment 1	121	70	59%	June 2008	Substantial Completion scheduled for July 18, 2008.
Line Segment 2	127	106	82%	Aug 2008	Approximately 75 percent is complete through a CDRL/Submittal or an inspector's report. The other 25 percent is pending until the end of the project for verification with inspectors or cannot be verified until the end of the project.
Line Segment 3	214	80	38%	Sept 2008	No change.
Line Segment 4	125	125	99.9%	May 2008	<b>CLOSED.</b> Certificate of Compliance was approved at the May 2008 SSCRC Meeting.
Line Segment 5	107	93	86%	June 2008	Substantial Completion is complete. Cleaning up punch list items. Final certification is scheduled for June 2008.
LRV	205	0	0%	Nov 2008	Database complete. Beginning to documenting verification of items
Ticket Vending Machines	38	16	40%	Nov 2008	No change from April 2008.
Station Finishes	55	27	50%	Oct 2008	Substantial Completion scheduled for August 31, 2008.
Signals & Communications	254	89	35%	Oct 2008	82 Items have been verified and the appropriate documentation filed. 27 Items are related to outstanding or partial submittals. 99 Items are related to post-installation activities such as Test Reports, As-builts and Audits 39 Items are to be verified by inspection; 27 open remaining items.
Traction Electrification System	233	115	50%	Nov 2008	Final test reports will close out majority of remaining items. The last construction milestone is scheduled for August 1, 2008.
Art Contracts	Five pieces of art were inspected (1 <sup>st</sup> /Van Buren and Washington/24 <sup>th</sup> ). Art contracts will be certified on a case by case basis as each piece is installed.				



**Construction Accident Data**

METRO Construction Incident Rate	February 2008	Previous 12 Month Average
	0	1.20
OSHA National Construction Incident Rate = 5.30		

METRO Construction Lost Time Rate	February 2008	Previous 12 Month Average
	0	0.13
OSHA National Construction Lost time Rate = 2.20		

Total Hours Worked, March 2008 – 121,875
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**Issues and Solutions**

- None.



## 8. Environmental Management

During design and construction, the Environmental Manager is responsible for overseeing the compliance with federal and State environmental laws/regulations, the Project's environmental/historic preservation obligations, implementing the requirements of the Final Environmental Impact Statement (FEIS), Record of Decision (ROD), and Section 106 Memorandum of Agreement.

The Environmental Manager is also responsible for review of all proposed Project changes to determine if the proposed change is consistent with the Project Definition as stated in the FEIS and to determine if the change presents any environmental impact not addressed in the FEIS/ROD. If a proposed change results in potential new impacts, the Manager shall document those impacts and secure FTA concurrence with the change, definition of impacts and proposed mitigation.

### Progress

#### Archaeology Monitoring

- Monitoring and data recovery is complete and closed.

#### Archaeology Testing and Analyses

- Continue burial analyses – Pueblo Grande.
- Continue stone tool analyses – Pueblo Grande and La Plaza.
- Continue ceramic analyses –Pueblo Grande and La Plaza.

#### Contaminated and Hazardous Materials

- No activity.

#### Regulatory Compliance

- No activity.



**Cost and Schedule – Variance Analysis**

Archaeology Monitoring FY 08

Task Order 2 – Cost +Fee construction monitoring FY'08	\$227, 906
Billed as of April 30, 2008	(\$228,772)
Balance available	(\$0)
Disallowed fee	\$1,866
Agency reserve for data recovery through end of construction	\$0

Archaeology Testing and Analyses (to be updated when invoiced)

Contract Value	\$2,697,095
FY '08 Budget	\$1,027,098
Invoiced Through May 31, 2008	(\$554,490)
Funds Available FY '08	\$472,608

Hazardous Materials Assessment (CAC)

Original Contract Value	\$499,488
Contract Value to date	\$499,488
Invoiced through February 29, 2008	(\$486,967)
Task orders open	(\$6,000)
Expended + Committed	\$492,967
Estimated cost to complete	\$498,000

Remediation and Treatment Fund (METRO)

Budget	\$1,004,000
Expended or Committed	(\$106,811)
ERI invoiced to date (December 31, 2007)	(\$96,811)
Open Task orders	(\$10,000)
Transferred to Archaeology Monitoring-Data Recovery	(\$650,000)
<u>Funds Available</u>	<u>\$247,189</u>



## Issues and Solutions

- ACS has under run their FY'08 estimate of labor by approximately 6,000 hours. Without correction to labor assigned to the project ACS is at risk of not completing the project on time.
- Corrective action: I have requested ACS to reallocate labor resources for FY'09 and FY'10 to determine allocation of resources in order to complete project on schedule and within budget. This will likely result in a mid-year budget adjustment of approximately \$300,000 to absorb funds budgeted in FY'08 but not expended.



## 9. Real Estate

### Description

The LRT Project travels down main business arterials in the cities of Phoenix, Tempe and Mesa and approximately 769 parcels of property are affected. The number of right-of-way certifications required within this 20-mile corridor is in excess of 2,500. This number includes all easements required by the project, such as utility, irrigation, sidewalk, traffic, slope, landscape and temporary construction, as well as all of the normal fee acquisitions. Real Estate staffs from the project cities are responsible for obtaining all of the necessary property rights required to construct and operate the LRT system. Oversight and coordination of the cities' activities is provided by the METRO Real Estate Manager.

### Progress

- Presently, all of the required properties are under City control and are available for construction. Extensive coordination between METRO and City staff has enabled the project to obtain these properties in a manner sufficient to support construction.
- In Line Section 1, all 183 relocations have been completed. All 149 parcels are under City control and are available for construction.
- In Line Section 2, all 29 relocations have been completed. All 92 parcels are under City control and are available for construction.
- In Line Section 3, all 36 relocations have been completed. All 254 parcels are under City control and are available for construction.
- In Line Section 4, all 28 relocations have been completed. All 108 parcels are under City control and are available for construction.
- In Line Section 5, 38 of the 41 relocations have been completed leaving 3 relocations in progress. All 166 parcels are under City control and are available for construction.
- In Line Sections 1, 2, 3 and 4 eighteen building cut and re-faces were identified; all eighteen building cut and re-faces have been completed. These building modifications required a structural engineering analysis, architectural and utility modifications, the procurement of relevant contractors and an extensive permitting process.
- The FTA Real Estate Program Compliance Review cited nine areas of noncompliance. Presently, all citations have been adequately addressed and the FTA has rendered a final decision as of November 8, 2007. All issues have been resolved and all FTA decisions have been accepted by the Project.



- An updated Real Estate Acquisition Summary sheet is included at the end of this section.

	<b>5309</b>	<b>CNPA</b>	<b>Total</b>
Budget	\$117,130,268	\$20,656,557	\$137,786,825
Available Contingency	\$ 9,369,732	\$ 295,925	\$ 9,665,657
Total	\$126,500,000	\$20,952,482	\$147,452,482
Spent To Date	\$119,930,713	\$18,159,299	\$138,090,012
Balance Available	\$ 6,569,287	\$ 2,793,183	\$ 9,362,470

### **Cost and Schedule – Variance Analysis**

- A focused real estate effort was initiated to accelerate the acquisition process and thus eliminate a negative impact to the project schedule. The Cities worked diligently with METRO to improve and streamline processes wherever possible.
- The overall real estate forecast is still within the budget and actual costs are within the budget plus contingency for the real estate contract unit.

### **Issues and Solutions**

- Efforts continue to be focused on completing cost-to-cure work. No parcels are impeding construction work.



**CENTRAL PHOENIX / EAST VALLEY  
LIGHT RAIL TRANSIT PROJECT  
REAL ESTATE ACQUISITION SUMMARY  
June 30, 2008**

<b>ACTIVITY</b>								
	<b>1 PHX</b>	<b>2 PHX</b>	<b>3 PHX</b>	<b>4 PHX</b>	<b>4 TEMPE</b>	<b>5 TEMPE</b>	<b>5 MESA</b>	<b>Totals</b>
Full Takes	40	0	11	2	0	12	0	<b>65</b>
Partial Takes	109	92	243	105	1	109	45	<b>704</b>
<b>Total Affected Parcels</b>	<b>149</b>	<b>92</b>	<b>254</b>	<b>107</b>	<b>1</b>	<b>121</b>	<b>45</b>	<b>769</b>
Offers Accepted	130	79	251	101	1	120	44	<b>726</b>
<b>Escrow Closed Acquisition Complete</b>	<b>130</b>	<b>79</b>	<b>251</b>	<b>101</b>	<b>1</b>	<b>120</b>	<b>44</b>	<b>726</b>
In Condemnation	12	9	3	4	0	1	1	<b>30</b>
In Negotiations	7	4	0	2	0	0	0	<b>13</b>



## 10. Utilities

### Description

The METRO Utility Manager is responsible for managing and overseeing the relocation of all privately owned utilities (irrigation, natural gas, nitrogen lines, fiber optics, power, private force mains, private communication lines, private irrigation lines, cable television, and telecommunications) necessary to allow LRT construction, including those with and without prior rights. Utilities with prior rights include SRP Power, SRP Irrigation, Qwest (local and long distance), Southwest Gas, WiTel, MCI and APS. Relocation of privately owned utilities is performed by private utility companies and their contractors, preferably prior to beginning LRT construction. Relocation of publicly-owned utilities is accomplished within the civil construction contracts by METRO contractors.

### Progress

- Line Sections 1, 2, 4 and 5 - no major utility conflicts or coordination issues.
- Line Section 3 – four manholes were in conflict with the proposed final grade along the south side of Washington Street and east of 9<sup>th</sup> Street. City of Phoenix, AboveNet and XO Communications have completed there relocations; however, LEVEL 3 required additional time to relocate due to the size of manhole and the overhead centenary system, a custom manhole had to be built.
  - Sewer Line at Central Avenue and Van Buren
    - Total of 17 Pothole were done. One possible conflict was identified which is unknown but appears to be a concrete encasement that is possibly an abandoned utility. Archer Western and Aztec will expose the concrete slab to determine if a portion can be removed to allow the new sewer line to be placed in the same location. This is pending redesign.
  - 11<sup>th</sup> Street Turn Around - conflicts and coordination issues:
    - APS continues working on the overhead to underground conversion on 11<sup>th</sup> Street. Qwest is in a joint trench with APS.
- Park and Ride – No issues at this time
  - Camelback Road and 19th Avenue
  - Camelback Road and 3rd Avenue
  - 38th Street and Washington Street
  - 101 and Price Freeway
  - Main Street and Sycamore

- Transit Centers – No issues at this time
  - 19th Avenue and Montebello
  - 44th Street and Washington Street
  - Main Street and Sycamore
- Traction Power Substations and Stations Platform – No issues at this time
- Station Finishes (Platform)
  - Twenty station platforms have been energized, only nine are left to be energized.
  - Center Parkway Station – APS is waiting on new SES to be installed so APS can proceed with installing cable and set electric meter.

### Cost and Schedule – Variance Analysis

- Costs incurred to-date for prior rights utilities are within the Utility Budget. Electrical service to Stations and TPSS continues to be one of two key issues driving the project schedule.

### Issues and Solutions

- All new electric services requests for Stations are met on time and continue to be a priority for METRO.

### Construction Photographs



Station at Central Avenue and Indian School Road flat strap placed and ready for inspection.



Station at Central Avenue and McDowell Road passed inspection, and energized



**Prior Rights Utility Cost Status  
Federal 5309 Project**

	<b>Percent</b>	<b>Budget</b>	<b>Earned</b>	<b>Cost to Date</b>	<b>Forecast</b>
Line Section 1	93%	\$6,356,581	\$5,906,864	\$6,347,676	\$8,181,979
Line Section 2	100%	\$1,874,369	\$1,872,869	\$1,431,990	\$1,473,434
Line Section 3	97%	\$3,064,666	\$2,973,072	\$4,390,046	\$4,487,215
Line Section 4	100%	\$4,713,948	\$4,713,948	\$6,446,295	\$7,226,448
Line Section 5	100%	\$7,902,538	\$7,880,367	\$7,751,498	\$8,623,337
Station Finishes, Landscaping, Ped Improvements	100%	\$354,632	\$354,632	\$354,632	\$354,632
Maintenance Storage Facility	100%	\$320,230	\$320,230	\$441,254	\$679,071
Town Lake Bridge	100%	\$1,150,000	\$1,150,000	\$824,097	\$1,055,849
Traction Power Substation / Overhead Contact Sys	0%	\$8,757	\$8,757	\$13,213	\$83,758
Prior Right Utilities	0%	\$0	\$0	\$0	\$0
	<b>98%</b>	<b>\$25,745,721</b>	<b>\$25,180,739</b>	<b>\$28,000,701</b>	<b>\$32,165,723</b>
Contingency	98%	\$8,254,279	\$8,108,354	\$0	\$1,834,277
	<b>98%</b>	<b>\$8,254,279</b>	<b>\$8,108,354</b>	<b>\$0</b>	<b>\$1,834,277</b>
	<b>98%</b>	<b>\$34,000,000</b>	<b>\$33,289,093</b>	<b>\$28,000,701</b>	<b>\$34,000,000</b>

## 11. Architecture

### Public Art



### Description

Public art projects will be a part of all Station Finishes listed in Section 4.1.3 with the exception of the platform at 19<sup>th</sup> Avenue and Camelback. Additional artworks will be placed at the 19<sup>th</sup> Avenue and Camelback Park-and-Ride and at the Tempe Town Lake Bridge. Artworks will include stand alone sculptures, integrated architectural finishes, entryway canopies, lighting, paving and landscaping elements. Artists will install their work in conjunction with the Station Finishes, Park-and-Ride, and Town Lake Bridge construction schedule.

### Progress

- Line Section 1
  - Montebello: Installed May 27, 2008.
  - 19<sup>th</sup> Avenue/Camelback: installation at the corner of the park and ride set for October 2008
  - Camelback/7<sup>th</sup> Avenue: Installed.
- Line Section 2
  - Camelback: Installed except for irrigation hose connection to be provided by Archer Western Contractors.
  - Osborn: Bronze footprint pavers have been delivered to AWC site. Installation scheduled for July 8, 2008 for approximately one week.



- Encanto: The cantera stone wall and bronze sculpture were installed May 27-30, 2008. The bronze turning stones are scheduled to be installed sometime in July.
- Line Section 3
  - McDowell: Working with the original fabricator to fabricate completed designs by Station Artist Michael Maglich.
  - Van Buren: Installed.
  - Central/Washington – 1st Avenue/Jefferson: Tiles and panels have been installed at Central/Washington. At 1<sup>st</sup> Avenue/Jefferson, the terrazzo medallions have been installed and we are working out signage issues prior to the installation of panels.
  - Third Street: the artist installed the main body of the artwork and is now coordinating the installation of the electrical lighting component. This will be installed by Archer Western.
  - Twelfth Street: Working with the artist to complete the station artwork. Tiles have been ordered by Archer Western, artist is scheduled to install his tiles in July.
  - Twenty-Fourth Street: installed.
- Line Section 4
  - 38<sup>th</sup> Street: artwork installed. Bronze paver insert locations being marked in every month for partial install in November 2008 and completion (last three) in February 2009.
  - Forty-Fourth Street: Working through grounding issues for art columns. The artist will be installing the artwork canopy in August.
  - Priest/Washington: Main entry way sculpture and the rock wall veneer have been installed. The pavers will be installed in June.
- Tempe Town Lake
  - Artwork has been completed except for the final programming of the bridge lighting.
- Line Section 5
  - Mill/3rd Avenue: Archer Western is completing installation of the glass tree and lighting component.
  - College/5th Avenue: The pedestals have been delivered, inspected by artist, and installed. Bronzes are in fabrication.
  - Apache Boulevard Stations
    - Sculpture: Hands sculpture to be installed in October.

- Paving: Paving has been installed.
- Trellis boxes: installed at the Apache stations except for the Price/Apache station.
- Lighting: Neon Cactus has been installed at Dorsey, Text Lights have been installed at Smith Martin. Water Bottles are scheduled to be installed in two parts, mid July and September. Neon Louvers are scheduled to be installed in September.
- Sycamore/Main: Artwork has been installed, waiting for electrical hook-up for lighting.
- General Progress
  - Working with Archer Western Contractors (AWC) to resolve the foundation installation and scheduling issues.
  - Working with artists and GEC to resolve the outstanding request for information issues.

### Cost and Schedule – Variance Analysis

- Working with AWC to install artwork at the Dorsey/Apache station, this is out of sequence with their construction schedule due to art fabrication delays. Public Art activities remain within budget.

### Issues and Solutions

- Continuing to monitor contract schedule issues. Except for the stations noted above, artwork installation is on schedule within the latest AWC construction schedule.

### Construction Photographs



Chrome cactus being installed at Dorsey  
Dan Corson



Benson Shaw installing pavers at McClintock

## Station Finishes



### Description

The METRO Station Finishes (SF) Contract includes twenty-eight stations, four transit centers and installation of art pieces by twenty-seven artists. Amenities within the fully accessible stations include shading trellises with overhead canopies, irrigated trees and landscape, patron seating and leaning rails, drinking fountains, map cases, directional signage and trash receptacles. Types of art pieces include stand-alone sculptures, paving treatments, lighting treatments and integrated art within the station structures.

The Station Finishes architects prepared the construction drawings in five separate packages that correspond to each civil line section. These documents along with an art reference volume have been combined together and are currently under construction by Archer Western Contractors, the METRO Station Finishes Contractor.

System elements that are located in the station areas include surveillance cameras (CCTV), a public address system (PA), emergency call boxes (ECB), variable message boards (VMB) automated ticket vending machines (TVM) and Stand-alone Validators (SAV).

### Progress

- Montebello and 19<sup>th</sup> Avenue Transit Center: Work continues south of the realigned Montebello Avenue. The contractor is finalizing completed utility work and other site improvements, and has completed structural steel and canopy installation. The contractor is currently working on paver sidewalk.



- Work on underground utilities is completed and structural steel installation is completed at the Central Avenue and Camelback Transit Center. Construction of site screen walls is completed. Canopy installation is completed. Artwork installation is completed. The brick paver sidewalk is completed. The contractor completed the Mariposa Cul De Sac and associated driveways and the main driveway entrance paving.
- Washington and 44<sup>th</sup> Street Transit Center: Installation of Interior wall assemblies and miscellaneous finishes continue at Operator Facility Building (OPF3).
- Sycamore and Main Street Transit Center: Sitework construction is ongoing. Installation of Interior finishes continues at Operator Facility Building (OPF4).
- Contractor completed constructing the foundation, and the masonry for Operator Facility Building north of the Montebello/19<sup>th</sup> Avenue Station (OPF1) and is continuing on roofing installation and miscellaneous finishes
- Stations:
  - Canopy Installation has been completed for 33 Stations. This completes canopy installation for all of the stations.
  - Louver Installation is completed for 23 stations.
  - Electrical/Communications Cabinet Installations have been completed for 33 Stations. This completes electrical / communications cabinet installation for all of the stations.
  - Paver installation has been completed for 25 Stations.
  - Work is ongoing at 33 Stations.
- The Signals and Communications contractor has access to 33 station platforms.

### **Cost and Schedule – Variance Analysis**

- A revised schedule has been accepted by METRO. Substantial agreement has been reached between METRO and Archer Western Contractors. The revised schedule is being implemented.

### **Issues and Solutions**

- Building department comments related to Station Finishes Permit approvals from the Cities of Phoenix and Mesa resulted in changes and additional costs at all Transit Center sites. Two of these changes have been settled and are fully executed.

**Construction Photographs**



19<sup>th</sup> Avenue / Montebello Station Construction



Artwork Installation at Campbell / Central Station



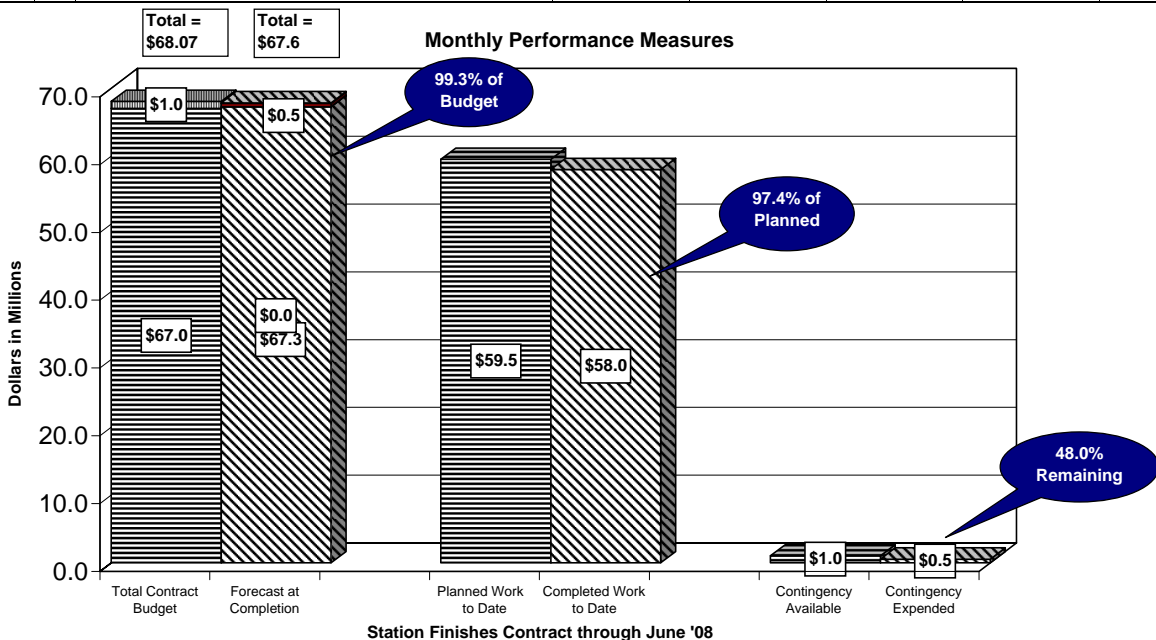
OPF 1



Louver Installation at Central / Camelback Station



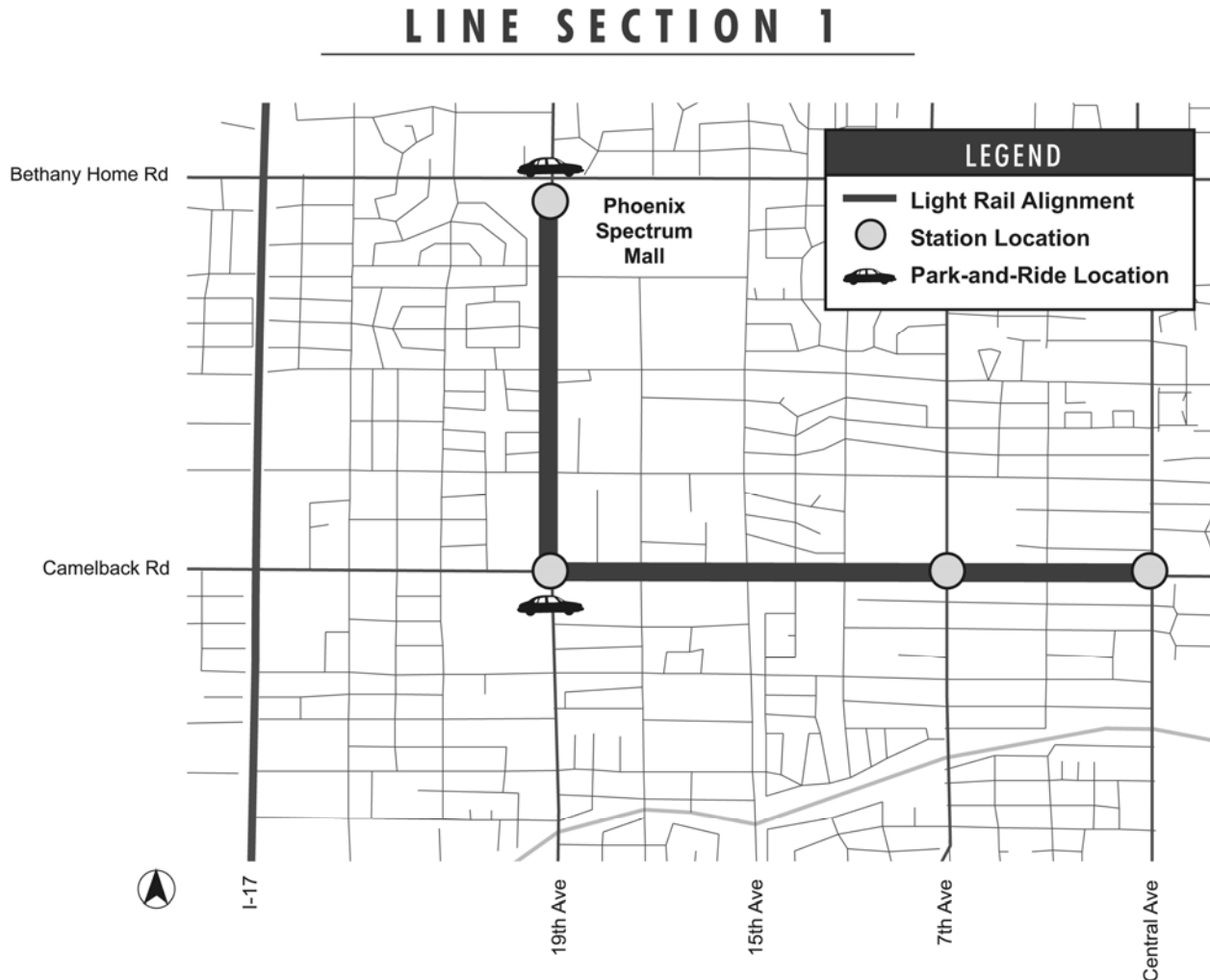
<b>Description:</b>		<b>3.2.1 Station Finishes</b>		
<b>PE/PA:</b>				
<b>Contractor:</b>		<b>Archer Western Contractors</b>		
<b>Resident Architect:</b>		<b>Doaa Aboul-Hosn</b>		
<b>Data Through:</b>		<b>April 30, 2008</b>		
<b>Cumulative</b>		<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Original Budget	\$52,985,000	\$14,044,787	\$67,029,787
2	Executed Change Orders	\$506,166	-\$304,772	\$201,394
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$53,491,166	\$13,740,015	\$67,231,181
5	Work Scheduled	\$47,435,275	\$12,091,249	\$59,526,524
6	Work Earned	\$46,114,718	\$11,893,682	\$58,008,400
7	Actual Expenditures	\$46,544,957	\$11,891,462	\$58,436,419
8	Forecast to Complete Base (4-7)	\$6,946,209	\$1,848,553	\$8,794,762
9	Change Orders Pending Execution	\$33,625	\$6,850	\$40,475
10	Forecast at Completion (7+8+9)	\$53,524,791	\$13,746,865	\$67,271,656
11	Percent Budget Expended (7/4)	87.0%	86.5%	86.9%
12	Percent Planned (5/4)	88.7%	88.0%	88.5%
13	Earned Percent Complete (6/4)	86.2%	86.6%	86.3%
14	Schedule Performance (6/5)	0.97	0.98	0.97
15	Cost Performance (6/7)	0.99	1.00	0.99
16	Contingency Budget	\$546,000	\$492,194	\$1,038,194
17	Remaining Contingency	\$6,209	\$492,194	\$498,403
18	Percent Contingency Remaining (17/16)	1.1%	100.0%	48.0%
<b>Period</b>				
1	Original Budget	\$0	\$0	\$0
2	Executed Change Orders	\$5,159	-\$4,772	\$387
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$5,159	-\$4,772	\$387
5	Work Scheduled (Cumm - Last Period)	\$1,881,052	\$260,210	\$2,141,262
6	Work Earned (Cumm - Last Period)	\$0	\$0	\$0
7	Actual Expenditures (Cumm - Last Period)	\$0	\$0	\$0
8	Forecast to Complete Base (4-7)	\$5,159	-\$4,772	\$387
9	Change Orders Pending Execution	\$28,466	\$6,850	\$35,316
10	Forecast at Completion (7+8+9)	\$33,625	\$2,078	\$35,703
11	Percent Budget Expended (7/4)	0.0%	0.0%	0.0%
12	Percent Planned (5/4)	3.5%	1.9%	3.2%
13	Earned Percent Complete (6/4)	0.0%	0.0%	0.0%
14	Schedule Performance (6/5)	-0.04	-0.02	-0.04
15	Cost Performance (6/7)	0.00	0.00	0.00
16	Contingency Budget	\$0	\$0	\$0
17	Remaining Contingency	-\$33,625	\$0	-\$33,625
18	Percent Contingency Remaining (17/16)	-6.2%	0.0%	-3.2%



Note: No update was submitted during the reporting period

## 12. Facilities

### Line Section 1



### Description

Line Section 1 is 2.27 miles in length, and begins on 19th Avenue south of Bethany Home Road to a point west of the Central Avenue and Camelback Road Station. The construction work in this contract includes demolition, relocation of public utilities, roadway and drainage modifications, systems ductbank installation to the substation site interface, station foundations, signing and marking, irrigation, landscaping, et cetera.

There are three stations in Line Section 1. They are at 19th Avenue and Montebello, 19th Avenue and Camelback Road, and 7th Avenue and Camelback Road.

### Progress

- All work excluding minor initial punchlist items, final striping and adjustments and additional change requests have been completed for the whole length of LS1. Punchlist items are on going and will be completed in mid-July.



- All Guideway including special trackwork has been completed within LS1. The last guideway pour took place on April 22, 2008. All guideway curb and all Overhead Catenary System (OCS) foundations have been completed. Guideway access has been turned over to the follow on contractors.
- All utilities except for change order work has been completed on the project.
- All station foundations are complete and have been turned over to the follow on contractor. Civil Systems Ductbank (CSD) is 100 percent complete on the LS1 project.
- All grading work for sidewalk, curb and gutter and roadway is complete. Final AC rubber placement for 19<sup>th</sup> Avenue and the remaining areas on Camelback Road have been completed. Final adjustments are ongoing, final thermoplastic striping is scheduled for the second week in July.
- Traffic control continues to be coordinated between all participants on the project and has been successful by construction standards.

**Cost and Schedule – Variance Analysis**

- A revised schedule has been developed to reflect re-sequencing the work to support overall Program Milestones. Milestone D was completed April 22, 2008. Milestone E, the final project milestone, is to be complete by July 30, 2008.

**Issues and Solutions**

- Two new change notices are to be issued to the contractor; the first involves installation of a retaining wall per agreement with a private stakeholder, the second concerns removal and installation of up to eight new OCS foundations to facilitate the follow on Northwest Extension Contract. These change orders will not affect the final completion date, but due to resource scheduling, it may be completed after the contract finish date.
- Change Order 90 was issued, revising the Contractual Milestone Dates (see chart below). One more Change Order will need to be issued in order to bring the final completion dates in line.

Milestone Number	Description	Original Contract Milestone Dates	CO #26 Revised MS Dates	CO #90 Revised MS Dates
A1	7th Avenue Station	27-Nov-06	26-Jan-07	2-Apr-07
A2	Camelback Station	27-Nov-06	9-Feb-07	22-Jun-07
A3	Montebello Station	5-Jul-07	31-May-07	27-Aug-07
B	Rail Access Camelback	3-May-07	22-Aug-07	22-Aug-07
D	Rail Access 19th Avenue	5-Jul-07	10-Jan-08	10-Jan-08
E	Final Completion	1-Nov-07	26-Mar-08	25-Jul-08

### Construction Photographs



Placing final rubberized AC on 19<sup>th</sup> Avenue



Placing concrete scupper on Montebello Avenue



Grinding AC prior to final paving



Placing pavers for bus stop on 19<sup>th</sup> Avenue



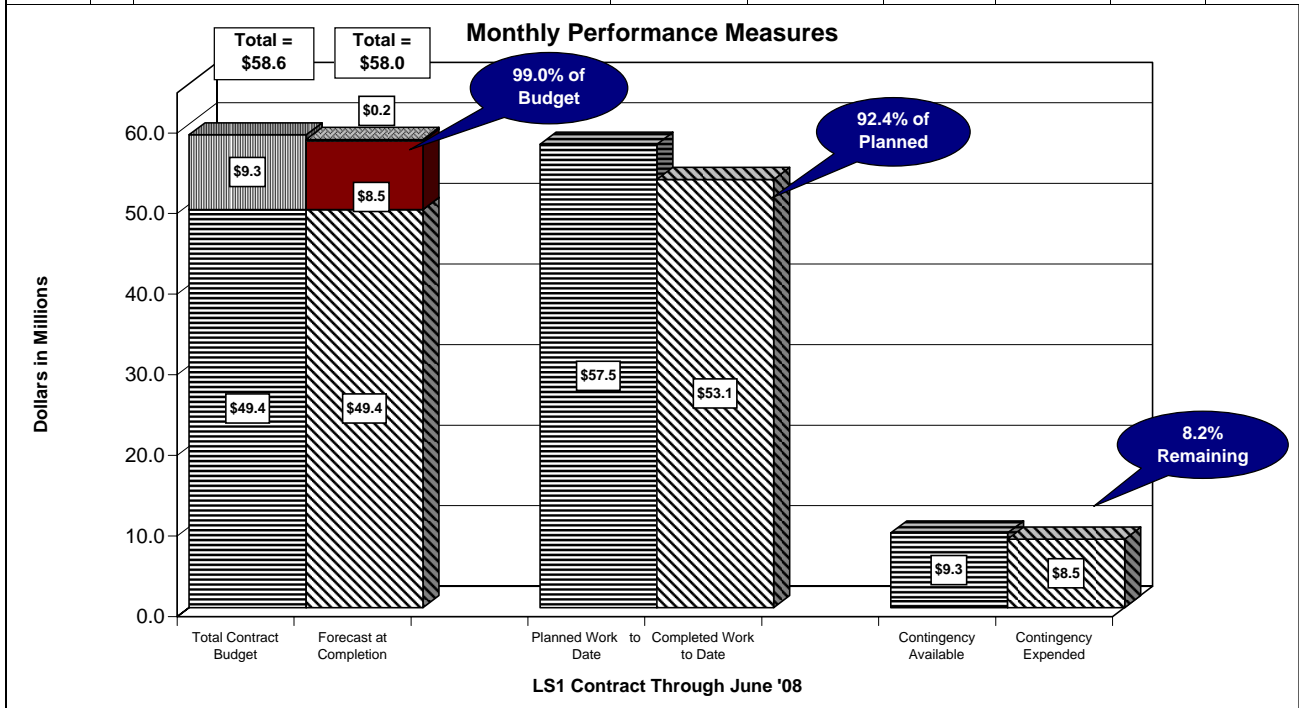
Installing Traffic loops on 19<sup>th</sup> Avenue



Installing meter box for irrigation controllers

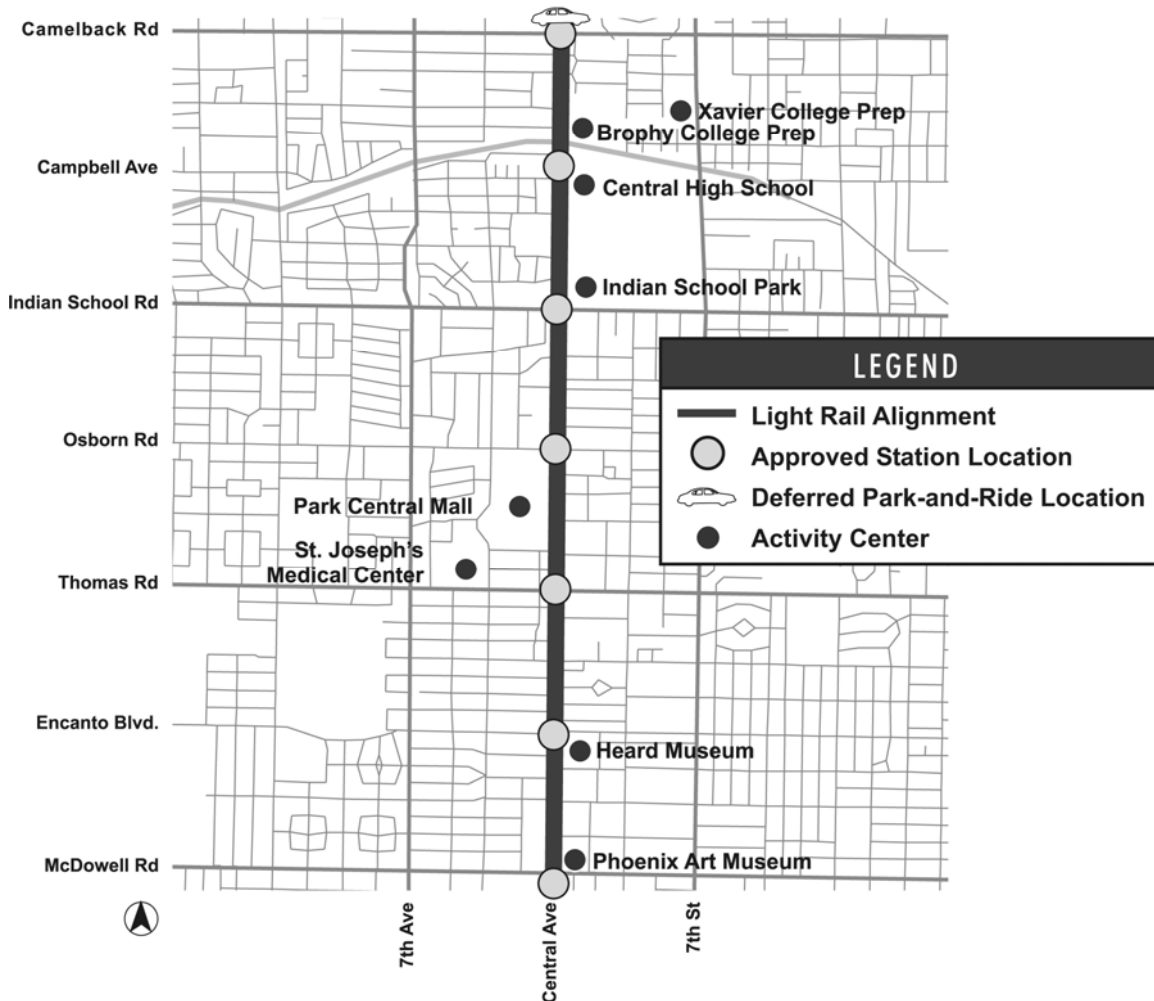


<b>Description:</b>		<b>3.1.1 Line Section 1</b>		
<b>PE/PA:</b>		<b>Alvin Livingstone</b>		
<b>Contractor:</b>		<b>Kiewit Western Co.</b>		
<b>Resident Engineer:</b>		<b>Bill Blane</b>		
<b>Data Through:</b>		<b>May 31, 2008</b>		
<b>Cumulative</b>		<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Budget	\$37,951,658	\$11,430,252	\$49,381,910
2	Executed Change Orders	\$8,499,936	-\$916	\$8,499,020
3	Budget Transfers	\$0	-\$10,554	-\$10,554
4	Current Budget (1+2+3)	\$46,451,594	\$11,418,782	\$57,870,376
5	Work Scheduled	\$46,133,018	\$11,322,096	\$57,455,114
6	Work Earned	\$43,323,575	\$9,787,791	\$53,111,366
7	Actual Expenditures	\$43,366,252	\$9,756,241	\$53,122,493
8	Forecast to Complete Base (4-7)	\$3,085,342	\$1,662,541	\$4,747,883
9	Change Orders Pending Execution	\$181,715	\$5,367	\$187,082
10	Forecast at Completion (7+8+9)	\$46,633,309	\$11,424,149	\$58,057,458
11	Percent Budget Expended (7/4)	93.4%	85.4%	91.8%
12	Percent Planned (5/4)	99.3%	99.2%	99.3%
13	Earned Percent Complete (6/4)	93.3%	85.7%	91.8%
14	Schedule Performance (6/5)	0.94	0.86	0.92
15	Cost Performance (6/7)	1.00	1.00	1.00
16	Contingency Budget	\$9,213,056	\$46,295	\$9,259,351
17	Remaining Contingency	\$713,120	\$47,211	\$760,331
18	Percent Contingency Remaining (17/16)	7.7%	102.0%	8.2%
<b>Period</b>				
1	Budget	\$0	\$0	\$0
2	Executed Change Orders	-\$142,665	-\$916	-\$143,581
3	Budget Transfers	\$0	\$7,998	\$7,998
4	Current Budget (1+2+3)	-\$142,665	\$7,082	-\$135,583
5	Work Scheduled (Cumm - Last Period)	\$175,956	-\$39,493	\$136,463
6	Work Earned (Cumm - Last Period)	\$1,416,691	\$183,353	\$1,600,044
7	Actual Expenditures (Cumm - Last Period)	\$1,383,774	\$175,002	\$1,558,776
8	Forecast to Complete Base (4-7)	-\$1,526,439	-\$167,920	-\$1,694,359
9	Change Orders Pending Execution	\$41,652	-\$182,837	-\$141,185
10	Forecast at Completion (7+8+9)	-\$101,013	-\$175,755	-\$276,768
11	Percent Budget Expended (7/4)	3.3%	1.5%	2.9%
12	Percent Planned (5/4)	0.7%	-0.4%	0.5%
13	Earned Percent Complete (6/4)	3.3%	1.6%	3.0%
14	Schedule Performance (6/5)	0.03	0.02	0.03
15	Cost Performance (6/7)	0.00	0.00	0.00
16	Contingency Budget	\$0	\$0	\$0
17	Remaining Contingency	\$142,665	\$916	\$143,581
18	Percent Contingency Remaining (17/16)	1.5%	2.0%	1.6%



Line Section 2

**LINE SECTION 2**



**Description**

Line Section 2 begins at a point on Camelback Road just west of the Central Avenue/Camelback Road Station, and continues south on Central Avenue to a point approximately 200 feet north of the Central Avenue/McDowell Road intersection. The construction work in this contract includes demolition, relocation of public utilities, roadway improvements, drainage modifications, systems ductbank installations, station foundations, installation of systems ductbank and conduits, streetlights, traffic signals, OCS pole foundations, preparation of trackbed, and installation of embedded track. It also includes replacement of the Grand Canal Bridge on Central Avenue.

This Line Section will have six stations at the following locations: Central/Camelback, Central/Campbell, Central/Indian School, Central/Osborn, Central/Thomas and Central/Encanto.



## Progress

- Herzog has completed all contract and Change Order work related to infrastructure on the project, continue to work on punch out issues.
- Herzog has completed installation of the guideway and turn over to follow-on contractors.
- Herzog has completed all the Station foundations and turned over to follow-on Contractors.
- Herzog continues re-work on the roadway pavement, curb/gutter, sidewalks, and continues to work on pre-punch list activities. Herzog continues to install sandstone borders, tree wells, and maintaining landscaping.
- Final AC Rubber Paving is in progress with turnouts being completed this week.
- Herzog is in progress of replacing sidewalk ramps to meet ADA Compliance per City of Phoenix Standards.
- Contractor installing Traffic Signals, installed at the direction of the COP/GEC. Traffic signal infrastructure and poles at various locations.
- Working on locating, raising test stations, testing the lines for cathodic protection.
- Herzog continuing to resolve Punch List items.

## Cost and Schedule – Variance Analysis

- The contractor has developed a new schedule to reflect re-sequencing the work to support overall Program Milestones. There are no impacts to follow-on contractors, TES to install final poles and begin overhead cantenary wire installation mid-June.

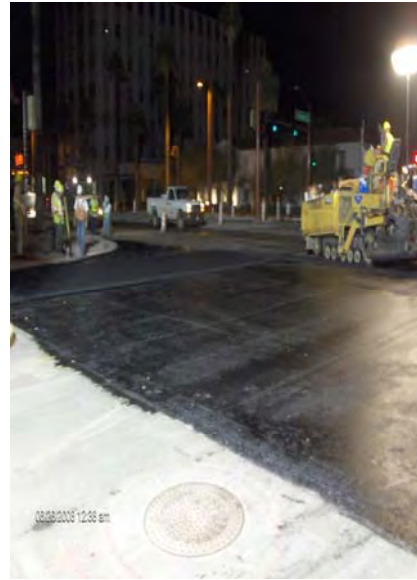
## Issues and Solutions

- Rubberized Asphalt placement in progress.
- There are concerns from the City of Phoenix regarding compaction variance reports from the City Inspectors gauge, Contractor's QC gauge, and CAC QA gauge. Calibration Reports have been requested for review.

## Construction Photographs



Laying Rubberized Asphalt at Thomas



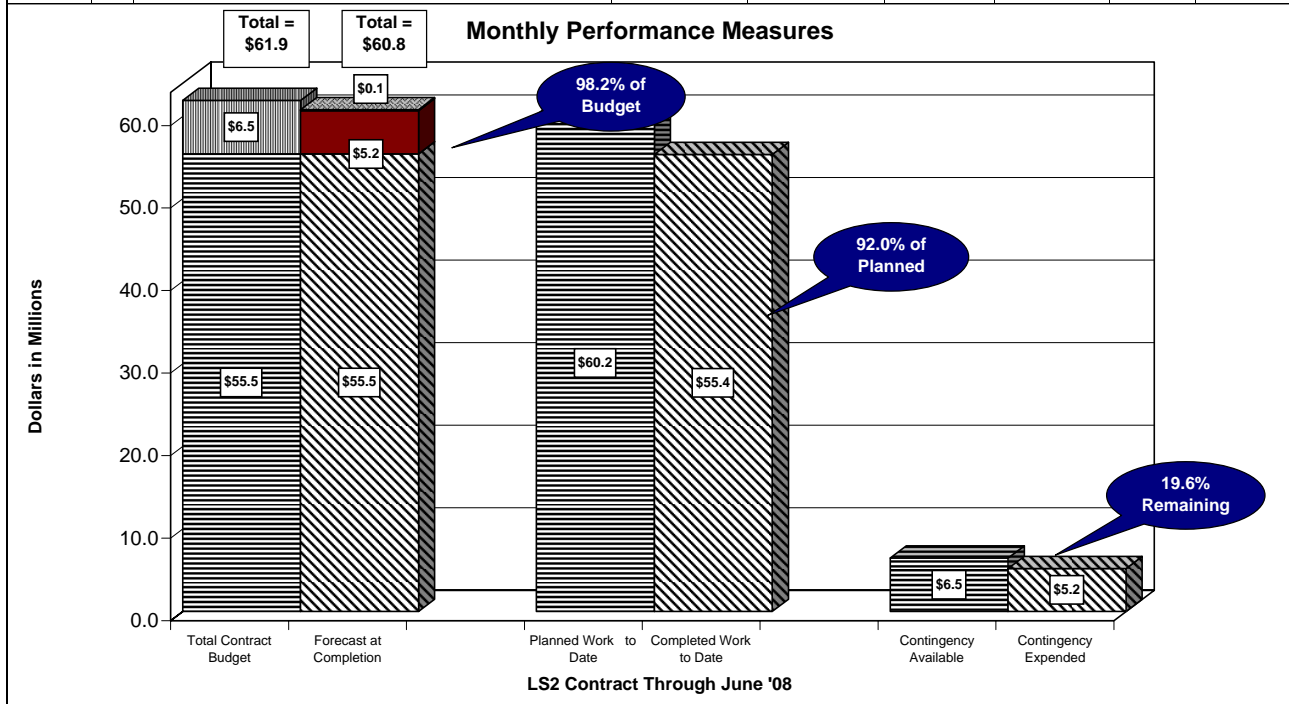
Tack and Rubber at turnout



Installing Cathodic Protection on 12" DIP

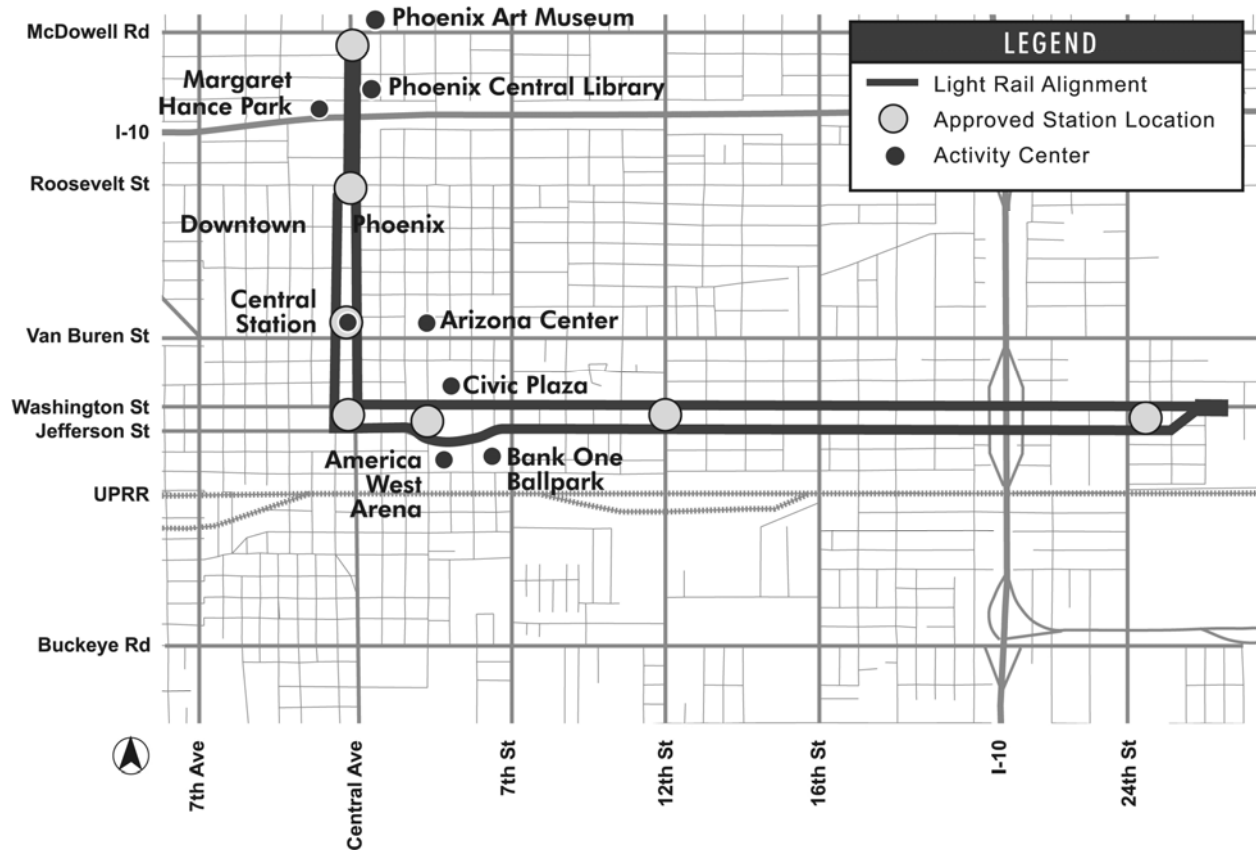


<b>Description:</b>		<b>3.1.2 Line Section 2</b>		
<b>PE/PA:</b>		<b>Alvin Livingstone</b>		
<b>Contractor:</b>		<b>Herzog Contracting Corporation</b>		
<b>Resident Engineer:</b>		<b>Marty Spong</b>		
<b>Data Through:</b>		<b>June 5, 2008</b>		
<b>Cumulative</b>		<b>5309</b>	<b>CNPA/Other</b>	<b>Total</b>
1	Budget	\$48,425,124	\$7,045,436	\$55,470,560
2	Executed Change Orders	\$4,953,606	\$0	\$4,953,606
3	Budget Transfers		\$254,044	\$254,044
4	Current Budget (1+2+3)	\$53,378,730	\$7,299,480	\$60,678,210
5	Work Scheduled	\$53,337,474	\$6,859,694	\$60,197,168
6	Work Earned	\$50,104,945	\$5,286,006	\$55,390,951
7	Actual Expenditures	\$50,106,169	\$5,452,113	\$55,558,282
8	Forecast to Complete Base (4-7)	\$3,272,561	\$1,847,367	\$5,119,928
9	Change Orders Pending Execution	\$130,312	\$2,379	\$132,691
10	Forecast at Completion (7+8+9)	\$53,509,042	\$7,301,859	\$60,810,901
11	Percent Budget Expended (7/4)	93.9%	74.7%	91.6%
12	Percent Planned (5/4)	99.9%	94.0%	99.2%
13	Earned Percent Complete (6/4)	93.9%	72.4%	91.3%
14	Schedule Performance (6/5)	0.94	0.77	0.92
15	Cost Performance (6/7)	1.00	0.97	1.00
16	Contingency Budget	\$6,450,401	\$23,285	\$6,473,686
17	Remaining Contingency	\$1,496,795	\$23,285	\$1,266,036
18	Percent Contingency Remaining (17/16)	23.2%	100.0%	19.6%
<b>Period</b>				
1	Budget	\$0	\$0	\$0
2	Executed Change Orders	\$31,651	\$0	\$31,651
3	Budget Transfers	\$0	\$19,231	\$19,231
4	Current Budget (1+2+3)	\$31,651	\$19,231	\$50,882
5	Work Scheduled (Cumm - Last Period)	\$22,400	\$19,231	\$41,631
6	Work Earned (Cumm - Last Period)	\$883,611	\$128,098	\$1,011,709
7	Actual Expenditures (Cumm - Last Period)	\$872,805	\$127,063	\$999,868
8	Forecast to Complete Base (4-7)	-\$841,154	-\$107,832	-\$948,986
9	Change Orders Pending Execution	-\$20,361	-\$16,852	-\$37,213
10	Forecast at Completion (7+8+9)	\$11,290	\$2,379	\$13,669
11	Percent Budget Expended (7/4)	1.6%	1.5%	1.6%
12	Percent Planned (5/4)	0.0%	0.0%	0.0%
13	Earned Percent Complete (6/4)	1.6%	1.6%	1.6%
14	Schedule Performance (6/5)	0.02	0.02	0.02
15	Cost Performance (6/7)	0.00	0.00	0.00
16	Contingency Budget	\$0	\$0	\$0
17	Remaining Contingency	-\$31,651	\$0	-\$50,882
18	Percent Contingency Remaining (17/16)	-0.5%	0.0%	-0.8%



Line Section 3

LINE SECTION 3



Description

Line Section 3 is 4.29 miles in length with approximately eight miles of in-street track. It begins at Central Avenue and McDowell Road and extends south on Central Avenue to Portland Avenue where the line splits into single-track alignment on the one-way streets of Central Avenue and 1st Avenue. It continues south on one-way 1st Avenue to Jefferson Street and then east on one-way Jefferson Street to its end at 26th Street. It continues on one-way Central Avenue to Washington Street and then east on one-way Washington Street to 26th Street. The eastbound leg is on 1st Avenue and Jefferson Street and the westbound leg is on Washington Street and Central Avenue. The Section traverses downtown Phoenix crossing the Deck Park Bridge and passes near America West Arena, Bank One Ballpark, the Symphony Hall, Civic Plaza and Arizona Science Center.

The work anticipated in this construction contract includes demolition, relocation of public utilities, corrosion control facilities, roadway and drainage modifications, station platform foundations, installation of systems duct bank and conduits, streetlights, traffic signals, OCS pole foundations, irrigation, landscaping, traffic signing, pavement marking, preparation of track bed and installation of embedded track. It also includes modifications of existing structures at the Deck Park Bridge, Renaissance II Garage, Arizona Science Center/CPEG Pedestrian Bridge and ADOT I-10 Washington-Jefferson Interchange.



The seven stations with 13 platforms located within Line Section 3 are McDowell Road/Central Avenue, Roosevelt Street/Central Avenue, Roosevelt Street/1st Avenue, Van Buren Street/Central Avenue, Van Buren Street/1st Avenue, Washington Street/Central Avenue, Jefferson Street/1st Avenue, 3rd Street/Washington Street, 3rd Street/Jefferson Street, 12th Street/Washington Street, 12th Street/Jefferson Street, 24th Street/Washington Street and 24th Street/Jefferson Street.

For Right-of-Way availability and order of construction or sequencing, Line Section 3 has been divided into 15 segments. The segments are paired on the one-way street couplets with Segments 1 and 2 extending from Polk to Washington on Central and 1<sup>st</sup> Avenue, 3 and 4 from 1<sup>st</sup> Avenue to 3<sup>rd</sup> Street on Washington and Jefferson, 5 and 6 from 3<sup>rd</sup> Street to 9<sup>th</sup> Street on Washington and Jefferson, 7 and 8 from Portland to Polk on Central and 1<sup>st</sup> Avenue, 9 and 10 from 9<sup>th</sup> Street to 14<sup>th</sup> Street on Washington and Jefferson, 11 and 12 from 14<sup>th</sup> to 20<sup>th</sup> Street on Washington and Jefferson, 13 and 14 from 20<sup>th</sup> to 26<sup>th</sup> Street on Washington and Jefferson, and Segment 15 on Central Avenue from McDowell to Portland.

### **Progress**

- AWC will has been directed to install sanitary sewer on 14<sup>th</sup> Street to the limits of rubberized paving and has completed potholing for utility corrective work on Central and Van Buren. AWC is continuing to attend to punch list for traffic signals and turnover to City of Phoenix. AWC continues to place flatwork, irrigation systems and landscaping as required along ROW and stations.
- The 11<sup>th</sup> Street Loop is being completed to allow temporary use until such time that the Job Order Contractor (JOC) mobilizes to complete work. GEC design is still in progress.
- AWC continues placing base asphalt on Washington and Jefferson from 9<sup>th</sup> to 26<sup>th</sup> Streets, and has also placed rubberized overlay asphalt on Central Avenue from limits of Line Section 2 to south of Roosevelt. AWC is working crews five ten-hour shifts a week. Continuing to place Portland Cement Concrete Paving at I-10 Washington and Jefferson and have completed the exit and entrance ramps for I-10.
- AWC continues to install landscaping irrigation and planting material throughout the alignment and has started the establishment period for planting materials from McDowell to 12<sup>th</sup> Street.

### **Cost and Schedule – Variance Analysis**

- AWC has completed approximately 95 percent of their project.

### **Issues and Solutions**

- AWC continues to work with follow on contractors turning over guideway for test track operations, which will include wireway and communication installations.

### Construction Photographs



Placing asphalt paving on Central Avenue



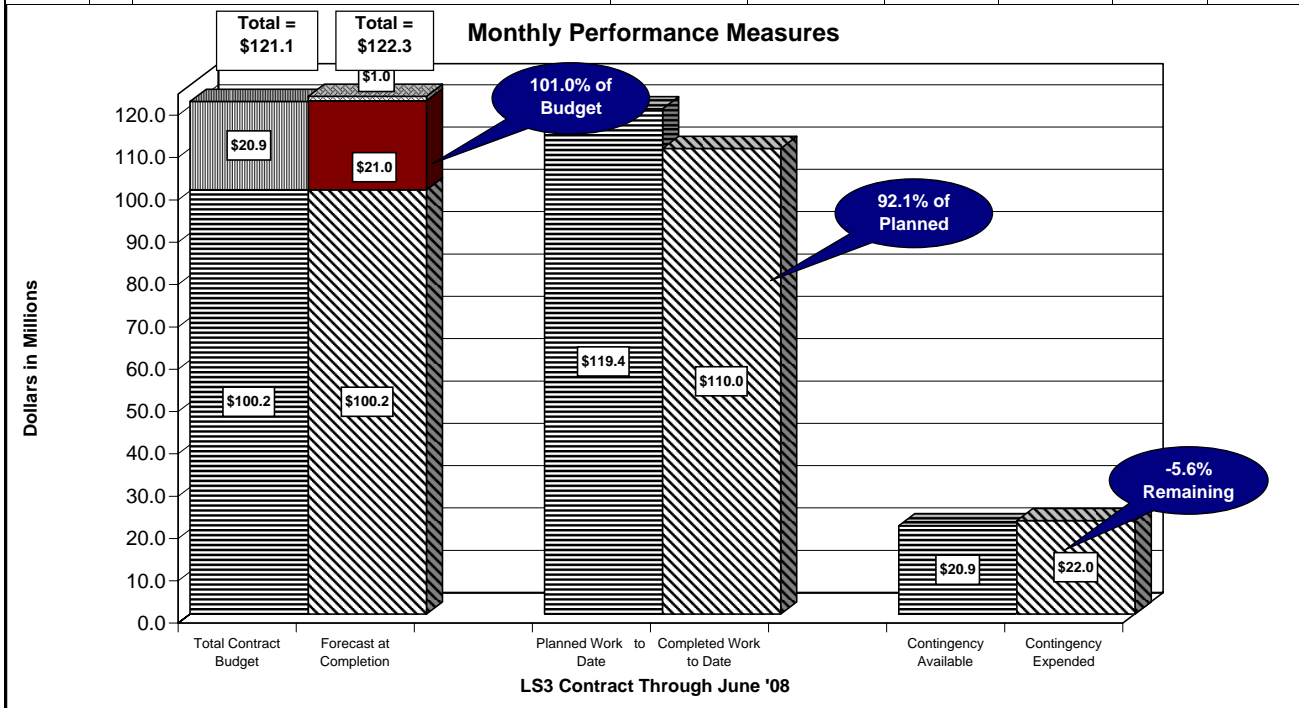
Placing curb and gutter on Jefferson



Preparing frontage road subgrade on Washington

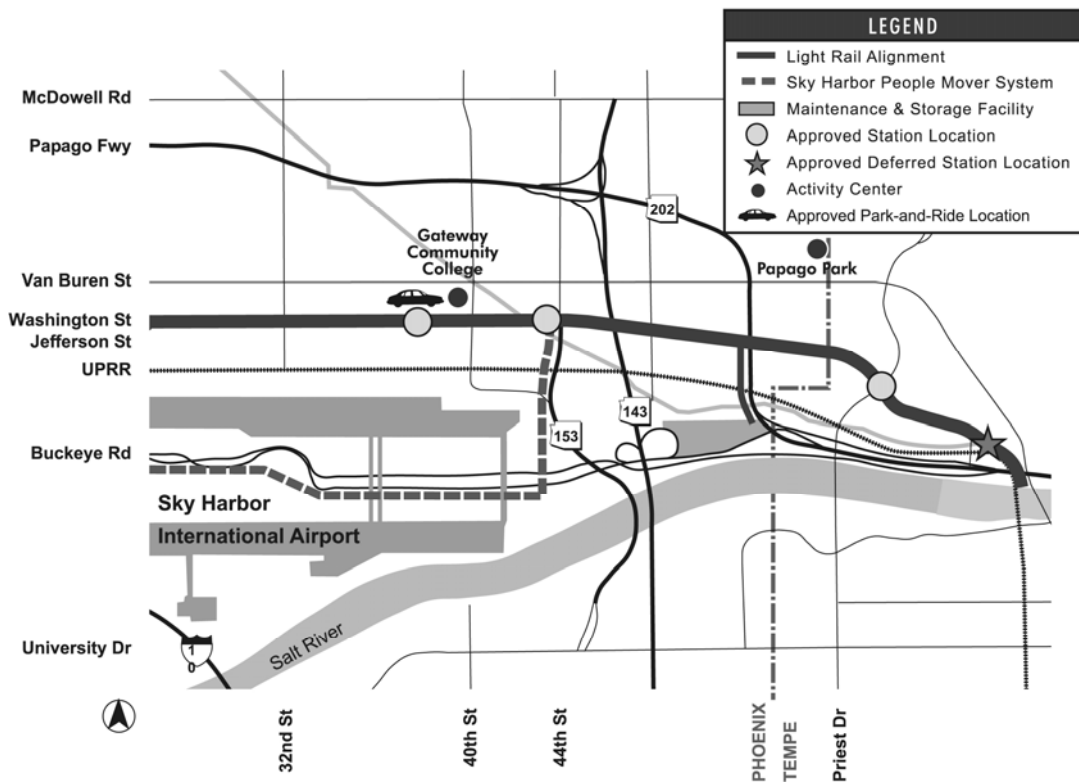


<b>Description:</b>		<b>3.1.3 Line Section 3</b>			
<b>PE/PA:</b>		<b>William Gustafson</b>			
<b>Contractor:</b>		<b>Archer Western</b>			
<b>Resident Engineer:</b>		<b>William Atesis</b>			
<b>Data Through:</b>		<b>May 30, 2008</b>			
		<b>Cumulative</b>	<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Budget	\$79,248,617	\$20,990,190	\$100,238,807	
2	Executed Change Orders	\$19,343,670	\$1,720,736	\$21,064,406	
3	Budget Transfers	\$0	\$42,285	\$42,285	
4	Current Budget (1+2+3)	\$98,592,287	\$22,753,211	\$121,345,498	
5	Work Scheduled	\$98,677,987	\$20,696,809	\$119,374,796	
6	Work Earned	\$92,408,182	\$17,544,559	\$109,952,741	
7	Actual Expenditures	\$93,114,019	\$17,647,044	\$110,761,063	
8	Forecast to Complete Base (4-7)	\$5,478,268	\$5,106,167	\$10,584,435	
9	Change Orders Pending Execution	\$1,129,584	-\$119,899	\$1,009,685	
10	Forecast at Completion (7+8+9)	\$99,721,871	\$22,633,312	\$122,355,183	
11	Percent Budget Expended (7/4)	94.4%	77.6%	91.3%	
12	Percent Planned (5/4)	100.1%	91.0%	98.4%	
13	Earned Percent Complete (6/4)	93.7%	77.1%	90.6%	
14	Schedule Performance (6/5)	0.94	0.85	0.92	
15	Cost Performance (6/7)	0.99	0.99	0.99	
16	Contingency Budget	\$20,348,232	\$522,721	\$20,870,953	
17	Remaining Contingency	-\$125,022	\$522,721	-\$1,160,853	
18	Percent Contingency Remaining (17/16)	-0.6%	100.0%	-5.6%	
		<b>Period</b>			
1	Budget	\$0	\$0	\$0	
2	Executed Change Orders	-\$9,707	\$1,059,113	\$1,049,406	
3	Budget Transfers	\$0	-\$230,130	-\$230,130	
4	Current Budget (1+2+3)	-\$9,707	\$828,983	\$819,276	
5	Work Scheduled (Cumm - Last Period)	\$304,662	-\$620,713	-\$316,051	
6	Work Earned (Cumm - Last Period)	\$1,028,710	\$172,235	\$1,200,945	
7	Actual Expenditures (Cumm - Last Period)	\$1,047,370	\$176,368	\$1,223,738	
8	Forecast to Complete Base (4-7)	-\$1,057,077	\$652,615	-\$404,462	
9	Change Orders Pending Execution	\$358,677	-\$124,899	\$233,778	
10	Forecast at Completion (7+8+9)	\$348,970	\$704,084	\$1,053,054	
11	Percent Budget Expended (7/4)	1.1%	-2.1%	0.4%	
12	Percent Planned (5/4)	0.3%	-6.3%	-0.9%	
13	Earned Percent Complete (6/4)	1.1%	-2.1%	0.4%	
14	Schedule Performance (6/5)	0.01	0.03	0.01	
15	Cost Performance (6/7)	0.00	0.00	0.00	
16	Contingency Budget	\$0	\$0	\$0	
17	Remaining Contingency	-\$348,970	\$0	-\$1,513,314	
18	Percent Contingency Remaining (17/16)	-1.7%	0.0%	-7.3%	



Line Section 4

LINE SECTION 4



**Description**

Line Section 4 guideway is approximately 5.4 miles from 26th and Washington Street to the northern limit of Tempe Town Lake. The work includes demolition, relocation of water and sewer lines, roadway improvements, drainage modifications, sidewalk and landscaping, streetlights, installation of traffic control signals, LRT station platform foundations, systems duct bank and conduits, OCS pole foundations, preparation of the tracked and sub drains, installations of track and special trackwork including the portion of the LRT Tempe Town Lake Bridge, and replacement of the Washington Street Bridge over the Grand Canal. There are three light rail stations located on Washington Street at 38th Street, 44th Street and Priest Drive.

**Progress**

- The work is complete.

**Cost and Schedule – Variance Analysis**

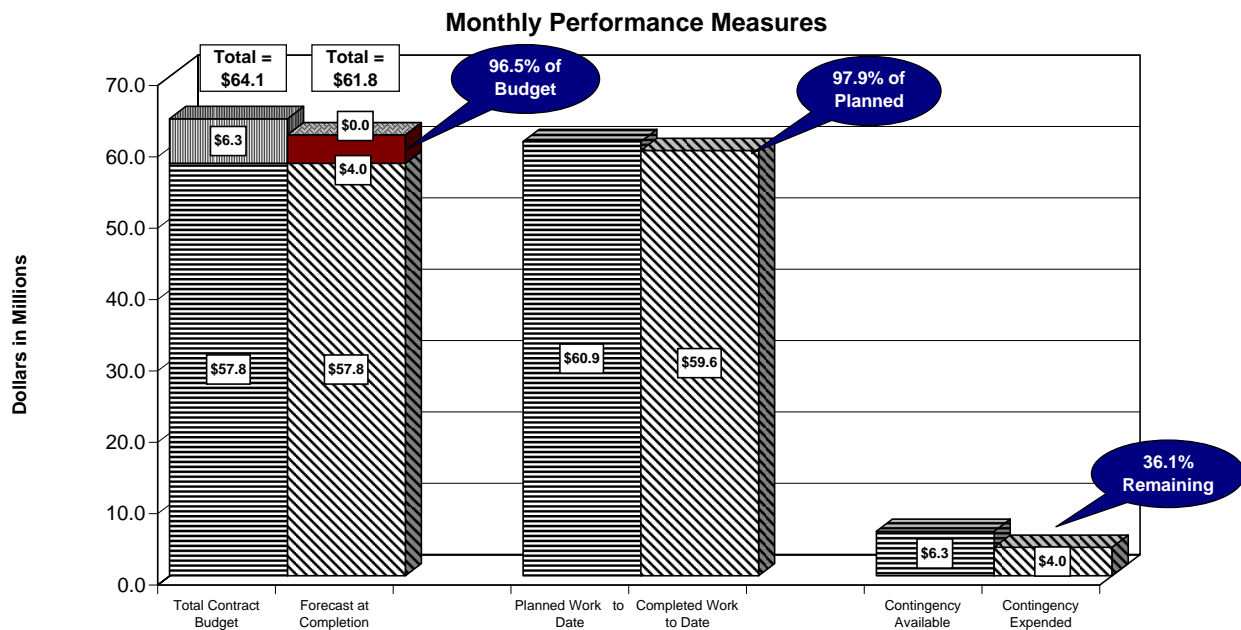
- The contract is in the progress of being closed.

**Issues and Solutions**

- None.



<b>Description:</b>		<b>3.1.4 Line Section 4</b>		
<b>PE/PA:</b>		<b>Avrum Loewenstein</b>		
<b>Contractor:</b>		<b>Sundt/Stacey Witbeck</b>		
<b>Resident Engineer:</b>		<b>Frank Aber</b>		
<b>Data Through:</b>		<b>January 31, 2008</b>		
	<b>Cumulative</b>	<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Budget	\$47,869,894	\$9,960,022	\$57,829,916
2	Executed Change Orders	\$4,018,633	-\$20,658	\$3,997,975
3	Budget Transfers	-\$625,000	\$79,835	-\$545,165
4	Current Budget (1+2+3)	\$51,263,527	\$10,019,199	\$61,282,726
5	Work Scheduled	\$51,386,202	\$9,510,013	\$60,896,215
6	Work Earned	\$50,559,548	\$9,058,263	\$59,617,811
7	Actual Expenditures	\$51,508,920	\$9,050,499	\$60,559,419
8	Forecast to Complete Base (4-7)	-\$245,393	\$968,700	\$723,307
9	Change Orders Pending Execution	\$1,713,532	-\$30,000	\$1,683,532
10	Forecast at Completion (7+8+9)	\$52,977,059	\$9,989,199	\$62,966,258
11	Percent Budget Expended (7/4)	100.5%	90.3%	98.8%
12	Percent Planned (5/4)	100.2%	94.9%	99.4%
13	Earned Percent Complete (6/4)	98.6%	90.4%	97.3%
14	Schedule Performance (6/5)	0.98	0.95	0.98
15	Cost Performance (6/7)	0.98	1.00	0.98
16	Contingency Budget	\$5,862,188	\$391,872	\$6,254,060
17	Remaining Contingency	\$1,843,555	\$412,530	\$2,256,085
18	Percent Contingency Remaining (17/16)	31.4%	105.3%	36.1%
<b>Period</b>				
1	Budget	\$0	\$0	\$0
2	Executed Change Orders	-\$81,686	\$0	-\$81,686
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	-\$81,686	\$0	-\$81,686
5	Work Scheduled (Cumm - Last Period)	-\$1,173	-\$302	-\$1,475
6	Work Earned (Cumm - Last Period)	\$0	\$0	\$0
7	Actual Expenditures (Cumm - Last Period)	\$0	\$0	\$0
8	Forecast to Complete Base (4-7)	-\$81,686	\$0	-\$81,686
9	Change Orders Pending Execution	\$338,482	\$0	\$338,482
10	Forecast at Completion (7+8+9)	\$256,796	\$0	\$256,796
11	Percent Budget Expended (7/4)	0.2%	0.0%	0.1%
12	Percent Planned (5/4)	0.2%	0.0%	0.1%
13	Earned Percent Complete (6/4)	0.2%	0.0%	0.1%
14	Schedule Performance (6/5)	0.00	0.00	0.00
15	Cost Performance (6/7)	0.00	0.00	0.00
16	Contingency Budget	\$1,200,000	\$0	\$1,200,000
17	Remaining Contingency	\$1,281,686	\$0	\$1,281,686
18	Percent Contingency Remaining (17/16)	19.4%	0.0%	16.8%

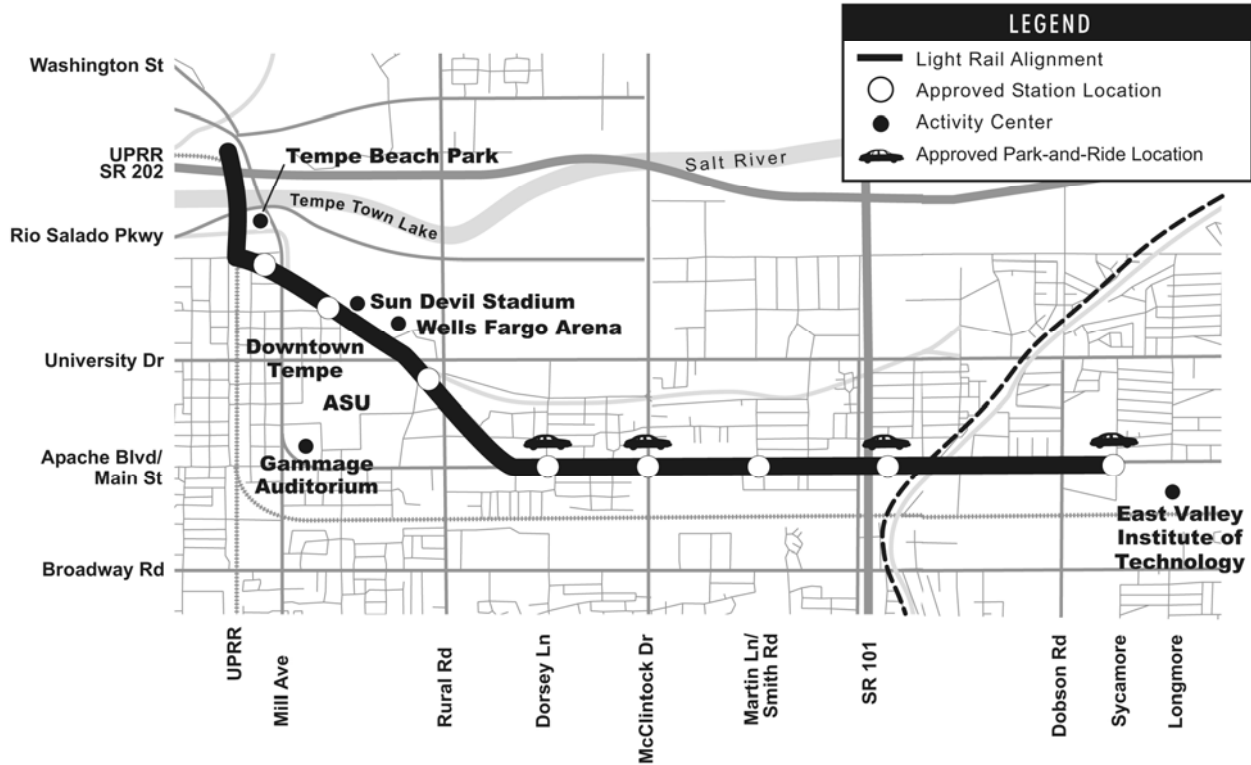


LS4 Contract Through June '08

Note: Period data reflects reconciliations and close out adjustments

Line Section 5

**LINE SECTION 5**



**Description**

Line Section 5 is 4.7 miles in length, beginning at the 1st Street grade crossing in Tempe and progressing down the former Creamery Branch of the UPRR in Tempe, across Mill Avenue, and behind the Mission Palms resort. From there, it runs along Stadium Drive across Rural Road down Terrace Road to Apache Boulevard. It then proceeds east on Apache Boulevard and enters the City of Mesa, where it terminates in the vicinity of Main Street and Sycamore near the Tri-city Mall property.

The construction work in this contract includes demolition, relocation of public utilities, roadway and drainage modifications, station platform foundations, installation of systems duct bank and conduits, street lights, traffic signals, OCS pole foundations, preparation of track bed, and installation of embedded track. Stations are located in Tempe at 3<sup>rd</sup> and Mill, 5<sup>th</sup> and College, University and Rural, Apache and Dorsey, Apache and McClintock, Apache and Smith-Martin, Apache and Price Freeway; and in Mesa at Main and Sycamore.

**Progress**

- The Contractor has installed all embedded track for the project, as well as the direct fixation track at the end of the project.
- The Contractor has substantially completed all track milestones; station platforms; street widening and roadway paving; sidewalks, curbs and gutters; landscaping; and the ASU



Promenade. Substantial completion has been granted for Milestone H. ASU has given its final acceptance for the Promenade, and acceptance for all civil work has verbally been given by Cities of Tempe and Mesa.

- The Contractor has continued coordinating with follow-on contractors in various locations in Milestones A through F since Line Section 5 substantial completion.
- All traffic signals have been activated and accepted throughout Tempe and Mesa.
- The Contractor completed all change work throughout Tempe and Mesa, and has finished punchlist work except for two recently noted trackway items, which will be corrected by July 3, 2008.
- Testing of the light rail vehicle has proven successful all the way to the end of the guideway east of Sycamore, without any noted rail issues.

### **Cost and Schedule – Variance Analysis**

- Milestones A2 through F2 are substantially complete, as are all eight station platforms. Though Milestones C2 through F2 were challenged by utility relocation delays, the Contractor has met these milestones as set in Change Order 83 for acceleration.

### **Issues and Solutions**

- The Contractor faced significant challenges with existing utilities conflicts and Third Party utility relocations throughout the alignment, but now all Third Party utilities have been relocated. Only one irrigation controller waits energizing by the utility company, but all Contractor work at that location is complete.
- Pavement elevations along Apache Boulevard west of Price Road, and along Main Street east of Dobson Road, were found higher than expected from the contract drawings. This may be partially due to having to adjust control point elevations in these areas at the beginning of the project. Placing rail at the designed elevations in the intersections in these areas would have resulted in significant replacement of adjacent pavement. Top of curb elevation adjustments for the guideway curbs alleviated some of the issues between intersections. A redesign to raise the rail elevations across both intersections appears to successfully have addressed the issues in these locations. Some small modifications to the 101 Bridge deck were also made to accommodate the profile change.
- Maintenance of traffic flow throughout the project area has eased, with all major traffic restrictions removed; however, close coordination with local cities and ADOT is still required for periodic closures and shifted traffic patterns for punchlist work.
- Public support for the project remains reasonably good. The Contractor has maintained positive efforts to assure stakeholder support through advance notices and rapid resolution of stakeholder concerns. The METRO public involvement personnel assigned to the Project provided crucial support for conflict avoidance and resolution.

**Construction Photographs**



LRT Testing, Milestone A



ASU Promenade, Milestone A



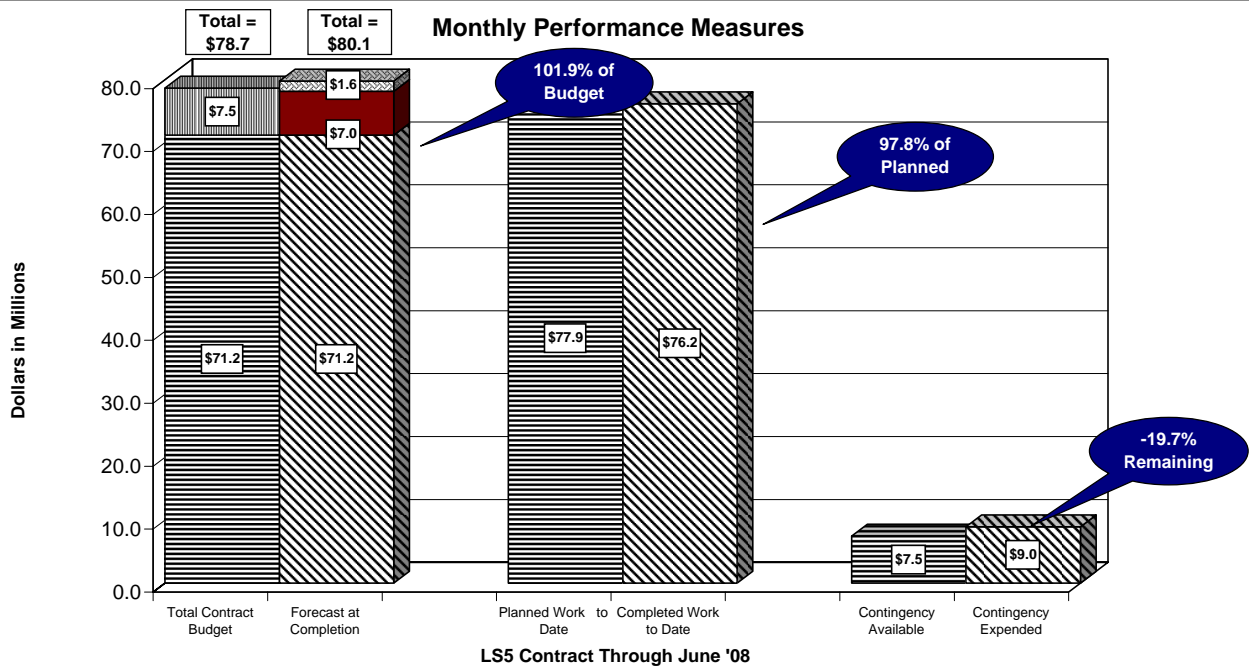
Completed Extra Work at University Crossing,  
Milestone H



Completed Underdeck Lighting Replacement for  
ADOT at the Apache/Loop 101 Bridge



<b>Description:</b>		<b>3.1.5 Line Section 5</b>		
<b>PE/PA:</b>		<b>Brian Buchanan</b>		
<b>Contractor:</b>		<b>Sundt/Stacey Witbeck</b>		
<b>Resident Engineer:</b>		<b>Sam Graham</b>		
<b>Data Through:</b>		<b>April 15, 2008</b>		
	<b>Cumulative</b>	<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Budget	\$68,882,969	\$2,298,998	\$71,181,967
2	Executed Change Orders	\$6,995,836	\$374,112	\$7,369,948
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$75,878,805	\$2,673,110	\$78,551,915
5	Work Scheduled	\$75,856,488	\$2,005,279	\$77,861,767
6	Work Earned	\$74,033,096	\$2,141,637	\$76,174,733
7	Actual Expenditures	\$76,429,466	\$2,179,233	\$78,608,699
8	Forecast to Complete Base (4-7)	-\$550,661	\$493,877	-\$56,784
9	Change Orders Pending Execution	\$1,589,871	\$30,105	\$1,619,976
10	Forecast at Completion (7+8+9)	\$77,468,676	\$2,703,215	\$80,171,891
11	Percent Budget Expended (7/4)	100.7%	81.5%	100.1%
12	Percent Planned (5/4)	100.0%	75.0%	99.1%
13	Earned Percent Complete (6/4)	97.6%	80.1%	97.0%
14	Schedule Performance (6/5) (SPI)	0.98	0.00	0.98
15	Cost Performance (6/7) (CPI)	0.97	0.00	0.97
16	Contingency Budget	\$7,408,135	\$74,071	\$7,482,206
17	Remaining Contingency	-\$1,177,572	-\$300,041	-\$1,477,613
18	Percent Contingency Remaining (17/16)	-15.9%	-405.1%	-19.7%
	<b>Period</b>			
1	Budget	\$0	\$0	\$0
2	Executed Change Orders	-\$150,835	\$3,334	-\$147,501
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	-\$150,835	\$3,334	-\$147,501
5	Work Scheduled (Cumm - Last Period)	-\$139,872	\$3,334	-\$136,538
6	Work Earned (Cumm - Last Period)	-\$170,397	\$0	-\$170,397
7	Actual Expenditures (Cumm - Last Period)	\$0	\$0	\$0
8	Forecast to Complete Base (4-7)	-\$150,835	\$3,334	-\$147,501
9	Change Orders Pending Execution	\$607,556	\$43,306	\$650,862
10	Forecast at Completion (7+8+9)	\$456,721	\$46,640	\$503,361
11	Percent Budget Expended (7/4)	0.2%	-0.1%	0.2%
12	Percent Planned (5/4)	0.0%	0.0%	0.0%
13	Earned Percent Complete (6/4)	0.0%	-0.1%	0.0%
14	Schedule Performance (6/5)	0.00	0.00	0.00
15	Cost Performance (6/7)	0.00	0.00	0.00
16	Contingency Budget	\$0	\$0	\$0
17	Remaining Contingency	-\$456,721	-\$3,334	-\$460,055
18	Percent Contingency Remaining (17/16)	-6.2%	-4.5%	-6.1%



Note: Negative values in Period Data are due to reconciliation of Force Account change orders and close out adjustments

## 48<sup>th</sup> Street Bridge Replacement



### Description

The 48th Street Bridge Replacement Contract consists of the replacement of one concrete vehicular and one utility bridge over the SRP Grand Canal, construction of underground utilities including water mains and APS ductbanks, jack and bored utility pipe casings under UPRR railroad track, curb and gutter, sidewalk and driveways, grading and fencing of the METRO rail material storage yard, and removal and replacement of asphalt concrete pavement.

### Progress

- The remaining work was completed and accepted by METRO and the City of Phoenix in May 2007.

### Cost and Schedule – Variance Analysis

- This contract was closed out after final completion, final acceptance and final payment.

### Issues and Solutions

- None.

## Town Lake Bridge



### Description

The Town Lake Bridge consists of an 11-span structure with concrete deck and steel deck truss superstructure on concrete piers. The structure has an overall length of 1,546 feet. The North and South approaches to the bridge are of retained earth fill and are approximately 1,654 feet in total length. The construction work includes cast-in-place drilled shaft pier foundations to bedrock, cast-in-place concrete pier caps, concrete abutments, concrete retaining walls, a steel truss superstructure, cast-in-place concrete deck, specialty lighting, demolition, relocation of public utilities, roadway and drainage modifications, systems duct bank conduits, streetlights, OCS pole foundations, preparation of track embankment and installation of concrete track slab. Installation of direct fixation rail for both the approaches and the bridge is included in Line Section 4 contract.

### Progress

- The Project is complete and the Contract has been closed as of March 2007.

### Cost and Schedule – Variance Analysis

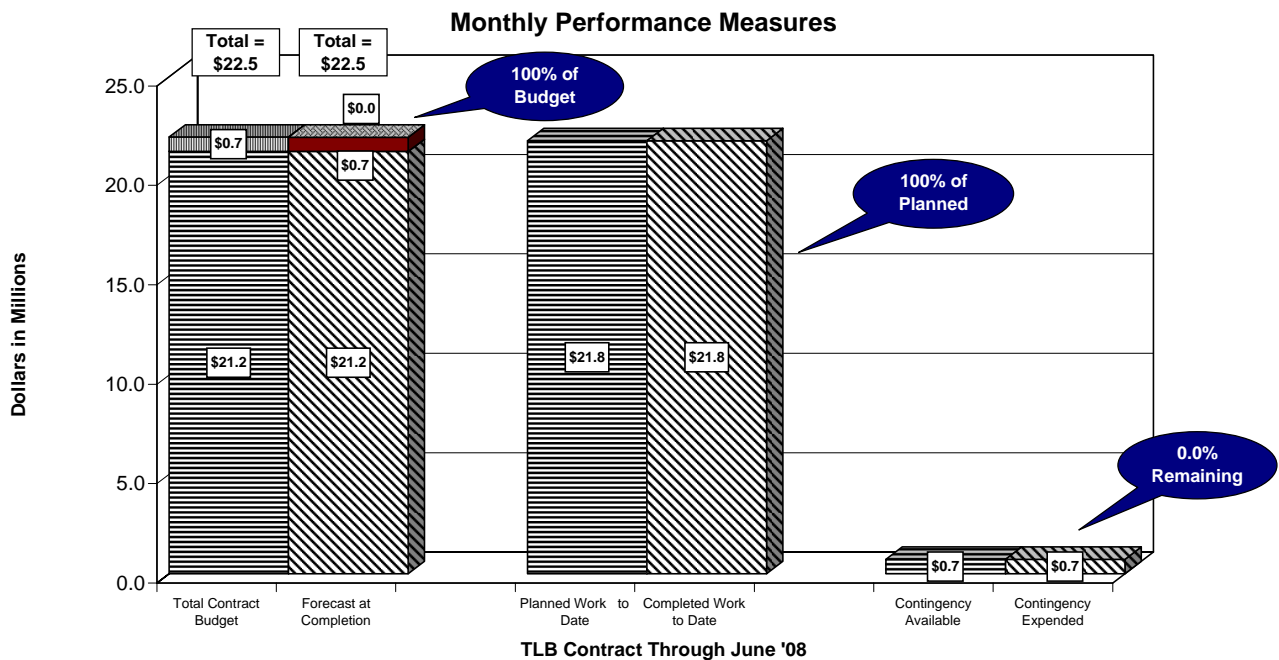
- This Contract has been closed.

### Issues and Solutions

- None.



	<b>Description:</b>	<b>3.6.1 Town Lake Bridge</b>		
	<b>PE/PA:</b>	<b>Bill Gustafson</b>		
	<b>Contractor:</b>	<b>PCL Contractors</b>		
	<b>Resident Engineer:</b>	<b>Joel Mona</b>		
	<b>Data Through:</b>	<b>September 30, 2006</b>		
	<b>Cumulative</b>	5309	CNPA	Total
1	Budget	\$21,219,861	\$17,523	\$21,237,384
2	Executed Change Orders	\$722,892	\$0	\$722,892
3	Budget Transfers	-\$183,000	\$0	-\$183,000
4	Current Budget (1+2+3)	\$21,759,753	\$17,523	\$21,777,276
5	Work Scheduled	\$21,759,753	\$17,523	\$21,777,276
6	Work Earned	\$21,759,753	\$15,771	\$21,775,524
7	Actual Expenditures	\$21,759,751	\$15,771	\$21,775,522
8	Forecast to Complete Base (4-7)	\$2	\$1,752	\$1,754
9	Change Orders Pending Execution	\$0	\$0	\$0
10	Forecast at Completion (7+8+9)	\$21,759,753	\$17,523	\$21,777,276
11	Percent Budget Expended (7/4)	100.0%	90.0%	100.0%
12	Percent Planned (5/4)	100.0%	100.0%	100.0%
13	Earned Percent Complete (6/4)	100.0%	90.0%	100.0%
14	Schedule Performance (6/5)	1.00	0.90	1.00
15	Cost Performance (6/7)	1.00	1.00	1.00
16	Contingency Budget	\$722,892	\$1,402	\$724,294
17	Remaining Contingency	\$0	\$1,402	\$1,402
18	Percent Contingency Remaining (17/16)	0.0%	0.0%	0.2%
	<b>Period</b>			
1	Budget	N/A	N/A	N/A
2	Executed Change Orders	\$0	\$0	\$0
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$21,759,753	\$17,523	\$21,777,276
5	Work Scheduled (Cumm - Last Period)	\$0	\$0	\$0
6	Work Earned (Cumm - Last Period)	\$0	\$0	\$0
7	Actual Expenditures (Cumm - Last Period)	\$0	\$0	\$0
8	Forecast to Complete Base (4-7)	\$21,759,753	\$17,523	\$21,777,276
9	Change Orders Pending Execution	\$0	\$0	\$0
10	Forecast at Completion (7+8+9)	\$21,759,753	\$0	\$21,759,753
11	Percent Budget Expended (7/4)	0.0%	0.0%	0.0%
12	Percent Planned (5/4)	0.0%	0.0%	0.0%
13	Earned Percent Complete (6/4)	0.0%	0.0%	0.0%
14	Schedule Performance (6/5)	0.00	0.00	0.00
15	Cost Performance (6/7)	1.00	1.00	1.00
16	Contingency Budget	\$1,242,400	\$0	\$1,242,400
17	Remaining Contingency	\$0	\$0	\$0
18	Percent Contingency Remaining (17/16)	0.0%	0.0%	0.0%



Note: Contract complete.

## Operations and Maintenance Center



### Description

The Operations and Maintenance Center (OMC) contract includes construction of Maintenance of Equipment (MOE) building, Maintenance of Way (MOW) building, Car Wash facility, Service and Cleaning facility, maintenance equipment and tools, entry station, track installation in the yard and shop areas, construction of yard lead track from the LRT mainline in Washington Street to the OMC site including a bridge over the UPRR railroad track and SRP Grand Canal, retaining walls and embankment, fill materials for site preparation, grading and drainage, drain channel and swales, culverts and underground drainage pipes, roadways, parking lots, landscaping, fencing, water mains for fire protection and domestic services, utility services, electrical ductbanks, OCS pole foundations, and systems ductbanks.

### Progress

- The contract is complete.

### Cost and Schedule – Variance Analysis

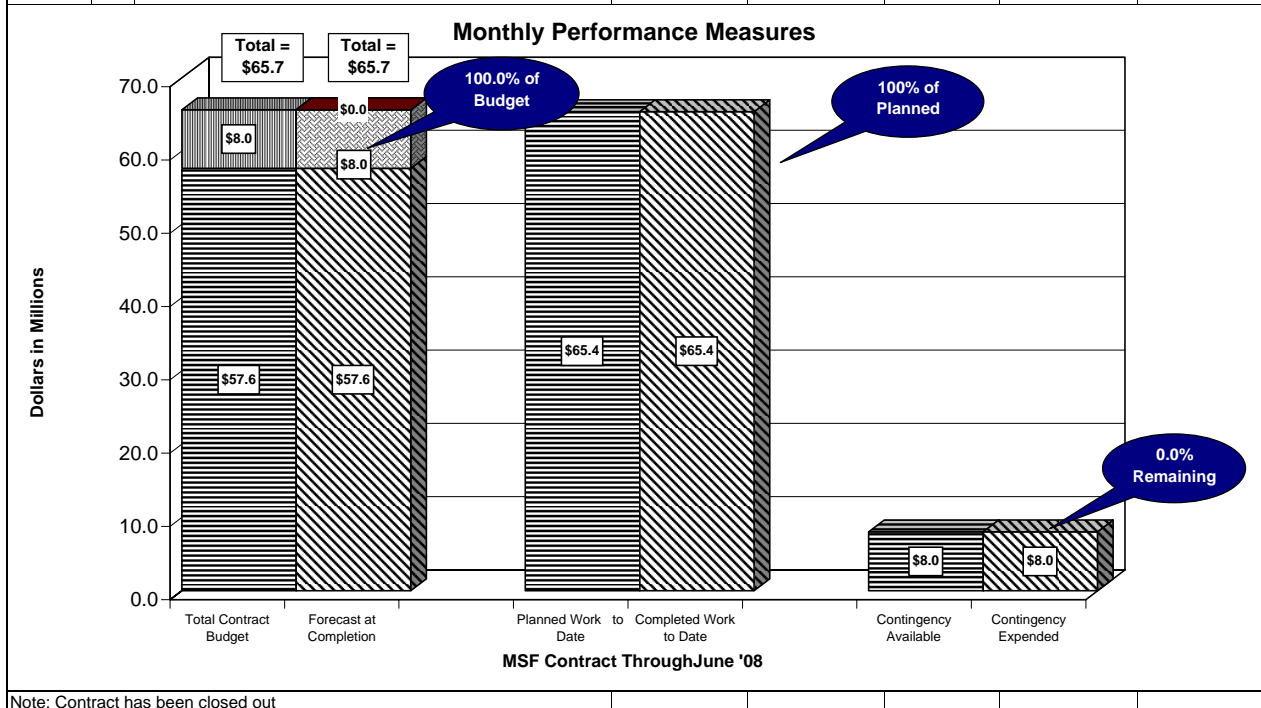
- This Contract has been closed.

### Issues and Solutions

- None.



<b>Description:</b>		<b>3.5.1 Maintenance Support Facility/Operations and Maintenance Center</b>	
<b>PE/PA:</b>		<b>Avrum Loewenstein</b>	
<b>Contractor:</b>		<b>Sundt/Stacy Witbeck</b>	
<b>Resident Engineer:</b>		<b>Brian Mason</b>	
<b>Data Through:</b>		<b>August 31, 2007</b>	
		<b>5309</b>	<b>Total</b>
<b>Cumulative</b>			
1	Budget	\$57,637,721	\$57,637,721
2	Executed Change Orders	\$8,020,263	\$8,020,263
3	Budget Transfers	-\$257,984	-\$257,984
4	Current Budget (1+2+3)	\$65,400,000	\$65,400,000
5	Work Scheduled	\$65,400,000	\$65,400,000
6	Work Earned	\$65,400,000	\$65,400,000
7	Actual Expenditures	\$65,400,001	\$65,400,001
8	Forecast to Complete Base (4-7)	-\$1	-\$1
9	Change Orders Pending Execution	\$0	\$0
10	Forecast at Completion (7+8+9)	\$65,400,000	\$65,400,000
11	Percent Budget Expended (7/4)	100.0%	100.0%
12	Percent Planned (5/4)	100.0%	100.0%
13	Earned Percent Complete (6/4)	100.0%	100.0%
14	Schedule Performance (6/5)	1.00	1.00
15	Cost Performance (6/7)	1.00	1.00
16	Contingency Budget	\$8,020,263	\$8,020,263
17	Remaining Contingency	\$0	\$0
18	Percent Contingency Remaining (17/16)	0.0%	0.0%
<b>Period</b>			
1	Budget	N/A	N/A
2	Executed Change Orders	\$925,357	\$925,357
3	Budget Transfers	\$0	\$0
4	Current Budget (1+2+3)	\$65,400,000	\$65,400,000
5	Work Scheduled (Cumm - Last Period)	\$0	\$0
6	Work Earned (Cumm - Last Period)	\$0	\$0
7	Actual Expenditures (Cumm - Last Period)	\$0	\$0
8	Forecast to Complete Base (4-7)	\$65,400,000	\$65,400,000
9	Change Orders Pending Execution	\$0	\$0
10	Forecast at Completion (7+8+9)	\$65,400,000	\$65,400,000
11	Percent Budget Expended (7/4)	0.0%	0.0%
12	Percent Planned (5/4)	0.0%	0.0%
13	Earned Percent Complete (6/4)	0.0%	0.0%
14	Schedule Performance (6/5)	#N/A	#N/A
15	Cost Performance (6/7)	#N/A	#N/A
16	Contingency Budget		
17	Remaining Contingency		
18	Percent Contingency Remaining (17/16)		



Note: Contract has been closed out

## Park-and-Ride



## Description

Surface Park-and-Rides (PNR) are proposed at eight sites along the alignment, 3,513 spaces are currently provided. Sites are located at 19th Avenue and Montebello, 19th Avenue and Camelback Road, Central Avenue and Camelback Road, 38th Street and Washington Street, Dorsey Lane and Apache Boulevard, McClintock Road and Apache Boulevard, Price Freeway and Apache Boulevard, and Sycamore Drive and Main Street. The lots are adjacent to Transit Centers at 19th Street and Montebello, Central and Camelback and Sycamore and Main Street. On site security buildings are provided at 19th Avenue and Montebello, 19th Avenue and Camelback Road, McClintock Road and Apache Boulevard, Price Freeway and Apache Boulevard, and Sycamore Drive and Main Street.

The PNR construction package includes work for demolition, grading, drainage, concrete curbs, concrete sidewalks, asphalt concrete pavement, lighting, irrigation, landscaping, a security building, signing and pavement marking. CCTV security cameras and emergency telephones will be installed under the Signals and Communication construction package.

## Progress

- Kiewit worked on the installation of the onsite storm drains and fire lines at Montebello/19<sup>th</sup> Avenue Park and Ride Site. They also cleared and grubbed the site of all obstructions and began construction on the security building.
- During the month of June, Kiewit has been working on completing the installation of curb and gutter, sidewalk, installing base material, and screen walls for the 19<sup>th</sup> Avenue/Camelback Avenue Park and Ride Site. They have also begun stacking block for the security building and have paved the lot at this site.



- MRM Construction paved the speed bump and worked on making drainage modifications to the pavement at the 38<sup>th</sup> Street/Washington site.
- At the Central and Camelback site MRM Construction completed the remaining elements necessary for Signals and Communication access and continued the installation of retaining walls and screen walls.
- During the month of June, Sundt/Stacy & Witbeck have been working on the installation of curb and gutter, sidewalk, subgrade preparation, paving and screen walls for the Price/Apache Park and Ride site. They have also begun stacking the block for the security building at this site.
- At the Sycamore and Main Park and Ride site, Sundt/Stacy & Witbeck has been working on the installation of curb and gutter and has begun placing block for the perimeter screen walls and the security building.
- The Developer for the McClintock/Apache site is in the process of constructing the garage. Signals and Communications is currently working with contractor and finalizing rough-in requirements for the safety and security systems to be installed by S&C.
- The City of Tempe is in the process of construction for an additional 100 spaces at Dorsey/Apache. Work began on June 15th. METRO Signals and Communications is providing the necessary interface for the facility security system.

### **Cost and Schedule – Variance Analysis**

- Total award amount for the six sites to be constructed by METRO is \$22,295,267.

### **Issues and Solutions**

- Monitoring of the private Developer's progress for the McClintock/Apache site to assure that there are no less than 300 parking spaces available in December 2008.
- The overheard power and Qwest lines that were located on the Price/Apache Park and Ride were removed during this reporting period. The only remaining obstacle on the site is the billboard with a power service.

### Park and Ride Construction Data

No.	Park and Ride Site	Number of Spaces	Scheduled Completion	Contractor
1	Montebello/19 <sup>th</sup> Avenue	794	November 1, 2008	Kiewit
2	19 <sup>th</sup> Avenue/Camelback	410	November 1, 2008	Kiewit
3	Central/Camelback	135	September 28, 2008	MRM Construction
4	38 <sup>th</sup> Street/Washington	189	September 28, 2008	MRM Construction
5	Dorsey/Apache (2-Sites)	190	November 1, 2008	City of Tempe
6	McClintock/Apache--Garage	300	November 1, 2008	Developer, Gray
7	Price Freeway/Apache	693	November 22, 2008	Sundt, Stacy & Witbeck
8	Sycamore/Main	802	November 22, 2008	Sundt, Stacy & Witbeck
<b>Opening Day Total</b>		<b>3,513</b>		

### Construction Photographs



Power Service - Central and Camelback



Paving - Camelback and 19<sup>th</sup> Avenue



Asphalt Pulverization - Montebello and 19<sup>th</sup> Avenue



Security Building – Camelback and 19<sup>th</sup> Avenue



APS Power Conversion - Central and Camelback



Security Building – Sycamore and Main

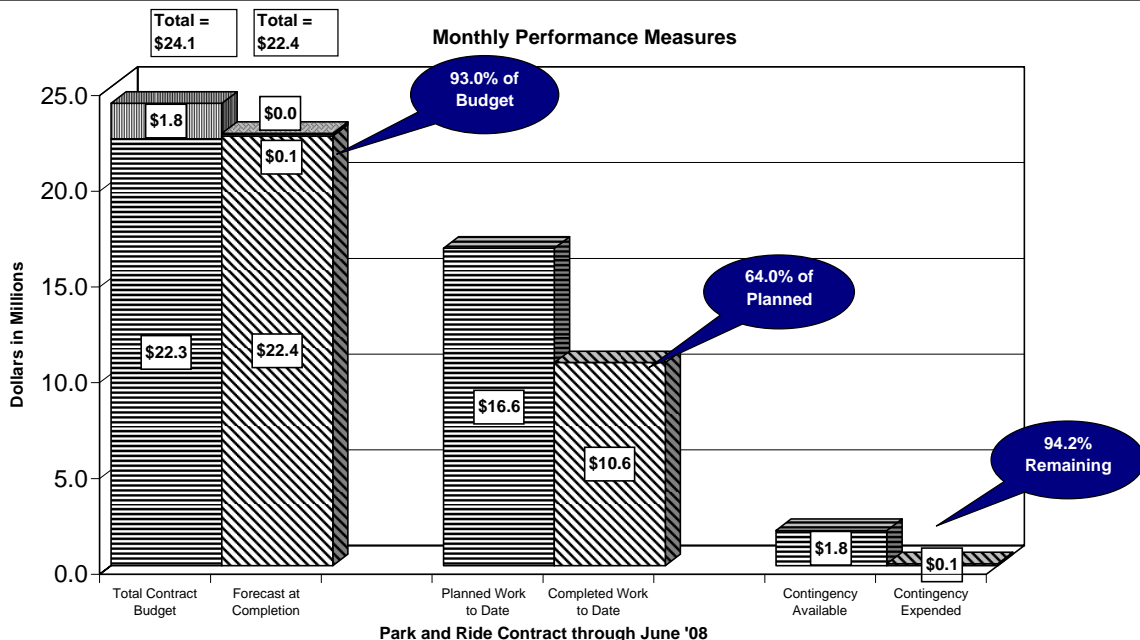


Screen Wall Installation - Sycamore and Main



Security Building - Price and Apache

Description:		3.3.1 Park and Ride Lots			
PE/PA:					
Contractor:		All	MRM	Kiewit	SSWJV
Resident Engineer:		B Mason			
Data Through:		April 30, 2008	May 15, 2008	May 15, 2008	May 15, 2008
Cumulative		5309	5309	5309	5309
1	Original Budget	\$22,295,267	\$5,570,267	\$7,865,000	\$8,860,000
2	Executed Change Orders	\$106,896	\$48,091	\$52,024	\$6,781
3	Budget Transfers	\$0	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$22,402,163	\$5,618,358	\$7,917,024	\$8,866,781
5	Work Scheduled	\$16,582,349	\$5,541,293	\$5,555,029	\$5,486,027
6	Work Earned	\$10,604,943	\$3,967,807	\$3,102,793	\$3,534,343
7	Actual Expenditures	\$10,208,211	\$3,571,304	\$3,102,615	\$3,534,292
8	Forecast to Complete Base (4-7)	\$12,193,952	\$2,047,054	\$4,814,409	\$5,332,489
9	Change Orders Pending Execution	\$35,301	\$7,871	\$13,198	\$14,232
10	Forecast at Completion (7+8+9)	\$22,437,464	\$5,626,229	\$7,930,222	\$8,881,013
11	Percent Budget Expended (7/4)	45.6%	63.6%	39.2%	39.9%
12	Percent Planned (5/4)	74.0%	98.6%	70.2%	61.9%
13	Earned Percent Complete (6/4)	47.3%	70.6%	39.2%	39.9%
14	Schedule Performance (6/5)	0.64	0.72	0.56	0.64
15	Cost Performance (6/7)	1.04	1.11	1.00	1.00
16	Contingency Budget	\$1,843,525	\$786,500	\$557,025	\$500,000
17	Remaining Contingency	\$1,736,629	\$738,409	\$505,001	\$493,219
18	Percent Contingency Remaining (17/16)	94.2%	93.9%	90.7%	98.6%
Period					
1	Original Budget	\$0	\$0	\$0	\$0
2	Executed Change Orders	\$71,948	\$48,091	\$23,691	\$166
3	Budget Transfers	\$0	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$71,948	\$48,091	\$23,691	\$166
5	Work Scheduled (Cumm - Last Period)	\$1,323,601	\$57,251	\$387,162	\$879,188
6	Work Earned (Cumm - Last Period)	\$1,074,018	\$415,721	\$658,297	\$0
7	Actual Expenditures (Cumm - Last Period)	\$1,032,672	\$374,426	\$658,246	\$0
8	Forecast to Complete Base (4-7)	-\$960,724	-\$326,335	-\$634,555	\$166
9	Change Orders Pending Execution	-\$53,536	-\$40,220	-\$27,382	\$14,066
10	Forecast at Completion (7+8+9)	\$18,412	\$7,871	-\$3,691	\$14,232
11	Percent Budget Expended (7/4)	4.5%	6.2%	8.2%	0.0%
12	Percent Planned (5/4)	5.7%	0.2%	4.7%	9.9%
13	Earned Percent Complete (6/4)	4.7%	6.9%	8.2%	0.0%
14	Schedule Performance (6/5)	0.01	0.07	0.09	-0.12
15	Cost Performance (6/7)	0.00	0.00	0.00	0.00
16	Contingency Budget	\$0	\$0	\$0	\$0
17	Remaining Contingency	-\$71,948	-\$48,091	-\$23,691	-\$166
18	Percent Contingency Remaining (17/16)	-3.9%	-6.1%	-4.3%	0.0%



Note: SSWJV (PNR-RB) Did not submit an update during the reporting period

## Track Material Procurement



### Description

The track materials are broken down into five separate procurements as follows:

- Ballasted Special Trackwork – includes ballasted turnouts and concrete switch ties for the MSF and direct fixation fasteners for the MSF, Town Lake Bridge (TLB) and Deck Park Bridge.
- Girder Rail – rail needed for the embedded trackwork.
- Girder Rail Special Trackwork – turnouts needed for the embedded trackwork.
- Concrete Crossties – concrete crossties needed for the OMC.
- T Rail – rail for the MSF, TLB including approaches and Deck Park Bridge.

### Progress

- Girder Rail
- Embedded Special Trackwork
  - The Contractor continues to produce special trackwork castings and other miscellaneous materials for this contract.



- Three material deliveries were made during this month. The Contractor delivered two loads of spare tongues and the remaining rail retained for the fabrication of pre-curved rail.

### **Cost and Schedule – Variance Analysis**

- Track material procurement activities remain on schedule and within budget at this time.

### **Issues and Solutions**

- None.

## Traffic Signal Procurement



### Description

These Purchase Orders include the system-wide procurement of traffic signal poles, controllers, controller cabinets, and traffic central system upgrades for the City of Phoenix and Tempe.

### Progress

- All of traffic signal equipment for the five Line Section contracts initially ordered under these Purchase Orders has been delivered to METRO or directly to the Line Section contractors' storage yards.

### Cost and Schedule – Variance Analysis

- No Change for this month, traffic signal procurement activities has been completed; however, the Central System Upgrades for phoenix and Tempe is an ongoing activity, and will continue throughout the duration of the project.

### Issues and Solutions

- None.

## Underfloor Wheel Profiling Machine



### Description

Design, fabricate, furnish an Underfloor Wheel Profiling Machine, Mechanical Chip Collection/Removal Conveying System, and all necessary accessories, items of equipment, and mechanical, electrical, controls and structural items to re-profile wheels on Light Rail Vehicles. Deliver the machine to the OMC and install the machine within the concrete foundation constructed by the Agency in the Maintenance of Equipment building. Inspect, test, start-up the machine to ensure it is operating properly and safely and provide training to Agency staff.

### Progress

- The work is complete.

### Cost and Schedule – Variance Analysis

- The contract is closed out.

### Issues and Solutions

- None.

## 13. Systems

### Automated Fare Collection System



#### Description

Design, manufacture, furnish, assemble, test, inspect and install the LRT Automated Fare Collection System (AFCS) for use by METRO. The AFCS consists of Ticket Vending Machines (TVMs), Ticket Validators (Validators) integrated within the TVMs, a Data Collection/Information System (DC/IS), station LANs, Hand Held Verifiers (HHVs), Revenue Collection Equipment, related data communication networks to allow the TVMs to communicate with a central fare collection computer, spare parts, tools, test equipment, documentation, software listings, training, technical assistance and warranty.

#### Progress

- Milestone 1 Progress: Approved Management Plan and Master Schedule - Complete.
- Milestone 2 Progress: Approved Conceptual Design Review - Complete.
- Milestone 3 Progress: Approved Preliminary Design Review - Formal closeout of Preliminary Design Review (PDR) submittals progressing.
- Milestone 4 Progress: Approved Final Design Review - Formal closeout of Final Design Review (FDR) submittals progressing.



- Milestone 5 Progress: First Article Configuration Inspection Approved - Complete.
- Milestone 6 Progress: Qualification Testing Approved - Functional, Cycle, Environmental, and Maintainability Testing has been completed. Environmental Test Reports expected the week of June 30th.
- Milestone 7 Progress: Factory Integration Testing Approved - DCIS portion of Factory Integration Testing (FIT) completed. FIT portion of testing combined with Pilot Station Testing.
- Milestone 8 Progress: Pilot Station Testing Approved. Began combined FIT/Pilot Station Testing on June 23, 2008.

### **Cost and Schedule – Variance Analysis**

- We received a schedule update with progress through March 2008 that was found non-compliant with specifications because of unrealistically short submittal review times and was been returned to the contractor for correction and resubmittal. We have subsequently received a schedule update with progress through April 2008 that has corrected some of the deficiencies found in the March schedule. The April 2008 schedule is under review.

### **Issues and Solutions**

- Unable to negotiate acceptable price for the two additional Ticket Vending Machines required for Center Parkway Station. The use of maintenance spares for the Center Parkway Station will be necessary to support the schedule.

### Construction Photographs



TVM Installation in OMC Basement for Factory Integration/Pilot Testing



OMC. Internal TVM View



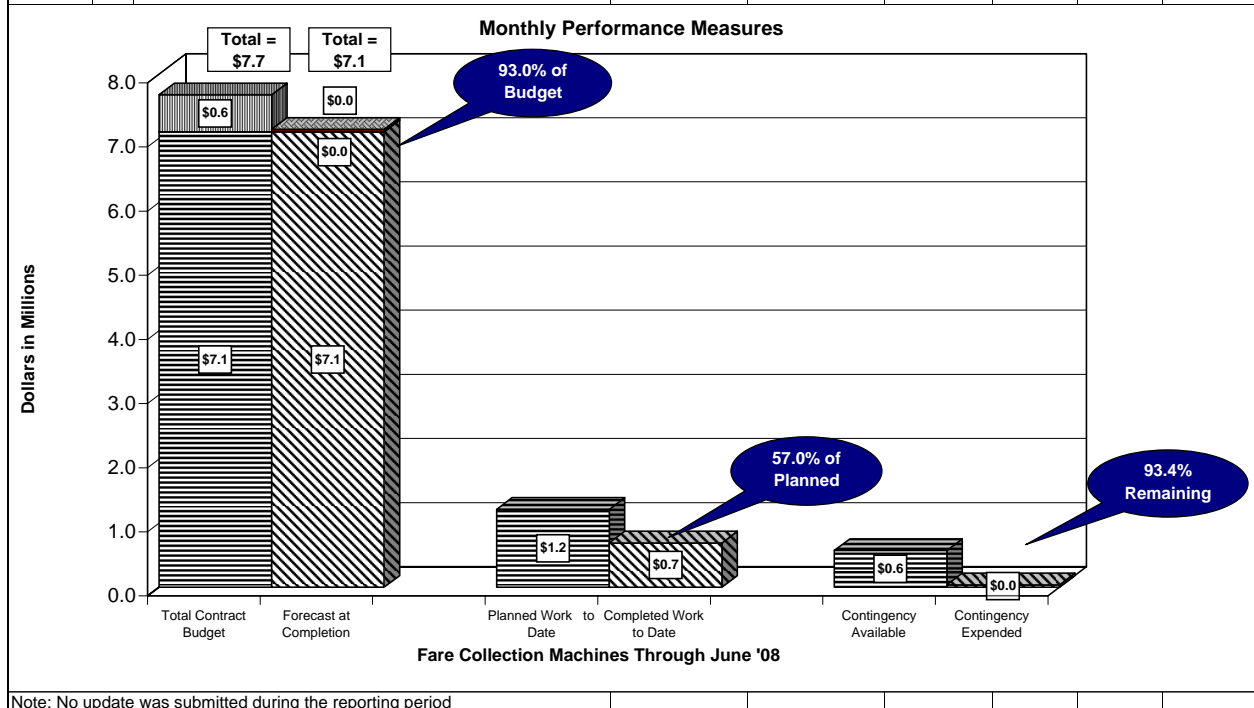
AFCS DCIS Servers in OMC Communications Room



Factory Integration/Pilot Testing In-Progress at OMC



<b>Description:</b>		Fare Collection Machines
<b>PE/PA:</b>		Arkady Bernshtryn
<b>Contractor:</b>		Scheidt & Bachmann USA, Inc.
<b>Resident Engineer:</b>		Thomas Klings
<b>Data Through:</b>		April 18, 2008
<b>Cumulative</b>		
1	Original Budget	\$7,100,012
2	Executed Change Orders	\$37,850
3	Budget Transfers	\$0
4	Current Budget (1+2+3)	\$7,137,862
5	Work Scheduled	\$1,214,068
6	Work Earned	\$691,638
7	Actual Expenditures	\$1,846,279
8	Forecast to Complete Base (4-7)	\$5,291,583
9	Change Orders Pending Execution	\$0
10	Forecast at Completion (7+8+9)	\$7,137,862
11	Percent Budget Expended (7/4)	25.9%
12	Percent Planned (5/4)	17.0%
13	Earned Percent Complete (6/4)	9.7%
14	Schedule Performance (6/5)	0.57
15	Cost Performance (6/7)	0.37
16	Contingency Budget	\$574,535
17	Remaining Contingency	\$536,685
18	Percent Contingency Remaining (17/16)	93.4%
<b>Period</b>		
1	Original Budget	\$0
2	Executed Change Orders	\$0
3	Budget Transfers	\$0
4	Current Budget (1+2+3)	\$0
5	Work Scheduled (Cumm - Last Period)	\$213,332
6	Work Earned (Cumm - Last Period)	\$0
7	Actual Expenditures (Cumm - Last Period)	\$6,039
8	Forecast to Complete Base (4-7)	-\$6,039
9	Change Orders Pending Execution	\$0
10	Forecast at Completion (7+8+9)	\$0
11	Percent Budget Expended (7/4)	0.1%
12	Percent Planned (5/4)	3.0%
13	Earned Percent Complete (6/4)	0.0%
14	Schedule Performance (6/5)	-0.1
15	Cost Performance (6/7)	-0.1%
16	Contingency Budget	\$0
17	Remaining Contingency	\$0
18	Percent Contingency Remaining (17/16)	0.0%



## Light Rail Vehicle



### Description

METRO has a Contract with KINKISHARYO International, L.L.C. (KI) for two prototype and forty eight production light rail vehicles (LRVs) for a total of fifty (50) LRVs. The contract includes prototype engineering, special tools and test equipment, training, spare parts and publications. The cars are 70 percent low-floor, double-articulated LRVs with two main “A” and “B” passenger sections and a mid “C” section, joined to form one single operating unit. There are four passenger doors on each side and an operators cab at each end. The LRVs are designed to be “street friendly” with energy absorbing bumpers and crashworthy cab ends.

### Progress

- METRO is continuing review of submittals for Contract Data Requirement List items (CDRLs) the bulk of which are test procedures and reports. METRO and KI are engaged in daily and weekly meetings. Main topics for presentation by KI and discussion are going to be: special tools, spare parts, operator training course, application, closing open items, vehicle delivery schedule, GE and GEO Focus Interface, and conditional acceptance testing.
- Changes for an Overhead Catenary System (OCS) Surveillance Camera Installation on two cars and an Automatic Passenger Counting System (APC) for the fleet have been processed. Testing of the APC is on going and software is being installed.



- All 50 cars have been delivered from Osaka. No further inspections are ongoing in Osaka Japan.
  - METRO resident inspections in Phoenix final assembly: LRV Mass Production – 50 Trains are now in Phoenix for final assembly.
  - Geo focus is installing equipment and static testing. Cars 138 through 140 have been inspected for delivery. Punch lists are done and waiting for title transfer.
  - A total of 39 LRVs are accepted as delivered.
  - A total of 44 plus LRVs are in various stages of final assembly at the OMC.
  - Inspections of the interior, exterior, roof equipment, and trucks are being performed and ongoing. Some side window glass has been found to be cracked. Those pieces will be changed out in July 2008.
  - KI has started the vehicle maintenance training. The first ten mechanics are now in training. The next set of classes will be held in September. This will be ongoing through December 2008.
  - Geo Focus equipment is being installed and testing is ongoing. DVR mod's are done and tested. Latest software is being installed on the fleet.
  - Conditional acceptance testing is ongoing. Up to 40 mph in the yard. Thirty- four vehicles are now through this process.
  - Multi car testing is completed and passed. Burn in testing is started and will be ongoing.
  - Main line testing has started and will be ongoing into December 2008.
  - All truck frames and components were also shipped from Osaka to Phoenix for final assembly. Final assembly of LRVs is no longer being impacted by material shortages (gearboxes, APS). Telephone, email and drawing exchange continue between KS-J and KI on vehicle issues, testing procedures and schedules, subsystem interfaces and equipment mounting, interior design and equipment installation, systems application issues, material shipments, production schedule and CDRL's items.
  - Qualification testing is ongoing in the yard for low speed. Car 101 is qualified to 40 mph.
  - Conditional acceptance testing procedures are set up and started February 4, 2008.

### **Cost and Schedule – Variance Analysis**

- Car delivery remains on schedule, sufficient to meet the needs of the overall program. Contract remains within budget.

## Issues and Solutions

- KI has experienced parts shortages. To date those shortages have been resolved and KI is currently back on the master schedule. The problems mainly involved the supply of gearbox and APS units. METRO representatives held a series of meetings with both suppliers to evaluate the impacts to the schedule as well as to determine contingency production plans. To date, those plans are in action and the suppliers are maintaining schedule. KI is now ahead on APS's, HVAC's and holding their own with gearboxes. METRO and KI representatives visited the US gear box assembly plant in January. The production at the plant is going very well. With 20 gear boxes going to assembly per month. KI and METRO will continue to do plant visits as necessary to keep parts flow moving forward.
- While some part shortages have impacted the delivery of LRVs in the short term, both METRO and KI remain confident that the final LRV (150) will be delivered and accepted by October 2008.

## Assembly Photographs



Car shells coming in for final assembly



Car under floor work



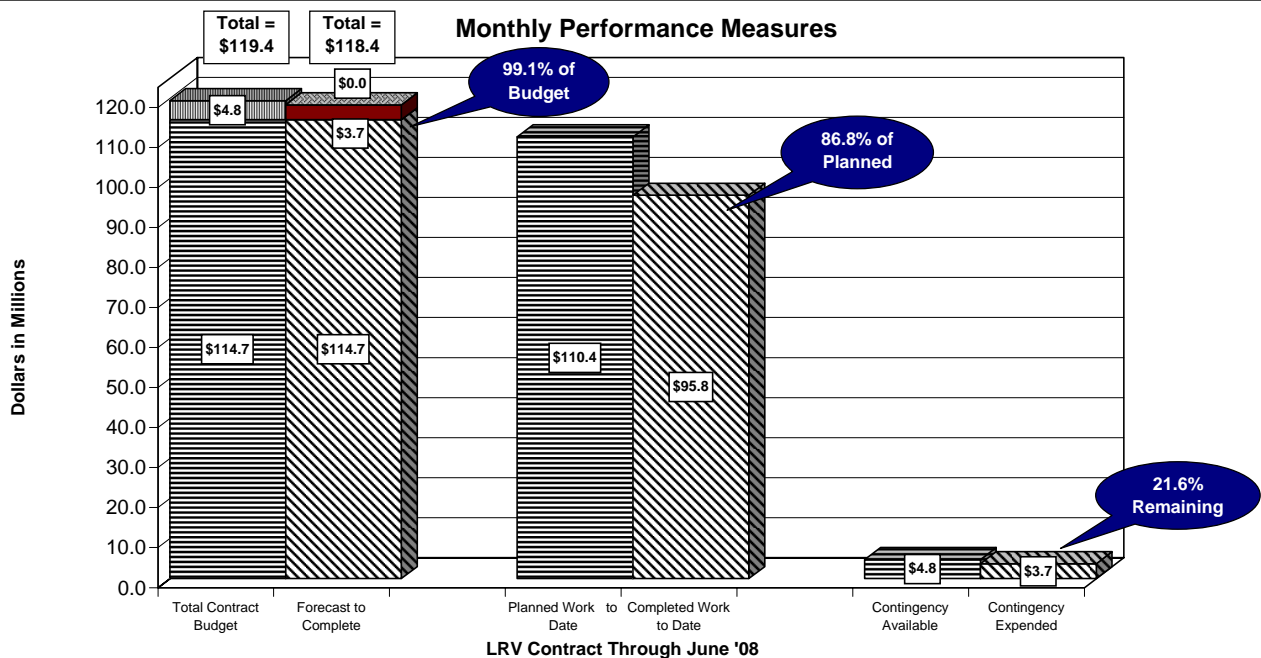
Car C section being prepped for final assembly



Car articulated and prepping for static testing



<b>Description:</b>		<b>3.7.1 Light Rail Vehicles</b>		
<b>PE/PA:</b>		<b>Steve Bethel</b>		
<b>Contractor:</b>		<b>Kinkisharo International</b>		
<b>Resident Engineer:</b>		<b>John Swanson</b>		
<b>Data Through:</b>		<b>May 31, 2008</b>		
<b>Cumulative</b>		<b>5309</b>	<b>COP Funded</b>	<b>Total</b>
1	Original Budget	\$114,654,076	\$40,050,160	\$154,704,236
2	Executed Change Orders	\$3,737,225	\$0	\$3,737,225
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$118,391,301	\$40,050,160	\$158,441,461
5	Work Scheduled	\$110,410,080	N/A	\$110,410,080
6	Work Earned	\$95,782,838	N/A	\$95,782,838
7	Actual Expenditures	\$95,879,531	N/A	\$95,879,531
8	Forecast to Complete Base (4-7)	\$22,511,770	N/A	\$22,511,770
9	Change Orders Pending Execution	\$0	N/A	\$0
10	Forecast at Completion (7+8+9)	\$118,391,301	\$40,050,160	\$158,441,461
11	Percent Budget Expended (7/4)	81.0%	N/A	N/A
12	Percent Planned (5/4)	93.3%	N/A	N/A
13	Earned Percent Complete (6/4)	80.9%	N/A	N/A
14	Schedule Performance (6/5)	0.87	N/A	N/A
15	Cost Performance (6/7)	1.00	N/A	N/A
16	Contingency Budget	\$4,768,489	\$2,135,840	\$6,904,329
17	Remaining Contingency	\$1,031,264	\$2,135,840	\$3,167,104
18	Percent Contingency Remaining (17/16)	21.6%	N/A	N/A
<b>Period</b>				
1	Original Budget	\$0	\$0	\$0
2	Executed Change Orders	\$0	\$0	\$0
3	Budget Transfers	\$0	\$0	\$0
4	Current Budget (1+2+3)	\$0	\$0	\$0
5	Work Scheduled (Cumm - Last Period)	\$139,288	#N/A	\$139,288
6	Work Earned (Cumm - Last Period)	\$978,209	#N/A	\$978,209
7	Actual Expenditures (Cumm - Last Period)	\$1,001,391	#N/A	\$1,001,391
8	Forecast to Complete Base (4-7)	-\$1,001,391	#N/A	-\$1,001,391
9	Pending Changes	\$0	#N/A	\$0
10	Forecast at Completion (7+8+9)	\$0	\$0	\$0
11	Percent Budget Expended (7/4)	0.8%	#N/A	#N/A
12	Percent Planned (5/4)	0.1%	#N/A	#N/A
13	Earned Percent Complete (6/4)	0.8%	#N/A	#N/A
14	Schedule Performance (6/5)	0.01	#N/A	#N/A
15	Cost Performance (6/7)	0.00	#N/A	#N/A
16	Contingency Budget	\$0	\$0	\$0
17	Remaining Contingency	\$0	\$0	\$0
18	Percent Contingency Remaining (17/16)	0.0%	#N/A	#N/A



Note: COP Funded Data unavailable, performance date and graph represent only the Federal 5309 portion

## Signals and Communications



### Description

The LRT Signal and Communications (SC) Contract provides for the final design, manufacturing, installation, and testing of the integrated signal and communication system.

Major work elements include train signal equipment and communication hardware and software for controlling train movements through crossovers and interlocking, fiber-optic backbone communication transmission system (CTS), closed-circuit TV (CCTV), public address system (PA), variable message boards (VMB), Train Control System, Vehicle Management (VMS), Radio System, PABX and Telephone System including emergency telephones at Park-and-Rides and Transit Centers, Supervisory Control and Data Acquisition System (SCADA), installation of workstations and equipment in the Operations Control Center (OCC) and at the Maintenance and Storage Facility (MSF), six site-built signal buildings and three signal buildings combined with traction power substations. The work scope also includes installation of fiber-optic cables for street traffic control systems for the Cities of Phoenix, Tempe and Mesa, and installation of fiber-optic cables for ASU.

### Progress

- Signal Buildings and Signal Cases
  - Completed signal system installations at Culver Interlocking, McKinley Loop Interlocking and Roosevelt Station signal case.



- Began Field Acceptance Signaling Testing activities at Culver Interlocking, McKinley Loop Interlocking, Roosevelt Station signal case, University Highway Grade Crossing, Dorsey Crossover, River Crossover and Dobson signal case.
- Continuing signal system installations at the Sycamore, Pierson and Montebello Interlockings.
- Communications System
  - Completed fiber splicing and testing of Carrier Transmission System Backbone fiber from Central and McDowell to east end of Line Section 5. Fiber installation complete to Thomas and Central. Currently performing splicing and testing, and installation of fiber to Central and Camelback.
  - Street Traffic System fiber and laterals tested from 27<sup>th</sup> Street and Washington to east end of Line Section 5. Currently splicing and testing laterals from 19<sup>th</sup> Avenue and Missouri to 27<sup>th</sup> Street and Washington.
  - Performing internal local testing of communication devices and equipment from McDowell and Central to Sycamore and Main Street. Installing equipment at all remaining stations available.
- OCC Build Out
  - Completed configuring Communications workstation equipment and servers. Ready to begin performance of Software Factory Acceptance Failover, Performance and Availability testing.
- Coordinating with other Contracts
  - Station Finishes Communication Cabinets. Coordinating procurement and installation of high temperature alarms in communication cabinets. Continuing to coordinate power-on activities of main circuit breakers.

### **Cost and Schedule – Variance Analysis**

- The contract is in the final stages of submittals, design and procurement with field construction work in progress. Field construction to date has included the civil and architectural parts and signal equipment installation at six signal buildings and three shared substations, architectural work at the OCC, track bonding at OMC Yard, LS4 Yard Entrance and most mainline track areas, signaling equipment installation at the OMC Yard Entrance and at some intersections in Tempe, Signal Case installation, Communications Equipment installation at the OCC, Communications Equipment installation at numerous LRT Passenger Stations and Cable Pulling for the Fiber Optic Backbone from the OMC into Line Section 5 and along Line Sections 3 and 4. Signal system testing is also being conducted in Line Sections 4 and 5.

### **Issues and Solutions**

- Mitigation Schedule and Cost Proposal. Approved by 4C Change Control Board on June 25, 2008.

### Construction Photographs



Performing Signal Acceptance Testing at McKinley Loop Interlocking



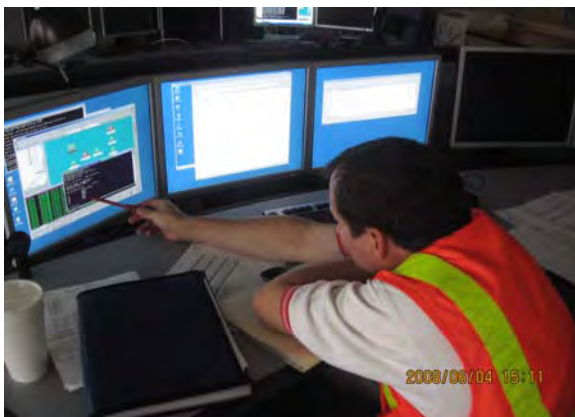
Final Switch Machine Adjustments at Culver Interlocking



Communications System Testing at Van Buren and 1<sup>st</sup> Avenue Station



Street Traffic Fiber Optic Cable Splicing at 4<sup>th</sup> Street



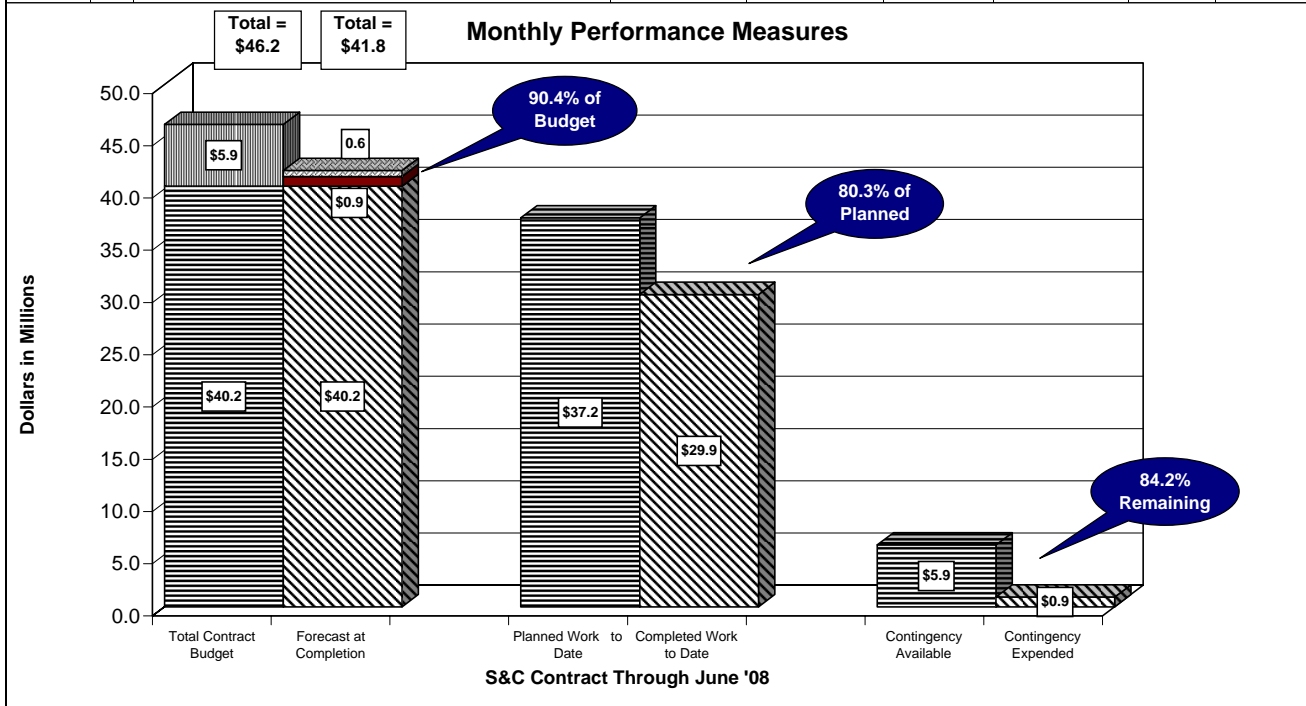
User Interface Software Configuration at OCC



Configuring OCC Overhead Display



	<b>Description:</b>	<b>3.7.4 Signals &amp; Communications</b>			
	<b>PE/PA:</b>	Leslee O' Conell			
	<b>Contractor:</b>	Mass Electric			
	<b>Resident Engineer:</b>	Steve Kyauk			
	<b>Data Through:</b>	May 15, 2008			
	<b>Cumulative</b>		<b>5309</b>	<b>CNPA</b>	<b>Total</b>
1	Original Budget		\$37,476,762	\$2,767,625	\$40,244,387
2	Executed Change Orders		\$1,584,707	-\$649,549	\$935,158
3	Budget Transfers		\$0	\$0	\$0
4	Current Budget (1+2+3)		\$39,061,469	\$2,118,076	\$41,179,545
5	Work Scheduled		\$35,708,436	\$1,501,593	\$37,210,029
6	Work Earned		\$29,283,946	\$605,969	\$29,889,915
7	Actual Expenditures		\$28,312,292	\$610,256	\$28,922,548
8	Forecast to Complete Base (4-7)		\$10,749,177	\$1,507,820	\$12,256,997
9	Change Orders Pending Execution		\$169,724	\$404,339	\$574,063
10	Forecast at Completion (7+8+9)		\$39,231,193	\$2,522,415	\$41,753,608
11	Percent Budget Expended (7/4)		72.5%	28.8%	70.2%
12	Percent Planned (5/4)		91.4%	70.9%	90.4%
13	Earned Percent Complete (6/4)		75.0%	28.6%	72.6%
14	Schedule Performance (6/5)		0.82	0.40	0.80
15	Cost Performance (6/7)		1.03	0.99	1.03
16	Contingency Budget		\$5,808,000	\$115,096	\$5,923,096
17	Remaining Contingency		\$4,223,293	\$764,645	\$4,987,938
18	Percent Contingency Remaining (17/16)		72.7%	664.4%	84.2%
	<b>Period</b>				
1	Original Budget		\$0	\$0	\$0
2	Executed Change Orders		\$31,667	-\$648,587	-\$616,920
3	Budget Transfers		\$0	\$0	\$0
4	Current Budget (1+2+3)		\$31,667	-\$648,587	-\$616,920
5	Work Scheduled (Cumm - Last Period)		\$215,924	-\$428,544	-\$212,620
6	Work Earned (Cumm - Last Period)		\$337,400	\$0	\$337,400
7	Actual Expenditures (Cumm - Last Period)		\$692,147	\$0	\$692,147
8	Forecast to Complete Base (4-7)		-\$660,480	-\$648,587	-\$1,309,067
9	Change Orders Pending Execution		\$43,333	\$220,324	\$263,657
10	Forecast at Completion (7+8+9)		\$75,000	-\$428,263	-\$353,263
11	Percent Budget Expended (7/4)		1.7%	6.8%	2.7%
12	Percent Planned (5/4)		0.5%	1.1%	0.8%
13	Earned Percent Complete (6/4)		0.8%	6.7%	1.9%
14	Schedule Performance (6/5)		0.00	0.09	0.01
15	Cost Performance (6/7)		-0.01	0.00	-0.01
16	Contingency Budget		\$3,500,000	\$0	\$3,500,000
17	Remaining Contingency		\$3,468,333	\$648,587	\$4,116,920
18	Percent Contingency Remaining (17/16)		40.0%	563.5%	48.3%



## Traction Electrification System



### Description

The Traction Electrification System (TES) provides the electric power required to operate the Light Rail Vehicles (LRV). There are two main components to the TES, these are: Traction Power Substations (TPSS) that convert incoming utility power to DC power, which is used by the LRV and the Overhead Contact System (OCS), which distributes the DC power to the trackway. There are 15 Site Built 2,000 kW substations. Twelve of the substations are 22-feet by 44-feet and three are 22-feet by 57-feet. The substation buildings will be constructed of integrally colored concrete block on landscaped sites. The OCS is comprised of 20-route miles of double-track low-profile overhead catenary. The OCS will be installed on over 1,300 round painted poles. The nominal system voltage is 750 VDC. The nominal height of the OCS above the roadway is 18-feet, 6-inches.

The TES Contract provides final design of the TPSS and OCS, manufacturing, fabrication, installation, site work and testing.

### Progress

- Traction Power Substation No. 1
  - Wiring verification inspections commenced.
  - Underwriter Laboratory inspections commenced.
  - Equipment enclosure installations progressed.
  - Building and Sitework Construction – 90 percent complete.



- Traction Power Substation Equipment Installation and Testing – 75 percent complete.
- Traction Power Substation No. 2
  - Wiring verification inspections commenced.
  - Equipment enclosure installations progressed.
  - Positive feeder cable installed.
  - Building and Sitework Construction – 90 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 80 percent complete.
- Traction Power Substation No. 3
  - Wiring verification inspections commenced.
  - Building and Sitework Construction – 85 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 75 percent complete.
- Traction Power Substation No. 4
  - Wiring verification inspections progressed.
  - Negative feeder cables installed.
  - Building and Sitework Construction – 85 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 80 percent complete.
- Traction Power Substation No. 5
  - Equipment enclosure installations progressed.
  - OCS electrical tests performed.
  - Building and Sitework Construction – 90 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 6
  - Positive feeder cables installed.
  - OCS electrical tests performed.
  - Building and Sitework Construction – 90 percent complete.



- Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 7
  - Building electrical tests performed.
  - Equipment enclosure installations progressed.
  - Irrigation controller retrofitted.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 8
  - Site fence installation progressed.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 9
  - Irrigation controller retrofitted.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 10
  - Building electrical tests performed.
  - Power cable for Town Lake Bridge lighting circuit installed.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 11
  - Building electrical tests performed.
  - Equipment enclosure installations progressed.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.



- Traction Power Substation No. 12
  - Testing, adjusting, and balancing HVAC system.
  - Building and Sitework Construction – 90 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 13
  - Equipment enclosure installations progressed.
  - Building and Sitework Construction – 95 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 95 percent complete.
- Traction Power Substation No. 14
  - Utility conduits have been corrected.
  - Equipment enclosure installations progressed.
  - Building and Sitework Construction – 85 percent complete.
  - Traction Power Substation Equipment Installation and Testing – 70 percent complete.
- Traction Power Substation No. 15
  - Building electrical tests have been completed.
- MOE Shop and Traction Power Substation No. 16
  - Punchlist items remain outstanding.
- Traction Power Substation Performance Tests
  - MEC will attempt to schedule Siemens to perform the remaining tests by July 15, 2008.
- Overhead Contact System
  - OMC Yard and MOE Shop
    - Punchlist items remain outstanding.
  - Line Section 1
    - Messenger and contact wire installed for Wire Runs 5 through 8.
    - Installation of OCS poles is 75 percent complete.
    - Installation of cantilever support arms is 60 percent complete.



- Line Section 2
  - Installation of OCS poles and cantilever arms for Wire runs 11 through 14 progressed.
  - Installation of OCS poles is 55 percent complete.
  - Installation of cantilever support arms is 35 percent complete.
- Line Section 3
  - Acceptance measurements for Wire Runs 17 through 28 have been performed.
  - Installation of OCS poles is 97 percent complete.
  - Installation of cantilever arms is 95 percent complete.
- Line Section 4
  - Punchlist items remain outstanding.
- Line Section 5
  - Remaining Live Wire Tests performed from College Avenue to east end of alignment.
  - Punchlist work progressed.
- Coordination with other Contracts/Entities
  - Ongoing coordination meetings are being held with the Facility Contractors on an as-needed basis. Closely coordinating with the Line Section 2, Line Section 3, and the Station Finishes Contractor.
- Milestones
  - Received a revised Time Impact Evaluation for Milestone 10B requesting the date of completion to be extended until July 3, 2008. This TIE also requests a six day completion extension for Milestone 10C which would result in a Milestone 10C date of August 7, 2008.

### **Cost and Schedule – Variance Analysis**

- The contractor has completed most of the material delivery and TPSS civil construction and is primarily performing OCS construction, field testing and commissioning. Construction progress to date has included the civil and architectural parts of all sixteen traction power substations, TPSS electrical equipment installation in all sixteen of the traction power substations, OCS components installation in the OMC yard, OMC shop and parts of all Line Sections. Start up testing and commissioning has been done at the OMC, LS4 Test Track areas, and the extended 6 mile burn-in track area and is in progress for the balance of LS5. Milestone 10A for Test Area A was completed on schedule. Milestone 10B for Test Area B is nearing completion.

## Issues and Solutions

- TPSS/LRV Compatibility Issue. A traction power specialist has begun reviewing documents related to the TPSS/LRV compatibility issue.
- Induced Voltage over Town Lake Bridge. Approximately 1000 V is being induced on the overhead contact system by a 230 kV SRP overhead line. The Contractor and GEC have been requested to design/install an overhead “Shield Wire” system to mitigate the voltage induction. Current mitigation measures are to power the Yard from the Main Line power system; this arrangement provides for continuous current flow on the OCS from Town Lake Bridge and reduces the level of voltage induction. This temporary power arrangement has caused the crossing gate on eastbound Washington Street to act erratically. The signal contractor SafeTran is investigating the problem.

## Construction Photographs



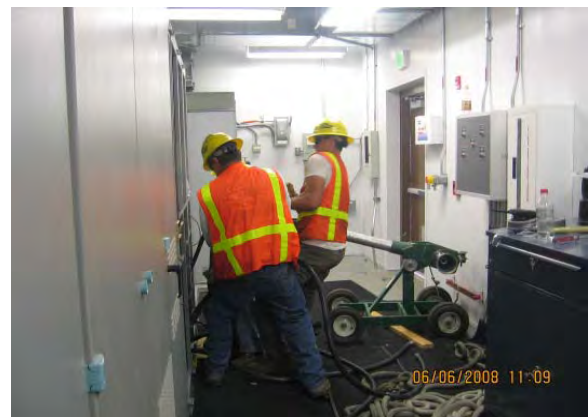
Line Section 3 - Regulating Wire Run 20



Line Section 3 – Regulating McKinley Loop



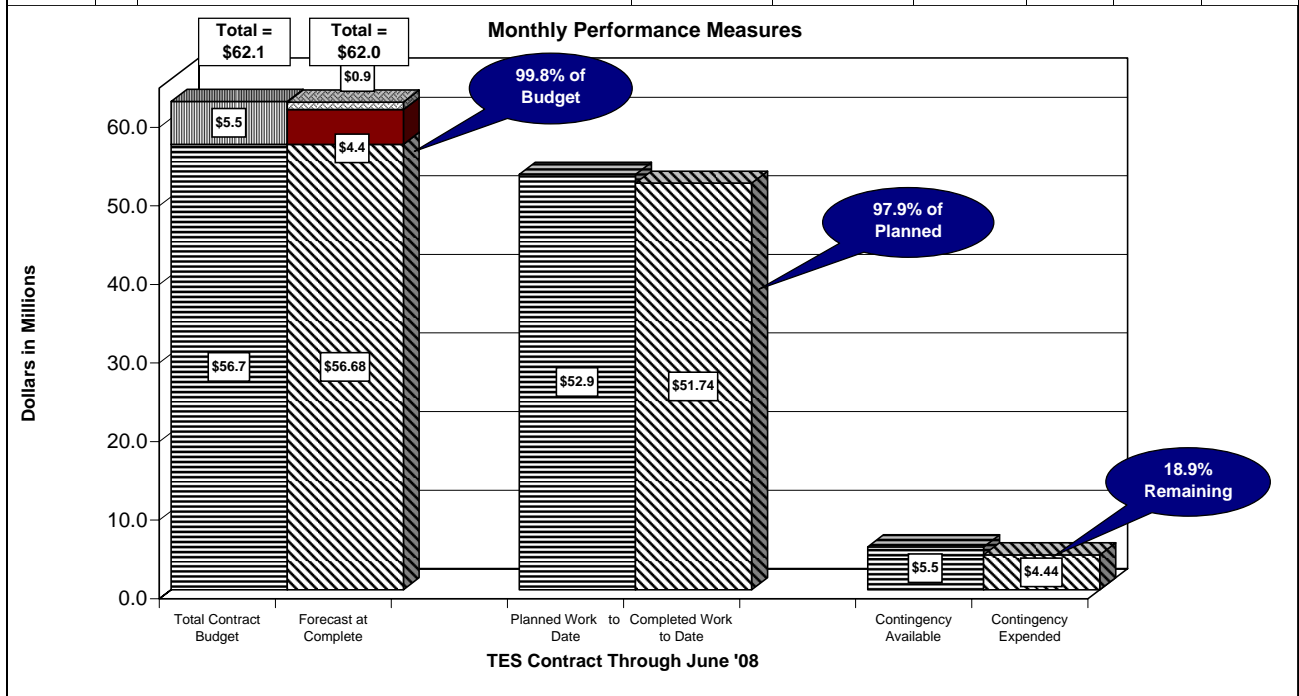
Electromagnetic Interference Tests  
over Town Lake Bridge



TPSS No. 6 – Installing Feeder Cable



<b>Description:</b>		<b>3.7.3 Traction Electrification Systems</b>
<b>PE/PA:</b>		<b>Alan Friend</b>
<b>Contractor:</b>		<b>Mass Electric Corporation</b>
<b>Resident Engineer:</b>		<b>Ron Wong</b>
<b>Data Through:</b>		<b>June 15, 2008</b>
Cumulative		<b>5309</b>
1	Budget	\$56,681,003
2	Executed Change Orders	\$4,435,093
3	Budget Transfers	\$0
4	Current Budget (1+2+3)	\$61,116,096
5	Work Scheduled	\$52,855,237
6	Work Earned	\$51,740,856
7	Actual Expenditures	\$51,766,999
8	Forecast to Complete Base (4-7)	\$9,349,097
9	Change Orders Pending Execution	\$943,905
10	Forecast at Completion (7+8+9)	\$62,060,001
11	Percent Budget Expended (7/4)	84.7%
12	Percent Planned (5/4)	86.5%
13	Earned Percent Complete (6/4)	84.7%
14	Schedule Performance (6/5)	0.98
15	Cost Performance (6/7)	1.00
16	Contingency Budget	\$5,471,000
17	Remaining Contingency	\$1,035,907
18	Percent Contingency Remaining (17/16)	18.9%
Period		
1	Budget	\$0
2	Executed Change Orders	-\$3,438
3	Budget Transfers	\$0
4	Current Budget (1+2+3)	-\$3,438
5	Work Scheduled (Cumm - Last Period)	-\$2,737,455
6	Work Earned (Cumm - Last Period)	\$1,866,274
7	Actual Expenditures (Cumm - Last Period)	\$1,900,747
8	Forecast to Complete Base (4-7)	-\$1,904,185
9	Change Orders Pending Execution	\$2,486,185
10	Forecast at Completion (7+8+9)	\$2,482,747
11	Percent Budget Expended (7/4)	3.1%
12	Percent Planned (5/4)	-4.5%
13	Earned Percent Complete (6/4)	3.1%
14	Schedule Performance (6/5)	0.08
15	Cost Performance (6/7)	0.00
16	Contingency Budget	\$750,000
17	Remaining Contingency	\$753,438
18	Percent Contingency Remaining (17/16)	13.0%



Note: No update submitted during the reporting period.



## **Rail Activation/System Integration**

### **Description**

The Rail Activation Plan was developed in June, 2006 to outline the process and organizational approach that METRO will employ to oversee the testing and start-up of the 20 mile light rail CP/EV system. The Rail Activation process is used to transition the Light Rail Project from the construction phase, through testing, pre-revenue operations, and finally into revenue service. The Rail Activation Team is a diverse group of Transit professionals which consists of METRO staff from Operations, Maintenance, System Engineering, Safety/Security, and Media relations, along with CAC, PMC, GEC and City staff.

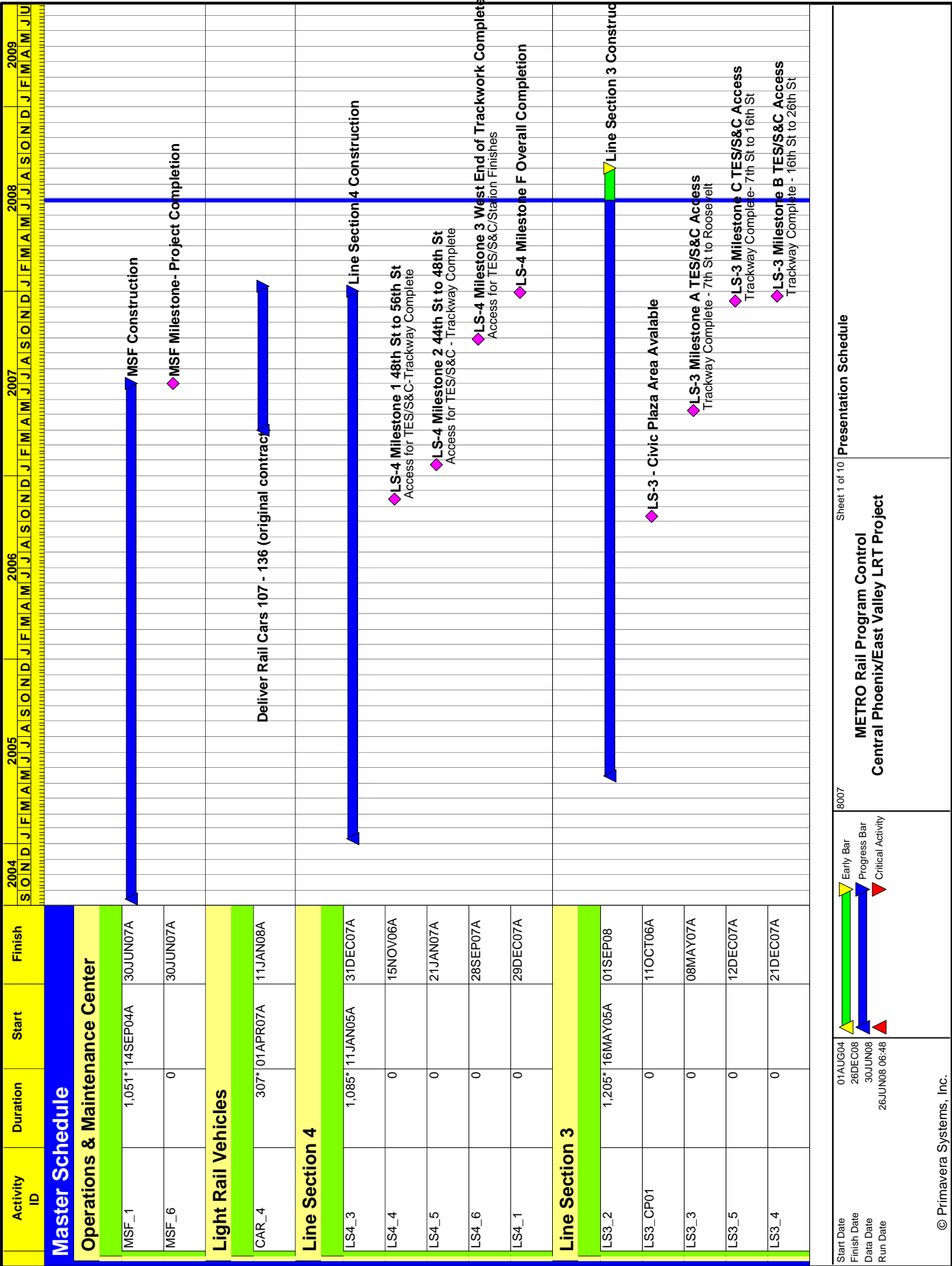
This same group will participate in and oversee the System Integration process, which is the final testing process before sections of the alignment can be activated for use. The System Integrated tests are designed to prove that the various systems within the alignment work well together and meet design criteria. The primary goal of the Rail Activation Team is to ensure the project achieves revenue operations in a timely and safe manner.

### **Progress**

- METRO and the consulting staff are developing test plans and procedures related to track allocation, rail/wheel interface, clearance, and LRV dynamic testing.
- METRO, CAC and Seimens are continuing work on modifications to the substations, but this work has no impact on LRV testing.
- LRV testing will continue in the yard until the RAIL/LRV interface problem is corrected.
- Loram Corporation did surface rail grinding on the test track between 48<sup>th</sup> Street and 56<sup>th</sup> Street. Some improvement in wheel adhesion was realized after the grinding, but more investigation is needed.
- Final reports from Zeta-Tech are under review.
- New LRV wheel profile has been implemented and testing is ongoing.
- The Rail Activation Team is observing and monitoring the progress of TES and Signal testing to determine when the expanded test track and future milestones will be achieved.
- The six-mile extended test zone (27<sup>th</sup> Street to Mill Pocket Track) has been activated and is available for METRO's use.
- Rail Activation team has completed live wire and clearance testing to end of line in Mesa.
- The rail activation team is working on completing the second part of area "B" (27<sup>th</sup> Street to McDowell) on or before July 21, 2008.
- The Rail Activation Team and the CAC are continually modifying the integrated test schedule to reflect changes in turnover dates.



- Track Allocation meetings are being held every Wednesday at the OMC conference room.
- Track Access Training is ongoing every Monday at the OMC.



Sheet 1 of 10 Presentation Schedule

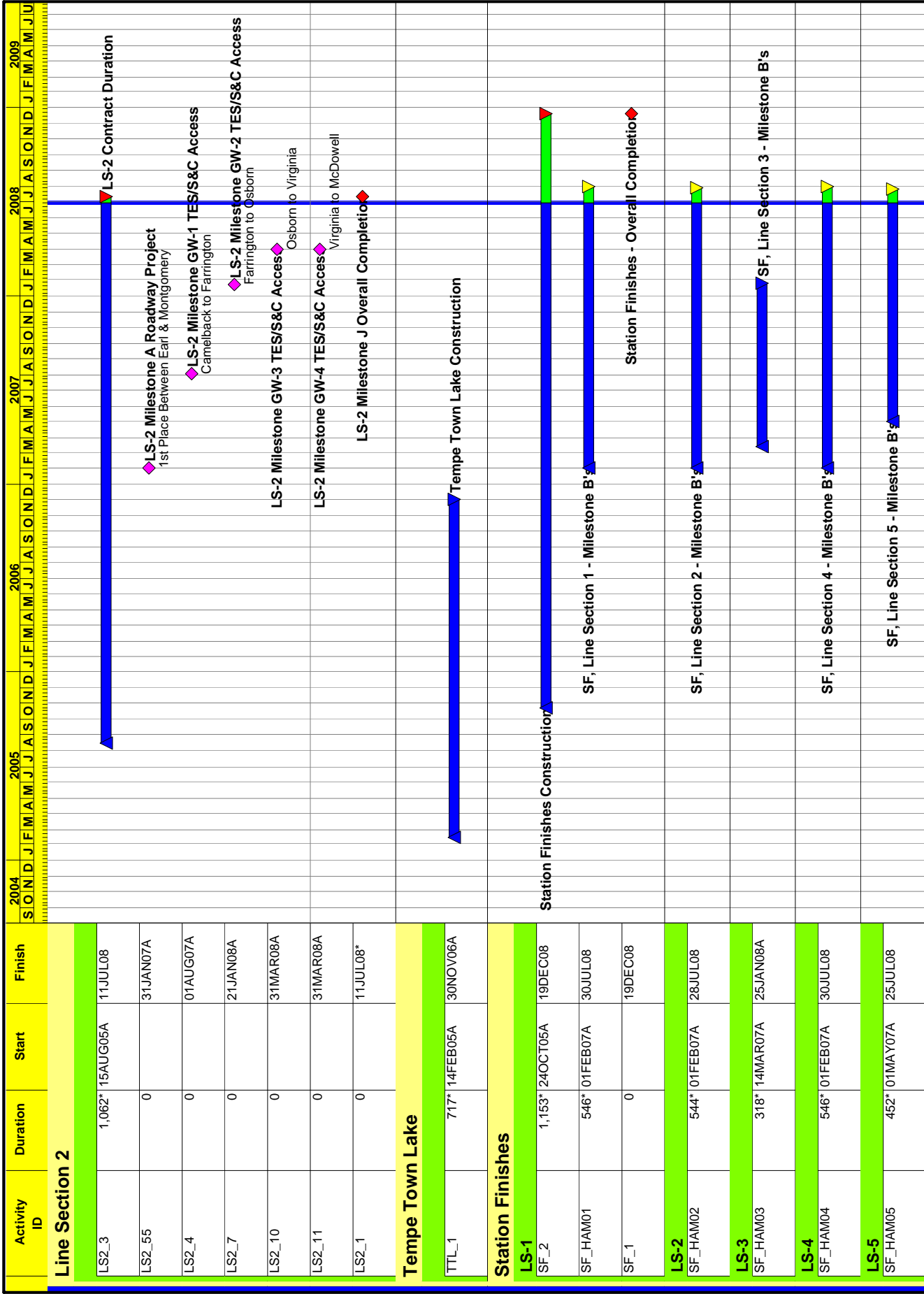
**METRO Rail Program Control**  
Central Phoenix/East Valley LRT Project

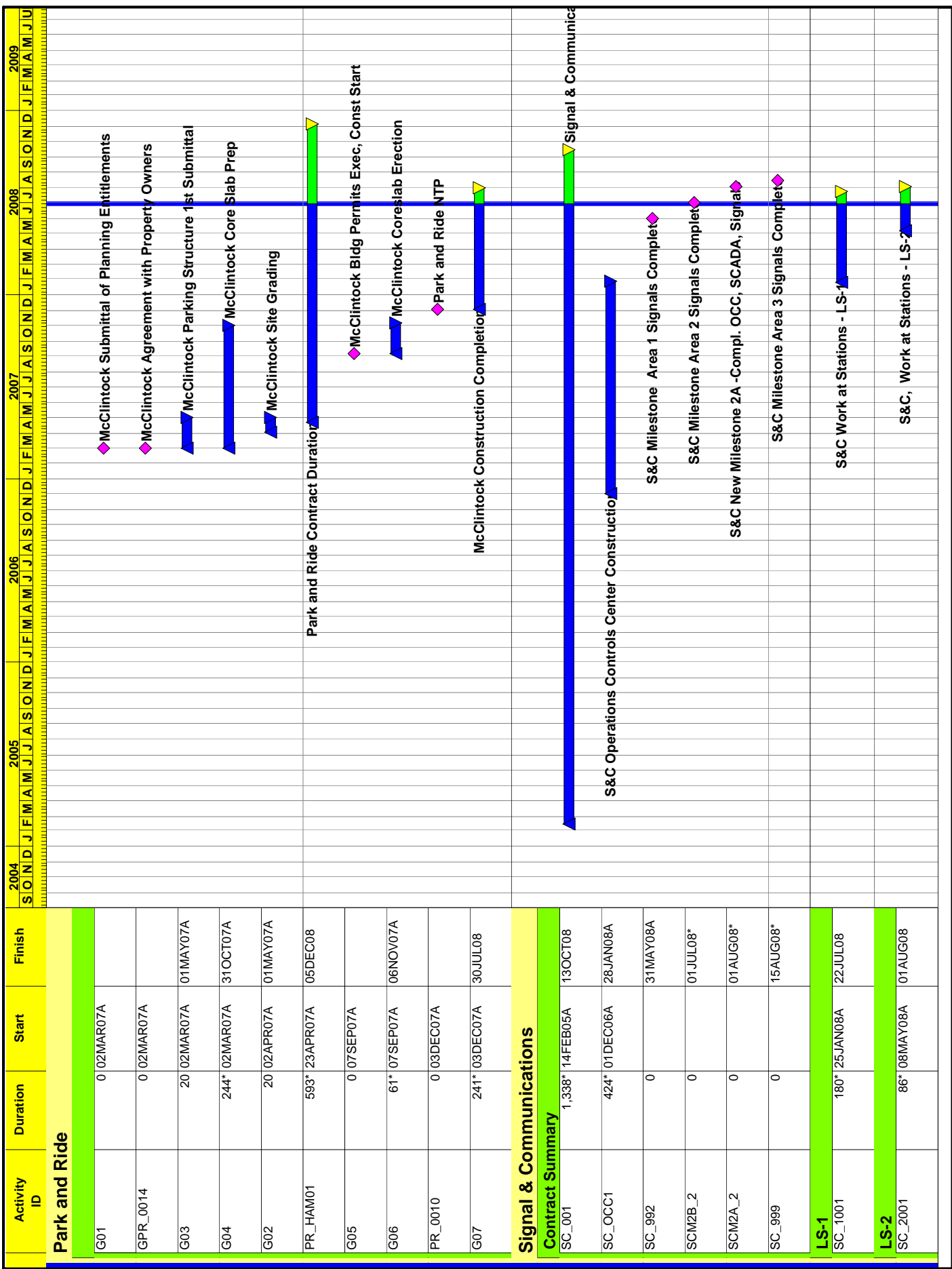
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## Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AC	Alternating Current
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADOT	Arizona Department of Transportation
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
APM	Automatic People Mover
APPROX	Approximately
APS	Arizona Public Service
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASTM	American Society for Testing and Materials
ASU	Arizona State University
ATS	Automatic Train Stop
AT&T	American Telephone and Telegraph Company
AWG	American Wire Gauge
AWS	American Welding Society
BTU	British Thermal Unit
CAC	Construction Administration Consultant
CALCS	Calculations
CCTV	Closed Circuit Television
CFM	Cubic Feet Per Minute
CFS	Cubic Feet Per Second
CMU	Concrete Masonry Unit
CNPA	Concurrent Non-Project Activity
COE	US Corp of Engineers
COM	City of Mesa
COMM	Communications
COP	City of Phoenix
COT	City of Tempe
CPU	Central Processing Unit
CRSI	Concrete Reinforcing Steel Institute
CRT	Cathode Ray Tube
CTS	Carrier Transmission System
CWR	Continuous Welded Rail
CY	Cubic Yard
DBE	Disadvantaged Business Enterprise



DC	Direct Current
DSD	Development Services Department
DWG	Drawing(s)
EPA	Environmental Protection Agency
EST	Estimate, Estimated
FAA	Federal Aviation Administration
FAI	First Article Inspection
FHWA	Federal Highway Administration
FPS	Feet Per Second
FTA	Federal Transit Administration
GEC	General Engineering Consultant
HVAC	Heating, Ventilating, Air Conditioning
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IFB	Invitation For Bid
IPI	In Process Inspection
LAN	Local Area Network
LF	Linear Feet
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LS	Line Section
MAG	Maricopa Association of Governments
MEC	Mass Electric Company
MISC	Miscellaneous
MOE	Maintenance of Equipment
MOW	Maintenance of Way
MPH	Miles Per Hour
OMC	Maintenance and Storage Facility
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NRHP	National Register of Historic Places
OCC	Operations Control Center
OCS	Overhead Contact System
O&M	Operations And Maintenance
OMC	Operations and Maintenance Center



OPS	Operations
PA	Public Address
PAN	Pantograph
PBAX	Telephone Private Exchange And Controls
PCI	Prestressed Concrete Institute
PSI	Pre Shipment Inspection
PED	Pedestrian
PMC	Program Management Consultant
PNR	Park-and-Ride
PSF	Pounds Per Square Foot
PSI	Pounds Per Square Inch
PTZ	Pan Tilt Zoom
QA	Quality Assurance
QC	Quality Control
RE	Resident Engineer
RFI	Request For Information
RI	Receiving Inspection
RPM	Revolutions Per Minute
ROW	Right-of-Way
RTU	Remote Terminal Unit
S&C	Signals and Communications
SCADA	Supervisory Control and Data Acquisition
SDI	Steel Deck Institute
SJI	Steel Joist Institute
SONET	Synchronous Optical Network
SPEC	Specification
SRP	Salt River Project
SSPC	Structural Steel Painting Council
SSW	Sundt/Stacy and Witbeck
SSWJV	Sundt/Stacy and Witbeck Joint Venture
SWG	Southwest Gas Corporation
TBD	To Be Determined
TCE	Temporary Construction Easement
TES	Traction Electrification System
TTLB	Tempe Town Lake Bridge
TPSS	Traction Power Substation
TTY	Text Teletype ADA Device
TVM	Ticket Vending Machine



TWC	Train to Wayside Communications
UBC	Uniform Building Code
UL	Underwriters Laboratories Incorporated
UPRR	Union Pacific Railroad
UPS	Uninterruptible Power System
VCR	Video Cassette Recorder
VETAG	Vehicle Tagging System
VMB	Variable Message Board
VMR	Valley Metro Rail
VMS	Vehicle Management System
WAN	Wide Area Network