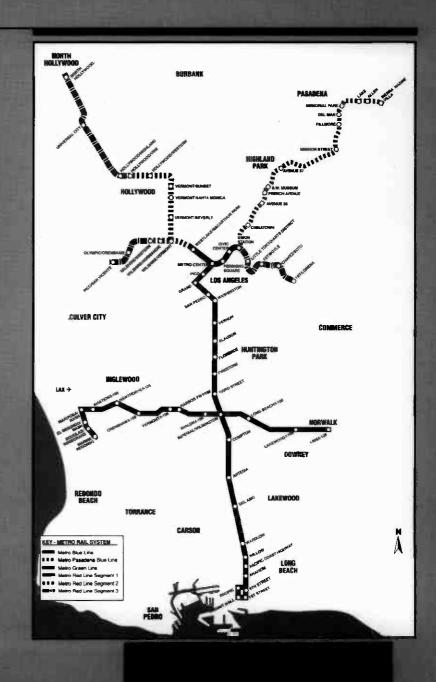
MTA METRO CONSTRUCTION



Executive Report Rail Program Status



RAIL PROGRAM STATUS SUMMARY

THE LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
METRO CONSTRUCTION DIVISION

RAIL PROGRAM SUMMARY

Cost Status

Current Budget

\$803,868,000

There were no changes to the Current Budget during the period.

Schedule Status

Current Plan May 2001 Design Progress

Construction Progress

Plan Actual 100.0% 80.3%

11.3% 8.3%

• The construction variance is due to delays in finalizing work scope and delays in the start of final design.

Safety Status Lost Time Rate **Project Rate**

National Average

0.0

4.9 148.1

Lost Work Days

0.0

The project is incurring 14,000 work hours per month with no Lost Time Injuries.

Areas of Concern

Validation of \$803.9 baseline estimates.

Monthly Highlights

- The MTA Board approved the third phase of final engineering.
- Community representatives were briefed on pending work scope changes.
- Continued review of CWO 40, estimated costs for final design, in preparation of final negotiations with EMC.

METRO RED LINE SEGMENT 2

Cost Status

Current Budget

\$1,640,000

There was no change to the Current Budget during the period.

Schedule Status

Design Progress

Construction Progress

Plan Actual 91.1% 93.2% 87.5% 80.3%

Wilshire Corridor - Revenue operations - July 13, 1996

Vermont/Hollywood - Current Plan

Dec 1998

Vermont/Hollywood Corridor is behind schedule due to tunnel delays under Hollywood Blvd.

Safety Status

Project Rate 2.6

National Average

Lost Time Rate Lost Work Days

69.5

4.9 148.1

• Twelve construction contracts continued with no Lost Time Injuries.

 Installation of piles and excavation of B251E Sink Hole Shaft and B251F Hollywood/Vine Access Shaft are delaying trackwork access.

Monthly Highlights

- Began negotiations with the trackwork contractor to start concrete work.
- B610 trackwork installation contractor mobilization continued.
- Mitigation efforts for the Vermont/Hollywood Corridor schedule continued.

METRO RED LINE SEGMENT 3 NORTH HOLLYWOOD EXTENSION

Cost Status

Current Budget

\$1,313,848,000

The were no changes to the Current Budget during the period.

Schedule Status

Design Progress

Construction Progress

Current Plan

May 2000

Plan Actual

92.6% 91.9% 61.8% 31.1%

 Contract C0311 Line Section from Universal City Station to Station 630+00 continues to be behind schedule. Efforts to mitigate these delays continue.

Safety Status

Project Rate

National Average

Lost Time Rate

0.4

4.9

Lost Work Days

15.4

148.1

• The project is incurring 120,000 work hours per month. One Lost Time Injury occurred in during September.

Areas of Concern

Mitigation efforts incorporated into the project schedule to maintain the May 2000 ROD do not include allowances for contingency.

Monthly Highlights

- Trackwork, systems, pre-revenue operation schedules and contingency were reviewed to recover from forecasted delays.
- The EMC revised baseline design schedule was approved by the MTA on October 1, 1996.
- The interface and phased turnover plan from C0331 to C0351 was approved by the MTA.

METRO RED LINE SEGMENT 3 MID-CITY EXTENSION

Cost Status

Current Budget

\$490,663,000

• The Current Budget value is contingent on the preferred alternative selected.

Schedule Status

Design Progress 0%

Construction Progress

Current Plan TBD

Plan Actual

0%

0% 0%

Safety Status

Project Rate

Lost Time Rate

N/A

National Average 4.9

Lost Work Days

N/A

148.1

No Construction Safety activity for this period.

Areas of Concern

. The overall schedule and project cost for final design and construction is on hold pending the MTA Board determination of the preferred alternative.

Monthly Highlights

- Enviro-Rail completed and submitted a final report on field testing for the Engineering Feasibility Study.
- MTA prepared a report for the Board containing cost and schedule estimates for each alignment/configuration alternative developed in the Engineering Feasibility Study.
- MTA continued the procurement process of an environmental consultant for the preparation of an SEIS/SEIR incorporating the Wilton/Arlington alignment alternatives.

METRO RED SEGMENT 3 EAST SIDE EXTENSION

Cost Status

Current Budget

\$979,601,000

There were no changes to the Current Budget during the period.

Schedule Status

Design Progress

Construction Progress

Current Plan November 2002

Plan 47.0%

0.0%

Actual

43.8%

0.0%

The plan reflects the Design Baseline Schedule approved by the MTA in October 1996.

Safety Status

Project Rate

National Average

Lost Time Rate Lost Work Days N/A N/A

4.9 148.1

No Construction Safety activity for this period.

Areas of Concern

· Additional costs for the tunnel boring machines and tunnel lining technologies increased the forecast at project completion to \$46.5 million over the current budget.

Monthly Highlights

- The final design schedule was approved by the MTA as a baseline.
- The overall project schedule was completed by the EMC and submitted to the MTA for review and approval.
- The MTA Board approved \$6.3 million for final design services.

VEHICLE ACQUISITION PROJECT

Cost Status

Current Budget

\$257,597,000

• There were no changes to the Current Budget during the period.

Schedule Status

Design Progress

Fabrication Progress

Schedule Car Delivery

1st Car

February 1998

90%

25%

52nd Car

June 1999

• The schedule from the contractor reflects 16 months delay in first car deliveries due to design and manufacturing problems.

Areas of Concern

Lack of progress in the design of the Vehicle Communications Systems.

Monthly Highlights

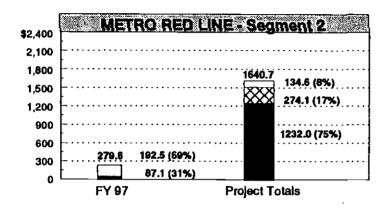
- Car no. 1 completed Phase 1 activities and is beginning Phase 2 activities(installation of walls, ceiling, floor) in Sacramento.
- The MTA participated in a second Green Line Team Partnering Meeting to discuss the Design Conformance Testing Schedule.
- Carshell no. 2 passed structural Compression/Loading/Diagonal Jacking Tests in Carson.

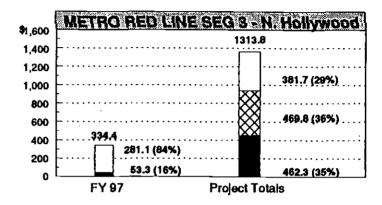
METROPOLITAN TRANSPORTATION AUTHORITY PROJECT COST REPORT - TOTAL RAIL PROGRAM SUMMARY BY COST ELEMENT (IN THOUSANDS)

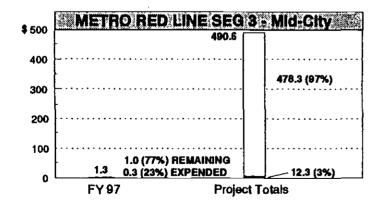
				(IN THOU	SANUS)			
PROJECT: TOTAL RAIL PROGRA	<u>M</u>						STATUS DATE:	11/01/96
ELEMENT	BUDO	3ET	COMMIT	MENTS	EXPEND	TURES	CURRENT	VARIANCE
DESCRIPTION	ORIGINAL	CURRENT	PERIOD	TO DATE	PERIOD	TO DATE	FORECAST	(7-2)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) [′]
T CONSTRUCTION	5,153,507	5,343,640	2,688	3,710,364	18,269	2,829,385	5,308,570	(35,070)
S PROFESSIONAL SERVICES	1,685,529	2,101,723	10,709	1,625,709	12,815	1,432,519	2,154,883	53,160
R REAL ESTATE	480,002	537,113	4,168	406,872	4,208	404,505	539,188	2,053
F UTILITY/AGENCY FORCE ACCOUNTS	146,279	160,748	63	137,552	1,454	111,145	170,587	9,839
D SPECIAL PROGRAMS	11,045	18,747	10	5,660	(4)	4,823	15,701	(1,046)
C CONTINGENCY	560,120	340,634	0	o	o	0	281,609	(59,025)
A PROJECT REVENUE	(18,115)	(37,411)	0	(2,824)	o	(11,310)	(33,181)	4,250
ORIGINAL SCOPE SUBTOTAL	8,018,367	8,463,194	17,638	5,883,333	34,542	4,771,087	8,437,355	(25,839)

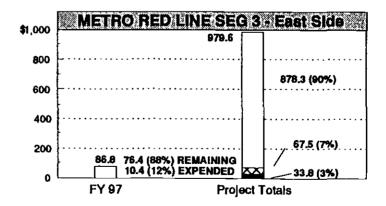
NEW REQUIREMENTS	BUD	3ET	COMMIT	MENTS	EXPEND	ITURES	CURRENT	VARIANCE
ELEMENT DESCRIPTION	ORIGINAL	CURRENT	PERIOD	TO DATE	PERIOD	TO DATE	FORECAST	(7-2)
- 	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T CONSTRUCTION	o	49,404	(9)	43,086	13	22,897	60,113	10,709
S PROFESSIONAL SERVICES	0	17,484	2	16,464	140	9,573	17,657	173
R REAL ESTATE	0	o	0	o	0	37	o	a
F UTILITY/AGENCY FORCE ACCOUNTS	o	0	o	0	0	0	0	O
D SPECIAL PROGRAMS	0	20	60	452	o	35	3,142	3,122
C CONTINGENCY	o	1,348	0	o	. 0	0	948	(400
A PROJECT REVENUE	0	o	0	o	o	0	(11,462)	(11,482
NEW REQ. SUBTOTAL	0	68,256	53	60,002	153	32,542	70,398	2,142
PROJECT GRAND TOTAL	8,018,367	8,531,450	17,691	5,943,335	34,695	4,803,609	8,507,753	(23,697

BUDGET STATUS - November 1, 1996 (In \$ Millions)







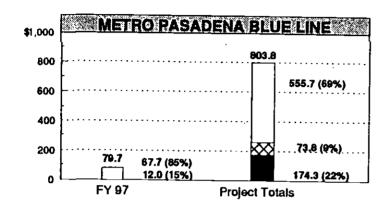


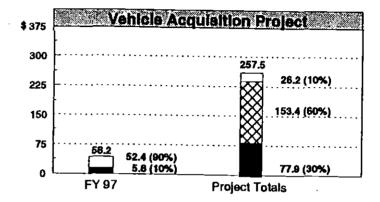
Actual Spent



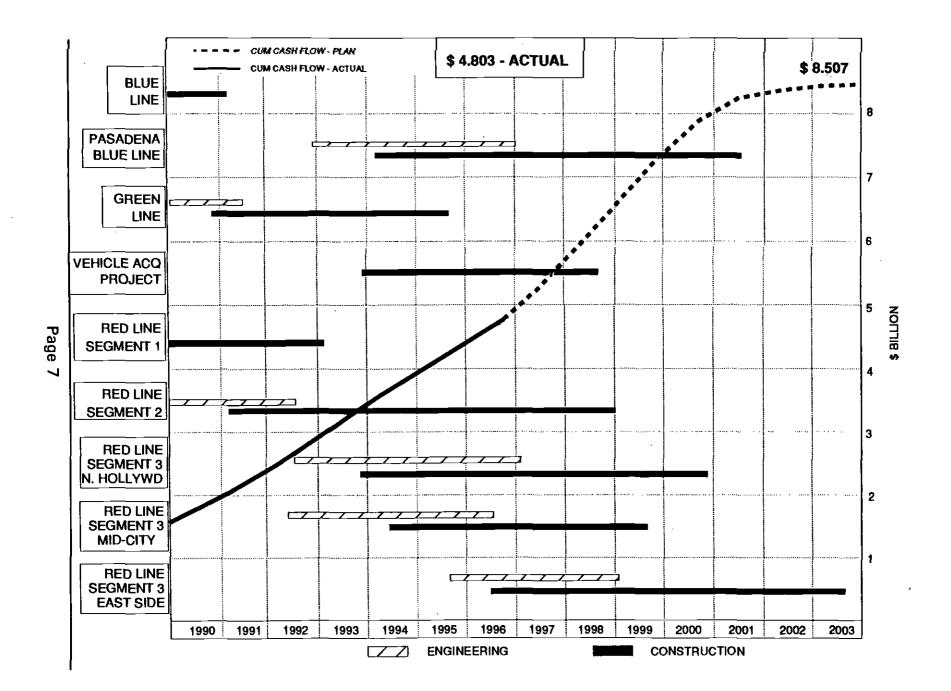
Remaining Budget

BUDGET STATUS - November 1, 1996 (in \$ Millions)





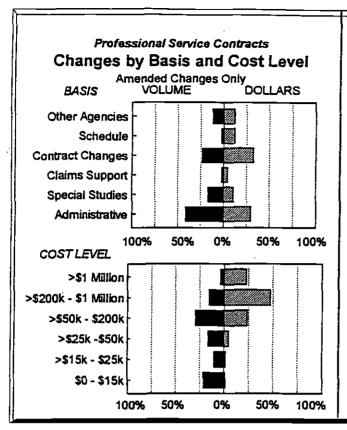
Actual Spent Encumbered Remaining Budget



METHOP	OLL	TAN	TRANSP	ONTATION	YTIROHTUA

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	MATRI	O DLUE	PABAI			GREEN	METRO		METRO	REO	METRO	REO LINE								
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ORIGINAL SCOPE:		 " -				 -		 -			 	<u> </u>		×	 	×	-	*	 -	×
FTA-BECTION 3							605.3	42	667.0	40	681.0	52	242.5	49	492.9	50			2688.7	32
FTA - OTHER													;				11.9	4	11.9	ı
IBTEA - FED BURFACE TRANSIT PROG	,					 			52.1	3	50.0	4	ļ		25.0	2	84.0	32	211.1	3
FEO-IBTEA ROTP/CMAQ									į		39.9	3	40.4	ð	80.1	و	8.1	3	172.5	2
FTA-BECTION 8							90.6	6				ŀ							90.6	,
STATE			387.5	48:	105.4	15	210.3	15	133.0	8	65.0	5	40.0	8	85.0	7	33.5	13	1041.0	12
STATÉ TSM MATCH								}			3.2	0	7.2	2	11.1	1			21.5	í
88 I BES TRUST FUNG						ŀ		1			76.0	6	1						75.0	,
PHOPOSITION A	877.2	100	202.6	25	206.1	28	179.5	12	601.9	31				j					1966.3	23
PROPOSITION O			213.5	27	400.3	56		ļ			192.8	15	161.4	32	299.1	31	122.0	48	1379.3	18
PROP C (AMERICAN DIBABILITY ACT)					6.0	<i>'</i>													6.0	O
CITY OF LOS ANGELES							34.0	1	157.5		l		9.0	1	0.3	0			391.5	5
BENEFIT ABBEDBMENT				;			130.3	9	58.0	•	13.6	'							201.8	2
COBT OVERRUN ACCOUNT		<u> </u>					200.1	14											200.1	2
TOTAL	877.2	100	803.9	100	717.8	100	1460.1	100	166B.5	98	1311.1	100	490.7	100	979.5	100	257.5	100	8457.3	99
OTHER LOCALLY FUNDED ACTIVITIES:	2																			
PROP O (TRANSIT ENLIANCEMENTS)									68.7	₁	2.7	0							71.4	,
FEO ISTEA RSTP/OMAQ									2.5	o									2.5	a
TOTAL		ela (affect						<u> </u>	71.2		2.7	<u></u>							73.9	

Page 8



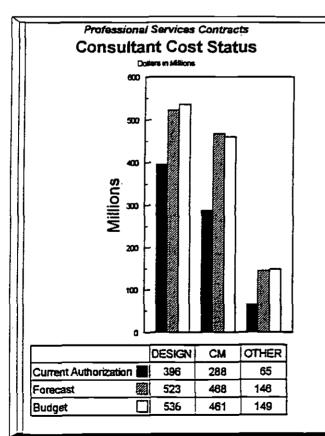
CHANGE BASIS ANALYSIS

Administrative changes account for approximately 42% or 302 of the 727 Consultant Change Notices overall. This equals 29% of the overall change cost of amended changes.

CHANGE COST LEVEL ANALYSIS

As shown on the Cost Level Analysis chart opposite, the MTA Board approves 69.7% of all change costs associated with the Rail Project or \$69M of a total change cost of \$99M. This equals 20% of the total change volume or 148 of 727 total changes.

Note: Data for Basis and Cost charts includes only MTA Board amended changes. Prior months reports also included staff approved changes not amended by the MTA Board.



PROFESSIONAL SERVICES COST ANALYSIS

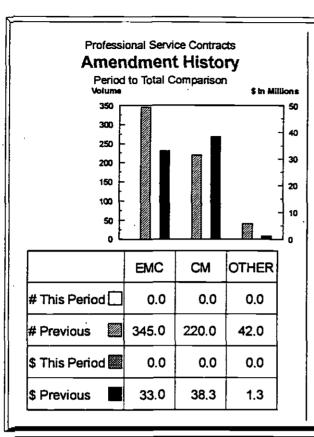
Categories represent all professional services contracts, not individual contracts (i.e. "design" includes all line 11 contracts not just EMC).

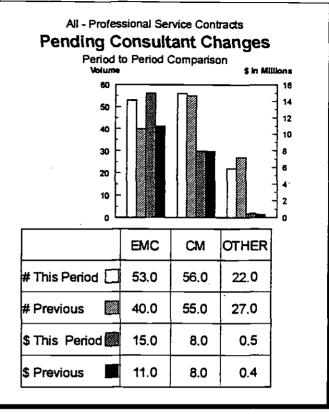
The forecast cost for design and other consultant contracts is below the current budget. While the forecast for construction management contracts continues to slightly exceed the budget amount, due to delays in project activities on the Metro Red Line Eastside Extension and Pasadena Blue Line

Data Source:

CMS: Consultant Contract Authorization, Forecast and Budget Values.

CHNGSAMP/10/96





CONSULTANT CHANGE NOTICE ANALYSIS

Eight new Requests for Change (RFC) were received during the period with an estimated value of \$602 thousand.

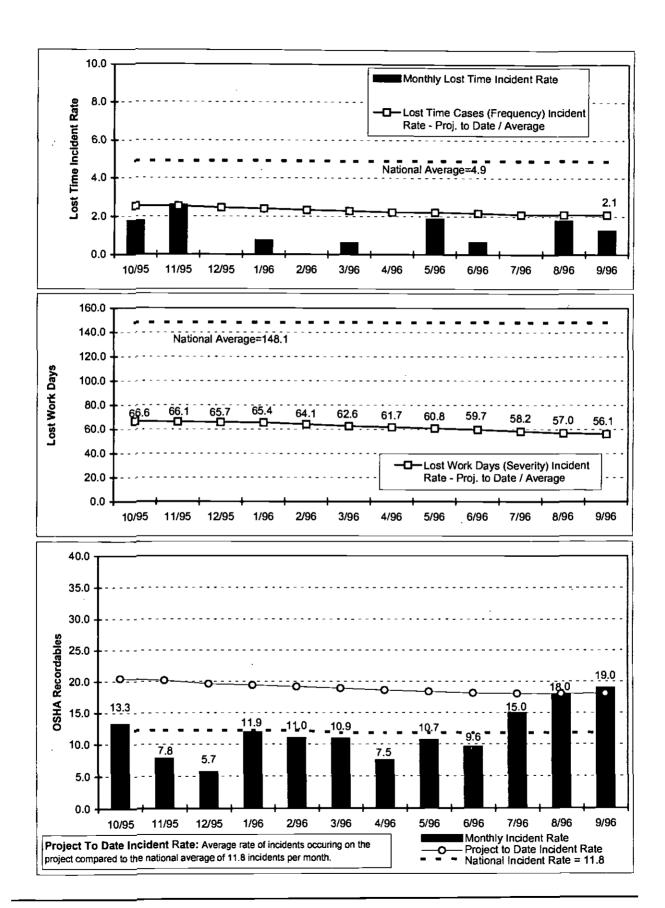
Fifteen new Consultant Change Notices (CCN's) were assigned during the period with an estimated value of \$9 million.

Six CCN's were rejected / cancelled during the period.

Cost Performance Relative to Corporate Goale (IN THOUSANDS)

	Charac		1		MÉTRO G	eres () is a		EO LINE					T-1-4							OCTO86	
	METHOR	ATTIG FINE			METHOR	LECTIN FILE		AENI'I		RED LINE		PED LINE		JED LINE	METRO	REDUNE	VEHICLE!				COR
	DOLLARS	N-00-00-07	BLUE	TIME:	0011400	DED COM			563	MENL3	SEGMEN		SEGMEN	T1MC	SEGME			JECT	PHO		GCA
CONSTRUCTION						05,49%	812.270	CENTED!					man	PERLEN						PERCENT	
CHOCHUCIUM	857,487	74.95%	448,417	55.70%	477,236	09.47%	W12,270	56 02%	1,138,898	69.41%	832,795	63.49%	0	0	658,534	85.00%	180,644	89.72%	5,208,281	64.94%	
EAL ESTATE	55,592	6.34%	810,00	7.44%	20,047	3.63%	140,000	9.00%	47,773	5.35%	89,076	8.79%	اه	٥	27,459	2.71%	۰ ا	0.00%	465,863	8.09%	
ROFESSIONAL ERMICES:									}												9. 2.
<u>ENGINEERING/DES</u>	69,567	7.93%	119,401	14.63%	83,296	11.60%	221,059	15.29%	105,514	10.09%	67,121	6.64%	٥	٥	101,466	10.02%	1,700	0.84%	849,700	10.60%	1
CONSTR MOMT.	\$1,842	10.45%	00,054	8.30%	78,213	10.90%	118,429	8.03%	164,563	10.03%	115,916	8.84%	٥	٥	84,963	8.39%	٥	0.00%	718,603	8.90%	î
STAFF	17,855	2.01%	46,820	5.62%	24,179	3.37%	95,556	8.59%	55,749	3,40%	59,588	4.54%	٥	٥	37,566	3.71%	3,840	1.91%	340,954	4.25%	41
OTHER	14,222	1.52%	22,075	2.74%	17,337	2.42%	32,671	2.25%	22,664	1.30%	41,226	3.14%	٥	٥	17,356	1.71%	9,237	4.50%	177,010	2.21%	þ
SUSTOTAL	193,106	22.51%	255,150	31.00%	203,025	24.28%	466,317	32.16%	408,710	24.61%	303,854	23.17%	0	0	241,394	23.63%	14,777	7.34%	2,006,333	26 02%	2
ONTINGENCY	963	0.11%	42,626	5.32%	12.757	1.70%	31,432	2.17%	8210	0.30%	97,372	7.42%	اه	٥	85,744	8,40%	8,630	2.00%	263,236	3.63%	
ROJECT REVENUE	Ç29,877]	3.41%	(1,211)	4.15%	(1,263	-0.18%	۰	0.00%	(D) (C)	-0.05%	(11,462)	-0.67%	٥	٥	۰	0.00%	٥	0.00%	[44,523]	-0.56%	
IRAND TOTAL	477,271	100.00%	805,100	100.00%	717,002	100.00%	1,450,019	100.00%	1,640,781	100.00%	1,311,636	100.00%	٥	٥	1,013,131	100.00%	201,351	100.00%	8,017,090	100.00%	

"METRO RED LINE BEGINENT 3 MID-CITY FORECAST NOT AVAILABLE."
NOTE: Data reflects Current Forecast.



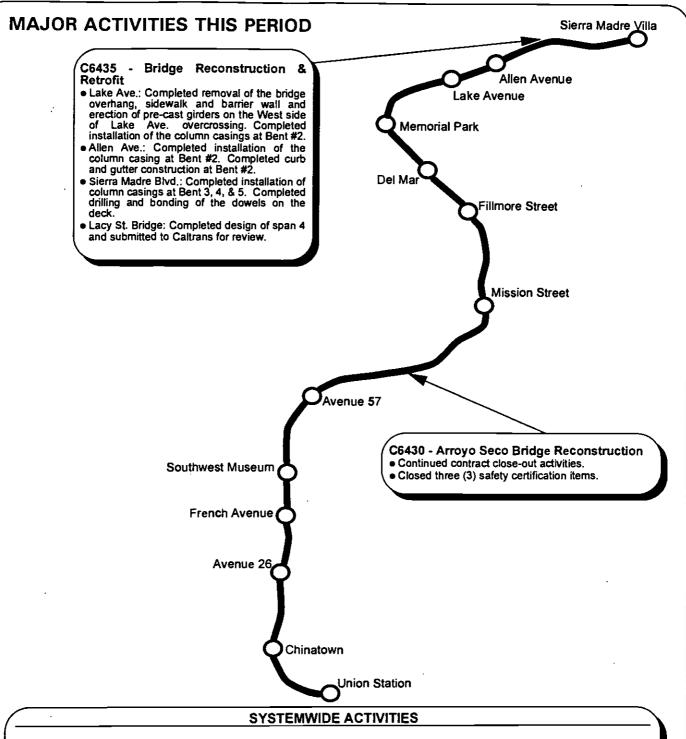
Page 12

EXECUTIVE SUMMARY

Summary Status Report

Period Ending - November 1, 1996



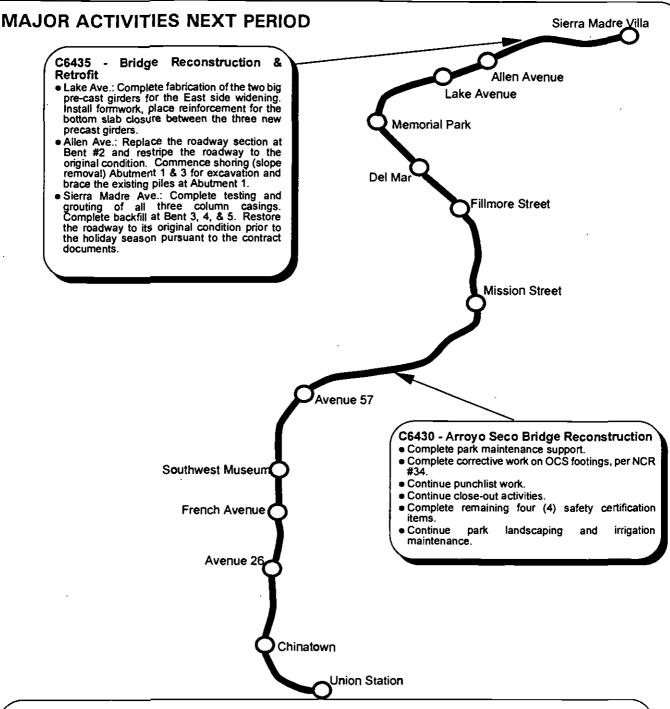


- Completed manufacturing of concrete ties for Contract P2100, Precast Concrete Ties.
- Continued interface with community representatives regarding work scope changes.
- Continue review of CWO 40 estimated costs for final design of C6420, C6440, C6450, H0070, H0090, and Ave. 57/Southwest Museum Stations in preparation for final negotiations with EMC.

Summary Status Report

Period Ending - November 1, 1996





SYSTEMWIDE ACTIVITIES

- Complete final PIP negotiations for CWO 40.
- Complete final delivery of concrete ties at Contract P2100, Precast Concrete Ties.
- Continue to support cash flow and funding special studies.
- Begin final design on approved engineering packages.
- Begin review of CWO 41 estimated costs for final design in preparation for final negotiations with EMC.
- Close-out for Contract C6410, L.A. River Bridge, is complete. Project records will be transmitted to MTA Records Management Center (RMC) in late November.

Summary Status Report
Period Ending - November 1, 1996



BUDGET

	Amount (<u>\$ in mil)</u>	Change from Last Month (\$ in mil)
Original Budget	841	None
Approved Budget	804	None
Current Forecast	804	None
Commitments	250	+3
Expenditures	179	+5

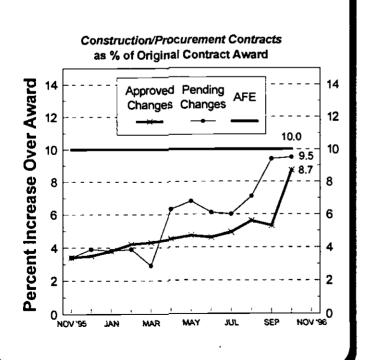
ADDITIONAL LOCALLY FUNDED ACTIVITIES

	Amount (<u>\$ in mil)</u>	Change from Last Month (\$ in mil)
Original Budget	0	None
Approved Budget	0	None
Current Forecast	1	None
Commitments	1	None
Expenditures	0	None

BUDGET ANALYSIS

- The Original Budget of \$841.0M was formally adopted in January 1993 and was based on a November 1997 ROD.
- The Approved Budget and Current Forecast are based on cost reduction scope changes and a May 2001 ROD adopted in February 1996. There is no change to the overall budget or forecast during the period.
- The increase in Commitments during the period is primarily for a recent adjustment to EMC's Letter Contract for CWO 040 and for CWO 041. Commitments also increased for MTA Project Administration to reflect expended amounts through the current period.
- The increase in Expenditures for October is primarily for Contract C6430 (Arroyo Seco Bridge Reconstruction), and Professional Services contracts.
- Engineering estimates are underway to validate cost elements currently included in the Project Budget. Potential overruns will be analyzed and mitigated to assure validity of \$803.9M Budget.

CONTRACT CHANGES



CONTRACT CHANGE ANALYSIS

The percent of approved changes shows an increase this period because the change order to repair the fire damaged Lacy St. Bridge was executed for Contract C6435, Reconstruction and Retrofit of Concrete & Steel Bridges. The increase also reflects the execution of the change for the operating engineer's strike at Contract C6430, Arroyo Seco Bridge Reconstruction.

The significant approved and pending changes include:

- C6410 (L.A. River Bridge) CO 8.00, Differing Site Conditions at Bents 5 & 6; CO 14.00, Adjust Bid Quantities.
- C6430 (Arroyo Seco Bridge Reconstr.) CO 4.00, Adjust Bid Quantities; CO 16.00, Cost for Operating Engineer's Strike; credit CN 65.00, Delete 9-Way Ductbank & Related Electrical.
- C6435 (Reconstruction & Retrofit of Concrete & Steel Bridges) CO 12.00, Lacy St. Bridge Repair;
 CN 26.02, Delayed Release of Lake & Allen Ave. Work Scope;
 CN 53.00, Pea Gravel;
 credit CN 45.00, Delete Madre St. Bridge SOW;
 credit CN 23.01, Eliminate Load Tests for CIDH Piles.

Summary Status Report

Period Ending - November 1, 1996



SCHEDULE

EMC

0.6

		Change from Last Month
Current ROD	May 2001	None
Design Progress*	80.3%	None
Constr. Progress	8.3%	+0.1
Critical Path Float (Calendar Da	-60 days ays)	120

SCHEDULE ANALYSIS

- The forecast ROD is May 2001. Delays in the schedule due primarily to finalizing scope definition, obtaining community concurrence for cost reduction items, and starting final design have resulted in negative float.
- The schedule update for October shows 60 calendar days (CD) of negative float. As of October 30th, the Project Schedule contained 180 CD of negative float. Through mitigation efforts, 4 months, or a 120 CD, of negative float was eliminated and the Project Schedule was repackaged from 48 to 22 contracts which resulted in the current -60 CD. A combination of repackaging and contract duration reductions contributed to the total mitigation effort.
- Final design on the most critical packages is scheduled to begin first week of November.
- Continued mitigation will be possible once final design progresses to the point that a detailed constructability review can be conducted on the remaining critical path contracts.

COST PERFORMANCE CWO 037 & 039 Cost Estimate At Completion (in millions) Current Contract \$9.5 Forecast \$10.0

k tok sok 70% sok Design % Complete

EMC COST PERFORMANCE ANALYSIS

- The chart at the left summarizes CWO's which are in place to facilitate the start of final design. This chart includes CWO 037 which was approved for development of a PIP and definition of new scope to incorporate cost reduction items and CWO 039 which is for administrative support for final design.
- Through the October reporting period, the EMC is reporting 32.2% progress on these CWO's and a CPI of .88.
- Weekly progress meetings are being held to continually monitor status and to assure tasks are completed. CCN's are in progress to define additional scope requirements; therefore, a CPI of 1.0 is forecast.
- CWOs 040 & 041 are for final design on critical and sub-critical contracts. Budgets are currently under negotiation for these CWO's and will be included in the chart at the left when negotiations are complete.

^{*}Based on original design work scope; design will be rebaselined pending an evaluation of design status, detailed definition of new work scope & preparation of an execution plan.

Summary Status Report

Period Ending - November 1, 1996



CONSTRUCTION SAFETY STATISTICS

Change from Last Month

Recordable Injury Rate

1994 National Average 11.8

Project Rate (Cum.) 2.8 -0.1

Lost Time Rate (Frequency)

1994 National Average 4.9

Project Rate (Cum.) 0.0 None

Lost Work Days (Severity)

1991 National Average 148.1

Project Rate (Cum.) . 0.0 None

NOTE: Statistics are based on September data.

CONSTRUCTION SAFETY SUMMARY

 The Project is incurring 14,000 work hours per month. To date, the Project has completed over 575,000 work hours without a Lost Time injury and only eight Recordable Injury cases.

AREAS OF CONCERN

NEW - Participant of the Company of

Item (Date Initiated: September 1996)

Validation of \$803.9M Baseline Estimates

Concern/Impact

When the Pasadena Blue Line Project was re-adopted in February 1996, EMC had not prepared updated estimates which included the proposed Value Engineering/Cost Containment items approved by MTA Board. Part of the scope of CWO 037 was for the development of a capital cost estimate based on the new construction work scope.

Status/Action

EMC continues to develop the various cost estimates. The scope for the construction work packages are being finalized and take-offs have commenced. It is expected that all estimates will be issued to MTA Estimating by the end of November 1996 and an accurate assessment of the Project costs will then be available.

Summary Status Report Period Ending - November 1, 1996



AREAS OF CONCERN (Con't)

ONGOINE

Item (Date Initiated: March 1996)

Start of Final Design

Concern/Impact

The current schedule shows -60 calendar days of negative float because final design has not begun as planned.

Status/Action

Final design has not started because the EMC is experiencing delays in mobilizing section designers and completing negotiations with MTA. If the start of engineering continues to be delayed, the projected ROD may slip and there will be a corresponding impact to the Project cost for additional escalation and administrative cost.

Item (Date Initiated: August 1996)

Real Estate Availability

Concern/Impact

In general, real estate availability is a concern to the extent that certain parcels may not be available to support the schedule for contracts on the critical path. The most critical real estate issues are related to:

<u>Ratkovich Property</u>: A parcel which is owned by the Federal Government and leased by Ratkovich Property is required for the Chinatown Aerial. This property may not be available in sufficient time to support the construction schedule. A resolution must be reached with Ratkovich because this parcel is not eligible for the condemnation process. In order to support the schedule, the property must be available by January 1998.

<u>Certification of Parcels for Underpinning</u>: Certification of parcels required for underpinning associated with Contract C6450 (Del Mar to Memorial Park Line Segment) is required in order to obtain necessary easements for construction. To support the current construction schedule, these parcels must be available by January 1998.

Status/Action

Regarding the Ratkovich property, MTA submitted a follow-up letter to Ratkovich requesting additional information concerning the lease on the property. MTA is also preparing an architectural rendering, as requested by Ratkovich, to address aesthetic issues. Regarding the parcels for underpinning, the certification process began during September.

Summary Status Report Period Ending - November 1, 1996



AREAS OF CONCERN (Con't)

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Item (Date Initiated: August 1996)

Community Concurrence With Design

Concern/Impact

Community concurrence with the Chinatown Station redesign and upgrades to Marmion Way between 50th and 58th Avenues remain outstanding. For Chinatown, issues relating to the number of elevators and the canopy, platform, and plaza design remain to be resolved. These issues may delay the final design of the station and impact the schedule. For Marmion Way, additional conceptual designs are being prepared for Community input and additional funding is being pursued to fund upgrades.

Status/Action

Although the Chinatown Station has been approved by the Board to start final engineering, the design cannot be completed until these issues are resolved with community representatives. During October discussions continued on the choice of canopy, platform, and plaza design. If required, follow-up meetings have been planned for the first week of November and the first week of December. A final decision on the station design is anticipated prior to the January 1997 MTA Board meeting. Design is continuing along Marmion Way with upgrades. They will be incorporated when funds are identified and the Community agrees on a design.

METRO RED LINE SEGMENT 2

EXECUTIVE SUMMARY



Major Activities - This Period

Hollywood/Vine Station Continued construction of mezzanine level exterior walls with installation of HDPE, rebar, forms, and completing 8 section pours for a total of 22 sections complete out of 36. Continued construction of roof deck by placing concrete for 2 sections for a total of 2 sections complete out of 15. Started construction of track platform vertical sections. Contract is 59% complete

Hollywood/Western Station Continued construction of mezzanine level extenor walls by placing concrete for 14 sections for a total of 21 sections complete out of 22. Continued of 21 sections complete out of 22 commission installation of entrance interior walls. East side B740/B745 equipment was rough set. Started excavation for blast relief shaft 1. Started construction of track platform vertical sections and construction of track presence of track area acquisiting lastert. Contract application of track area acoustical plaster. Contract is 56% complete.

B261 Vermont/Sunset Station Construction of station mezzanine level exterior walls was completed.
Completed construction of ancillary roof deck by placing concrete for 2 sections for a total of 2 sections complete out of Excavation continued on the station. entrance and the east side appendages. Started construction of track platform vertical sections and application of track area acoustical plaster. Contract is 62% complete.

B281T (B251 E & F Tunnel Work Packages) - B251E AR tunnel work progressed with the completion of walkways and the start of contact grouting and installation of electrical/mechanical items. 8251E - AL tunnel work progressed with the completion of invert slab concrete and the start of sinkhole area invert rebar and concrete activities. B251F - AR tunnel work progressed with the completion of arch concrete and the start of walkways. B251F - AL tunnel work progressed with the completion of invert slab concrete and the start of arch concrete. Change Order is 72% complete.

B241T (B251 B, C, D, Tunnel Work Packages) The B251C tunnel was essentially completed this period with the acceptance of substantial completion for this section. Punchlist cleanup continued for B251B and B251D tunnel sections. Change Order is 98% complete.

B252 Vermont/Santa Monica Station - Continued construction of the north entrance with placement of concrete for one exterior wall section and the escalator incline slab. Construction of the south entrance roof continued. Completed construction of the track platform. The crossover and the track platform. The crossover and platform track areas were completed for B610 track access. The DWP, traction power, and B740/B745 areas were readied for access to follow-on contractors. Contract is 76% complete.

B241 Vermont/Beverly Station Completed construction of track platform. The trackway area for B610 access was completed; with only two out of four nitrile gaskets remaining incomplete. The station entrance invert slab and escalator incline slab were poured. Continued installation of mezzanine level masonry walls, HVAC, and conduit/cabletray. Access to the DWP room was granted, and the traction power room was completed. Contract is 76% complete. Wilshire/

Wilshire/ Western

Normandie

Vermont

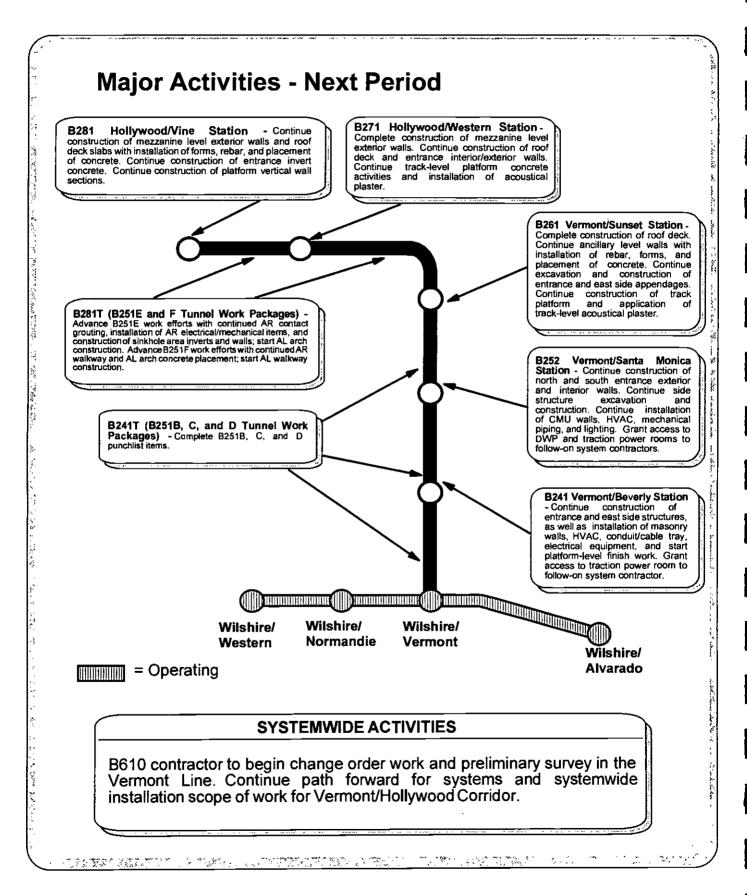
Wilshire/ Alvarado

= Operating

SYSTEMWIDE ACTIVITIES

Continued Contract B610, Trackwork Installation, contractor mobilization. Advanced negotiations with trackwork contractor for establishing optimal date for starting concrete work.







BUDGET

Original Scope	Amount (in \$ mil)	Change from Last Month (in \$ mil)
Original Budget	1,446	None
Approved Budget	1,576	None
Current Forecast	1,576	None
Expenditures	1,203	16

Additional Locally Funded Activities

Original Budget	0	None
Approved Budget	65	None
Current Forecast	65	None
Expenditures	29	0

BUDGET ANALYSIS

Original Scope

Original Scope expenditures increased \$16.0 million for construction and professional services contracts. The expenditures to date are 76.3% of the current total forecast.

Additional Locally Funded Activities

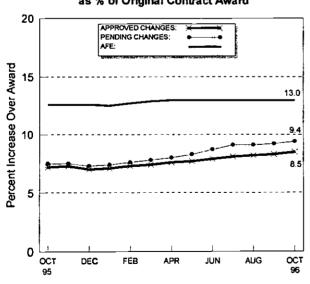
Expenditures for Additional Locally Funded Activities remained the same. The expenditures to date are 44.6% of the current total forecast.

Overall, there were no changes to the total budget and forecast categories for either Original or Additional Locally Funded Activities this period.

This period's expenditures reflect the cumulative expenditure amounts through October, including accounting adjustments in prior months.

CONTRACT CHANGES

Construction/Procurement Contracts as % of Original Contract Award



CONTRACT CHANGE ANALYSIS

The percent increase over the award value for approved changes and pending changes showed a slight increase this period. For approved changes this was attributable to the progress of work on the B241, B252, B281, and B620 contracts. For pending changes it was attributable to work on the Wilshire/Normandie Station and Line, Hollywood/Westem Station, and Fire Management contracts (B221, B271, and B646).

The significant approved changes total \$1.4 million, including:

- B241, Vermont/Beverly Station-Work Authorized Change Notice (WACN) 50.02, Hauling contaminated soil.
- B252, Vermont/Santa Monica Station-Executed CN 30.00, Architectural design changes.
- B281, Hollywood/Vine Station-WACN 77.04, Temporary electrical power to contract B251, and WACN 115.00, Undocumented six-inch sanitary sewer lateral to Pantages theater
- B620, Automatic Train Control-WACN 40.00, Remove temporary bulkheads at W/N; WACN 41.00, Re-route temporary feeder at W/V; and WACN 42.00, Booster Fan Control Reconfiguration.

The significant pending changes total \$0.2 million, including:

- B221, Wilshire/Normandie Station and Line-CN 14.00, Disputes review board cost reimbursement; CN 436.00, Use of guardrail in lieu of k-rail during phase 3 and 4.
- B271, Hollywood/Western Station-CN 48.00, Elevator hoistway cutouts; CN 61.00, Quantity adjustment slab on grade, and CN 6.00 Antigraffiti coating.
- B646, Fire Management-CN 52.00, Expanded PLC capabilities for H/W Station.



SCHEDULE

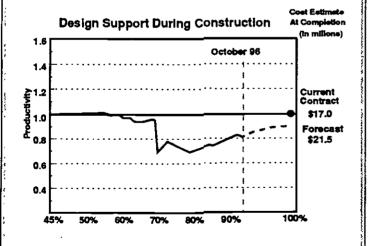
<u>Vermont/Hollyw</u>	Change from Last Month				
Current ROD	Dec. 31, 1998	None			
Design Progress	93.2%	0.4			
Critical Path Float	-109 Days	None			
Const. Progress	80.3%	. 2.0%			

SCHEDULE ANALYSIS

Vermont/Hollywood Corridor

- The Vermont/Hollywood Corridor critical path starts with B251E and F tunnel construction. The critical path then continues through B610, Trackwork Installation; B620, Train Control Installation; System Integrated Testing; and Pre-Revenue Operations.
- The forecast revenue operations date remained the same this period. Kajima/Ray Wilson made excellent progress on the critical B251E and F tunnel construction activities. Further schedule improvement strategies are being evaluated.
- For the first time this year, construction progress achieved a 2.0% increase. This increase is expected to continue through December, when tunnel concrete activities are forecast to complete.

EMC COST PERFORMANCE



EMC

COST PERFORMANCE ANALYSIS

The EMC Cost Performance chart represents the cost performance for design support during construction (DSDC) on a cumulative to-date basis.

The chart displays the Cost Performance Index (CPI) for DSDC. DSDC is 93.2% complete through October 1996 at a CPI of 0.81.

The actual numbers of Requests for Information, submittals, and Change Notices processed by the EMC for both the Wilshire and Vermont/Hollywood Corridors continue to significantly exceed the number budgeted. Consultant Change Notice (CCN) 500 provides funding for Fiscal Year 1997, as well as for items processed in excess of the number originally anticipated. Once this funding is officially approved and incorporated into the schedule, the eamed value will increase.



CONSTRUCTION SAFETY STATISTICS

		Change From Last Month
Recordable Injury Rate		
1994 National Average	11.8	
Monthly Incident Rate	18.9	-1.1
Lost Time Rate (Frequer	ncy)	
1994 National Average	4.9	
Project-to-Date Rate	2.6	None
Lost Work Days (Severit	y)	
1991 National Average	148.1	
Project-to-Date Rate	69.5	-1.2

CONSTRUCTION SAFETY SUMMARY

- Twelve active construction contracts continued in September without a Lost Time Injury.
- Lost Time Injuries (year-to-date) have occurred at a rate of 1.3 per 200,000 work hours. This is approximately 75% less than the National Average of 4.9.
- To date, the project has completed over 9,500,000 work hours and will surpass 10,000,000 work hours by December. These statistics will reduce the impact the monthly safety statistics will have on the project-to-date rates.

ONGOING

Item (Initiated June 1996)

(Based on September statistics)

Hollywood Boulevard Stations and Line Trackwork Access

Concern/Impact

As a result of past delays in installation of piles and excavation of the B251E sinkhole shaft and B251F Hollywood/Vine access shaft, completion forecasts for B251E and F tunnel trackwork milestones impact the project completion forecast.

Status/Action

The Contractor's aggressive efforts this period to perform multiple tunnel and concurrent invert, arch, and walkway concrete operations has resulted in an increased level of confidence that the Contractor will adhere to schedule. Further schedule improvement strategies are being evaluated with the contractor to try and attain original tunnel access objectives.



ONGOING

Item (Initiated March 1996)

Vermont Stations and Line Trackwork Access

Concern/Impact

As a result of the delays in the B251B, C, and D work packages, access for B251B and C work through B241, Vermont/Beverly Station, and access for B251D through B261, Vermont/Sunset Station, have the potential for influencing the current B241 and B261 stations dates for the trackwork milestones.

Status/Action

Actual work progress in the B251B, C, and D tunnel sections and at the B241 and B252 stations have resulted in the substantial completion of tunnel and station areas for B610 access.

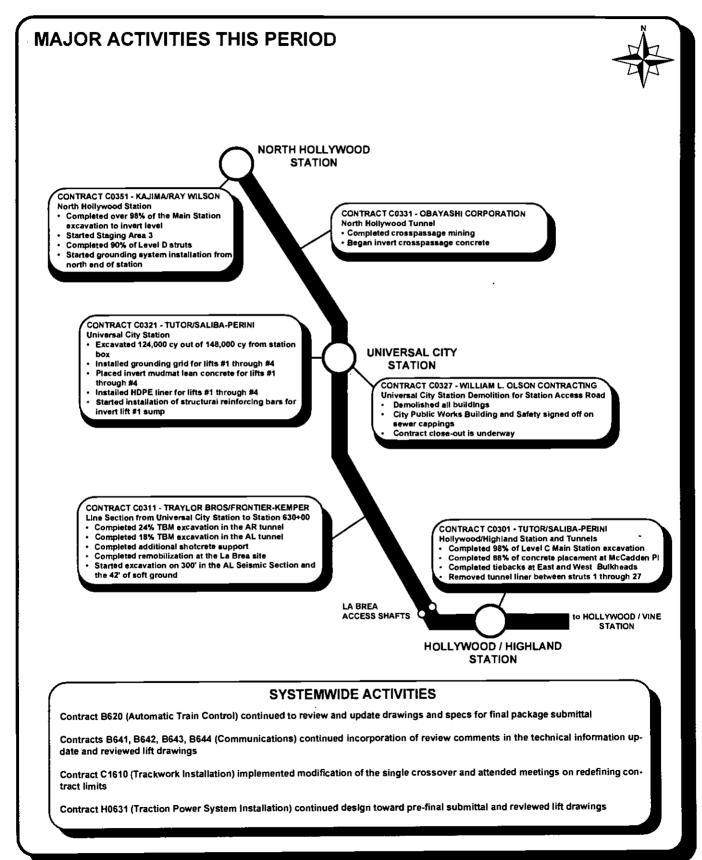
The B610 trackwork contractor continued mobilizing and is expected to start Change Order work in November. Concrete operations are planned to begin on December 2nd.

Working sessions with the B610 Contractor and the MTA have resulted in an optimal cost strategy for mitigating track installation delays from the seven-month Vermont/Hollywood tunnel work stoppage.

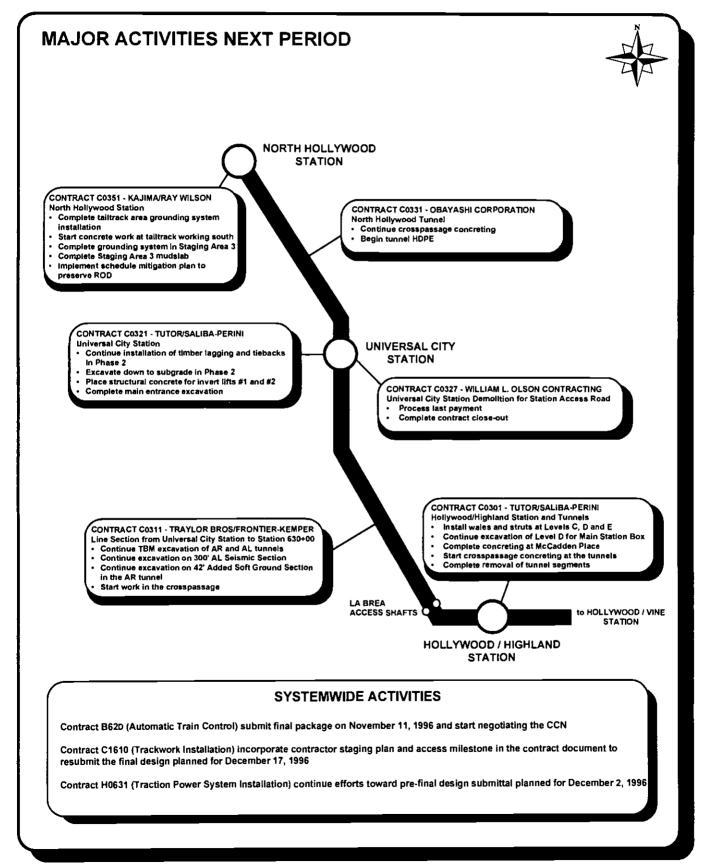
METRO RED LINE SEGMENT 3 NORTH HOLLYWOOD EXTENSION

EXECUTIVE SUMMARY









ES-2



BUDGET

ORIGINAL SCOPE ACTIVITIES

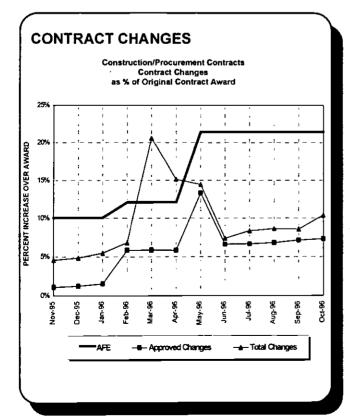
	Amount (in \$ mil)	Change from Last Month (in \$ mil)
Original Budget	1310.8	None
Approved Budget	1310.8	None
Current Forecast	1310.8	None
Expenditures	458.8	10.1

ADDITIONAL LOCALLY FUNDED ACTIVITIES (ALFA)

	Amount (in \$ mil)	Change from Last Month (in \$ mil)
Original Budget	0.0	None
Approved Budget	3.0	None
Current Forecast	8.0	None
Expenditures	3.5	None

BUDGET ANALYSIS

- The Expenditures for Original Scope Work and ALFA through the September period are \$458.8M and \$3.5M, respectively. This represents 35.2% of the Total Current Forecast. Total expenditures for the current period were \$10.1M. Retroactive adjustments totalling \$0.7M were made for April, May, June, July and August due to the continuing reconciliation of the Financial Information System (FIS). The expenditure for September was \$9.4M. Adjustments to prior periods are anticipated in the future while FIS continues its historical reconciliations.
- ALFA Expenditures exceed the ALFA Current Forecast by \$2.7M. This is due to the charges associated with the Tunnel Settlement of Contract B251 (Vermont/Hollywood Tunnel). These ALFA charges are anticipated to be offset at a later date with revenues from insurance and claims settlement. Upon realization of these anticipated revenues, the expenditures are expected to fall in line with the \$0.8 M forecast.



CONTRACT CHANGE ANALYSIS

- Approved Change values increased this period by almost \$790K mainly due to a \$650K increase on Contract C0311, supplemented by a \$343K increase on Contract C0301.
- Pending Change values increased more significantly due to a \$5.5M increase to C0311, and an almost \$2M adjustment to C0301. Other increases of \$426K on Contract C0321 (Universal City Station) and \$215K on Contract C0331 (North Hollywood Tunnel) were offset by reductions in values on Contract C0351 (North Hollywood Station) for (\$305K) and on Contract C0327 (Universal City Station Access Road Demolition) for (\$20K). The net increase in Pending Changes this period totalled just over \$8.1M.
- There were no adjustments to award values or AFE amounts.

EXE 9 ES-3



SCHEDULE

		Change from Last Month
Current ROD	May 2000	+204
Design Progress	91.9%	+0.3%
Construction Progress (estimated)	31.1%	+1.8%
Critical Path Float	+6 cal. days	+204

*Forecast project completion date is May 11, 2000, as compared to the official ROD date of May 17, 2000.

SCHEDULE ANALYSIS

- Trackwork, systems and pre-revenue operation schedules and contingency were reviewed to recover from currently forecasted delays. Changes to trackwork schedule included a resequencing of construction to allow for an earlier access to follow-on system contracts. Contract B620 (Automatic Train Control) duration was also reduced by two months. Other changes were the reduction of 138 working days to project unallocated contingency. After these changes, the project gained a total of 204 calendar days and the critical path changed from -198 to +6 calendar days. MTA approved the changes. The project is on schedule with a forecast completion date of May 11, 2000, as compared to the official ROD date of May 17, 2000.
- All known schedule impacts to C0311 due to ground conditions encountered in Reach 6C, seasonal springs protection, additional standard tunnel excavation, enclosure at La Brea Shafts, and Special Seismic Section redesign are incorporated into the schedule. These delays amount to approximately six months. Additional mitigation plans for C0311 are underway with the contractor.
- There continues to be unknown risks associated with the tunnels under the Santa Monica Mountains. At this point, there is no other contingency left in the project schedule other than that described above for C0311.
- Critical path continues to run through Contracts C0311 (Line Section from Universal City Station to Station 630+00), C1610 (Trackwork Installation), B620 (Automatic Train Control), B645 (SCADA) and Testing/Pre-Revenue Operations.

Final Design Cost Estimate At Completion (In millions) October 96 1.2 October 96 Current Contract \$74.5 Forecast \$82.3 O.6 O.4 20% 30% 40% 50% 60% 70% 80% 90% 100% Design % Complete

EMC COST PERFORMANCE ANALYSIS

- Final Design is approximately 91.9% complete, with all of the Major Facilities (Stations and Tunnels) at 100% complete. The Cost Performance Index is expected to improve to 90% over the next 12-18 months as the final design of site restoration and systems is completed, based on improvement in productivity and efficiencies.
- The MTA has calculated a Forecast at Completion of \$82.3M.
- The MTA is working with the EMC to reduce the overall cost forecast by as much as 15% as the project moves fully into construction. The MTA has identified areas such as Design Change Notice (DCN) tasks that may be modified to lower the cost of EMC services.

ES-4 EXE 10



CONSTRUCTION SAFETY STATISTICS

Project-to-Date Rates

Project-to-Date Rates		
		Change from
		Last Month
Recordable Injury Rate		
1994 National Average	11.8	
Project Rate	13.1	0.4
Lost Time Rate (Frequency)		
1994 National Average	4.9	
Project Rate	0.4	0.1
Lost Work Days (Severity)		
1991 National Average	148.1	
Project Rate	15.4	1.9

Segment 3 North Hollywood is incurring over 120,000 work hours per month.

(Based on September statistics)

CONSTRUCTION SAFETY SUMMARY

- One Lost Time Injury occurred in September.
- To date, the project has completed 2,350,000 work hours with five Lost Time Injuries.
- The Recordable Injury which occurred in August was updated to a Lost Time Injury.

AREAS OF CONCERN

NEW

Item (Date initiated: October 1996)

ROD Mitigation Effort Maintained ROD of May 17, 2000, But Left the Project Without Unallocated Contingency

Concern/Impact

While there continues to be unknown risks associated with the excavation of the tunnels under the Santa Monica Mountains, allowances for all known-to-date schedule impacts due to ground conditions encountered in Reach 6C, seasonal springs protection, enclosure at the La Brea Shafts, additional 429' of standard tunnel excavation, and Special Seismic Section redesign are incorporated into the schedule. However, the project schedule has no other allowances for contingency.

Status/Action

Different options are currently being reviewed with the C0311 contractor to recover some of the lost time and to add contingency back into the program. Some of the mitigation options are shotcreting crossovers, resequencing track level rooms and tunnels concreting lining work, as well as establishing early turnover of a complete AL tunnel.

ES-5 EXE 11

METRO RED LINE - Segment 3 North Hollywood Summary Status Report Period Ending - November 1, 1996



AREAS OF CONCERN

ONGOING

Item (Date initiated: February 1996)

Contract C0311 (Line Section from Universal City Station to Station 630+00)

Project Impacts Due to Implementation of MTA Board Motion Dated January 24, 1996 Regarding Tunneling Under the Santa Monica Mountains

Concern/Impact

Implementation of MTA Board Motion to adopt community mitigation measures have impacted overall project schedule and forecasts. Measures instituted by the Board include reducing the amount and intensity of blasting, increasing tunnel grouting to prevent surface springs leaking into the tunnel, and monitoring tunneling effects on surrounding public and private property ecosystems.

Status/Action

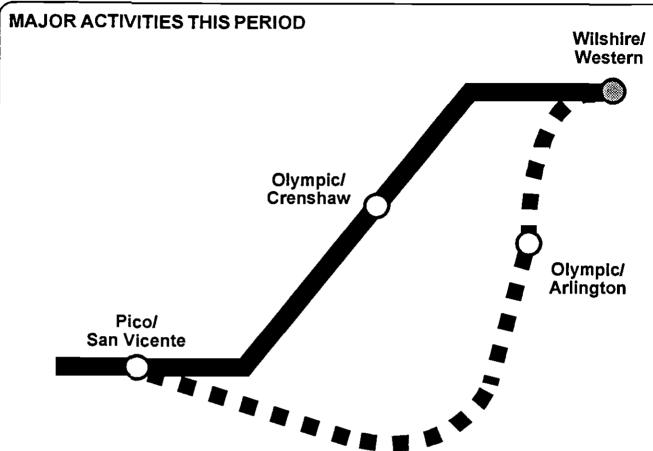
The effort to recover ROD, which included revisions to contingency and to follow-on Trackwork and Systems Installation contracts, was completed in October 1996. This mitigation maintains ROD of May 17, 2000 but recognizes that there is risk associated with the tunnel drives.

ES-6 EXE 12

METRO RED LINE SEGMENT 3 MID-CITY EXTENSION

EXECUTIVE SUMMARY

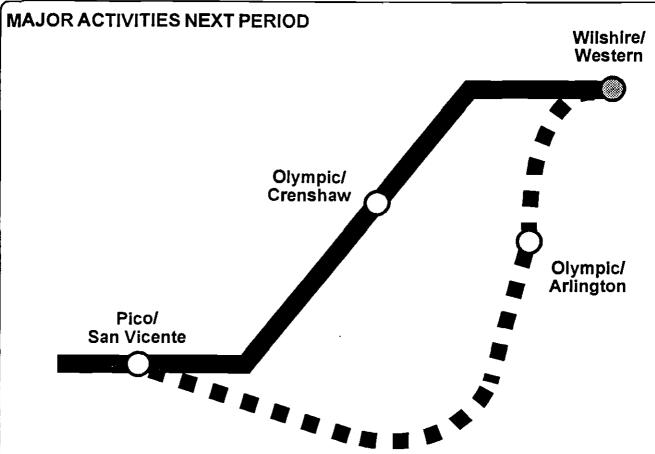




SYSTEMWIDE ACTIVITIES

- Enviro-Rail completed and submitted their final report documenting the field testing conducted in the course of the Engineering Feasibility Study
- MTA provided the Board a report containing cost and schedule estimates for each of the alignment/configuration alternatives developed in the study.
- MTA continued the procurement process of an environmental consultant to prepare an SEIS/SEIR incorporating the Wilton/Arlington alignment alternatives.





SYSTEMWIDE ACTIVITIES

- EMC will initiate a short study to develop feasible bus-interface site plans for the Pico/San Vicente station options along Venice Boulevard. This will provide the necessary traffic circulation/access information that will be needed to do the traffic and air quality analysis in the SEIS/SEIR.
- MTA will complete procurement of an environmental consultant to prepare an SEIS/SEIR incorporating the Wilton/Arlington alignment alternatives.



BUDGET		
Original Budget	Amount (In \$ mil) 490.7	Change from Last Month (In \$ mil) None
Approved Budget	490.7	None
Current Forecast	TBD	TBD
Expenditures	12.6	0.1
OTHER LOCALLY FUNDED ACTIVITIES Change from		
Original Budget	Amount (In \$ mil) 0.0	Last Month (In \$ mil) 0.0
Approved Budget	0.0	0.0
Current Forecast	0.0	0.0

BUDGET ANALYSIS

 Budget and Forecast values are subject to outcome of alignment alternative selected.

None at this time.

SCHEDULE

Expenditures

Current ROD	7/16/99	Change from <u>Last Month</u> None
Design Progress	0%	None
Construction Progress	0%	None
Critical Path Float	N/A	None

0.0

0.0

SCHEDULE ANALYSIS

 An SEIS/SEIR will be prepared beginning in December 1996, leading to an FTA Record of Decision, scheduled for March 1998, and the subsequent resumption of final design.

CONSTRUCTION SAFETY

No activity for this period.



AREAS OF CONCERN

NEW

None

ONGOING

Item

Mid-City Master Schedule (initiated 8/95)

Concern/Impact

The Draft SEIS/SEIR when completed will define the project alternatives. The MTA Board will be able to make a decision on the preferred alternative for the Final SEIS/SEIR. The overall schedule for final design and construction is on hold pending the MTA Board determination of the preferred alternative. The impact to R.O.D. cannot be finalized until the preferred alternative is selected.

Status/Action

Administrative Draft SEIS/SEIR document preparation for two alternatives was put on hold while a third alternative (Wilton/Arlington) was explored. MTA is now proceeding to procure a consultant to complete an SEIS/SEIR which incorporates Wilton/Arlington alignment alternatives. See SD-1 for discussion.

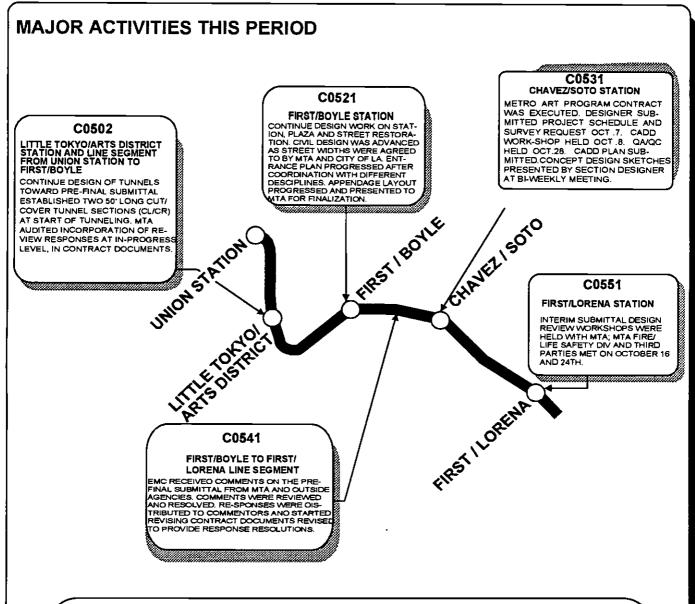
RESOLVED

None

METRO RED LINE SEGMENT 3 EAST SIDE EXTENSION

EXECUTIVE SUMMARY





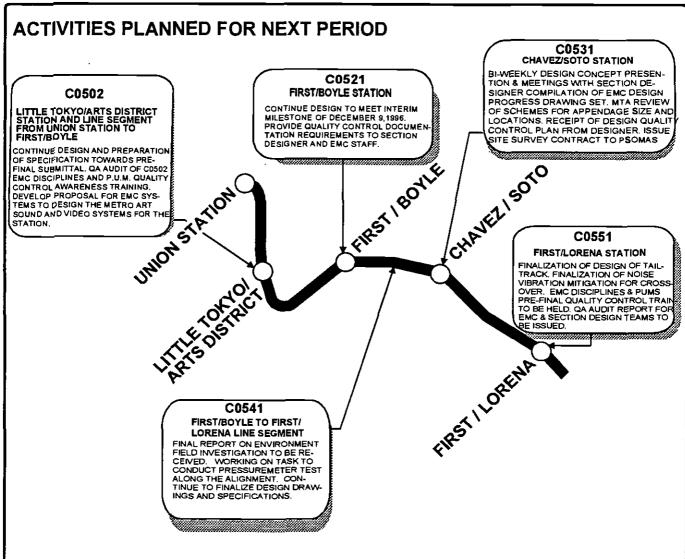
SYSTEMWIDE ACTIVITIES

CONTRACT C0538, PHASE I DEMOLITION, PRE-FINAL DESIGN SUBMITTAL WAS ISSUED ON OCTOBER 7. CONTRACT P1614, DIRECT FIXATION RAIL FASTENERS, INTERIM SUBMITTAL WAS SUBMITTED OCTOBER 25. MTA BOARD APPROVED \$6.3M FOR EMC TO CONTINUE FINAL DESIGN SERVICES. TWENTY PARCELS ACQUISITION DATES CONTINUE SLIPPING BECAUSE THEY REQUIRE BOARD APPROVAL OF THE EIR ADDENDUM. TWENTY-FIVE APPRAISALS HAVE BEEN COMPLETED, ONE FOR C0502, THIRTEEN FOR C0521, TEN FOR C0531 AND ONE FOR C0551. RECERTIFIED 30 SUB-SURFACE EASEMENTS FOR C0541, CERTIFIED ONE UTILITY EASEMENT FOR C0551, 49 SUB-SURFACE EASEMENTS FOR C0541, AND 1 TEMPORARY CONSTRUCTION EASEMENT FOR C0531.

METRO RED LINE - Segment 3 East Side Extension

Summary Status Report Period Ending - November 1, 1996





SYSTEMWIDE ACTIVITIES

RECEIVE FROM MTA AMENDMENT #8 FOR CONTINUATION OF FINAL DESIGN SERVICES. SUBMIT CAMERA-READY SUBMITTAL FOR CONTRACT C0538, PHASE II DEMOLITION. SUBMIT INTERIM SUBMITTAL FOR CONTRACT C2610, TRACKWORK INSTALLATION. MTA REAL ESTATE IS FORMALIZING THE PROPERTY ACQUISITION SCHEDULE. EMC TO RECERTIFY 20 SUB-EASEMENTS AT C0502, AND 29 SUB-EASEMENTS AT C0541.



BUDGET

	Amount (In Millions)	Change from Last Month (In Millions)
Original Budget	979.6	None
Approved Budget	979.6	None
Current Forecast	1,010	-21

OTHER LOCALLY FUNDED ACTIVITIES

	Amount (In Millions)	Change from Last Month (In Millions)
Original Budget	0	None
Approved Budget	0	None
Current Forecast	3.1	None

BUDGET ANALYSIS

- In October MTA Board approved an additional \$6.3M
 AFE to continue Final Design Services.
- In September, the project forecast was increased by \$36.2M reflecting the costs of the 2 Pass Tunnel Liner and the Steel Tunnel Liner at the Coyote Pass Escarpment. In October Trend-066 was incorporated reflecting the new design approach of the "One-Passwith-Option" Liner which reduced the project forecast by \$21M for a revised Project Forecast to \$1,010M.
- EMC and MTA are continuing efforts to identify, analyze and implement additional cost mitigation measures.

CONTRACT CHANGES

No activity for this period.

CONTRACT CHANGE ANALYSIS

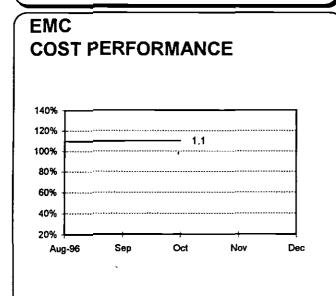
• No activity for this period.



SCHEDULE		
		ange from st <u>Month</u>
Current R.O.D.	Nov. 2002	None
Final Design progress	43.9%	5.2%
Construct. Progress	N/A	N/A
Critical Path Float	-358	None

SCHEDULE ANALYSIS

- During the month of October, the forecast R.O.D. remains at November 3, 2003. The forecast Revenue Operation Date is 358 calendar days (256 working days) behind the FFGA scheduled R.O.D. of November 2002.
- Complete recovery of the full 358 days presently seems unlikely until substantially more detail is incorporated into the schedule to precisely define the critical activity relationships and refine the construction logic.
- Schedule mitigation measures currently being evaluated for consideration by the CM include:
 - -Construction/design activity resequencing
 - -Simplified contractor interfaces
 - -Possible second tunnel concreting crew
 - -Possible second fiber optics crew
- The final design schedule has been accepted by MTA as a baseline. The project schedule, which incorporates this baseline design schedule, has been completed by the EMC and is expected to be submitted to the MTA for reviews and approval as a baseline by the first week in November.
- MTA has begun discussion with Fluor Daniel to review, expand and maintain the project schedule.
 Plans are for FDI to begin this work in December 1996.



EMC COST PERFORMANCE ANALYSIS

The EMC Cost Performance Index for the month of October is 1.1 Final Design progress is 43.9%



AREAS OF CONCERN

ONGONG

Item [Initiated September 1996]

Increased Project Cost Forecasts.

Concern/Impact

The added costs of the tunnel boring machines and tunnel lining technologies increased the project forecast to \$46.5 million over the current budget. Further potential cost impacts foreseen at this time but still being quantified include commercial building protection, environmental mitigation along the tunnel alignment, increased real estate costs due to additional parcel acquisition and changes to MTA's Risk Management program.

Status/Action

This month a cost forecast reduction of \$21M has been identified, resulting from cost-driven changes to the tunnel lining technology.

MTA and EMC are developing other mitigation measures to potentially offset the remainder of these increases. Cost reduction results from these efforts should begin to appear during November.

ONGOING

Item [Initiated September 1996]

EIS/EIR Addendum Approval Process

Concern/Impact

Twenty full take property acquisitions cannot be authorized by the MTA Board until the EIS/EIR Addendum has been approved. Previous reports have indicated a potential completion of this process in December 1996. It now appears that June 1997 is more realistic. This delay may impact the critical path and currently forecast R.O.D. of November 2003, and could also result in additional cost increases.

Status/Action

The earliest date foreseen for approving the EIS/EIR Addendum is June 1997. MTA is currently reviewing the approval process to mitigate this potential schedule delay.



AREAS OF CONCERN (Continued)

ONGOING

Item [Initiated September 1996]

Increased negative float to the Project Schedule.

Concern/Impact

The project schedule now stands at 358 calendar days (256 working days) of negative float behind the FFGA original ROD of November 2002. The new forecast ROD is November 2003.

Status/Action

Although the additional logic detail has increased the project's negative float, several schedule mitigation measures being considered have the potential to mitigate some of the negative float. MTA and its project management consultant, FDI, will incorporate more detail within the project schedule and refine the construction sequences and logic to potentially mitigate some of the negative float.



AREAS OF CONCERN (Continued)

ONGOING

Item [Initiated July 1996]

Nine parcels needed by the C0541Contractor at the C0521 site are behind schedule.

Concern/Impact

Per the latest MTA acquisition schedule, eight full take parcels for contract C0521 will impact the project schedule by an average of 98 working days.

Status/Action

MTA Real Estate and Environmental Departments are formalizing the property acquisition/ environmental schedules for all full take parcels that require demolition. Results of this exercise are expected to be available in **N**ovember.

ONGOING

Item [Initiated February 1996]

Identification of 14 (full-take) additional property acquisitions for Contract C0551 which impact the C0558 Demolition contract.

Concern/Impact

Per the latest MTA Acquisition Schedule, Demolition contract C0558 shows eight parcels being turned over two days after close of environmental mitigation and two parcels delayed by 43 working days. This does not impact the overall project schedule but could delay important demolition work.

Status/Action

Project Schedule logic has been further revised and refined in regards to the C0558 Contract and has resulted in NTP date slipping to April 30, 1997.



AREAS OF CONCERN (Continued)

RESOLVED

Item [Initiated February 1996]

Revised Baseline documents including scope of services and schedule.

Concern/Impact

Due to changes in work scope that have been incorporated into the work in progress, the previous design status baseline is no longer valid. The baseline is used as the basis for measuring design progress and performance measurement and without one, accurate performance measurement is unable to be performed and reported.

Status/Action

PIP scope of services and corresponding cost negotiations were finalized with EMC in August. The Final Design schedule was formally approved by the MTA October 1, 1996. All design and performance measurement documents, including the Final Design schedule, have now been baselined.

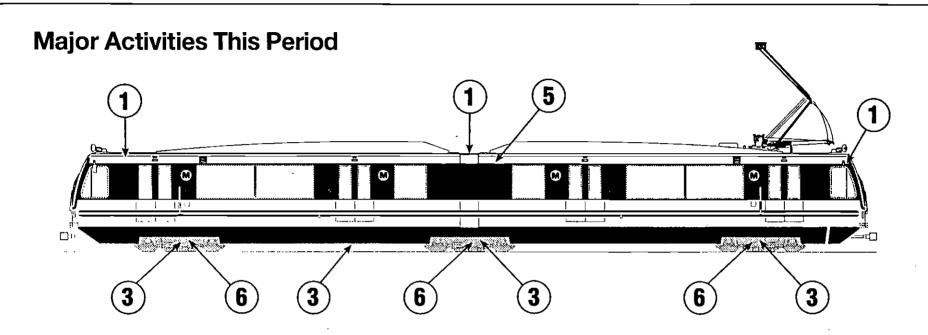
VEHICLE ACQUISITION PROJECT

EXECUTIVE SUMMARY

L.A. Light Rail Vehicle

Summary Status Report Period Ending - November 1, 1996

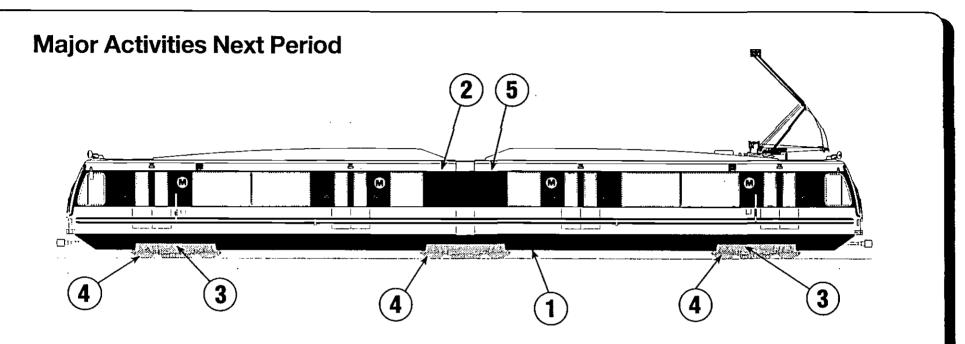




- 1. Carshell #2 successfully passed structural Compression/Loading/Diagonal Jacking Tests in Carson.
- 2. Car #1 completed most (80%) Phase I activities (Water Test, window installation, etc.) and is now into Phase II activities (installation of walls, ceiling, floor, etc.) in Sacramento.
- 3. Completed First Article Inspection of the Auxiliary Power Supply, Center Truck and Power Truck Bolster.
- 4. Participated in a second Green Line Team Partnering meeting concerning the Design Conformance Testing Schedule.
- 5. Met with STS and V-H (communication systems supplier) management to review project concerns.
- 6. Started Dynamometer Test of the brake system.

L.A. Light Rail Vehicle

Summary Status Report Period Ending - November 1, 1996



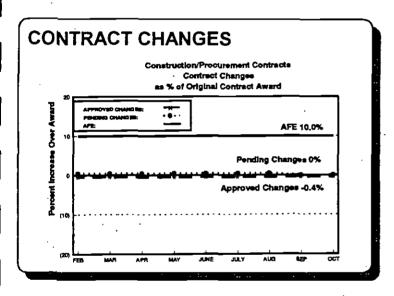
- 1. Participate in pre-FAI of the battery and battery box.
- 2. Participate in EMI (Electro Magnetic Interference) detector Design Conformance Test.
- 3. Complete friction brake support arm 2,000,000 Life Cycle Test on Power Truck.
- 4. Complete Dynamometer Test of the brake system.
- 5. Participate in communication equipment pre-FAI/FAI Tests.
- 6. Participate in Vehicle Delivery Logistic meeting and provide MTA's input to STS.



Amount L	hange from ast Month n \$ mil) -0-
257.6	-0-
257.6	-0-
201.4	-0-
78.0	0.1
	201.4

BUDGET ANALYSIS

- Car reduction effected 9/08/95 which will reduce the contract value from \$215 million to approximately \$170 million after termination liability is negotiated (2-4 months from now).
- The current forecast includes the reduction of both procurement contract value and other project costs.



CONTRACT CHANGE ANALYSIS

The figures for October 1996 are as follows:

Approved Changes(0.4%)
Pending Changes 0%
AFE 10%

SCHEDULE Change from Last Month Schedule Car Delivery 1st Car February 1998 -20 Days 52nd Car June 1999 N/C N/C **Design Progress** 90-95% complete Fabrication Progress 25-30% complete N/C **Critical Path** N/C Carshell assembly Delay (1st Car) -16 months -20 Days **Data Date** October 1, 1996

SCHEDULE ANALYSIS

The Contractor's last forecast schedule reflected a total of 16 months delay in 1st car deliveries. Subsystems with potential impact on delivery are air conditioning, doors and communications equipment. Carshell assembly is still on the critical path. Acceleration of the delivery schedule for the first several carshells is unlikely, however, the delivery schedule is projected to improve for later units.

In recent schedules, STS assumed that the MTA can accept cars at a higher rate than specified (2 cars per month).



AREAS OF CONCERN

ONGOING

Item (Date Initiated September 1996)

Lack of Progress in the Design of Vehicle Communications

Concern/Impact

Siemens selected Vale Harmon (VH) of Montreal to design and build the vehicle communications systems. To date, two areas of concern exist:

- VH is consistently late with design deliverables. Because their deliverables are on the critical path, this may impact the delivery of cars.
- VH has not always demonstrated a comprehensive understanding of the P2000 contract technical requirements.

Status/Action

MTA met with STS and Vale Harmon, the Vehicle Communications System Supplier, and their President, Steve Dobrin. Overall, the meeting was informative and productive. VH acknowledged that they were remiss in the past, partly due to lack of attention to the Standard Car Program at the Executive Level, and partly due to under staffing of the program. They proposed a remedial plan which will increase staff, and provides for more executive oversight. VH believes that their increased diligence will result in an acceptable delivery schedule and improve the quality of their products.

Pre-FAI and FAI are scheduled for November and December, respectively.

Item (Date Initiated September 1996)

Lack of Progress in the Development of Manuals and Training

Concern/Impact

TransEd (TEI), Siemens' DBE Subcontractor for the User Education portion of the Contract, has evidenced a lack of progress in both the development of Repair and Parts Manuals, and in the Vehicle Training Program.

Status/Action

TransEd has subcontracted Repair and Parts Manuals, the Integrated Schematics and Narrative, to MRA. The MTA is satisfied with MRA's work; however, progress has slowed due to the fact that MRA has not been paid by TEI. TEI maintains that they have not paid MRA because their work was unsatisfactory, but this is a questionable argument, in that the work to date appears satisfactory to MTA.

The Training Program, which is TEI's responsibility, is behind schedule. STS noted that training deliverables submitted to date are incomplete and substandard, and STS will not submit them to the MTA for review.

STS issued an ultimatum to TEI to abide by the contract or they will take corrective action. A number of important STS Contract Milestone Payments are dependent on the submittal of User Education deliverables.



AREAS OF CONCERN (CON'T)

Item (Date Initiated June 1996)

Vehicle Weight

Concern/Impact

Vehicle Weight Report No. 11 indicates a margin of approximately 1,300 pounds under the specified weight. Although this news is encouraging, it represents less than a 1% margin.

Status/Action

Vehicle Weight Report No. 11 includes the actual carshell weight, and the weight of several on board systems measured during FAI. The vehicle assembly process tends to add additional weight and continued vigilance is necessary.

Item (Date Initiated March 1996)

Fatigue Test of Power Truck

Concern/Impact

The Duewag power truck failed fatigue testing for a second time. In late June, at approximately 790,000 cycles into the 2,000,000 cycle test, cracks developed in both of the friction brake support arms for the second time. Although not identical to the previous failures, these failures were in the same "general" location, and dictate a re-design of the structure.

Status/Action

Duewag received three new friction brake support arm castings (new design) for testing. The revised testing schedule is as follows:

Static Test:

18NOV96

Commence Fatique Test:

19NOV96

Complete Fatigue Test:

08DEC96

LTK will witness each of the above tests.



AREAS OF CONCERN (CON'T)

Item (Date Initiated February 1996)

Schedule Slippage

Concern/Impact

The October delivery schedule indicates a delay of 16 months for the first car with delivery of the last car approximately 7 months late.

Status/Action

No significant change.

Item (Date Initiated November 1995)

Carborne Signal Equipment for 16 Standard Cars

Concern/Impact

The current plan calls for 16 LA Standard Cars to be assigned to the Metro Blue Line (LA→Long Beach Branch). The Standard Cars require on-board signal equipment compatible with the Blue Line wayside before they can enter revenue service. STS was requested to provide a proposal for the supply of this equipment.

Status/Action

STS submitted an ROM Cost to outfit 16 cars (plus 2 spares, for a total of 18 units) with a carborne ATC package capable of operation on the Metro Blue Line. No schedule was submitted with this proposal, and much remains to be done. For example, it must be determined if STS has considered all the costs involved, such as revising the vehicle antenna network, and rack and wiring interfaces, etc. Additionally, specifications and contract documents must be prepared, and the change order process must commence. MTA requested additional information on the ROM Cost for further consideration.



AREAS OF CONCERN (CON'T)

Item (Date Initiated July 1995)

Cancellation of 22 Standard Cars

Concern/Impact

STS requested \$10 million in damages from the cancellation of 22 cars. This claim must be validated before payment can be made.

Status/Action

Back-up data from STS is under evaluation.

Item (Date Initiated March 1995)

HVAC Design

Concern/Impact

Sutrak completed a Prototype Unit. The Prototype Unit was physically inspected, however, the first systems test has been postponed by Sutrak.

Status/Action

STS revised their test schedule to include HVAC activities. The revised testing schedule is as follows:

HVAC Design Conformance Test/Phase I:

30OCT96→08NOV96

HVAC Design Conformance Test/Phase II:

11DEC96→16DEC96

HVAC First Article Inspection/Lamar/CO:

16DEC96

"Phase I" Design Conformance Testing of the unit began on 31OCT96 at ETL Labs in Cortland, NY. Unfortunately, a quality problem with the Receiver Tank precluded much useful testing to date. Reliability of the Sutrack may ultimately become a program issue.