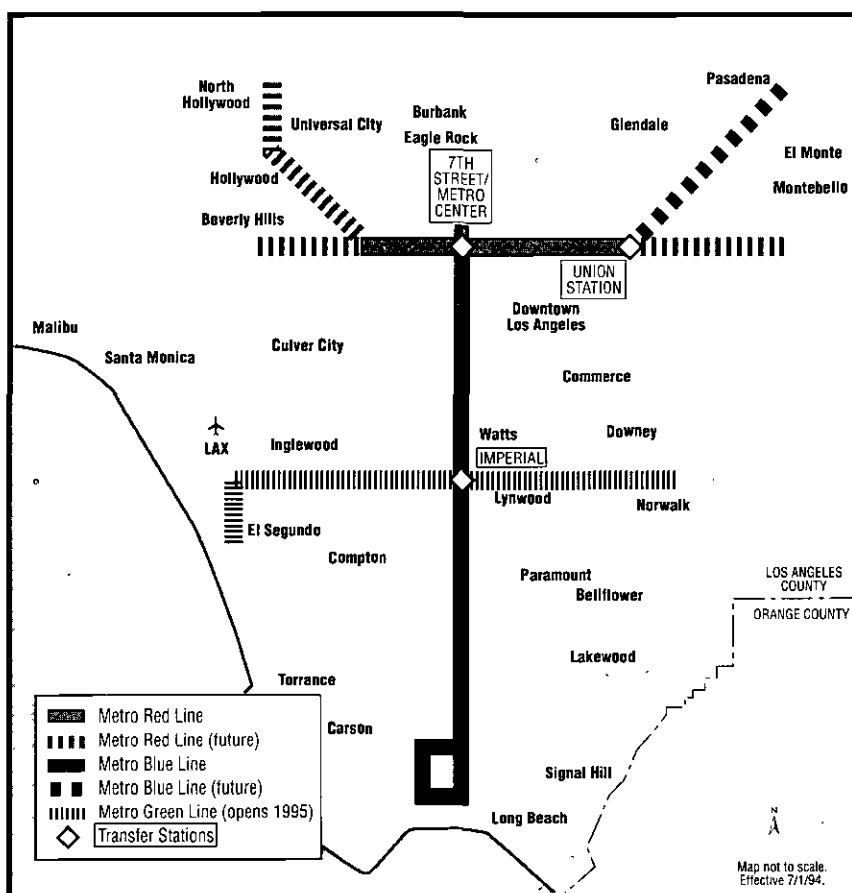


# MTA METRO CONSTRUCTION



## Executive Report Rail Program Status



# **RAIL PROGRAM STATUS SUMMARY**

**THE LOS ANGELES COUNTY  
METROPOLITAN TRANSPORTATION AUTHORITY  
RAIL CONSTRUCTION DIVISION**

**AUGUST 1995**

# **RAIL PROGRAM SUMMARY**

## RAIL PROGRAM STATUS SUMMARY

<b>Metro Pasadena Blue Line</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	841,000	Final Design	Actual: 78.9%
Expended to Date	134,374*		
Current Budget	841,000		
<b>Schedule Status:</b>		Construction	Actual: 3%
Revenue Operations Date:			
Original	November 1997		
Revised	June 2002		
<b>Metro Green Line (Budget and Forecast excludes North Coast Segment)</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	671,000	Design	Actual: 100%
Expended to Date	620,972*		
Current Budget	717,802		
<b>Schedule Status</b>		Construction	Actual: 98%
Revenue Operations Date:			
Original	October 1994		
Forecast	May 1995		
<b>Metro Red Line Segment 1</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	1,249,900	Design	Actual: 100%
Expended to Date	1,396,372*		
Current Budget	1,450,019		
<b>Schedule Status</b>		Construction	Actual: 100%
Revenue Operations Date:			
Original	April 1992		
Actual	January 1993		
<b>Metro Red Line Segment 2</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	1,446,432	Design	Actual: 99.1%
Expended to Date	986,242*		
Current Budget	1,517,657		
<b>Schedule Status: Revenue Operations Dates:</b>		Construction	Actual: 62%
Wilshire	Vermont/Hlywd		
Original Jul '96	Sep '98		
Forecast May '96	Mar '99		
<b>Metro Red Line Segment 3 - North Hollywood Extension</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	1,310,822	Design	Actual: 90.8%
Expended to Date	235,618*		
Current Budget	1,313,848		
<b>Schedule Status</b>		Construction	Actual: 10.6%
Revenue Operations Date:			
Original May 2000			
Forecast September 2000			

\*Expenditure data through July 1995

## RAIL PROGRAM STATUS SUMMARY

Metro Red Line Segment 3 - Mid-City Extension			
Cost Status (\$000)		Project Progress	
Original Budget	490,663	Suspended for Reassessment	
Expended to Date	10,058*	Design	
Current Budget	490,663	Actual:	31%
Schedule Status		Construction	
Revenue Operations Date:		Actual:	0%
Original	TBD		
Forecast	TBD		

Metro Red Line Segment 3 - East Side Extension			
Cost Status (\$000)		Project Progress	
Original Budget	979,601	Final Design	
Expended to Date	11,810*	Actual:	2%
Current Budget	979,601	Construction	
Schedule Status		Actual:	0%
Revenue Operations Date:			
Original	November 2002		
Forecast	July 2003		

Vehicle Acquisition Project			
Cost Status (\$000)		Project Progress	
Original Budget	257,597	Design	
Expended to Date	57,967*	Actual:	6%**
Current Budget	257,597	Manufactured	
Schedule Status:		Actual:	6%**
Delivery of Final Cars:			
Original	November 1997	** Based on Milestone Payments	
Forecast	November 1999		

\* Expenditure data through July 1995

METROPOLITAN TRANSPORTATION AUTHORITY - CONSTRUCTION DIVISION  
PROJECT COST REPORT - TOTAL RAIL PROGRAM  
SUMMARY BY COST ELEMENT

STATUS DATE: 08/25/95

(IN THOUSANDS)

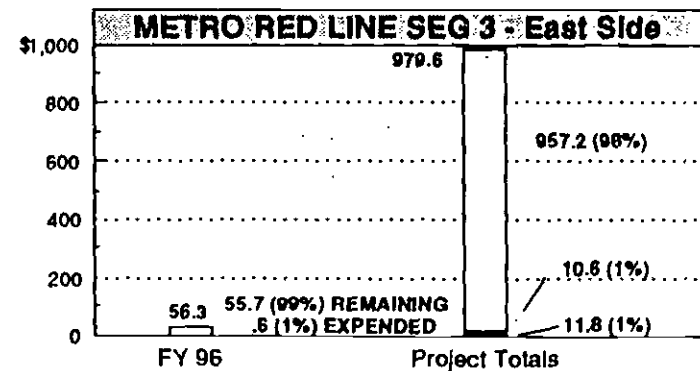
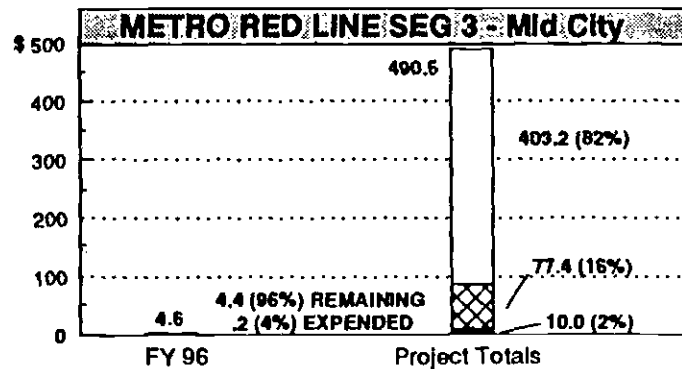
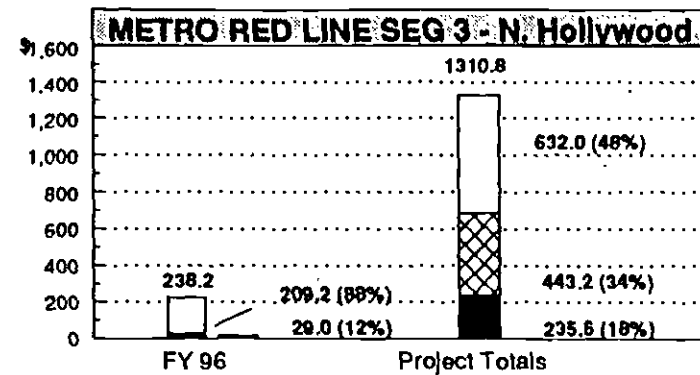
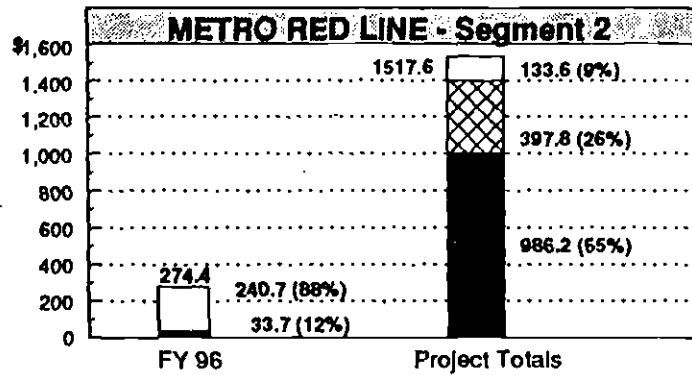
PROJECT: TOTAL RAIL PROGRAM

ELEMENT DESCRIPTION	BUDGET		COMMITMENTS		INCURRED COST		EXPENDITURES		CURRENT FORECAST (9)	VARIANCE (9-2) (10)
	ORIGINAL (1)	CURRENT (2)	PERIOD (3)	TO DATE (4)	PERIOD (5)	TO DATE (6)	PERIOD (7)	TO DATE (8)		
T CONSTRUCTION	5,153,508	5,242,908	19,392	3,507,129	22,268	2,525,149	17,141	2,459,678	5,063,110	(179,798)
S PROFESSIONAL SERVICES	1,685,530	1,985,475	9,942	1,442,328	8,428	1,267,166	8,030	1,270,536	1,980,244	(5,231)
R REAL ESTATE	480,002	549,060	2,022	383,392	1,759	384,326	1,771	384,265	501,331	(47,729)
F UTILITY/AGENCY FORCE ACCOUNTS	146,280	146,937	2,725	125,960	1,553	104,732	1,553	104,212	140,546	(6,390)
D SPECIAL PROGRAMS	11,044	20,864	(68)	5,647	0	4,537	9	4,573	15,867	(4,997)
C CONTINGENCY	560,118	448,456	0	1	1	2	1	1	353,951	(94,504)
A PROJECT REVENUE	(18,115)	(36,585)	0	(1,538)	(2)	(7,144)	(5)	(8,610)	(31,874)	4,711
PROJECT GRAND TOTAL	8,018,367	8,371,206	34,141	5,463,067	34,009	4,278,769	28,500	4,214,658	8,037,267	(333,939)

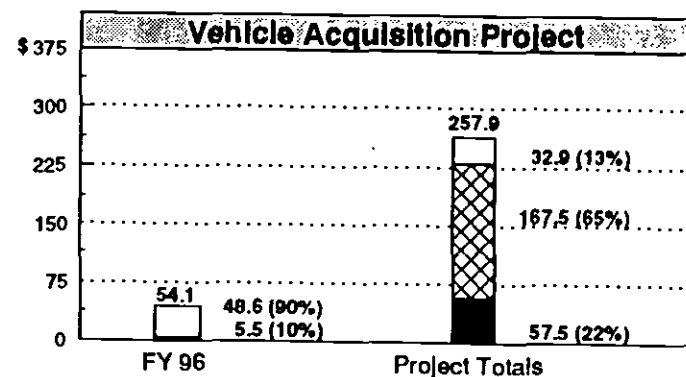
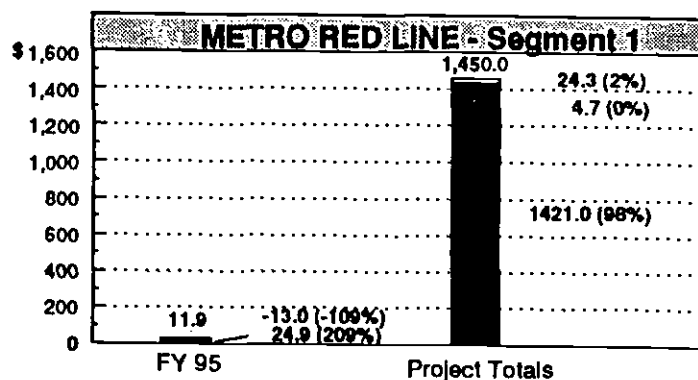
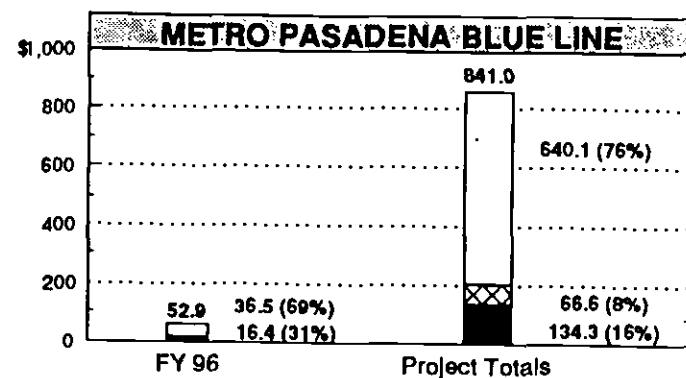
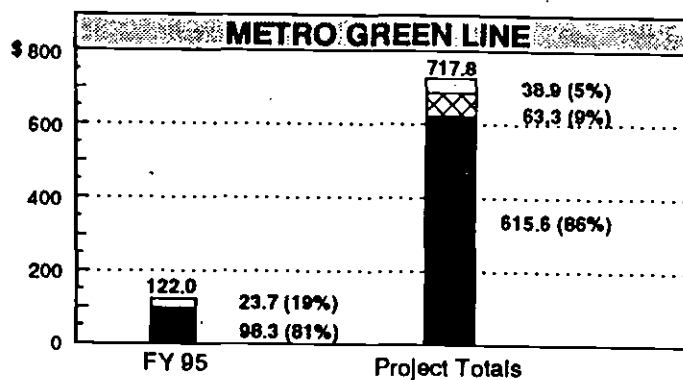
NEW REQUIREMENTS DESCRIPTION	BUDGET		COMMITMENTS		INCURRED COST		EXPENDITURES		CURRENT FORECAST (9)	VARIANCE (9-2) (10)
	ORIGINAL (1)	CURRENT (2)	PERIOD (3)	TO DATE (4)	PERIOD (5)	TO DATE (6)	PERIOD (7)	TO DATE (8)		
T CONSTRUCTION	0	50,876	(1,346)	48,797	(241)	14,296	787	17,704	61,451	10,575
S PROFESSIONAL SERVICES	0	19,635	0	17,821	(52)	9,791	(52)	9,793	19,827	192
R REAL ESTATE	0	0	0	1	0	3	0	3	1	1
F UTILITY/AGENCY FORCE ACCOUNTS	0	1	0	0	0	0	0	0	0	(0)
D SPECIAL PROGRAMS	0	20	0	20	0	21	0	21	20	0
C CONTINGENCY	0	3,720	0	0	0	0	0	0	2,683	(1,037)
A PROJECT REVENUE	0	0	0	0	0	0	0	0	0	0
NEW REQ. SUBTOTAL	0	74,251	(1,346)	66,641	(293)	24,148	737	27,557	83,983	9,731
PROJECT GRAND TOTAL	8,018,367	8,445,457	32,794	5,529,709	33,716	4,302,917	29,237	4,242,215	8,121,250	(324,208)

This report includes total project costs for the Metro Blue Line of \$877,271.

**BUDGET STATUS - August 25, 1995**  
(in \$ Millions)



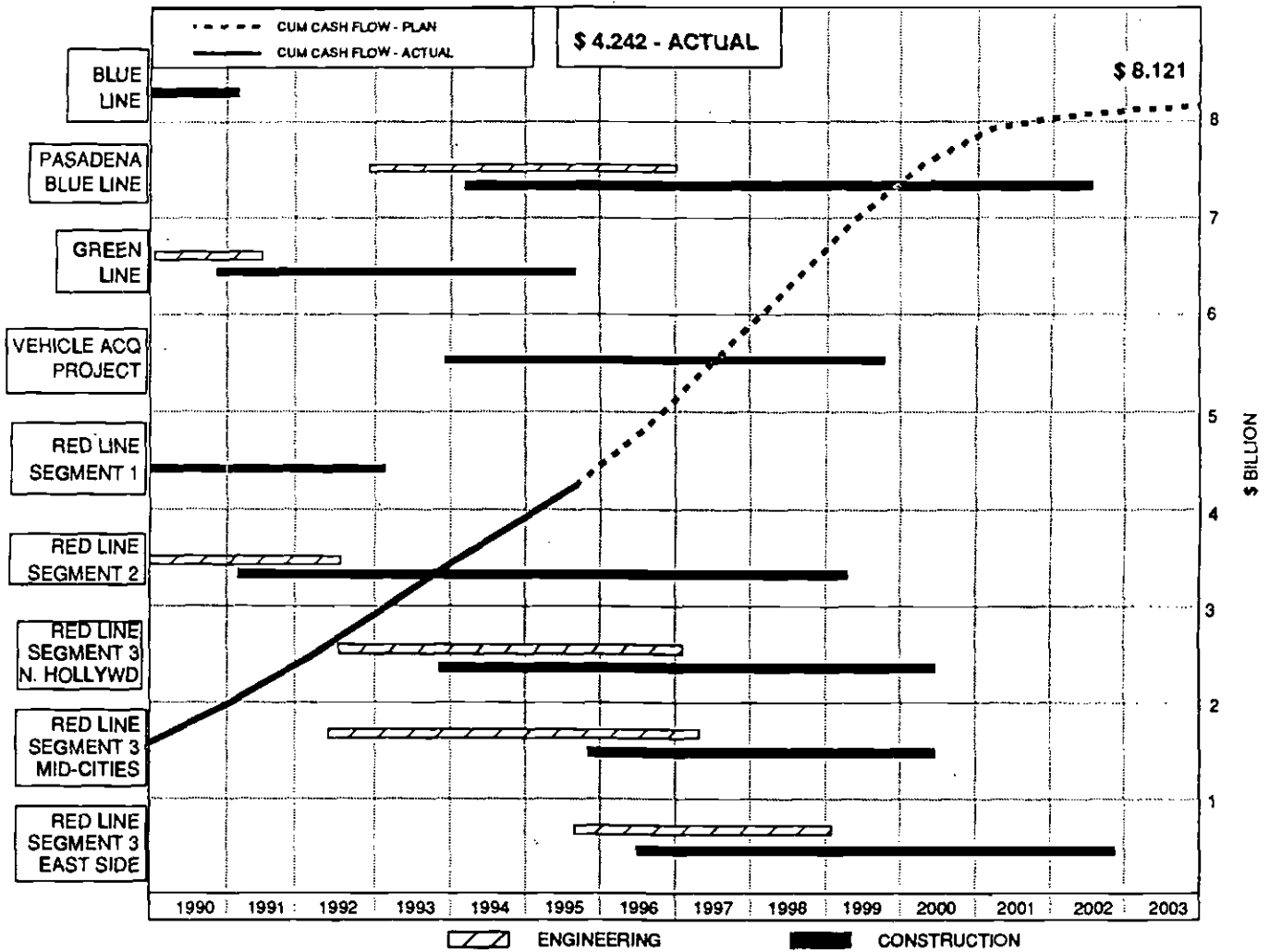
**BUDGET STATUS - August 25, 1995**  
(in \$ Millions)



Actual Spent
  Encumbered
  Remaining Budget



Figure 1 - Rail Construction Plan



METROPOLITAN TRANSPORTATION AUTHORITY  
FUNDING SOURCES

(IN MILLIONS)

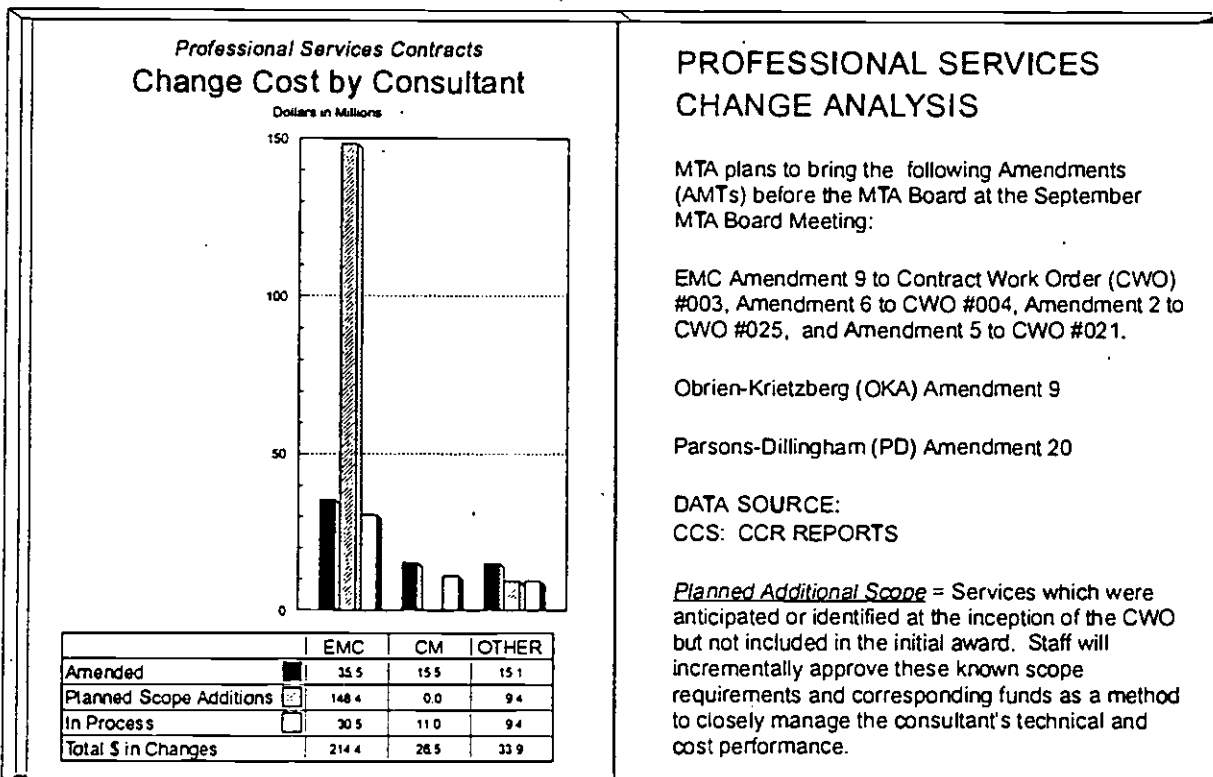
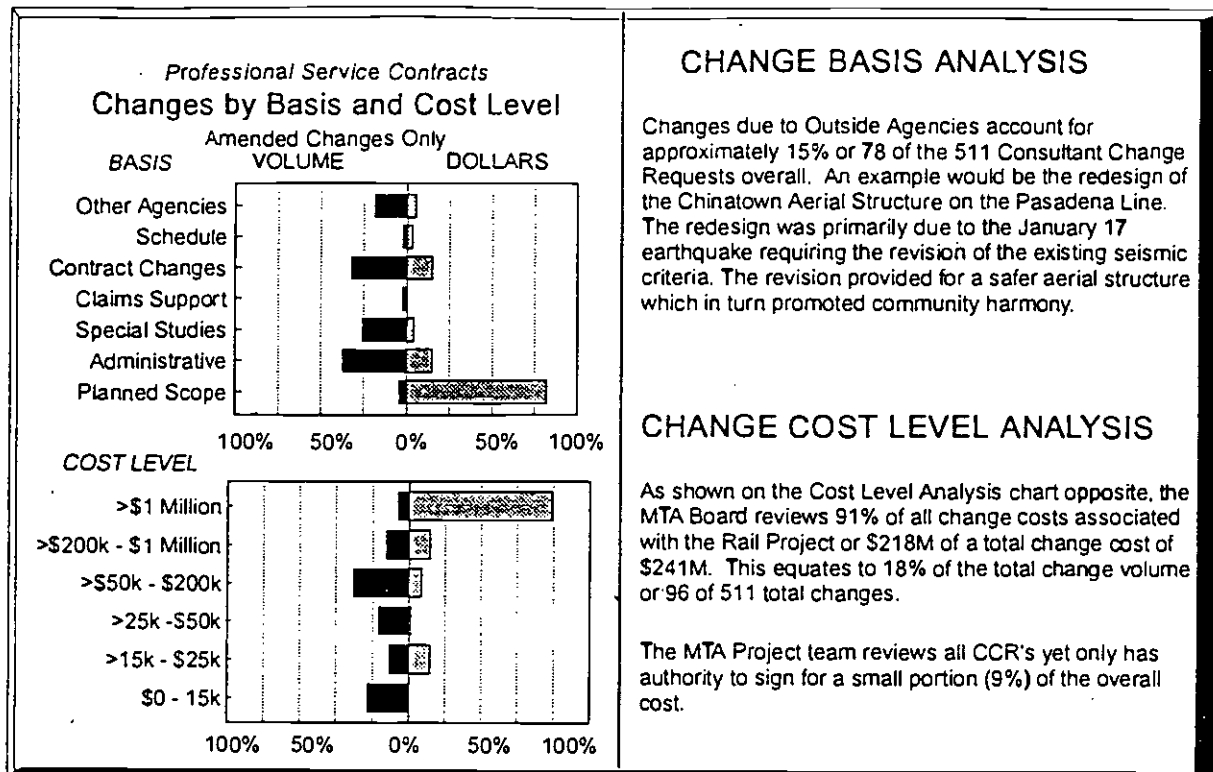
AUGUST 1995

	METRO BLUE LINE*		PASADENA BLUE LINE		METRO GREEN LINE		METRO RED SEG 1**		METRO RED SEG 2		METRO RED LINE SEG 3 - NH		METRO RED LINE SEG 3 - MC		METRO RED LINE SEG 3 - ES		VEHICLE ACQUISITION PROJECT		TOTAL PROGRAM	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
FTA-SECTION 3							805.3	42	667.0	44	681.0	52	242.6	49	492.9	50			2688.8	32
FTA - DTHR																	11.9	5	11.9	0
ISTEA-FED SURFACE TRANSIT PROGRAM)									52.1	3	69.1	5	40.0	8	25.0	3	84.0	33	270.2	3
FED-ISTEA STP/CMAQ (REGIONAL)									2.5	0	39.9	3	40.4	8	86.1	9	6.1	2	175.0	2
FTA-SECTION 9							90.6	8											90.6	1
STATE			337.8	40	108.4	15	210.3	15	133.0	9	45.9	3			15.0	2	33.8	13	882.0	10
STATE TSM MATCH											3.2	0	7.2	1	11.1	1			21.5	0
SB 1995 TRUST FUND											75.0	6							75.0	1
PROPOSITION A	877.2	100			205.1	29	179.5	12	440.3	29									1702.1	20
PROP A/C (TRANSIT ENHANCEMENT)									62.7	4									62.7	1
PROPOSITION C			503.2	60	400.3	56					195.4	15	151.6	31	349.1	36	122.1	47	1721.6	20
PROP C (AMERICAN DISABILITY ACT)					5.99	1			5.9	0									11.9	0
CITY OF LOS ANGELES							34.0	2	96.0	6	190.7	15	9.0	2	0.3	0			330.0	4
BENEFIT ASSESSMENT							130.3	9	58.0	4	13.5	1							201.8	2
COST OVERRUN ACCOUNT							200.1	14											200.1	2
TOTAL	877.2	100	841.0	100	717.8	100	1450.1	100	1517.5	100	1313.7	100	490.7	100	979.5	100	257.7	100	8445.3	100

\* CONSISTS OF LIGHT RAIL LINE (\$847) AND MC-6 WORK (\$30).

\*\* LRT PORTION INCLUDED IN BLUE LINE FORECAST.

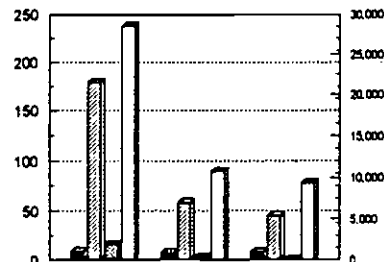
Note: Data reflects current budget.



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### Professional Service Contracts Amendment History

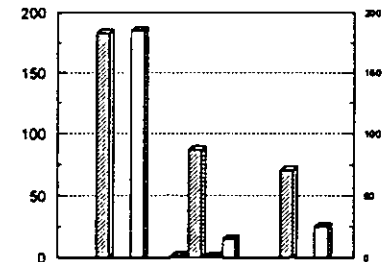
Period to Total Comparison  
Volume \$ In Thousands



	EMC	PD	OTHER
# This Period	9	7	8
# Previous	179	58	45
\$ This Period	1,915	357	56
\$ Previous	28,566	10,728	9,355

### All - Professional Service Contracts Pending Consultant Changes

Period to Total Comparison  
Volume \$ In Millions



	EMC	PD	OTHER
# This Period	0	1	0
# Previous	183	87	71
\$ This Period	0	1	0
\$ Previous	185	15	25

## CONSULTANT CHANGE REQUEST ANALYSIS

18 Advanced Work Authorization's (AWA) were assigned this period with a total not-to-exceed obligation of \$719K.

Amendments approved this period as follows:

Amendment 3 to EMC CWO #027 approved amending 1 CCR at \$933K.

Assigned Not Submitted CCR's dropped from 59 last period to 15 this period a 75% reduction.

Changes due to other agencies are currently being reviewed for potential cost recovery. The cost recovery potential estimate will be provided when available.

18 new changes were submitted this period of which 1 is estimated at over \$200,000:  
R81-E0070-425 - B251 Re-Packaging - CCR will be included in the Look Ahead report as part of the Construction Committee meeting (09/14/95) package.

MTA rejected/cancelled 8 CCR's this period with a cumulative ROM value of \$988K.

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Figure 6 - Cost Performance Relative to Corporate Goals

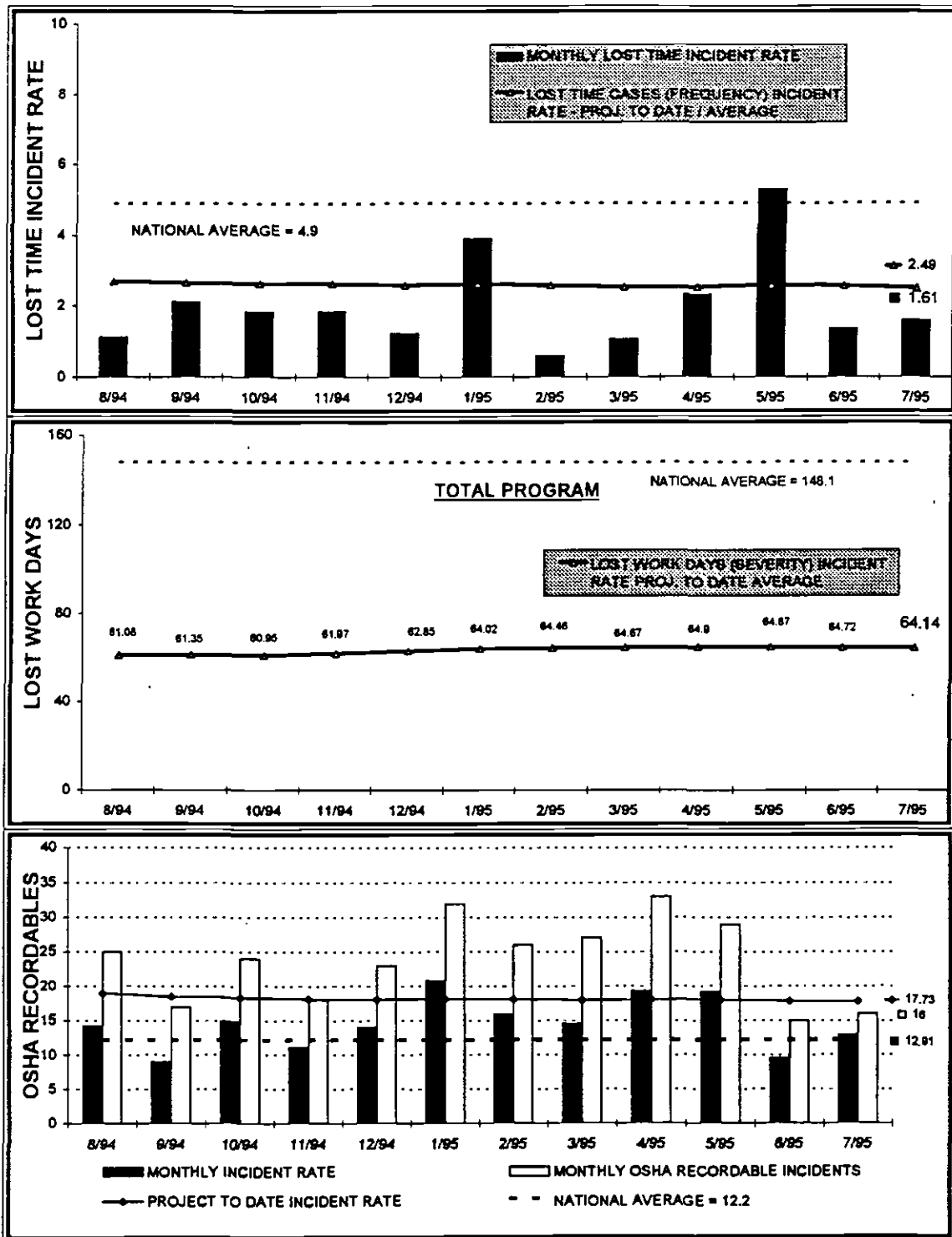
IN THOUSANDS

AUGUST 1995

	METRO BLUE LINE		METRO PASADENA BLUE LINE		METRO GREEN LINE		METRO RED LINE SEGMENT 1		METRO RED LINE SEGMENT 2		METRO RED LINE SEGMENT 3 N1		METRO RED LINE SEGMENT 3 MC		METRO RED LINE SEGMENT 3 ES		VEHICLE ACQUISITION PROJECT		TOTAL PROGRAM		CORP GOAL
	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	
CONSTRUCTION	667,487	74.96%	600,819	60.22%	477,236	66.49%	812,270	56.02%	1,049,336	69.13%	816,545	61.70%	0	N/A	638,957	65.23%	229,830	89.22%	6,282,479	65.06%	
REAL ESTATE	55,592	6.34%	77,721	7.79%	26,047	3.83%	140,000	9.66%	88,982	5.86%	86,418	6.53%	0	N/A	26,570	2.71%	0	0.00%	601,331	6.17%	
PROFESSIONAL SERVICES:																					
ENGINEERING/DES	69,587	7.93%	93,718	9.39%	83,296	11.80%	221,659	15.29%	154,870	10.20%	86,289	6.52%	0	N/A	94,591	9.66%	1,700	0.66%	605,708	6.62%	
CONSTR MGMT.	91,642	10.46%	78,896	7.71%	78,213	10.90%	116,429	8.03%	140,667	9.27%	106,207	8.18%	0	N/A	79,826	8.15%	0	0.00%	691,669	6.62%	
STAFF	17,668	2.01%	61,862	6.20%	24,179	3.37%	96,668	6.59%	63,221	3.51%	57,678	4.36%	0	N/A	36,568	3.73%	5,335	2.07%	342,075	4.21%	4%
OTHER	14,222	1.62%	22,626	2.26%	17,337	2.42%	32,671	2.26%	20,030	1.32%	36,459	2.76%	0	N/A	16,630	1.70%	12,469	4.84%	172,345	2.12%	
SUBTOTAL	193,106	22.01%	244,969	24.56%	203,026	28.28%	468,317	32.16%	568,760	24.30%	266,631	21.81%	0	N/A	227,636	23.24%	19,506	7.67%	2,011,998	24.77%	20%
CONTINGENCY	963	0.11%	74,219	7.44%	12,757	1.78%	31,432	2.17%	11,468	0.76%	131,774	9.96%	0	N/A	86,439	8.82%	8,262	3.21%	367,315	4.40%	
PROJECT REVENUE	(29,877)	-3.41%	(33)	-0.00%	(1,263)	-0.18%		0.00%	(701)	0.00%	0	0.00%	0	N/A	0	0.00%	0	0.00%	(31,873)	-0.39%	
GRAND TOTAL	877,271	100.00%	997,726	100.00%	717,802	100.00%	1,450,019	100.00%	1,517,866	100.00%	1,323,370	100.00%	0	0.00%	979,801	100.00%	257,597	100.00%	8,121,251	100.00%	

\*METRO RED LINE SEGMENT 3 MC FORECAST NOT INCLUDED.

NOTE: Data reflects Current Forecast.

TOTAL METRO  
SAFETY SUMMARYPrepared by:  
MASS TRANSIT GROUP

# **METRO GREEN LINE**

## **EXECUTIVE SUMMARY**

## LEGEND

O	Open. Action still required.
	Completed or Not Applicable

CONTRACT CLOSE OUT STATUS  
METRO GREEN LINE

CONTRACT NUMBER	DESCRIPTION	CLOSE OUT STATUS					COMMENTS	PROJECTED CLOSE-OUT DATE
		CLAIMS/ CHANGE ORDERS	FINAL PROG. PAYMENT	FINAL RELEASE	FINAL ACCEPT. CERTIF.	EQUIP. FINAL DELIV.		
C0170	ADA Elevators	0	0		0			Oct 95
C0400	Main Yard & Shop		0					Oct 95
H1200	TPSS		0	0	0			Oct 95
H1400	OCS		0	0	0			Oct 95
C0095	Fencing/WIDS	0	0	0	0			Oct 95
C0501	Systems Facilities Sitework	0	0	0	0			Oct 95
H0831	SCADA		0	0	0			Oct 95
H0832	CTS	0	0	0	0			Oct 95
H0840	Fare Collection Equipment	0	0	0	0			Oct 95
H1310	Signs & Graphics	0	0	0	0			Oct 95
H0889	Radios	0	0	0	0			Oct 95
C0100	Guideway Construction	0	0	0	0			Oct 95
H0901	PIDS	0	0	0	0			Oct 95
H0900	SSCS	0	0	0	0			Oct 95
P2020	LRV's - 15 cars	0	0	0	0			Nov 95
C0090	Miscellaneous Construction		0	0	0			Nov 95
H1100	ATC	0	0	0	0			Mar 96



# **METRO PASADENA BLUE LINE**

## **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

On August 23, 1995 the MTA Board directed Construction staff to hire a consultant to develop an implementation plan and establish cost of "Turnkey" approach to construction of the Pasadena Blue Line Project. During the week of August, 21, 1995, the process to select said firm was conducted. Staff continued to review the cost reduction items included in the motions made by the Board in July. An update of the review will be presented at the September Construction Committee and Cost Containment, Contracts and Efficiency Committee meetings. Board direction on implementing changes to the budget and scope of the project will be delayed pending completion of Operation Peer Review Panel workshop currently scheduled to be held in September.

Staff continued to negotiate outstanding CCR's and is preparing Amendment No. 5 for CWO 0021 and Amendment No. 2 for CWO 0025.

Because of the suspension of design work, minimal progress was realized during this reporting period. The Final Design percent complete at the end of August stands at 78.9%.

Construction work continues on Contract C6410, Los Angeles River Bridge and Contract C6430, Arroyo Seco Bridge Reconstruction. On C6410, final contract closeout is in process. The current forecast for overall expenditures for C6410 is projected a underrun of the AFE by approximately \$520,000. On C6430, work continues on schedule. Notice to Proceed was issued for Contract C6435, Reconstruction and Retrofit of Steel and Concrete Bridges.

The Project safety records on Lost Work Days and Lost Time Incident Rates remain at zero.

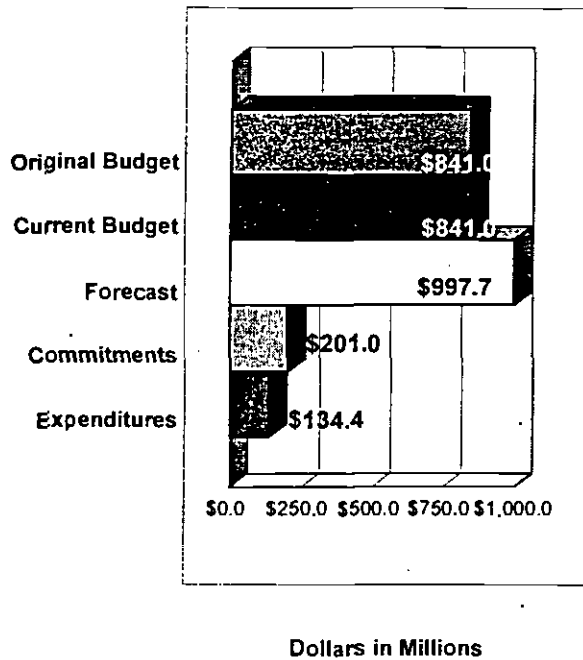
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**FINANCIAL STATUS****Budget/Forecast Variance (x \$1,000)**

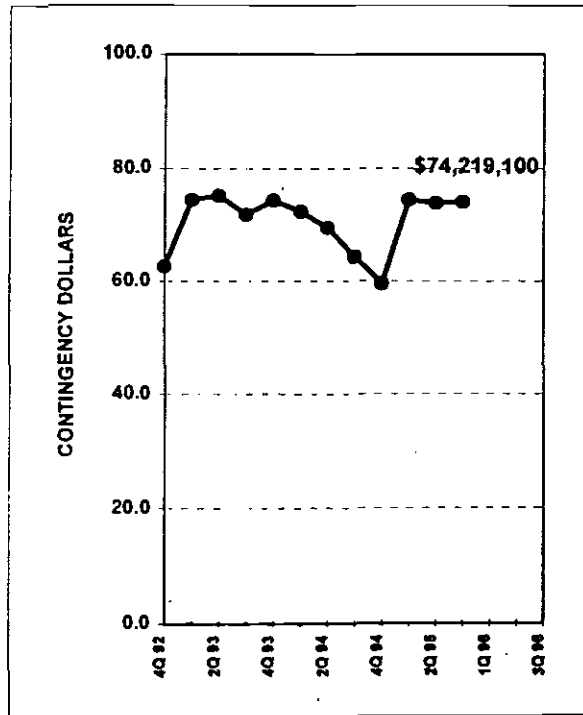
COST ELEMENT	CURRENT BUDGET	CURRENT FORECAST	VARIANCE	AUGUST CHANGE IN FORECAST
CONSTRUCTION	\$475,115.5	\$585,527.2	\$110,411.7	\$0.0
PROFESSIONAL SERVICES	199,213.3	245,000.1	45,786.8	0.0
REAL ESTATE	72,307.5	77,721.1	5,413.6	0.0
UTILITY/FORCE ACCOUNTS	21,997.4	12,925.1	(9,072.3)	0.0
SPECIAL PROGRAMS	4,402.2	2,367.0	(2,035.2)	0.0
CONTINGENCY	67,964.1	74,219.1	6,255.0	0.0
PROJECT REVENUE	0.0	(33.9)	(33.9)	0.0
<b>TOTAL PROJECT</b>	<b>\$841,000.0</b>	<b>\$997,725.7</b>	<b>\$156,725.7</b>	<b>\$0.0</b>
<b>NEW REQUIREMENTS</b>				
CONSTRUCTION				
PROFESSIONAL SERVICES				
REAL ESTATE				
UTILITY/FORCE ACCOUNTS				
SPECIAL PROGRAMS				
CONTINGENCY				
PROJECT REVENUE				
<b>TOTAL NEW REQUIREMENTS</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>GRAND TOTAL</b>	<b>\$841,000.0</b>	<b>\$997,725.7</b>	<b>\$156,725.7</b>	<b>\$0.0</b>

**Budget/Forecast Variance Analysis**

Budget and forecast remain at the same value. No trends were issued during the reporting month.

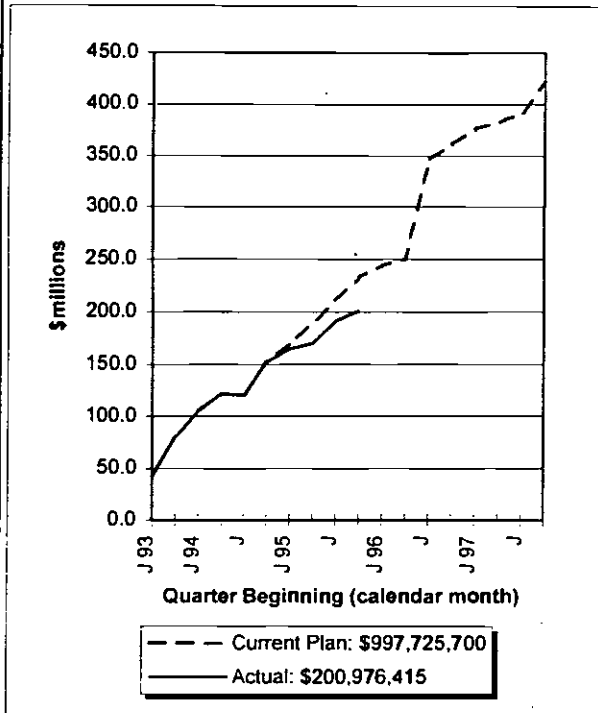
**FINANCIAL STATUS****Budget Status****Budget Status Analysis**

No change in Budget for current reporting period.

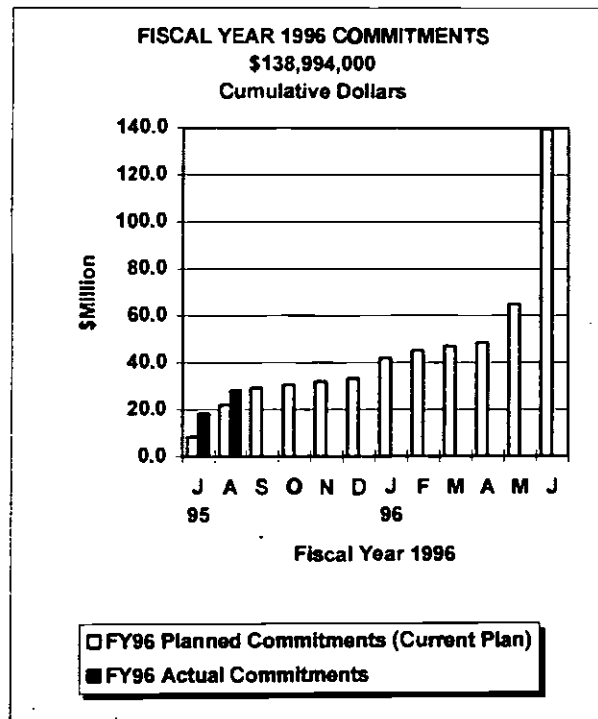
**Contingency Status****Remaining Contingency Analysis**

To date, the Project's contingency stands at \$74,219,100 which includes no change from the July 1995 period. In addition, individual awarded contracts have a total remaining allocated contingency of approximately \$2.1 million.

## FINANCIAL STATUS

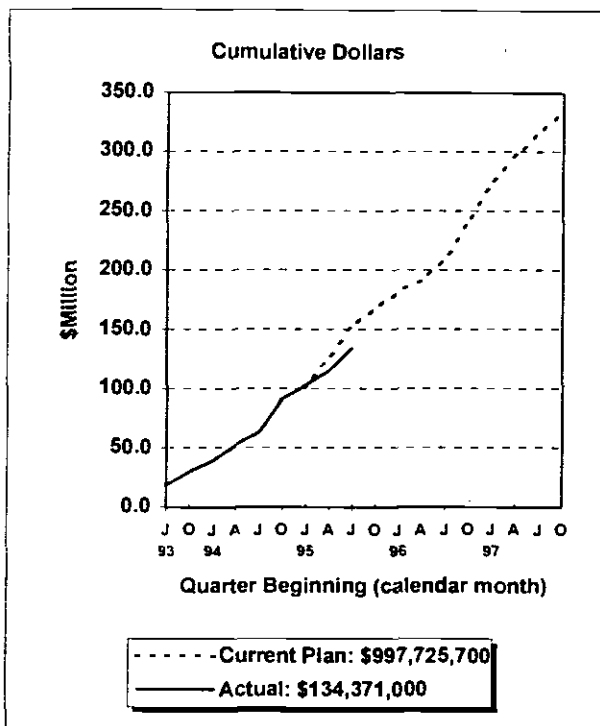
**Project Commitments****Project Commitments Analysis**

Project commitments are \$201.0 million, or 20.1% of the total forecast. The \$9.8 million increase to commitments are primary the costs associated with contracts for C6435 Reconstruct & Retrofit Steel & Concrete Bridges and C6430 Arroyo Seco Bridge.

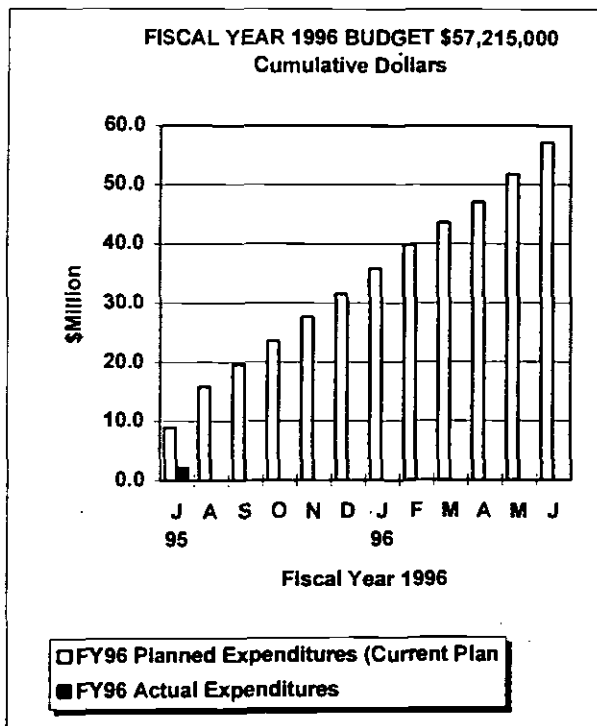
**Fiscal Year Commitments****Fiscal Year Commitments Analysis**

Current plan is based on the assumption that Contracts C6490, C6435, and C6420 will go under construction.

## FINANCIAL STATUS

**Project Cashflow****Project Cashflow Analysis**

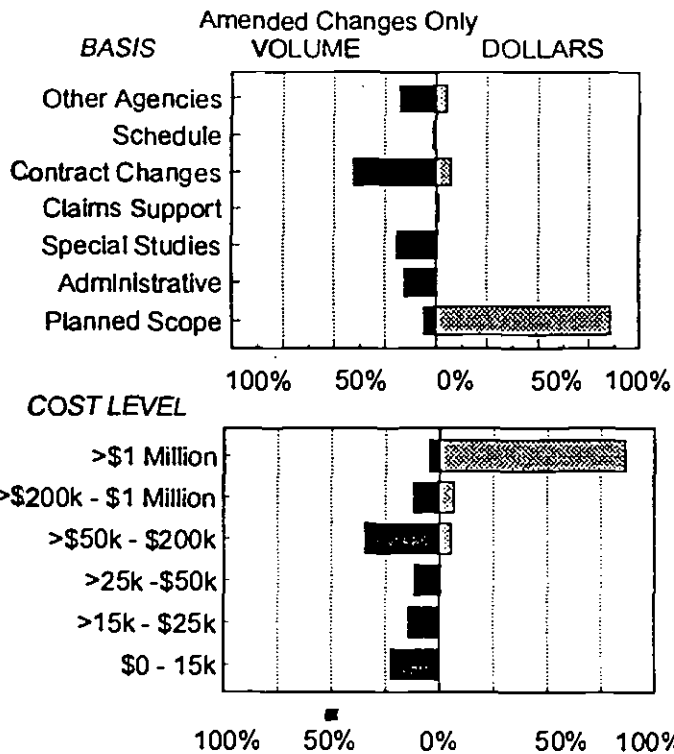
Project expenditures ending July 28, 1995 were 13.5% of total forecast. The expenditure for July 1995 are accounted for mainly by the payment of invoices for the LA and Arroyo Seco Bridges, construction management of MTC, and MTA Administration.

**Fiscal Year Project Cashflow****Fiscal Year Cashflow Analysis**

The underrun is mainly due to delays in awarding the planned construction contracts.

## FINANCIAL STATUS

### Professional Service Contracts - Pasadena Blue Line Changes by Basis and Cost Level



### CHANGE BASIS ANALYSIS

Pasadena Consultant Change Request's (CCR) continue to be mainly due to changes during the design phase of non-awarded construction contracts. These CCR's constitute 40% of the overall change volume, or 34 of the 84 changes overall.

An example would be the redesign of the Chinatown Aerial Structure on the Pasadena Line. The redesign was primarily due to the January 17 earthquake requiring the revision of the existing seismic criteria. The revision provided for a safer aerial structure which in turn promoted community harmony.

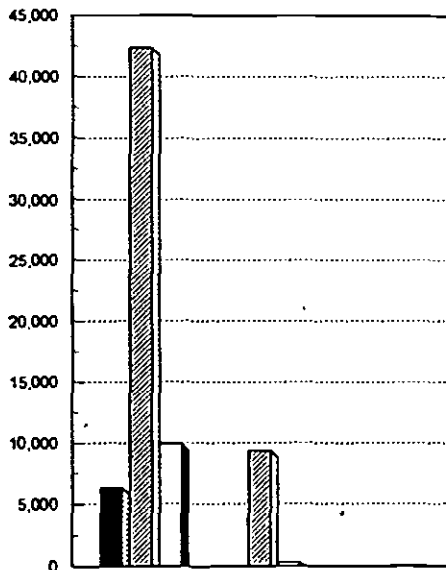
### CHANGE COST LEVEL ANALYSIS

As shown on the Cost Level Analysis chart opposite, the MTA Board reviews 93% of all change costs associated with the Pasadena Blue Line or \$57M of a total change cost of \$61M (including Planned Additional Scope items of \$42M). This equates to 17% of the total change volume, or 14 of 84 total changes.

The MTA Project team reviews all CCR's yet only has authority to sign for a small portion (7%) of the overall cost.

### Professional Services Contracts - Pasadena Blue Line Change Cost by Consultant

Dollars in Thousands



	EMC	CM - PD/MTC	OTHER
Amended	6,330	35	115
Planned Scope Additions	42,364	9,369	0
In Process	9,973	325	45
Total \$ Changes	58,667	9,729	160

### PROFESSIONAL SERVICES CHANGE ANALYSIS

No Amendments approved this period.

MTA plans to submit Amendment 5 to EMC CWO #021 and Amendment 2 to EMC CWO #0025 at the September 17, 1995 MTA Board Meeting.

Amendment 2 to CWO #025 will include a Planned Additional Scope item totaling \$630K. This will add EMC support services for contract C6490.

DATA SOURCE:  
CCS: CCR REPORTS

*Planned Additional Scope* = Services which were anticipated or identified at the inception of the CWO but not included in the initial award. Staff will incrementally approve these known scope requirements and corresponding funds as a method to closely manage the consultant's technical and cost performance.

**SCHEDULE STATUS****Real Estate Status**

	NUMBER OF PARCELS AVAILABLE	NUMBER OF PARCELS AVAILABLE	PARCELS NOT AVAILABLE (ON SCHEDULE)	PARCELS NOT AVAILABLE (BEHIND SCHEDULE)	
				NUMBER	AVG. DAYS BEHIND
THIS MONTH	164	19	141	4	90
LAST MONTH	164	19	141	4	90

**Real Estate Analysis**

Number of parcels acquired is 19.  
Number of parcels to be acquired is 38.

**Contract Closeout Status**

CONTRACT NUMBER	DESCRIPTION	PROJECTED CLOSEOUT DATE
C6410	LA River Bridge	12/31/95

Closeouts Completed

Closeouts in Process

Closeouts Remaining

**Contract Closeout Analysis**



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**AREAS OF CONCERN****Yard Site Location**

- Concern:** A temporary maintenance facility at the Midway Yard has been formally adopted as part of the baseline scope of work. Due to the uncertainty of constructing the Glendale-Burbank LRT Line, the project has experienced cost growth by making the yard a more permanent facility per MTA Operations' requirements.
- Action:** MTA Construction Division and EMC have identified the budget issues related to the maintenance facility. Value engineering was initiated to reduce cost growth.
- Status:** Final design is currently on hold. No status on final design pending an independent review of the Midway Yard to be made by an Operations Peer Panel in mid-September.

**Ratkovich Interface at LAUPT**

- Concern:** Location of the LRT terminus at Union Station and aerial guideway alignment on Vignes Street involves interface with the Ratkovich Villanueva Partnership. The alignment crosses Ratkovich's interests at two locations along the Terminal Annex property.
- Action:** Negotiation of the easement is required by MTA with Ratkovich. Completion of Chinatown Aerial Structure Camera Ready design submittal is on hold pending approval of the EMC CCR 188 by the MTA Board.
-

**AREAS OF CONCERN (cont.)****Ratkovich Interface at LAUPT (cont.)**

**Status:** Meeting was held with Ratkovich and LADOT on November 30, 1994 regarding the street improvements on Vignes Street. A tentative agreement was reached with all parties. Final concept drawings were issued by the MTA. MTA is waiting for written concurrence by LADOT and Ratkovich. Approval of CCR 188 is set for the September Board meeting.

**Real Estate**

**Concern:** The real estate acquisition effort is behind schedule. In-Progress and Final designs include additional parcels to be certified and acquired.

**Action:** The Pasadena Project team has facilitated bi-weekly parcel acquisition schedule meetings with LACMTA and EMC real estate personnel.

**Status:** Appraisals are continuing. Real Estate acquisition availability dates continue to be re-evaluated in lieu of Turnkey contract options which are being considered by the MTA Board.

**EMC Design Cost Amendment**

**Concern:** The final design costs will exceed the current approved Contract Work Order 21.

**Action:** MTA project staff members continue to negotiate the reported scope changes with the EMC.

---

AREAS OF CONCERN (cont.)

EMC Design Cost Amendment (cont.)

Status: Staff continues to negotiate outstanding CCR's. EMC's Amendment 5 covering 11 CCR's is being proposed for approval at the September 1995 MTA Board meeting in the amount of \$1.683 million

The CCR's included in Amendment 5 have been reviewed and negotiated by the MTA staff through the CCRB process.

Del Mar Station

Concerns: The transportation center proposed by the City of Pasadena has major potential impacts on the Del Mar park-and-ride facility, final station design and line segment design for Del Mar to Memorial Park.

Action: MTA Construction Division is continuing discussions with the City of Pasadena on interface with the station and line segment designs and transportation center. A memorandum of understanding will be prepared and executed between MTA and the City of Pasadena.

Status: Final designs are based on the assumptions shown on the In-Progress drawings for C6500, Del Mar Station, for the transportation center. The design enhancements of the City's sponsored workshop have been estimated by MTA for design and construction cost impacts. Staff is also evaluating cost containment issues for changing from center platform to two outside platforms. Discussion continue on finalizing a MOU.

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AREAS OF CONCERN (cont.)

**Sierra Madre Villa Station**

- Concern: Selection of a station site alternative to the original Space Bank site is required, due to the potential existence of serious hazardous material at that site.
- Action: The MTA Board has approved the selection of the SMV station site. MTA has purchased and obtained possession of the Johnson & Johnson station site.
- Status: MTA continues to discuss joint development options with the Best Buy Company and have completed an evaluation of Best Buy's proposal from a transit stand point. Other joint development opportunities are also being considered.

**Marmion Way Corridor**

- Concern: Results of the evaluation of the design of Marmion Way between Avenue 50 and Avenue 60 as a betterment have led to increased project design and construction costs.
- Action: Agreement is required from City of Los Angeles for betterment issues.
- Status: The MTA Board has adopted a Cost Containment / Value Engineering recommendation to negotiate new Master Cooperative Agreement covering betterment. Staff will review with County Counsel upon Board approval of the cost containment items.
-

AREAS OF CONCERN (cont.)

Union Station Platform #1

- Concern: Engineer's Estimate and Addenda preparation to support bid opening date of August 23, 1995 for Contract C6490.
- Action: The MTA has authorized expenditure in the absence of the Board approved Design Support During Construction PIP.
- Status: EMC has submitted a revised PIP for submittal to the MTA for approval. The PIP, included in Amendment No 2 for CWO 0025 which is scheduled to be reviewed by the MTA Board at the September 1995 Board meeting.

Chinatown Station

- Concern: Selection of Chinatown pedestrian linkage alternative will impact the Chinatown Aerial Structure and stations designs, and may require additional property acquisition.
- Action: MTA Construction Division has worked closely with Central Area Team on defining suitable pedestrian access from Broadway Street to the Chinatown Station platform. The community has selected a pedestrran linkage for action by MTA.
- Status: Further progress on final design is pending the approval of the EMC's CCR 188 which will be included in Amendment No. 5 for CWO 0021 for the September Board meeting.
-

AREAS OF CONCERN (cont.)

**210 Freeway Stations**

**Concern:** Noise impacts at Lake, Allen and Sierra Madre Villa Stations from adjacent freeway traffic.

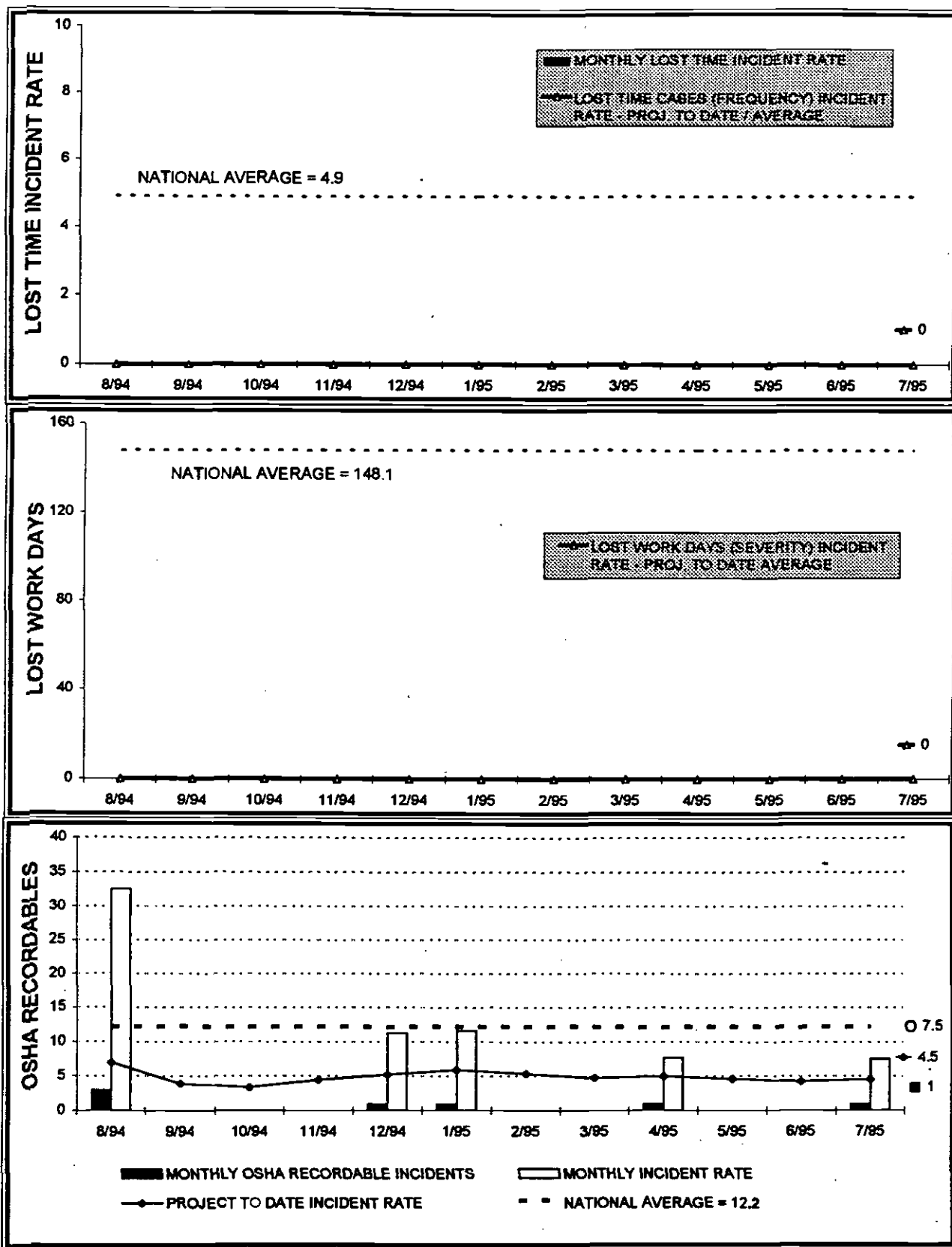
**Action:** Review of noise criteria and conformance to EIR.  
Noise mitigation is proposed for the Lake Avenue Station. The elimination of Allen Avenue Station due to low ridership forecasts is a Cost Containment recommendation. Staff will submit a Cost Containment progress report update to the MTA Board in September.

**Status:** Staff has deferred the bridge retrofit work at these bridge locations pending further action by the MTA Board on adoption of any Cost Containment / Value Engineering recommendations.

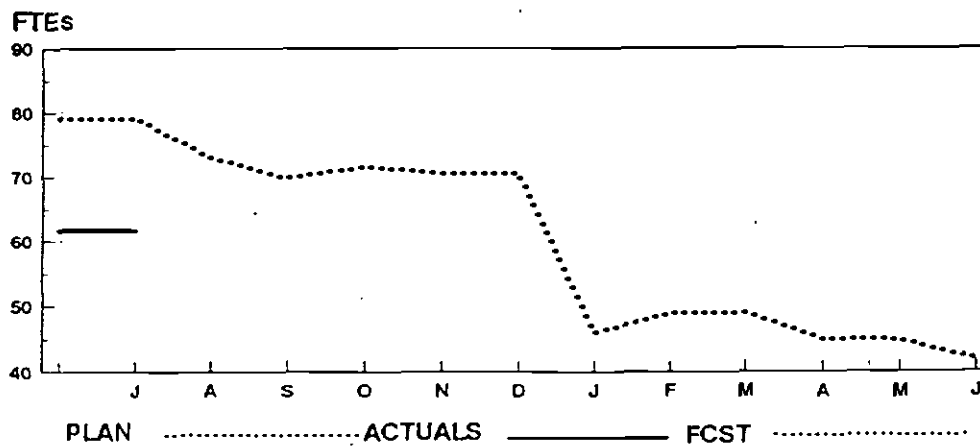
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# METRO PASADENA BLUE LINE SAFETY SUMMARY

Prepared by:  
MASS TRANSIT GROUP



### PASADENA BLUE LINE TOTAL STAFFING



### STAFFING ANALYSIS

The total staffing actuals are lower than planned mainly due to level of effort tasks required by Construction Management and the Engineering Management Consultants. Also, the project is being re-evaluated for Value Engineering and Cost Containment opportunities associated with design and construction.

MTA Board Action is expected to take place in September on Value Engineering and Cost Containment. The recommendations of the Board Action will determine staffing requirements.



KEY ACTIVITIES - ACCOMPLISHED IN AUGUST

- Contract C6410, LA River Bridge: Completed electrical work, fencing, drainage of curbs. Conducted inspections with MTA and third parties.
  - Contract C6430, Arroyo Seco Bridge Reconstruction: Set twin towers and began erecting superstructure steel.
  - Contract C6435, Bridge Retrofit and Reconstruction of Concrete and Steel Bridges: Held initial preconstruction meeting on August 21. Moved to Pasadena field office. Received early review of submittals from contractor.
  - Contract C6490, Union Station: Held Pre-Bid Meeting and conducted tour of site for bidders.
  - Contract P2100, Precast Concrete Ties: Continued submittal reviews.
-

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KEY ACTIVITIES - PLANNED FOR SEPTEMBER

- Contract C6410, LA River Bridge: Complete ductbank, approach slabs, fireline and punchlist items. Hold Substantial Completion inspection September 7.
  - Contract C6430, Arroyo Seco Bridge Reconstruction: Complete erection of tower bents. Begin installing piles for retaining/sound walls west of freeway. Continue erection of new plate girders for bridge.
  - Contract C6435, Reconstruction and Retrofit of Steel and Concrete Bridges: Remove track ballast and ties. Begin demolition of Sunnyslope Bridge.
  - Contract C6490, Union Station: Send last Addendum to planholders. Bid opening in October.
  - Contract P2100, Precast Concrete Ties: Continue submittal reviews.
-

# METRO RED LINE SEGMENT 1

## EXECUTIVE SUMMARY

**METRO RED LINE SEGMENT 1**

The current forecast remains at \$1,450 million. The final Grant Closeout documentation was submitted to the Federal Transit Administration on January 30, 1995.

The following activities are still remaining:

- Continue support and test of Breda vehicles.
- Negotiate closeout of professional services contracts.
- Continue closeout of third party work orders.

**Contract Closeout Status**

CONTRACT NUMBER	DESCRIPTION	PROJECTED CLOSEOUT DATE
A610/115	Track Installation	Sep 95

Closeouts In Process    1

Closeouts Remaining    1

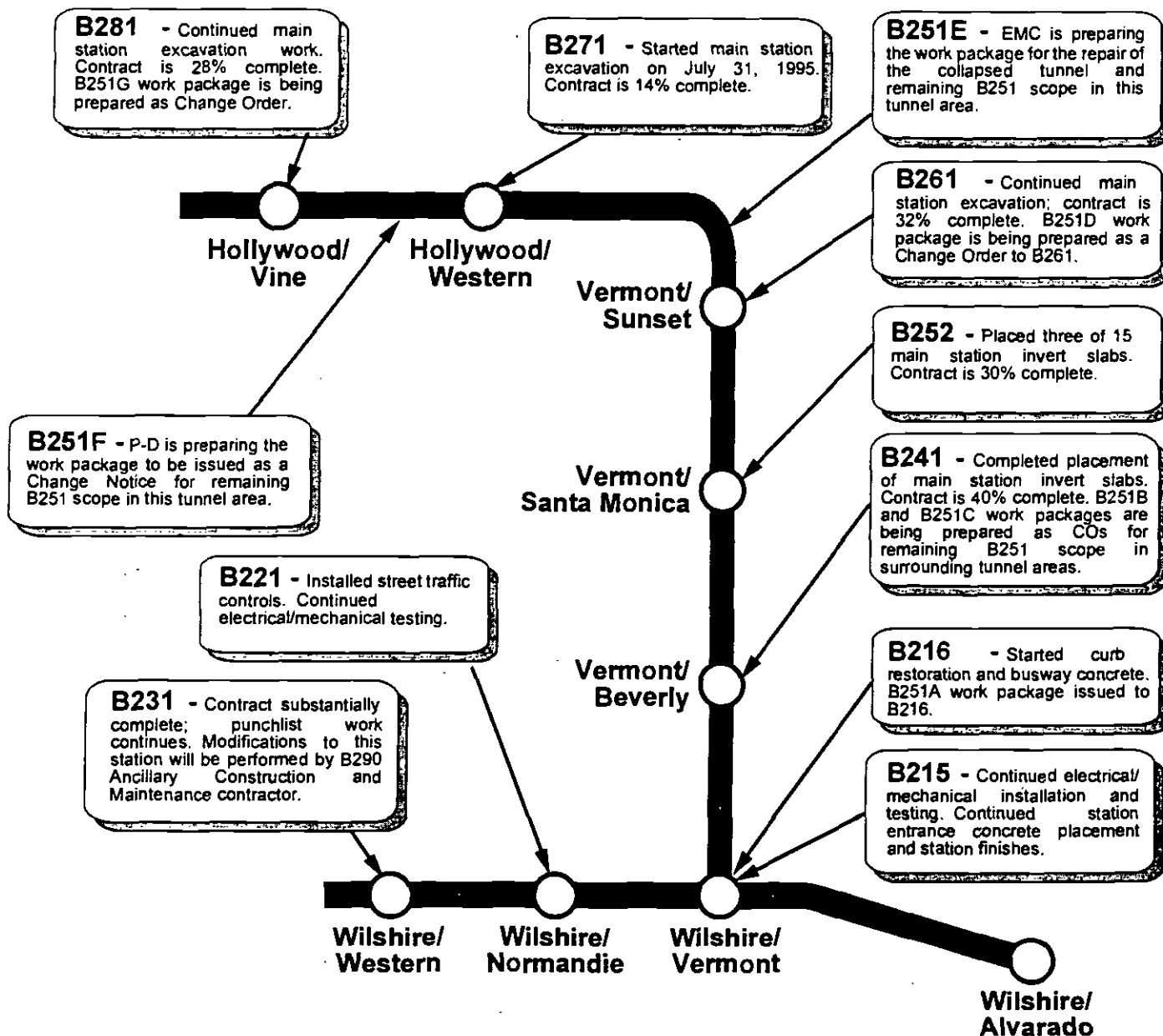
**Contract Closeout Analysis**

Final closeout of Contract A610/115 is pending claims litigation.

# METRO RED LINE SEGMENT 2

## EXECUTIVE SUMMARY

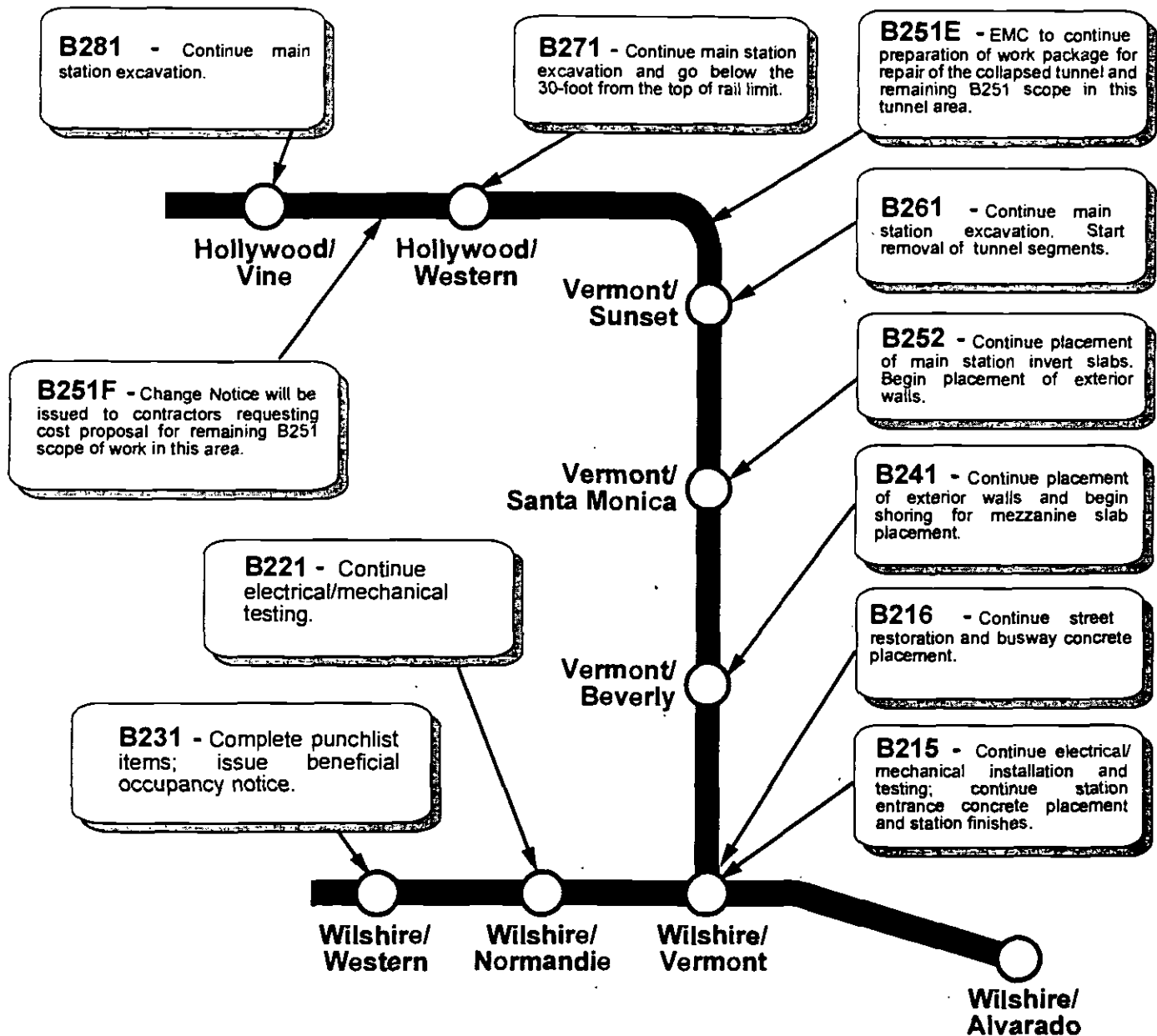
## Major Activities This Period



### SYSTEMWIDE ACTIVITIES

Continued installation of intrusion detection, emergency management, public address, and fire detection systems. No systems integration tests were conducted this period. Initiated train control operational tests. Continued installation on elevators/escalators.

## Major Activities - Next Period



### SYSTEMWIDE ACTIVITIES

Conduct six system integration tests. Continue train control operational tests. Complete installation of intrusion detection, emergency management, public address, and fire detection systems.

## FINANCIAL STATUS

### Budget/Forecast Variance

COST ELEMENT	CURRENT BUDGET	CURRENT FORECAST	VARIANCE	AUGUST CHANGE IN FORECAST
CONSTRUCTION	\$963.2	\$965.5	\$2.3	\$3.8
PROFESSIONAL SERVICES	347.3	349.7	2.4	0.0
REAL ESTATE	87.3	89.0	1.7	0.0
UTILITY/FORCE ACCOUNT	31.1	31.6	0.5	0.0
SPECIAL PROGRAMS	4.4	2.5	(1.9)	0.2
CONTINGENCY	13.3	8.8	(4.5)	(4.0)
PROJECT REVENUE	(0.2)	(0.7)	(0.5)	0.0
<b>TOTAL PROJECT</b>	<b>\$1,446.4</b>	<b>\$1,446.4</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>NEW REQUIREMENTS</b>				
CONSTRUCTION	\$49.0	\$49.7	\$0.7	\$(0.6)
PROFESSIONAL SERVICES	18.9	19.1	0.2	0.0
REAL ESTATE	0.0	0.0	0.0	0.0
UTILITY/FORCE ACCOUNT	0.0	0.0	0.0	0.0
SPECIAL PROGRAMS	0.0	0.0	0.0	0.0
CONTINGENCY	3.3	2.6	(0.7)	0.6
<b>TOTAL NEW REQUIREMENTS</b>	<b>\$71.2</b>	<b>\$71.4</b>	<b>\$0.2</b>	<b>\$0.0</b>
<b>GRAND TOTAL</b>	<b>\$1,517.6</b>	<b>\$1,517.8</b>	<b>\$0.2</b>	<b>\$0.0</b>

### Budget/Forecast Variance Analysis

Please refer to the following page.



## FINANCIAL STATUS

### Budget/Forecast Variance Analysis

The budget/forecast variance resulted from the forecast value increases in construction and special programs to reflect changes in the contracts.

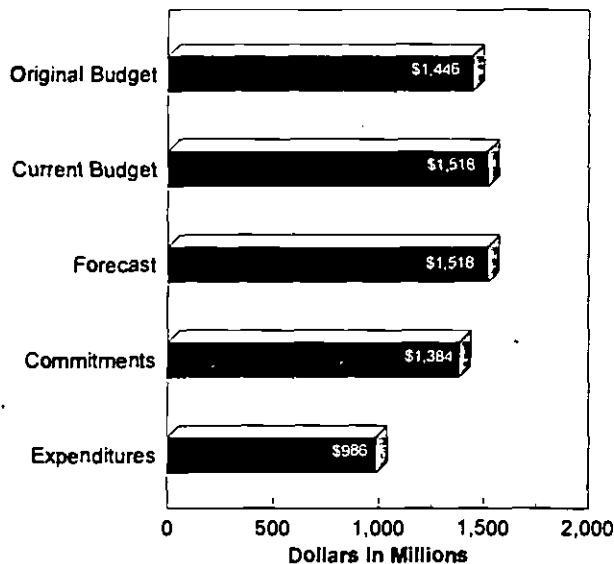
The forecast increase of \$3.8 million in August is mainly attributed to construction contracts B216, Wilshire/Vermont Site Restoration; B221, Wilshire/Normandie Station and Line; and B281, Hollywood/Vine Station. The increases were caused by:

1. B216--added \$1.1 million for Change Notice 5, transfer of B251 Vermont turnout scope of work; Change Notice 2, removal of material from Parcel B2-119; Change Notice 9.01, retaining wall north of busway; Work Authorization Change Notice 4, buried debris in busway; costs were also added for miscellaneous changes and additional unsuitable native material.
2. B221--added \$1.1 million for Change Notice 350, motor control center/communication interface cabinet; Request for Change 210, missing threaded studs on B231 tunnel rings; Change Notice 330, local instrumentation panel, emergency fan, and bypass damper wiring; and Change Notice 364, B610 conflicts; costs were also added for unquoted Tutor-Saliba Requests for Change, miscellaneous street changes, pending claim for temporary fence and gates for worksite, and costs for additional delays.
3. B281--added \$1.1 million to cover issues associated with a time extension request regarding delay due to a design change that revised the relocation of the waterline (incorporate delay claim arising from revision to water distribution system).

Note: The real estate acquired to support the Transit Enhancement covered under new requirements Budget and Forecast remains at \$39.0 million.

## FINANCIAL STATUS

### Budget Status



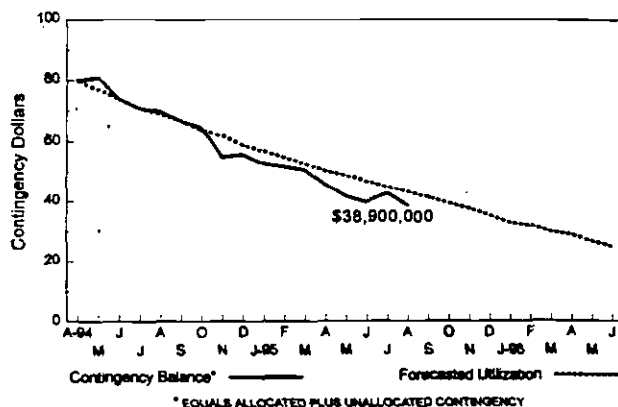
### Budget Status Analysis

The current budget growth from original budget was due to the addition of Transit Enhancement, ADA, and earthquake repair programs. The Transit Enhancement and ADA programs total \$71.2 million, which is included in the current budget as *New Requirements*, and \$71.4 million in the forecast.

The commitments increased \$16.9 million in August, due to \$8.4 million in construction and \$8.6 million in professional services. The commitments to date of \$1,384.0 million are within 3% of the planned commitments. The expenditures increased \$11.5 million in August, which is within 3% of the planned expenditures.

### Contingency Status

(Excludes Nonconstruction Allocated Contingency)



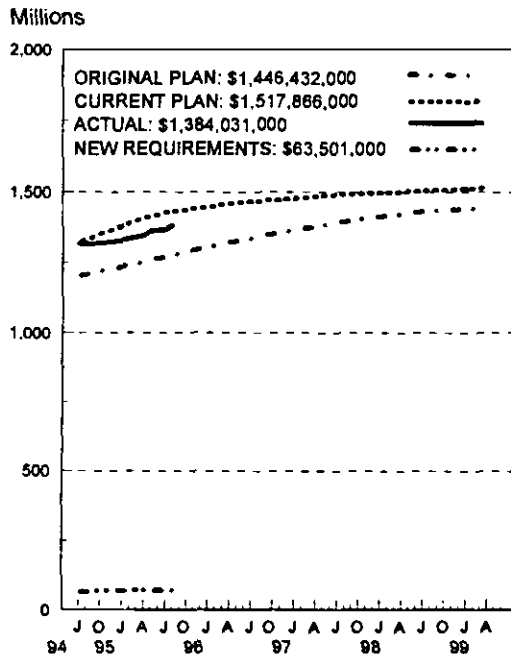
### Contingency Status Analysis

The allocated contingency for construction in August is \$27.5 million; the unallocated contingency is \$11.4 million; and the project contingency is \$38.9 million. The contingency percentage of cost to go is 7.7%.

The forecasted contingency decreased \$3.4 million to offset forecast increases to B216, B221, and B281, as noted in the Budget Forecast Analysis.

## FINANCIAL STATUS

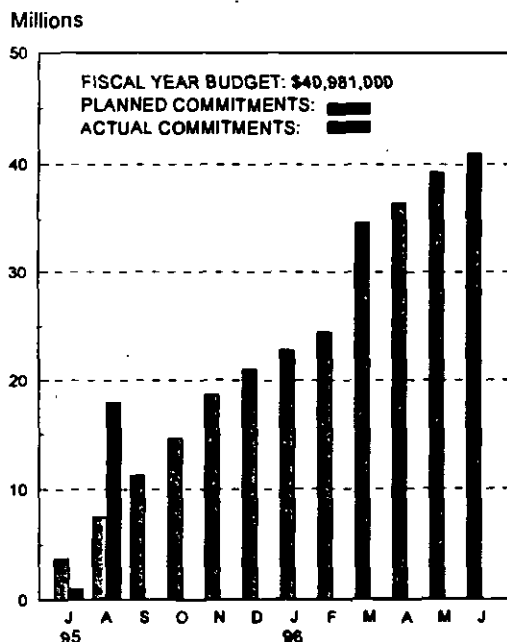
### Project Commitments



### Project Commitments Analysis

Project cumulative planned commitments are \$1,431.0 million; actual commitments are \$1,384.0 million or 96.7% of the total forecast. The total increase for August commitments are \$16.9 million. This primarily consists of an increase of \$8.4 million in construction contracts due to executed Change Notices and Work Authorization Change Notices. Also professional services had an increase of \$8.6 million due to work order changes.

### Fiscal Year Commitments



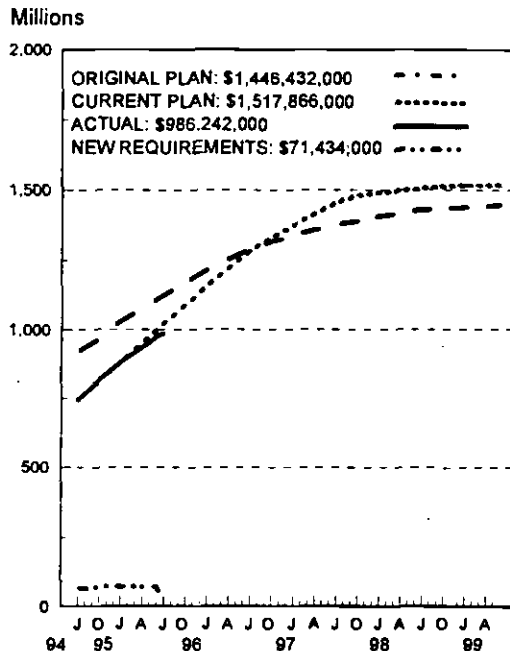
### Fiscal Year Commitment Analysis

Planned commitments are \$7.5 million; actual commitments are \$18.0 million\*. This increase to actual commitments was due to \$8.4 million in construction and \$8.6 million in professional services, due to change orders and a partial approval of work order change No. 19 for Construction Manager services.

\*This section includes new requirements.

## FINANCIAL STATUS

### Project Cashflow

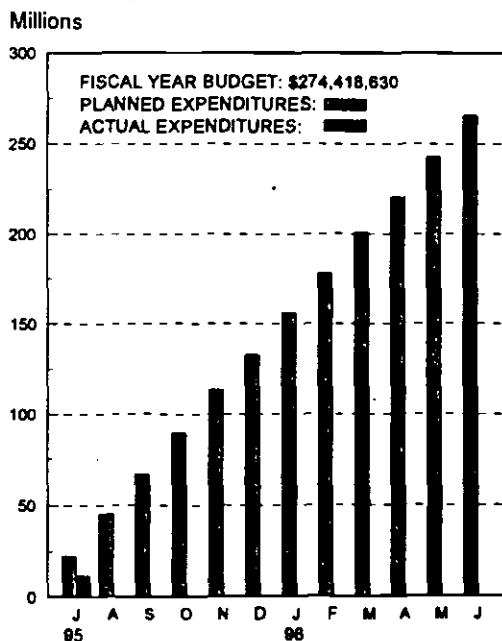


### Project Cashflow Analysis

Project cumulative planned expenditures are \$1,020.6 million; actual expenditures are \$986.2 million or 96.6% of the total to date forecast. The total increase for July expenditures is \$11.5 million. This primarily consists of expenditures for construction and professional services contracts.

Cashflow reporting lags behind one month due to billing cycle.

### Fiscal Year Project Cashflow



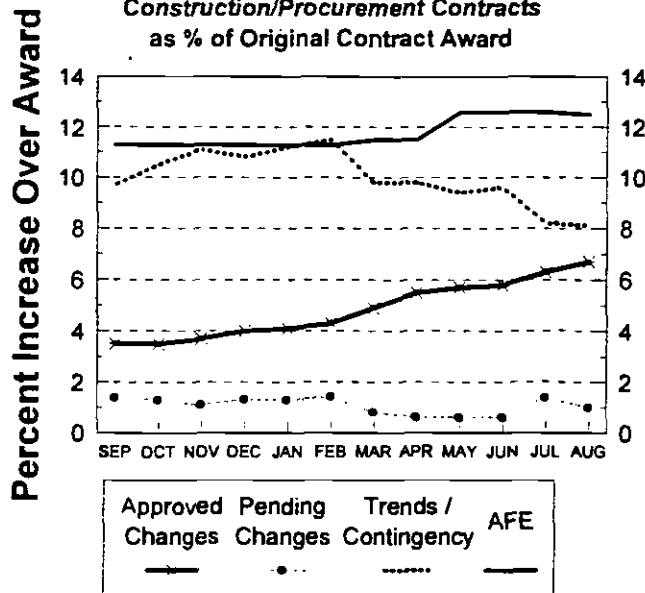
### Fiscal Year Cashflow Analysis

Planned cumulative expenditures for the fiscal year are \$22.1 million; actual expenditures are \$11.5 million\*. The actual expenditures for August are substantially lower than plan because of termination of Contract B251 and acceleration of invoices during the previous month for closeout of FY 95. The expenditures are expected to be more in line with the plan in approximately 2 to 3 months, when the redeployment of the remaining B251 work becomes effective.

\*This section includes new requirements.

## FINANCIAL STATUS

## Contract Changes

Construction/Procurement Contracts  
as % of Original Contract Award

## Contract Changes Analysis

The approved changes had a 0.5% increase in August, mainly due to various executed Change Notices and Work Authorization Change Notices for the work along the Wilshire Corridor. The pending changes decreased 0.4% in August. The Trends/Contingency category had a 0.1% decrease in August, primarily due to the decrease in the total log value for construction contracts. The AFE percentage also decreased 0.1%.

Construction Procurement Contracts  
Contract Cost and Forecast\*  
Comparison to Budget

Dollars in Millions	Current	Previous	Variance
Original Contract Award	\$782.3	\$776.4	\$5.9
Approved Change Value**	\$49.5	\$45.8	\$3.7
Current Value	\$831.8	\$822.2	\$9.6
Pending Logged Changes	\$7.7	\$10.4	\$<2.7>
Trends and Contingency	\$61.6	\$58.5	\$3.1
Total Forecast	\$901.1	\$891.1	\$10.0
Constr. Budget	\$882.0	\$882.0	\$0.0

\*Forecast and budget for awarded contracts only.

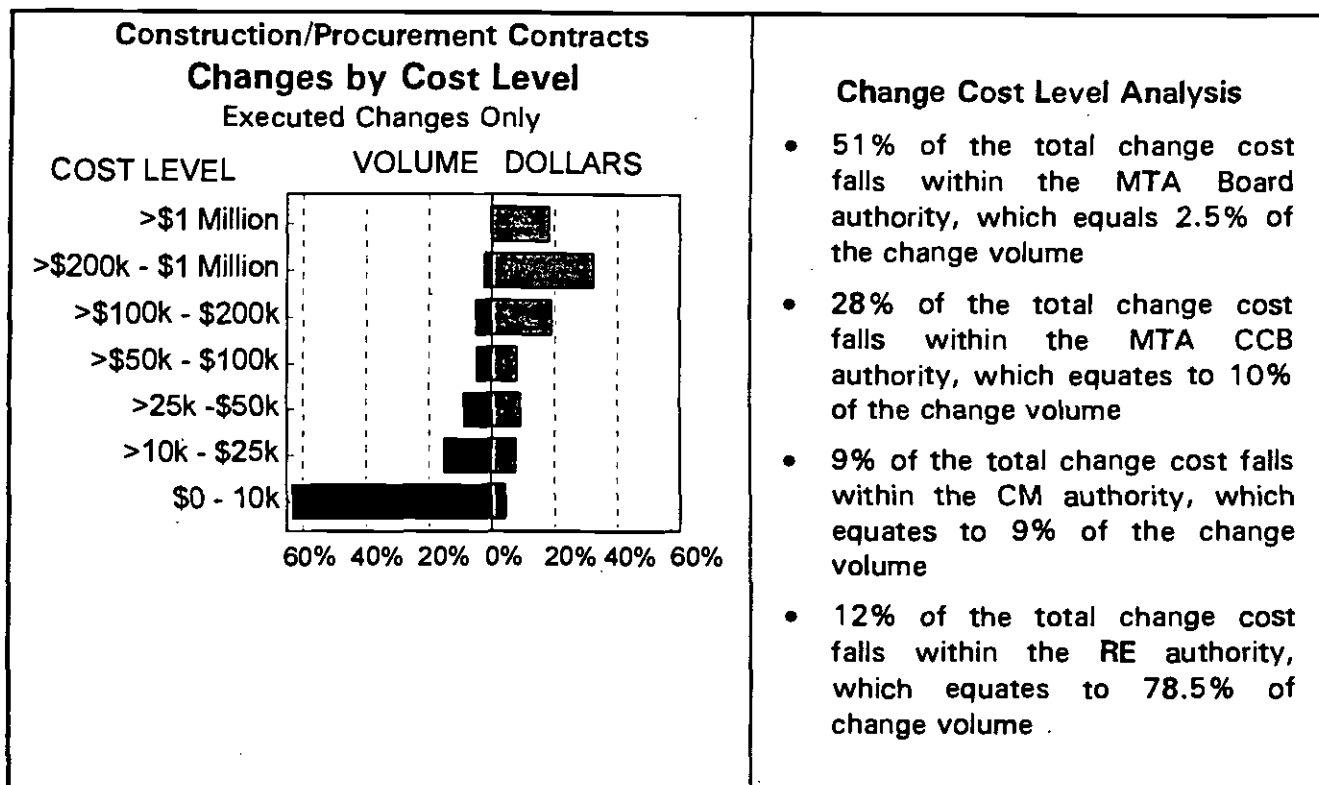
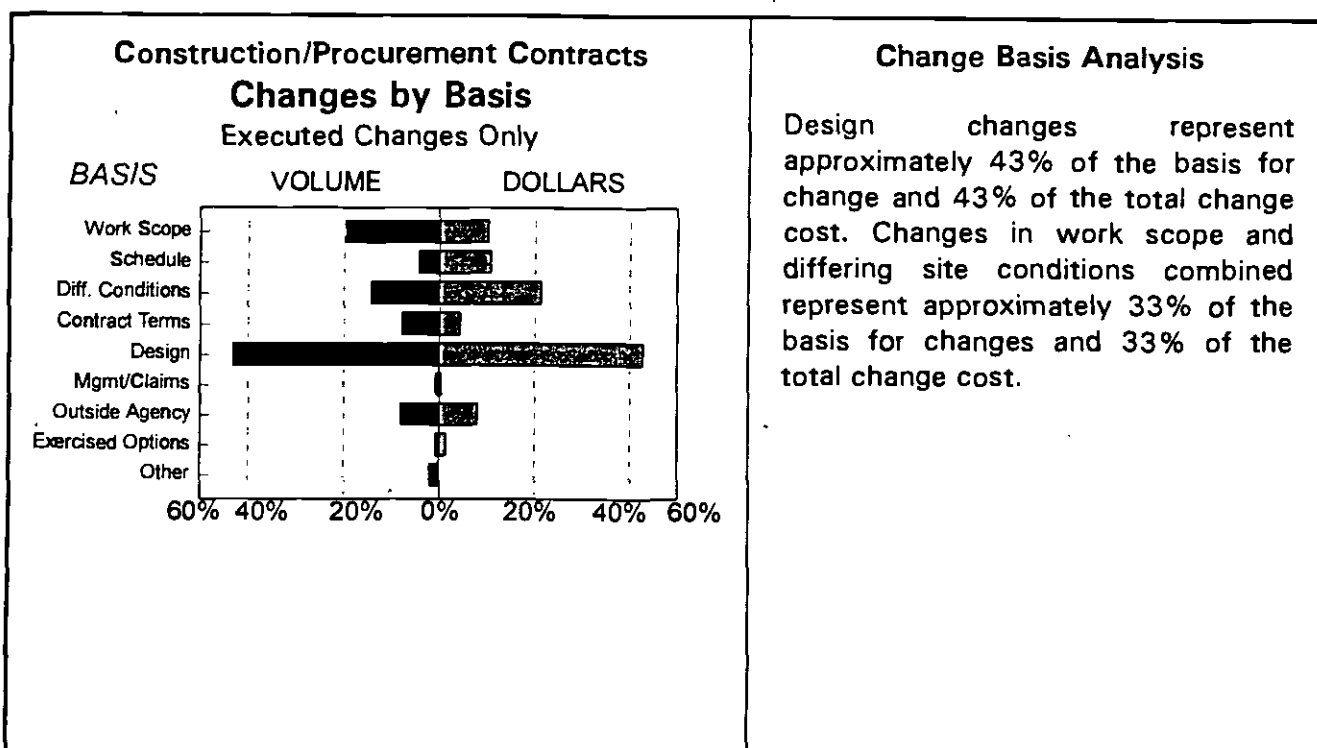
\*\*Includes executed Change Orders and Approved Not-to-Exceed Costs.

## Contract Forecast Analysis

The variance increase of \$9.6 million in the approved contract and current value is primarily due to various executed Change Notices and Work Authorization Change Notices. The variance decrease of \$<2.7> million of pending logged changes occurred in various pending changes.

Trends and contingency increased by \$3.1 million. The current data changed from the previous database due to an administrative adjustment to bring the data in line with the CCS database. (Please refer to the Appendices for a sample of the CCS database.)

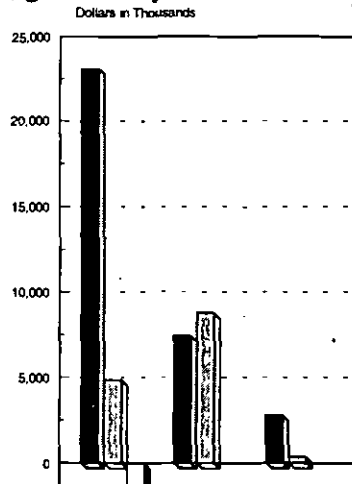
## FINANCIAL STATUS



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## FINANCIAL STATUS

### Professional Service Contracts Change Cost by Consultant



Thousands	EMC	CM	OTHER
Amended	23,088	7,427	2,778
In Process	4,842	8,776	361
Planned Scope	(1,367)	0	0
Total	26,563	16,203	3,139

### Professional Services Change Analysis

No contract Amendments approved this period.

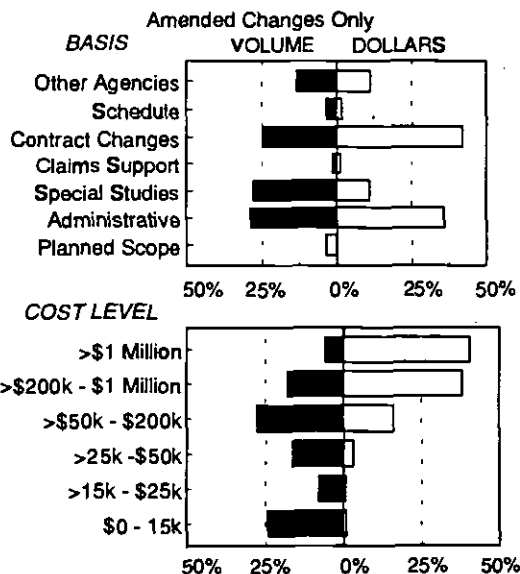
MTA plans to submit Amendment 9 to EMC CWO 003 at the September MTA Board meeting.

DATA SOURCE:

CCS: CCR REPORTS

Planned Additional Scope = Services that were anticipated or identified at the inception of the CWO but not included in the initial award. Staff will incrementally approve these known scope requirements and corresponding funds as a method to closely manage the consultant's technical and cost performance.

### Professional Service Contracts Changes by Basis and Cost Level



### Change Basis Analysis

Changes due to Special Studies account for approximately 28% or 56 of the 202 Consultant Change Requests (CCRs) on Red Line Segment 2. An example would be PD CCR 124.00 - Noise, Vibration and Dust Monitoring for Los Angeles Unified School District (LAUSD). An agreement between the MTA and LAUSD provided for noise, vibration, and dust monitoring at the Los Feliz Elementary School, ensuring a safe and healthy environment for the school children.

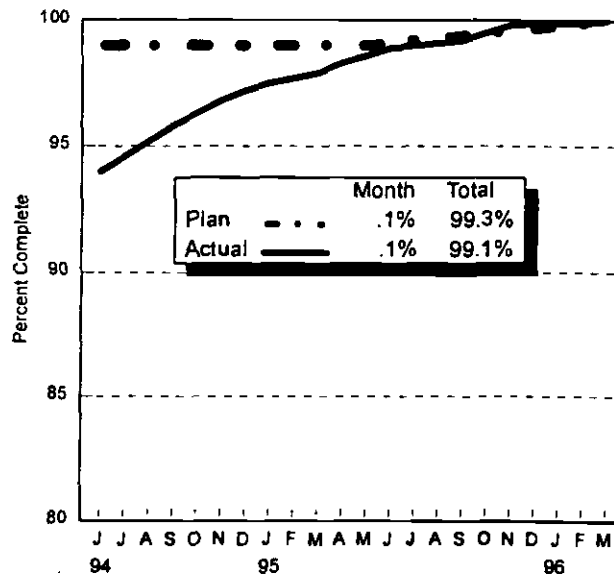
The negative value shown against Planned Scope reflects the MTA-directed 5% reduction to professional services contracts in December 1994.

### Change Cost Level Analysis

As shown on the Cost Level chart opposite, the MTA Board reviews 79% of all change costs associated with the Red Line Segment-2 Project or \$30M of a total change cost of \$38M. This equates to 24% of the total change volume or 48 of 202 total changes.

## SCHEDULE STATUS

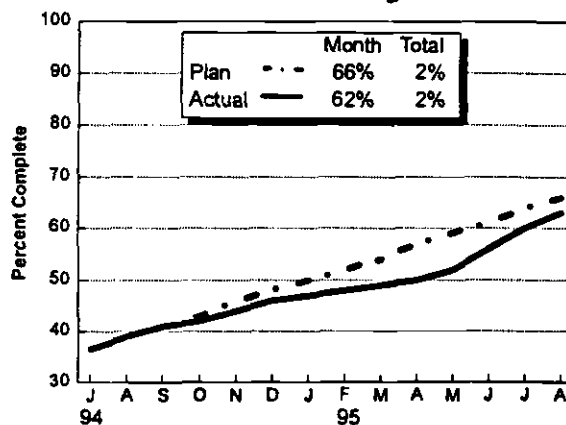
### Schedule Status Design Progress



### Design Schedule Progress Analysis

The EMC design progress at the end of August is 99.1% complete, with two active contracts remaining in design. Contract drawings are underway on Contract B648B, Communications Installation--Vermont/Hollywood corridor, with expected completion in March 1996. Work remains under suspension on Contract B263, the second entrance at Kaiser Hospital, pending further direction from the MTA. Design support during construction is 67.0% complete as of August 25, 1995, versus 66.6% planned.

### Schedule Status Construction Progress



### Revenue Operations Date

	Current	Forecast
Wilshire Corridor	July 1996	May 1996
Vermont/Hollywood Corridor	Sept 1998	March 1999

### Construction Schedule Progress Analysis

The overall construction progress is 62%, compared to a planned progress of 66%. The progress is 4% behind schedule due to tunnel delays under Hollywood Boulevard. In addition, all Vermont/Hollywood Station contracts are behind schedule due to unforeseen conditions (conflict of utilities with station piles and decking, contaminated soil, rain delays, stop work notices, LADOT added restriction, termination of B251 contract, etc.), design changes, and slower than planned production rates for station excavation and support of utilities.

Wilshire Corridor is 2.5 months ahead of schedule due to better than originally planned facility end system progress. Late design changes continue to decrease the positive float for Revenue Operations Date (ROD) and impact contractual milestones.

Vermont/Hollywood Corridor is behind schedule by 5 months due to tunneling delays under Hollywood Boulevard, causing a suspension of work for B271 and B281 stations.

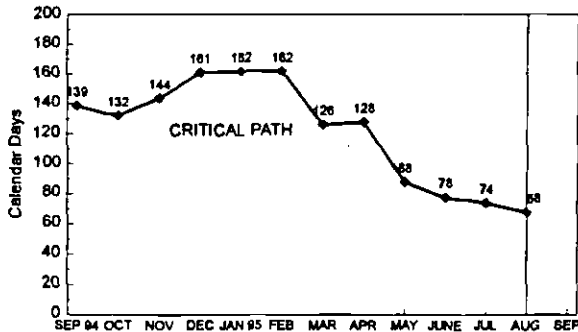
The mitigation plan for reducing negative float for Vermont/Hollywood Corridor will resume after all B251X work packages are issued and negotiated with contractors.

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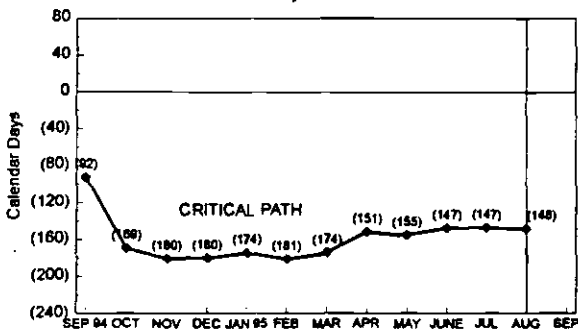


## SCHEDULE STATUS

### Current Critical Path Float Trend Wishire Corridor



### Vermont/Hollywood Corridor



### Current Critical Path Analysis

Wishire Corridor forecast ROD was changed from 05/03/96 to 05/9/96 due to fire and emergency management software development delays.

Anticipate that the trend for decreasing positive float will level out in October.

Vermont/Hollywood Corridor overall forecast ROD delay is due to late Notice to Proceed of station contracts, delay in tunnel mining, and tunnel concrete work. See Variance Analysis under Construction Progress Analysis for more details.

Forecasted ROD is going through the B271 main station excavation.

Other critical path contracts are Contract B610, Trackwork Installation, concrete plinth, rail installation and testing; Contract B620, Automatic Train Control, wayside installation, operation tests, and dynamic testing. No significant change in days of float from last month.

### 3-Month Contract Schedule

#### Contract Description

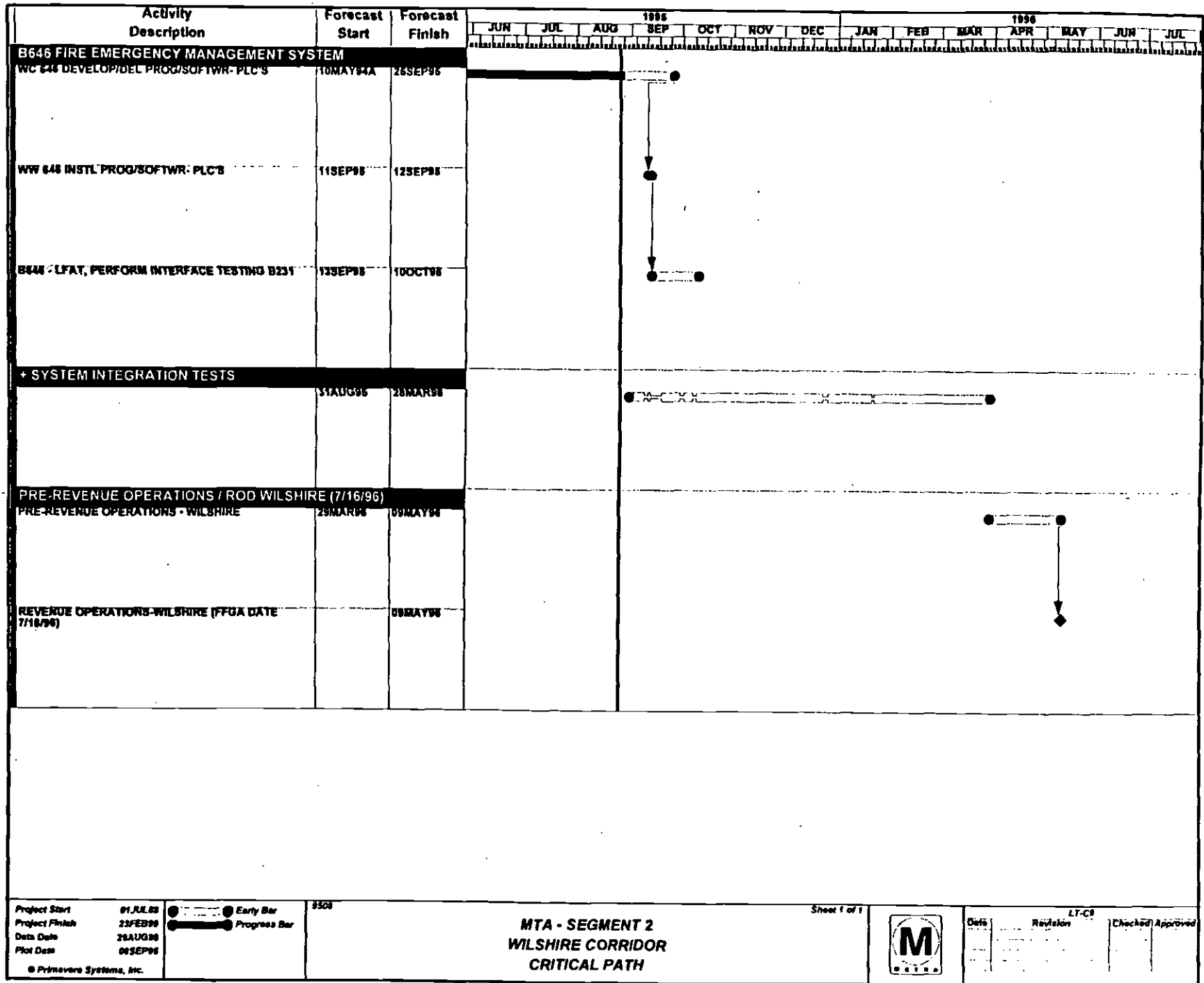
None

#### Advertise Date

N/A

### 3-Month Contract Schedule Analysis

There are 2 remaining contracts for Vermont/Hollywood Corridor: B263, Second Entrance Vermont/Sunset Station, and B648B, Communication Installation for Vermont/Hollywood Corridor. These contracts will be advertised in 1996.



[illegible]

## SCHEDULE STATUS

Real Estate Status			Real Estate Analysis	
	Number of parcels	Number of parcels available		
This month	89	89	The number of parcels acquired is 89.	
Last month	89	89	The number of parcels to be acquired is 0.	

Contract Closeout Status			Contract Closeout Analysis	
Contract Number	Description	Projected Closeout Date		
B201	Pocket Track & Tunnel	Sept. 1995		
B211	Wilshire/Vermont Station	Sept. 1995		
B231	Wilshire/Western Station	Sept. 1995		
B221	Wilshire/Normandie Station	Dec. 1995		
B752	Metcalf & Eddy	TBD		
B754	Dames & Moore	TBD		
B756	Barsotti	TBD		
Closeouts completed		4		
Closeouts in process		7		
Closeouts remaining		7		

## AREAS OF CONCERN

### ONGOING

**Item**

**B251X Contract Termination/Remaining Work Completion Plus the Tunnel Collapse Repair**

**Concern/Impact**

B251X is used to identify the remaining B251 construction work subsequent to the termination of the B251 contractor. The remaining work for work packages B251A through B251H could impact the affected station contracts. B251E, B251F, and B251G work package could impact the Vermont/Hollywood Corridor critical path.

**Status/Action**

Continue close coordination of the work packages between P-D, EMC, and MTA to allow earliest restart of work. Determine detail scope of remaining work and develop alternative construction sequence for work packages B251E, B251F, and B251G to avoid delays to Revenue Operation Date (ROD).

Responsibilities between P-D and EMC were defined, and a weekly schedule is being maintained to track the status of each work package. The current project schedule indicates that the B251E, B251F, and B251G work packages are not impacting the forecasted ROD. Final assessment will be made once the work packages are finalized.

Work package B251X consists of:

- B251A: Turnout Structure (P-D Prepare)
- B251B: Wilshire/Vermont to Vermont/Beverly (P-D Prepare)
- B251C: Vermont/Beverly to Vermont/Santa Monica (P-D Prepare)
- B251D: Vermont/Santa Monica to Vermont/Sunset (P-D Prepare)
- B251E: Vermont/Sunset to Hollywood/Western (EMC Prepare)
- B251F: Hollywood/Western to Hollywood/Vermont (P-D Prepare)
- B251G: Hollywood/Vine Access (P-D Prepare)
- B251H: Hollywood/Vine to Station 630+00 (P-D Prepare)

**Item**

**Late Design Changes, DCN 18.0 and 18.1, Facility Motor Control Center/Communication Interface Cabinet**

**Concern/Impact**

Changes to the completed facilities require rework and impact the Wilshire Corridor critical path.

**Status/Action**

Activities defining scope have been added to project schedule. Currently, problems with motor control center equipment vendors to support installation requirements may impact subsequent contractor interface and project testing, as well as system integration.

## AREAS OF CONCERN (CON'T)

**Item**

Forecasted Delay to Revenue Operation Date (ROD) - Vermont/Hollywood Corridor

**Concern/Impact**

The Vermont/Hollywood Corridor Forecasted ROD slipped from September 28, 1998, to February 23, 1999, due to the Hollywood tunnel delays. The critical path runs through the Hollywood/Western Station, Contract B271, station excavation, station concrete placement, and trackwork access.

**Status/Action**

Perform detailed program review based on current program requirements to minimize cost and schedule impact. Re-evaluate the cost and schedule aspect of segmented Vermont Corridor ROD.

B271 main station excavation started on July 31, 1995. As part of the time impact analysis for B271 delays, the Contractor is to provide a cost/schedule recovery proposal for schedule mitigation of 30 days, 90 days, or 100% of the lost time. Recovery plan is projected to be submitted by the end of September. The Construction Manager continues to evaluate the cost and schedule benefits of alternative sequencing of construction that would allow tunnel concrete work to be prosecuted from both B281 and B271 access points.

## RESOLVED

**Item**

Concrete Batch Plant Operators have been on strike since July 27, 1995

**Concern/Impact**

Alternate sources of concrete may not be able to meet quality and quantity requirements; therefore, the strike may cause contract and possibly a project delay. The three contracts are B215, Wilshire/Vermont Station; B241, Vermont/Beverly Station; and B252, Vermont/Santa Monica Station.

**Status/Action**

Determine the impact to the scheduled concrete placements. The affected contractors were pursuing alternate sources for concrete material. The strike was over in August and no significant schedule impact to either corridor project critical path was experienced.

## AREAS OF OPPORTUNITY

### ONGOING

**Item**

Vermont/Hollywood ROD Strategies

**Opportunity**

The completion of the Vermont/Hollywood tunnels has been impacted due to recent events (sinkhole and termination of B251 contractor). This condition presents scheduling uncertainties and increased cost risks.

**Status/Action**

CM is to develop schedule options in an effort to preserve schedule control and cost containment.

The CM is preparing a what if study that outlines the strategies and options as follows:

- Continue with current plan and single ROD milestone.
- Phased ROD for Vermont/Beverly and Vermont/Santa Monica Stations. Targeting the segmented ROD to be at least 6 months earlier than the currently forecasted Vermont/Hollywood Corridor ROD.

**Item**

Wilshire Corridor ROD

**Opportunity**

Achieve earliest possible ROD without incurring additional cost.

**Status/Action**

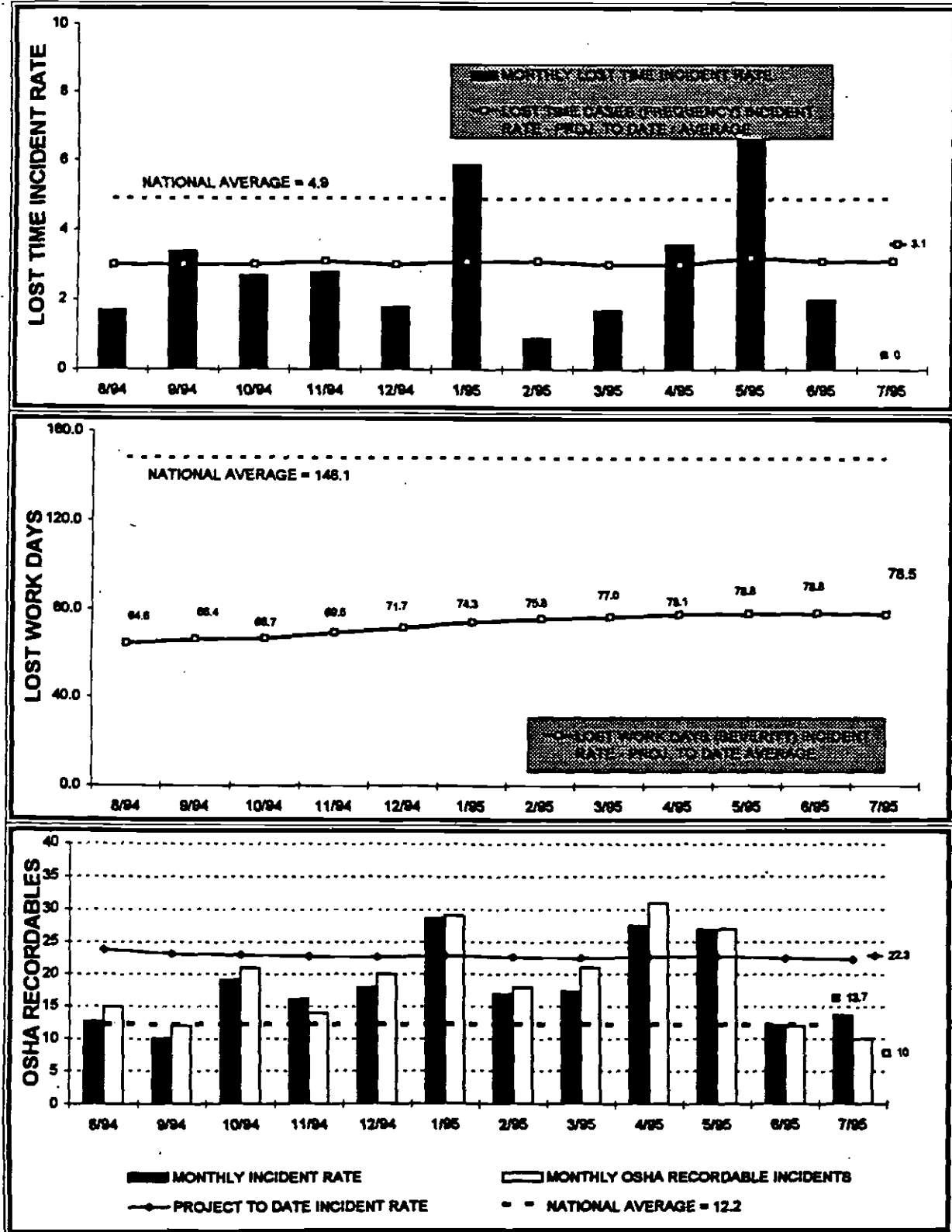
Continue to manage current master plan.

Traction-power ETS, hot frame detection, full voltage simultaneous pull away and passenger vehicle/trip switch integration tests are scheduled for early part of September 1995. Current master schedule forecasts Wilshire Corridor pre-revenue operations could commence in March 1996 with ROD in early May 1996.

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# METRO RED LINE SEGMENT II SAFETY SUMMARY

Prepared by:  
MASS TRANSIT GROUP





## SAFETY SUMMARY STATUS

### SAFETY SUMMARY ANALYSIS

#### General

The entire Red Line project achieved favorable statistics with zero Lost Time Cases recorded for the month. This compares to the latest National Average of 4.9 Lost Time Cases per 200,000 hours worked. Similarly, the project rates a zero Lost Work Days as opposed to the 1992 National Average of 148.1 per 200,000 hours worked. (The Labor Department no longer publishes the lost days rate as of 1993). Training efforts included Toolbox Meeting, Substance and Drug Abuse Awareness Training, Field Safety Orientations, Job Hazard Analysis, Tunnel Safety, OSHA 500 30 Hour Sections and several First Aid/CPR courses conducted for the benefit of project personnel.

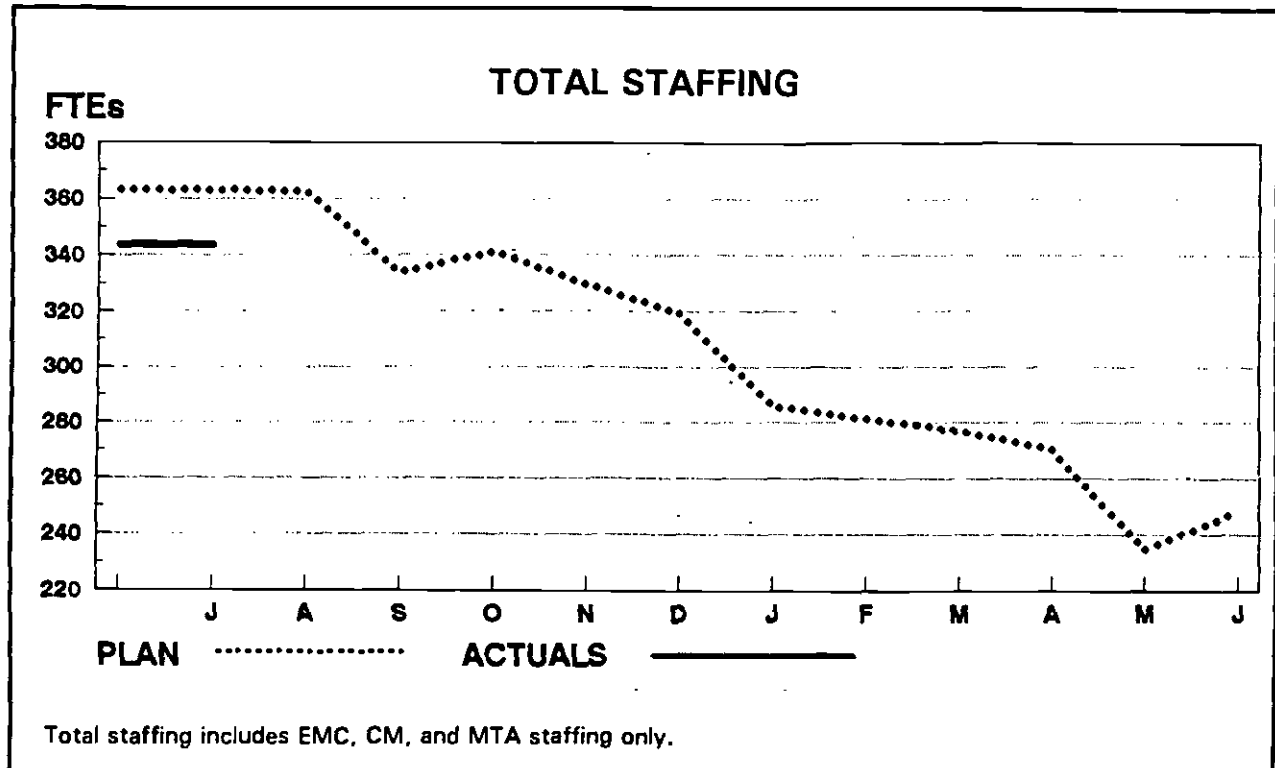
#### Monthly Metro Red Line Safety Meeting

Due to organizational changes and scheduling conflicts, a projectwide safety meeting was not held in June. Meetings will begin again in August with a new format.

#### Safety Engineers Monthly Meeting

The monthly Safety Engineers meeting was held July 12, 1995. The meeting was opened by Lou Hubaud with brief comments and an open forum. Jim Veatch then presented updated information on the incident at B251 (the tunnel remining collapse). Information was circulated to allow for roster updates from all interested parties. The meeting closed with additional general discussion, including a review of the plans for the 'all hands' meeting. The next meeting is scheduled for August 8, 1995.

## PROJECT STAFFING STATUS



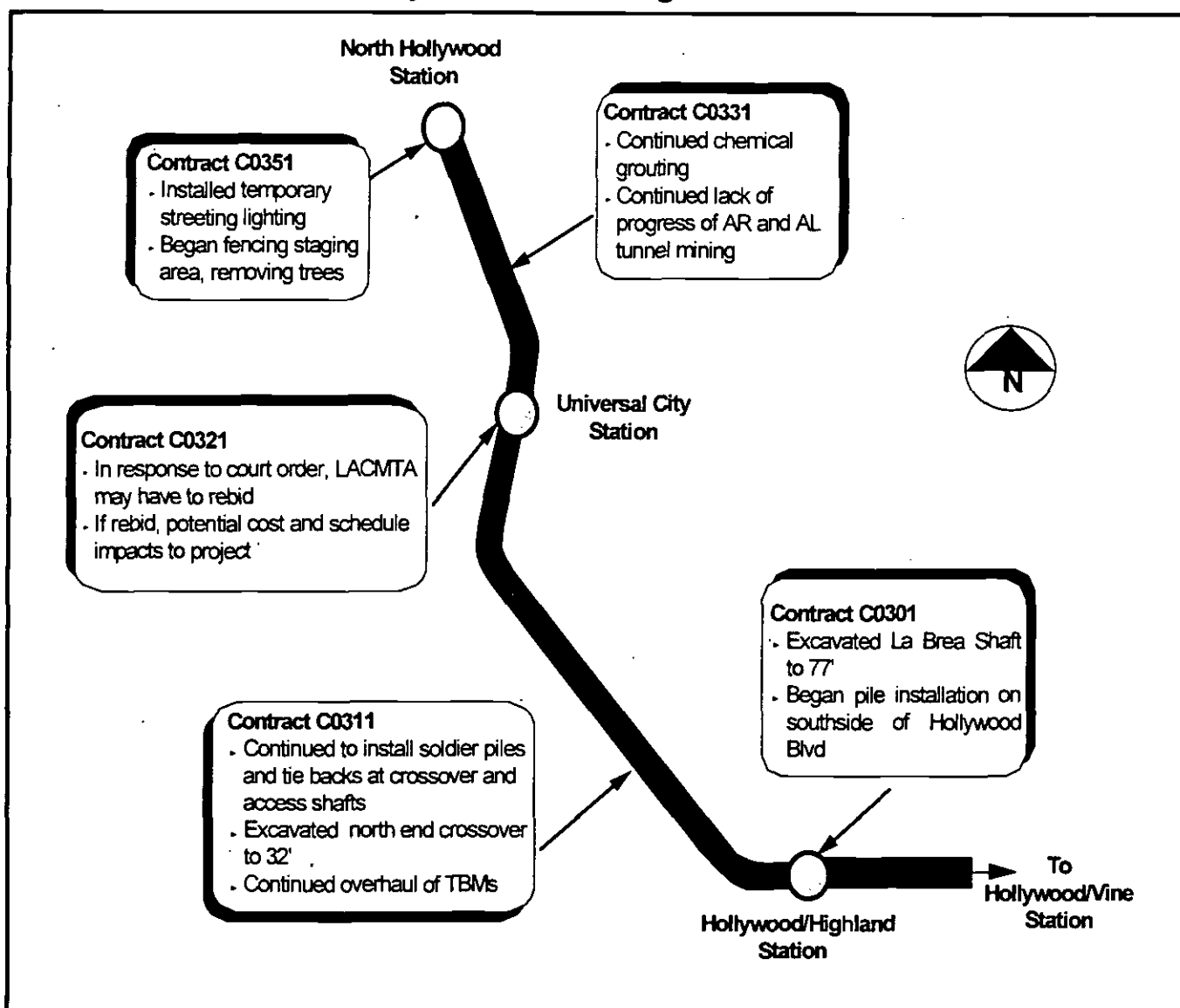
### STAFFING ANALYSIS

The total staffing actuals are lower than planned primarily due to the MTA actual experience in completing hiring plans for Quality Assurance and Quality Control staff. The actual hiring plans are reviewed weekly to facilitate the employment process.

METRO RED LINE SEGMENT 3  
NORTH HOLLYWOOD EXTENSION

EXECUTIVE SUMMARY

## Major Activities August 1995



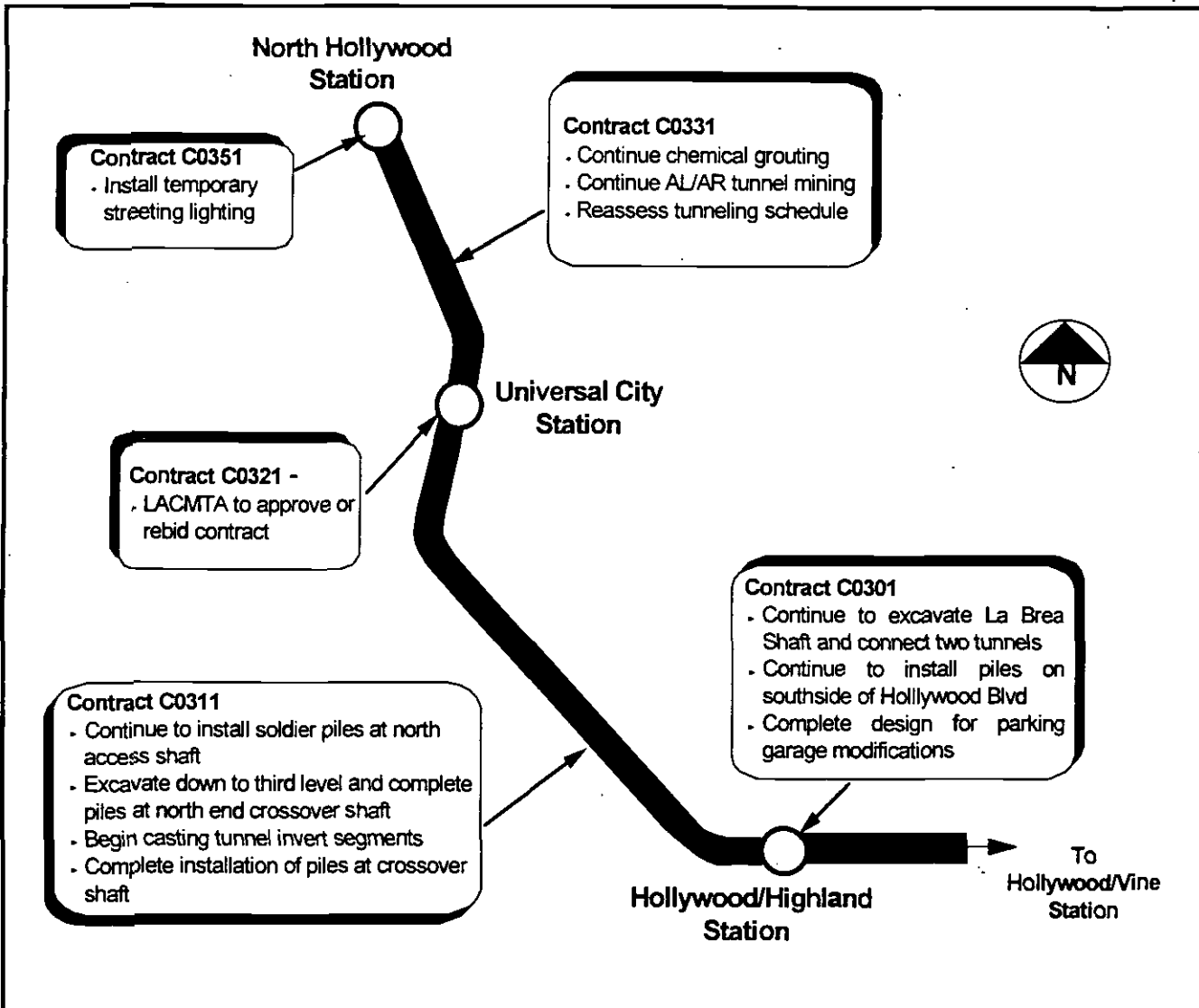
## Systemwide Activities August 1995

**Contract C1610** pre-final issued by EMC and constructibility review completed by JMA.

**Contract B251** remaining work repackaged for distribution to other contracts.

**Contract C0301** parking structure modifications continued.

## Major Activities Planned For September 1995



## Systemwide Activities Planned For September 1995

**Contract C1610** constructibility review comments to be incorporated into final design package.

**Contract B251** repackaging work to continue.

## FINANCIAL STATUS

## Budget/Forecast Variance

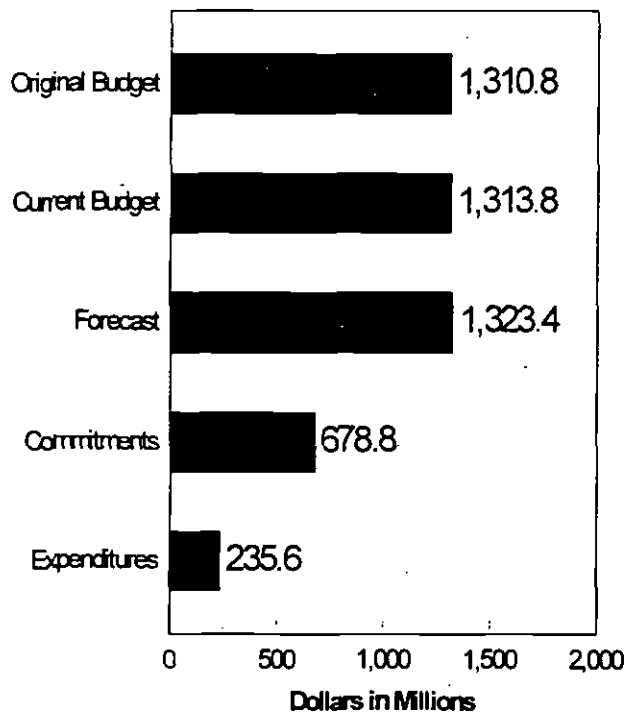
(000's) COST ELEMENT	(A) CURRENT BUDGET	(B) CURRENT FORECAST	(B-A) VARIANCE	AUGUST CHANGE IN FORECAST
CONSTRUCTION	\$766.9	\$779.2	\$12.3	0.0
PROFESSIONAL SERVICES	279.1	287.9	8.8	0.0
REAL ESTATE	85.6	86.4	0.8	0.0
UTILITY/FORCE ACCOUNT	18.7	25.6	6.9	0.0
SPECIAL PROGRAMS	0.0	0.0	0.0	0.0
CONTINGENCY	160.5	131.7	(28.8)	0.0
PROJECT REVENUE	0.0	0.0	0.0	0.0
TOTAL PROJECT	\$1,310.8	\$1,310.8	\$0.0	\$0.0
<b>NEW REQUIREMENTS</b>				
CONSTRUCTION	\$1.9	\$11.7	\$9.8	\$0.0
PROFESSIONAL SERVICES	0.7	0.8	0.1	0.0
REAL ESTATE	0.0	0.0	0.0	0.0
UTILITY/FORCE ACCOUNT	0.0	0.0	0.0	0.0
SPECIAL PROGRAMS	0.0	0.0	0.0	0.0
CONTINGENCY	0.4	0.1	(0.3)	0.0
TOTAL NEW REQUIREMENTS	\$3.0	\$12.6	\$9.6	\$0.0
GRAND TOTAL	\$1,313.8	\$1,323.4	\$9.6	\$0.0

## Forecast Variance Analysis

There is no forecast variance this period.

## FINANCIAL STATUS

## Budget Status



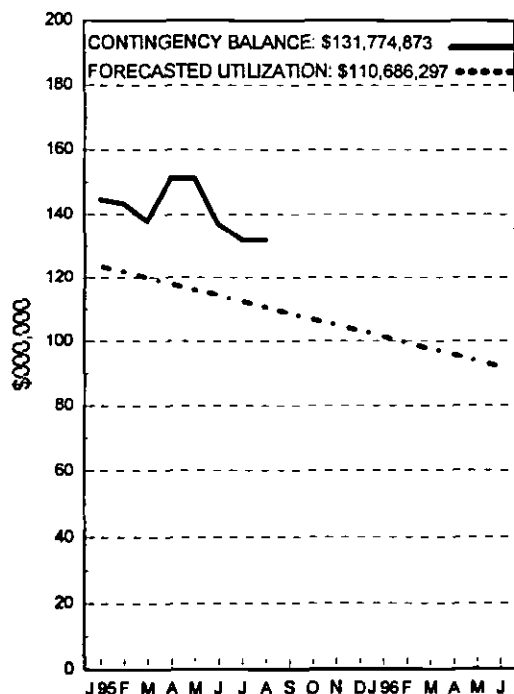
## Budget Status Analysis

There is no budget change for the month August 1995.

The Current Budget is in excess of the Original Budget by \$3.0 million dollars. This is largely due to the establishment of PBCR #1.

The Forecast is in excess of the the Current Budget by \$9.6 million dollars. This is largely due to the establishment of New Requirements forecasts for a number of the Construction and Professional Services line items. Please refer to page FD-3 for a more detailed explanation of the Current Budget vs Forecast variances.

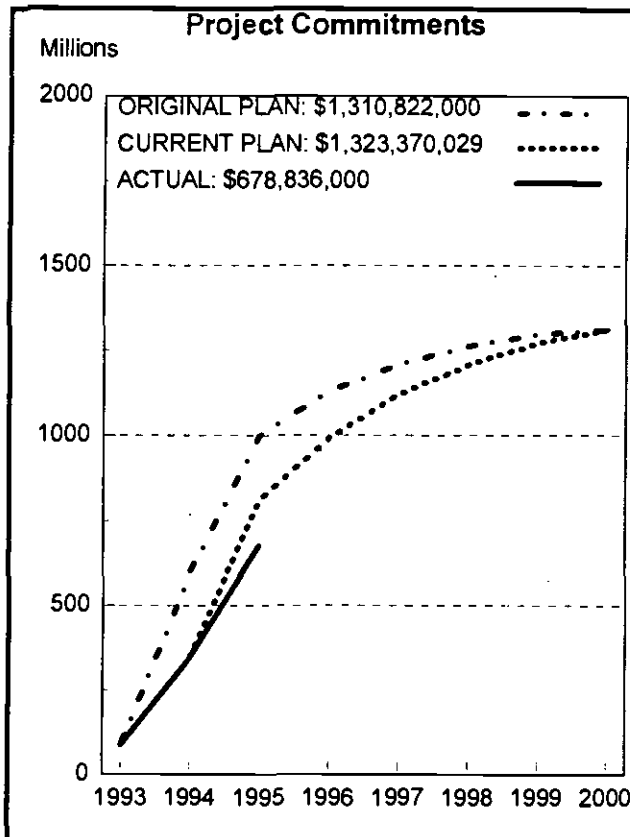
## Contingency Status



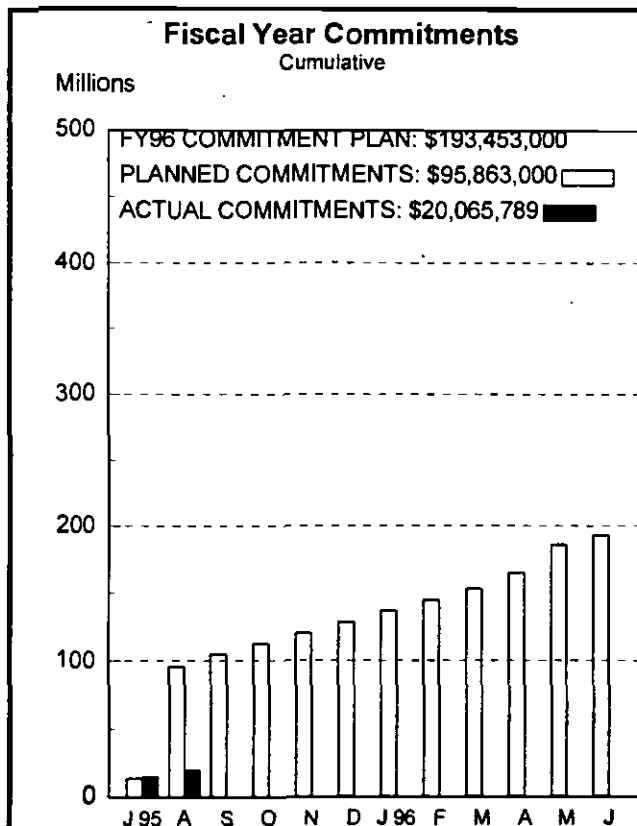
## Contingency Status Analysis

The forecast contingency did not change this reporting period.

## FINANCIAL STATUS

**Project Commitments Analysis**

Project Planned cumulative commitments through August 1995 were \$784.7 million. The actual cumulative commitments were \$678.8 million, or 86.5% of the commitments planned to be made by this point in the project

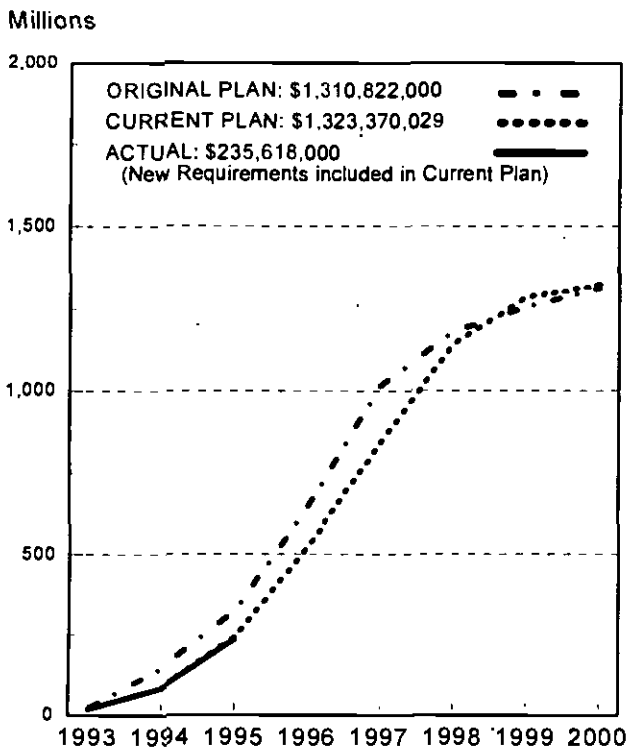
**Fiscal Year Commitments Analysis**

Planned commitments for August 1995 were \$81.9 million. However, a majority of these planned commitments were for Contract C0321 Universal City Station (\$68 million), Access Road Demolition (\$2 million), and Real Estate Acquisitions (\$4 million) all of which experienced delays. Actual commitments for August were \$4.9 million. These were primarily comprised of Utility/Agency Force Accounts (\$2.7 million) and Real Estate Acquisitions (\$2 million).



## FINANCIAL STATUS

## Project Cashflow



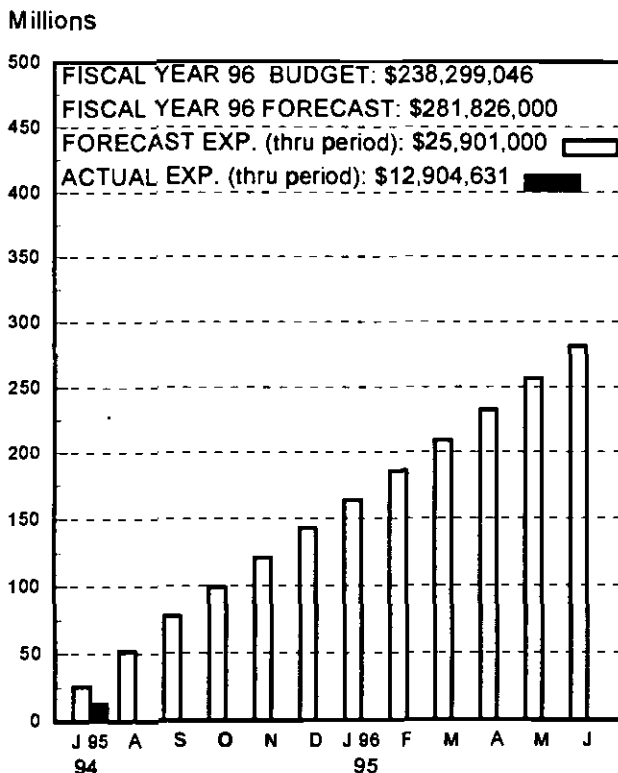
## Project Cashflow Analysis\*

Project Planned Cashflow has been revised as of August 1995.

Project Planned Cumulative Expenditures through the August 1995 period is \$261.5 million; actual expenditures are \$235.6 million or 17.8% of the total forecast. Actual expenditures are currently lagging behind planned expenditures due to payment processing delays in Construction contracts B251 and C0301. Also, Contract C0331 work is behind schedule which is currently reducing the anticipated values of the progress payments. Expenditures are expected to peak in fiscal years 1996 and 1997 due to the major facilities contracts which have been awarded in fiscal year 1995.

\*Actual Expenditures lag one month behind the current period due to LACMTA processing requirements.

## Fiscal Year Project Cashflow



## Fiscal Year Cashflow Analysis\*

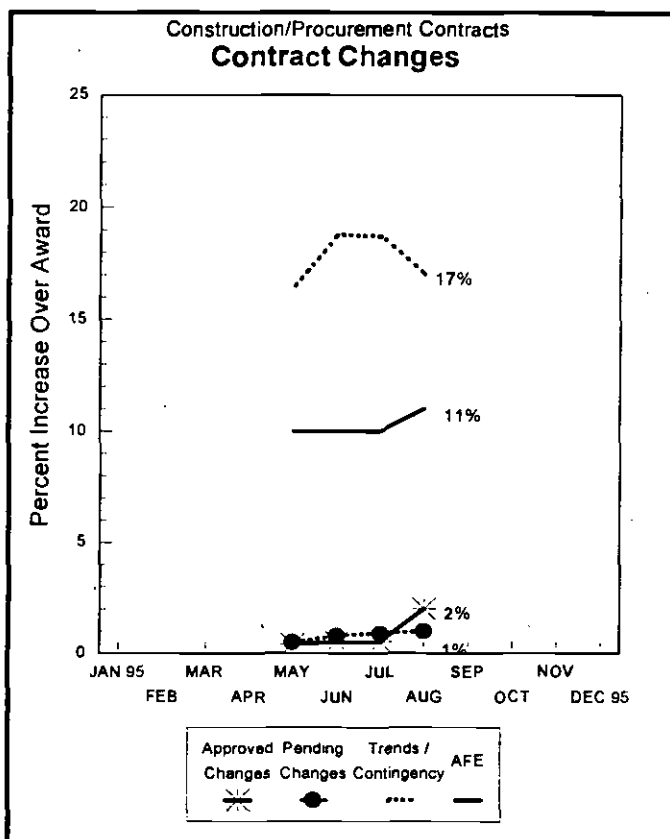
The Total Project Cashflow has been revised as of August 1995 which impacts the current fiscal year (FY) plan.

Total Planned FY 96 expenditures are \$281.8 million. Current FY 96 Actual Expenditures through July 1995 is \$12.9 million. Planned FY 96 expenditures for July 1995 is \$25.9 million. The current period variance is largely due to the unrealized expenditures against the Insurance Line Item and lower than anticipated values for Contracts B251, C0301 and C0351.

Footnote: Actual Expenditures are lagging one month behind the current period. Also cashflow dollars to go have been revised as of 08/95.

\*Actual Expenditures lag one month behind the current period due to LACMTA processing requirements.

## FINANCIAL STATUS

**Contract Changes Analysis**

Approved changes and pending changes, together, account for approximately 3% increase over contract award. As construction progresses, this low percentage is expected to eventually increase to 17% as indicated by the trends/contingency line.

Construction/Procurement Contracts  
**Contract Cost and Forecast**  
Comparison to Budget

Dollars in Millions	Current	Previous	Variance
Original Contract Award	\$433.8	\$433.8	\$0.0
Approved Contract Value*	\$2.3	\$2.2	\$0.1
Current Value	\$436.1	\$436	\$0.1
Pending Logged Changes	\$3.1	\$3.8	\$0.7
Trends and Contingency	\$67.9	\$68.2	(\$0.3)
Total Forecast	\$512.8	\$508.0	\$4.8
Constr. Budget	\$548.9	\$544.3	\$4.6

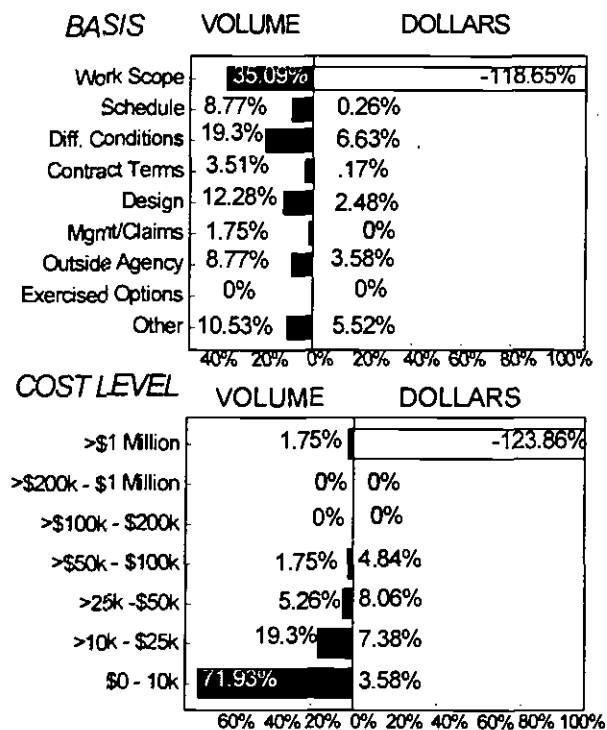
\*Includes Executed Change Orders and Approved Not-to-Exceed Costs. Forecast and Budget for Awarded contracts only. Also, construction line items T03-Environ, T09-Testing, and T10-OCIP have been omitted.

**Contract Forecast Analysis**

Pending logged changes for the period decreased by \$700,000. This was largely due to Contract C0351 Blast Relief Shaft Reduction as a value engineering change. The total forecast increased \$4.8 million due to an inadvertent omission of Contract H0631 in the previous reporting period.

## FINANCIAL STATUS

Construction/Procurement Contracts  
**Changes by Basis and Cost Level**

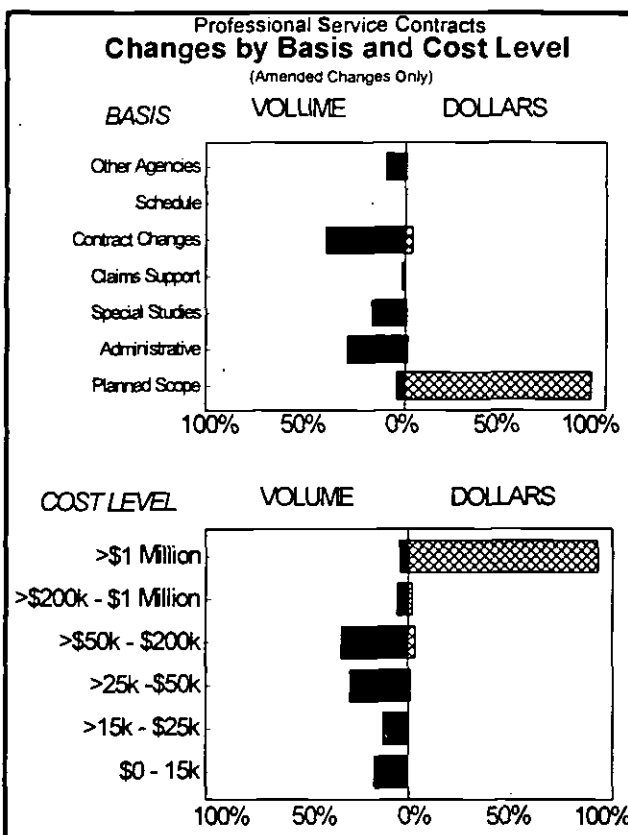
**Change Basis Analysis**

Changes in workscope have predominated both the volume and value of changes to date. Specifically, significant deletions associated with Contract C0331(Universal City to North Hollywood - Tunnel), account for credits to the LACMTA.

**Change Cost Level Analysis**

Over 91% of all changes to date have been processed within the authority of Resident Engineers (>\$25K). This trend is a positive sign indicating the designs, the contracting process and construction management efforts are all working in a coordinated manner.

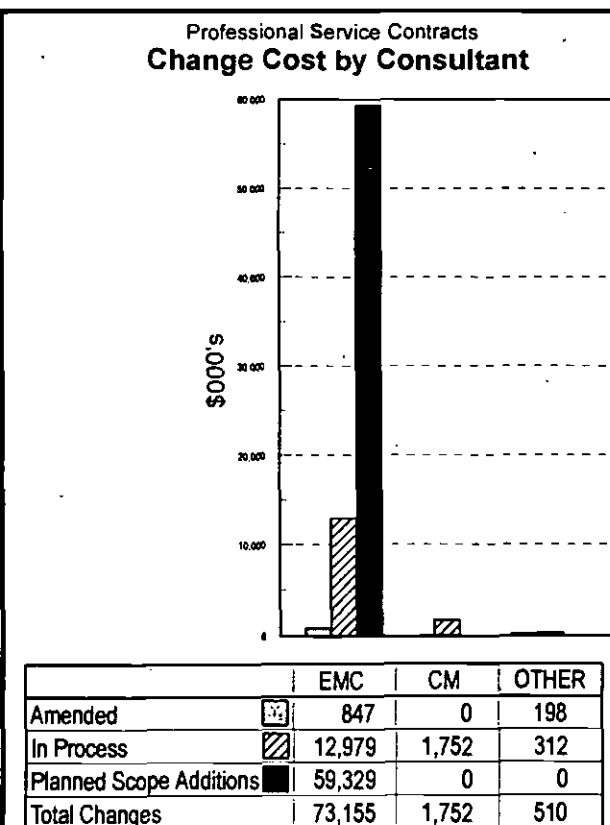
## FINANCIAL STATUS

**Change Basis Analysis**

Approximately 44% of the Segment 3 - North Hollywood Extension change volume continues to be changes during the design phase of non-awarded construction contracts.

**Change Cost Level Analysis**

As shown on the Cost Level Analysis chart, the LACMTA Board reviews 94% of all change costs associated with the North Hollywood Extension or \$61 million of a total change cost of \$64 million. This equates to 9% of the total change volume, or seven of the 75 total changes.

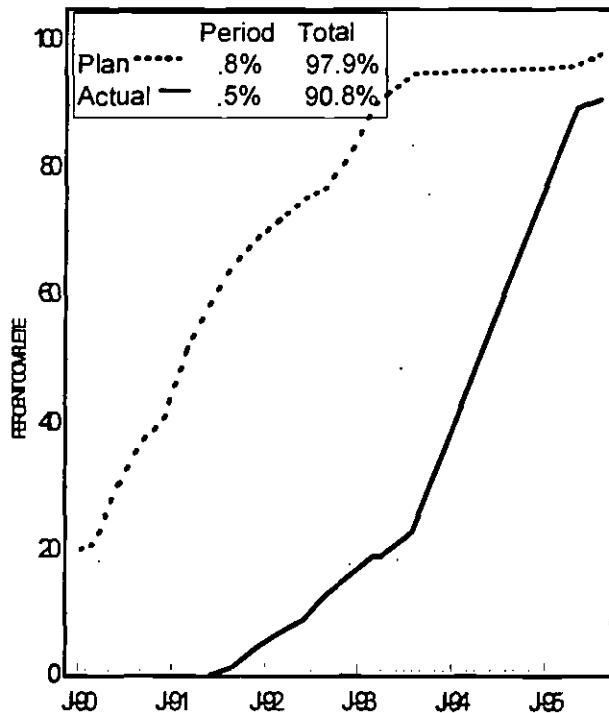
**Professional Services Change Analysis**

No contract amendments were approved this period. Amendment No. 6 to EMC Contract Work Order #004 is scheduled for submission to the LACMTA Board at its September 27, 1995 meeting.

*Planned Scope Additions* are services which were anticipated or identified at the inception of the contract work order but not included in the initial award. Staff will incrementally approve these known scope requirements and corresponding funds as a method to closely manage the consultant's technical and cost performance.

## SCHEDULE STATUS

## Design Schedule Status



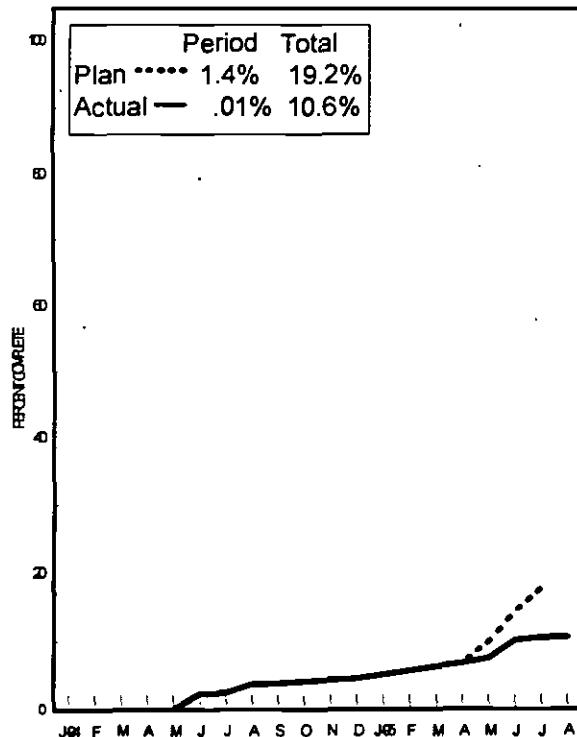
## Design Schedule Analysis

The overall design through August 25, 1995, was 90.8% complete versus 97.9% planned, which reflects a schedule performance index of 93%.

Progress is behind by 7% as a result of design changes to Universal City contracts and deferral of systems design.

Active design efforts are underway for Contracts C1610, B612, B620, H0631 and various systems contracts. Contract C0326 has been repackaged into three separate contracts—C1326, C2326 and C3326 and work will start after LACMTA approves the consultant change request.

## Construction Schedule Status



## Construction Schedule Analysis

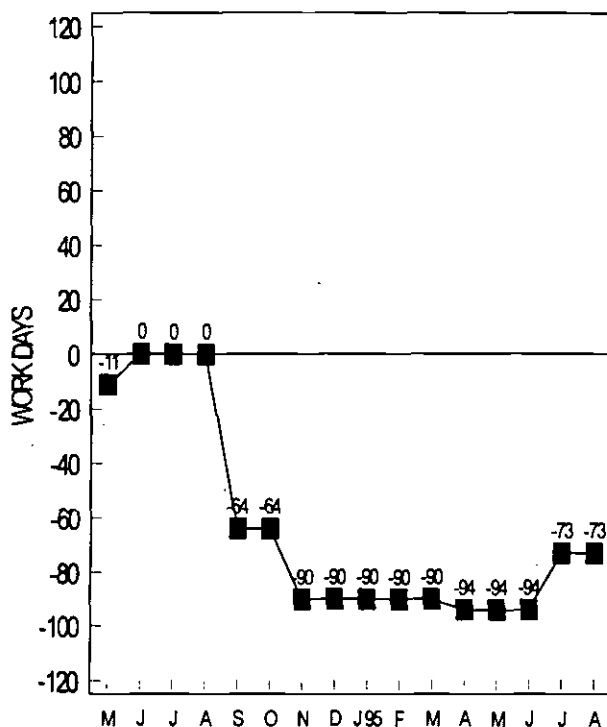
Construction progress has slipped due to Contract C0331 tunnel mining delays, delayed Notice to Proceed for Contracts C0301, C0311, C0321 and C0351.

Contract B251H work package is being prepared and will be transferred from B251 to C0301 as a change order.

LACMTA, P-D, JMA and EMC staff continue to develop a revision to the access at the North Hollywood Station to allow more flexible access for the trackwork installation.

## SCHEDULE STATUS

## Critical Path



## Critical Path Analysis

The project critical path is currently 73 work days behind schedule or 104 calendar days. The current ROD shown is August 29, 2000.

The critical path begins with Contract C0311 between Station 630+00 and Universal City Station. The late design and award of this contract has left the project over four months behind schedule.

Efforts to mitigate the delays will continue. JMA believes that there is opportunity to recover the time and to be able to meet the ROD of May 17, 2000.

## Three Month Contract Schedule

Contract DescriptionAward Date

C0321

09/27/95

## Three Month Contract Schedule Analysis

Contract C0321 bids were opened on July 19, 1995. In response to a court order, LACMTA may have to rebid.

No other contracts are schedule for bid during the next three months.

## SCHEDULE STATUS

## Real Estate Status

	Number of Parcels Rquired	Number of Parcels Available
This Month	232	87
Last Month	232	80

## Real Estate Analysis

To date, 87 parcels have been acquired. Seventy-seven of these parcels were acquired through negotiated acquisition and the remaining parcels were acquired through condemnation.

There are two parcels currently projected in the worse case scenario not to be available by the scheduled need dates.

## Contract Closeout Status

Contract Number	Contract Description	Projected Closeout
C0328	Universal City Demo Ph I	Oct 95
C0329	Universal City Demo Ph II	Feb 96

Closeouts Completed	0
Closeouts in Process	1
Closeouts Remaining	15

## Contract Closeout Analysis

Currently, one contract, Contract C0328 (Universal City Station Site Demolition), is being closed out.

While there are two facility contracts projected to close out, there are no systems contracts projected to close within the next 12 months.

To date no contract closeouts have been completed.

## AREAS OF CONCERN

**New Item**

Contract C0321 Universal City Station

**Concern/Impact**

Contract C0321 may be re-advertised for bid causing delays in the schedule and increase in costs.

**Status/Action**

If required to be rebid, Contract C0321 will assume the critical path of the overall project. Revenue Operations Date will be delayed to November 16, 2000, an additional 79 calendar days beyond the current forecast date of August 29, 2000.

Review of schedule mitigation measures are underway. It is anticipated that a resequencing of contract interfaces will be required to reduce adverse schedule and cost impacts.

**Ongoing Item**

Design Budget Adjustments

**Concern/Impact**

The process for approval of Consultant Changes Requests and subsequent Contract Amendments is under review. Recent delays in the current process are impacting performance of design activities.

**Status/Action**

EMC Project Administration is communicating with various elements of the LACMTA to determine how contract work order funding can be increased outside of the normal Consultant Change Request process.

LACMTA personnel have identified a variation of a Project Implementation Plan as being a possibility to increase funding for a contract work order before the shortage becomes a problem.



## AREAS OF CONCERN

**Ongoing Item**

Construction Management Services Transition From Parsons-Dillingham (P-D) to JMA (Jacobs Engineering Group, Mott MacDonald-Hatch, ACG Environments)

**Concern/Impact**

Ensure coverage of ongoing construction projects.

**Status/Action**

LACMTA, P-D, and JMA commenced coordination in the month of July 1995 at the management and staff levels. Transition efforts are ongoing. JMA has assumed responsibility for day-to-day management of Contract C0301 (Hollywood/Highland Station and Tunnels); Contract C0311 (Tunnel Section from Station 630 to Universal City Station); and various overall project functions. Complete transitioning of responsibility is expected by September 1, 1995.

**Ongoing Item**

Acceptance of Systems Schedule Revised Baseline

**Concern/Impact**

The EMC has proposed a new baseline schedule for systems procurement contracts and for the remaining systems design contracts. The new schedule reflects delays and changes in the facilities contracts. LACMTA is reviewing the proposal.

**Status/Action**

The EMC prepared the schedule for submittal to the LACMTA for approval. The EMC has transmitted consultant change requests for the out of scope work to LACMTA. Approval and direction are pending.

Systems is currently proceeding with the baseline work as described in the record of negotiations and the contract unit descriptions based on the revised schedule. Negotiations with LACMTA for the remaining work and approval of the revised schedule are continuing.

## AREAS OF CONCERN

**Ongoing Item**

Contract C0331, Line Section North Hollywood to Universal City  
Lack of Progress

**Concern/Impact**

The start of tunnel mining was delayed due to the Contractor's delay in assembling the tunnel shield machines (TSM). There is a concern that continued delays will further erode schedule "float" for this contract and follow-on integrated contracts. In addition, the mining operation must be conducted to ensure against ground settlement.

**Status/Action**

The LACMTA and its consultants are taking all necessary steps to ensure that the mining operation is started and progresses in a manner to ensure against ground settlement. This is to ensure the mining operation is implemented per specification procedures.

Tunnel mining has been repeatedly halted due to contractor's technical difficulties. The contractor modified one of the tunneling machines to prevent loss of ground and has begun grouting from the surface to prevent loss of ground. The contractor has submitted a written plan to control settlement. Tunneling is expected to resume by early September 1995.

**Ongoing Item**

Contract C0351 North Hollywood Station with Crossover and Tailtrack  
Access to Crossover Area

**Concern/Impact**

Access to crossover area, the C0331 Contractor must complete mining operations and this operation is encountering difficulties and delays.

**Status/Action**

The C0351 Contractor could be directed to delay taking access. The C0331 Contractor's mining operation is being closely monitored and the Contractor has been requested to provide a mitigation plan to recover schedule delays. The LACMTA and Contractor have agreed to modify the tunneling machine to prevent loss of ground. The C351 access milestones will need to be adjusted after the Contractor submits the baseline schedule.

## AREAS OF CONCERN

**Resolved Item**

Contracts C0301, Hollywood/Highland Station and Tunnels; C0321, Universal City Station; C0351, North Hollywood Station with Crossover and Tailtrack

**Concern/Impact**

Redesign of selected ventilation shafts can save construction costs estimated at \$1-2 million. Design must be completed in time to avoid delays to contractor's station excavation.

**Status/Action**

The value engineering recommended redesign has been implemented on Contract C0351 with a change notice now being processed.

## SAFETY SUMMARY STATUS

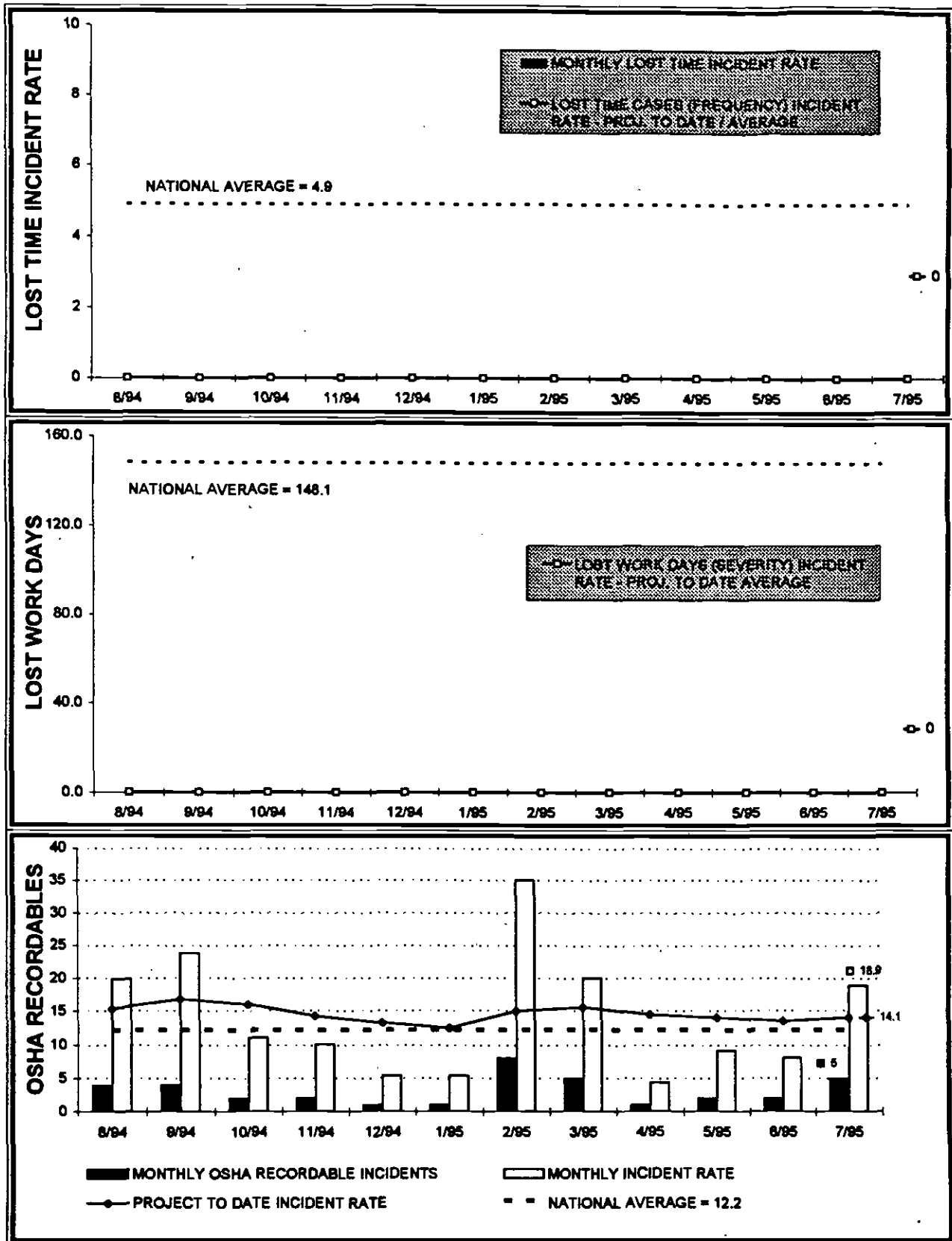
**Safety Summary Analysis**

The project achieved favorable statistics with zero lost time cases recorded for the month of July. This compares to the latest national average of 4.9 lost time cases per 200,000 hours worked. Similarly, the project rated a zero lost work day case rate as opposed to the 1992 national average of 148.1 days per 200,000 hours worked. (The Bureau of National Statistics no longer publishes lost work days incidence rate as of 1993.) Training efforts included Toolbox meetings, Substance and Drug Abuse, Field Safety Orientation, Job Hazard Analysis, Tunnel Safety, OSHA 500 30-hour Class and several first aid and CPR courses conducted for the benefit of project personnel.

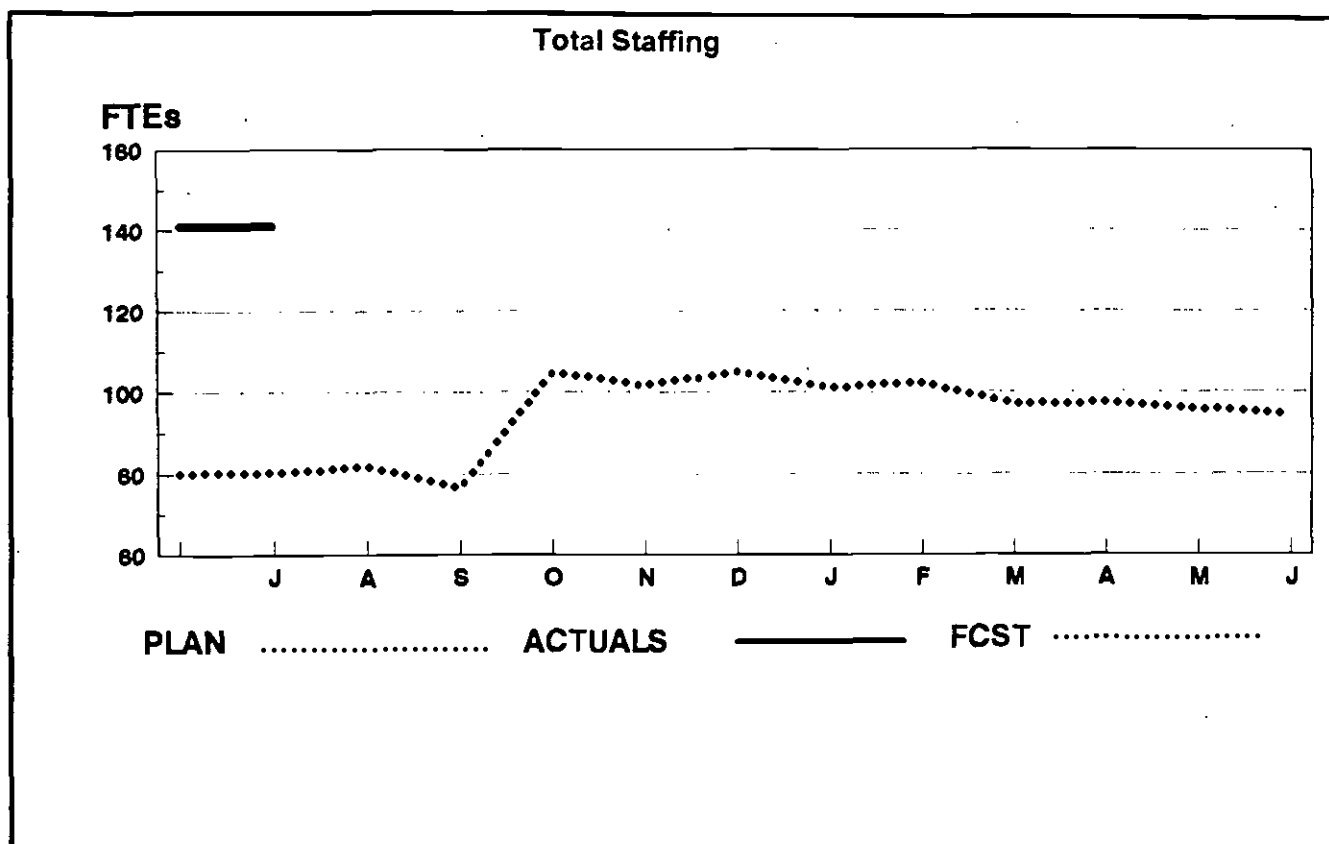
Due to organizational changes and scheduling conflicts, the monthly Metro Red Line safety meeting was not held this month.

The monthly safety engineers meeting was held July 12, 1995. The meeting was opened by Lou Hubaud with brief comments and open forum followed. Jim Veatch presented updated information on the safety incident at Contract B251 which involved the tunnel remaining collapse. Information was circulated to allow for roster updates from all interested parties. The meeting closed with additional general discussion including a review of the plans for the All Hands Meeting.

METRO RED LINE  
SEGMENT III  
SAFETY SUMMARY



## PROJECT STAFFING STATUS



## Staffing Analysis

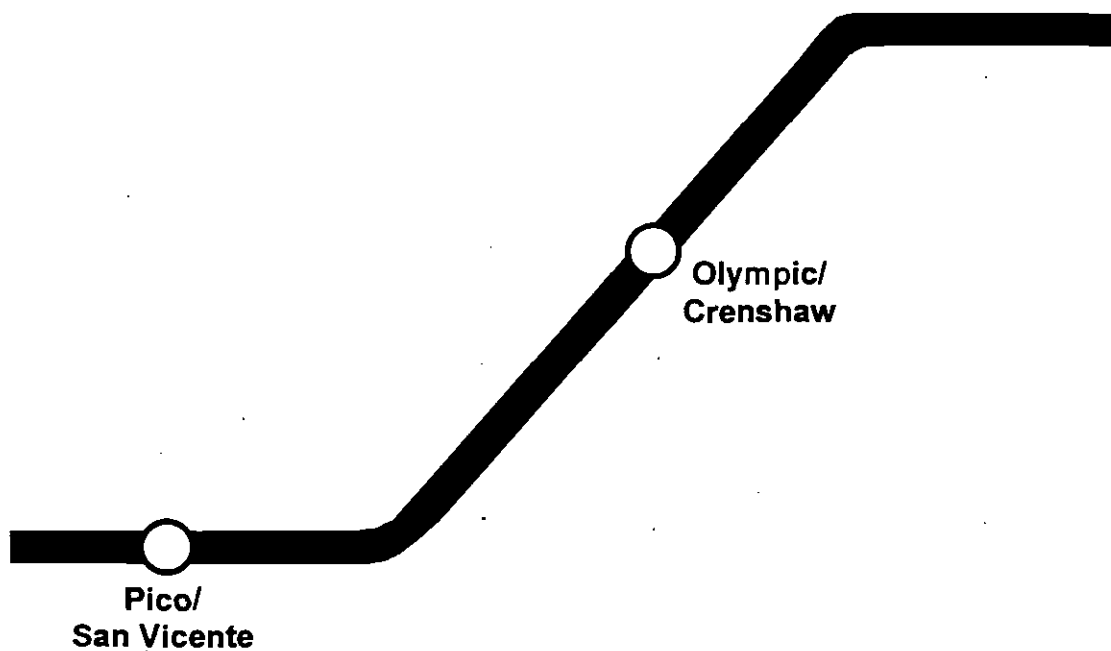
The total staffing actuals are higher than planned due to Parsons Dillingham and JMA scope of work not being defined and negotiated, the Engineering Management Consultant providing early facility design services for Contracts C0311, C0301, C0351 and the processing of a greater volume of consultant change requests. Staffing plans for the two construction management consultants will be provided when negotiations are completed.

METRO RED LINE SEGMENT 3

MID CITY EXTENSION

EXECUTIVE SUMMARY

## Major Activities This Period

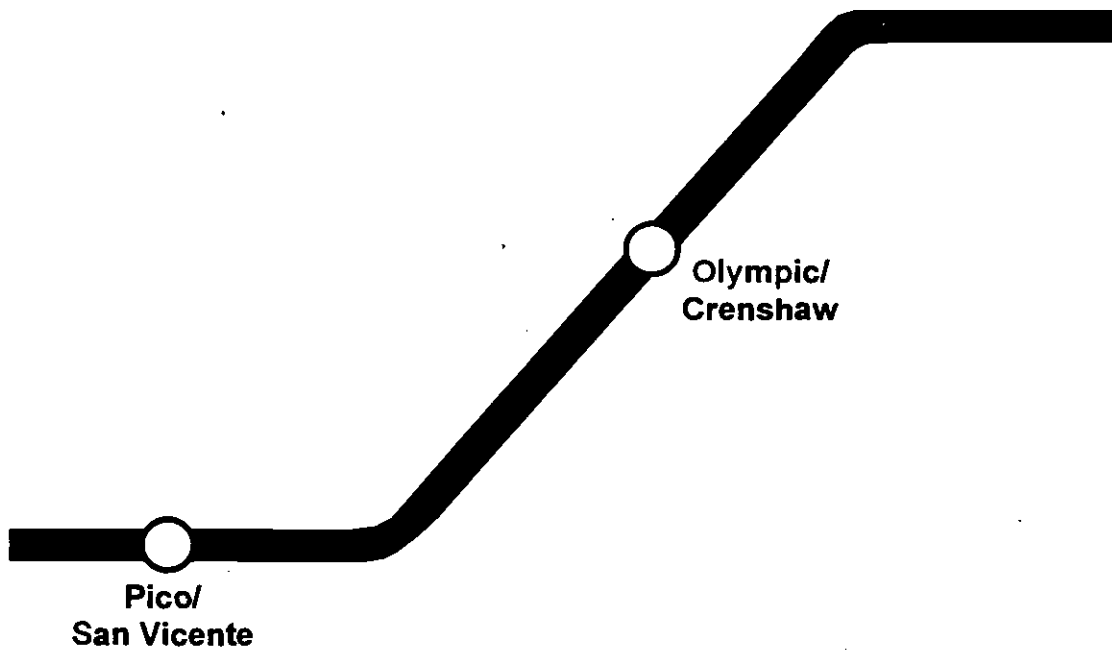
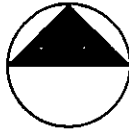


### SYSTEMWIDE ACTIVITIES

The project is again progressing ahead as EMC is providing the required design support to the SEIS/SEIR.



## Major Activities Next Period



### SYSTEMWIDE ACTIVITIES

Analysis for the Draft SEIS/SEIR is scheduled to complete next period.

## FINANCIAL STATUS MID CITY EXTENSION

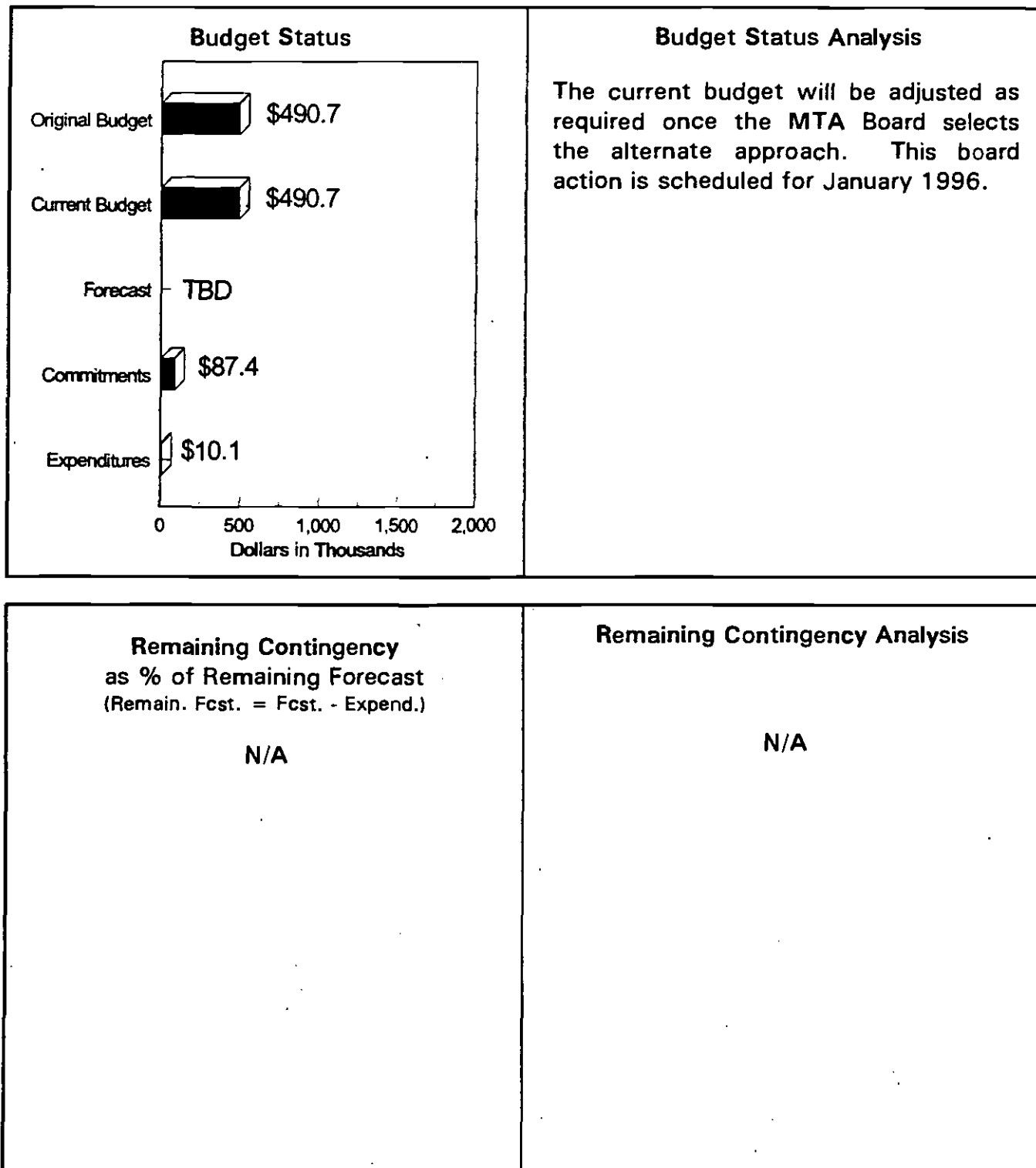
### Budget/Forecast Variance

COST ELEMENT	CURRENT BUDGET	CURRENT FORECAST	VARIANCE	AUGUST CHANGE IN FORECAST
CONSTRUCTION	\$334,139	TBD	N/A	N/A
PROFESSIONAL SERVICES	98,133			
REAL ESTATE	53,303			
UTILITY/FORCE ACCOUNT	5,088			
SPECIAL PROGRAMS	0			
CONTINGENCY	0			
PROJECT REVENUE	0			
TOTAL PROJECT	\$490,663	TBD	N/A	N/A
<i>NEW REQUIREMENTS</i>				
CONSTRUCTION	\$0	TBD	N/A	N/A
PROFESSIONAL SERVICES	0			
REAL ESTATE	0			
UTILITY/FORCE ACCOUNT	0			
SPECIAL PROGRAMS	0			
CONTINGENCY	0			
TOTAL NEW REQUIREMENTS	\$0	TBD	N/A	N/A
GRAND TOTAL	\$490,663	TBD	N/A	N/A

### Budget/Forecast Variance Analysis

The forecast information is not shown due to the unknown alternate approach. As soon as the MTA Board selects the alternate approach, the forecast will be adjusted. Board action is planned for January 1996.

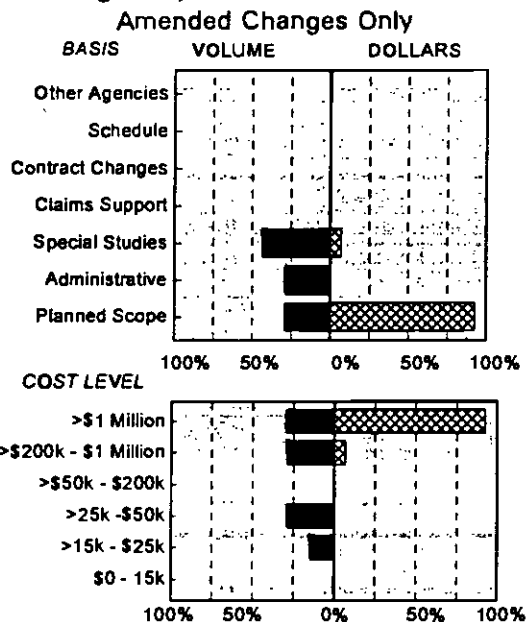
## FINANCIAL STATUS MID CITY EXTENSION



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## FINANCIAL STATUS MID CITY EXTENSION

### Professional Service Contracts Changes by Basis and Cost Level



### Change Basis Analysis

Approximately 43% of the Red Line Segment 3 Mid City change volume continues to be Special Studies. Mainly Environmental Sampling and Testing and Alignment Reassessment.

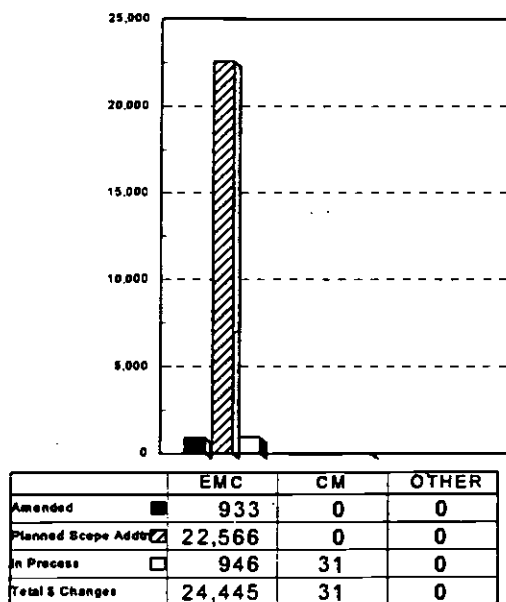
An example of this would be CCR R83-E0070-88.01-Mid-City Segment-3 Environmental Sampling/Testing. It was realized that performing this sampling and testing concurrent with the geotechnical investigation would result in a cost savings for the project.

### Change Cost Level Analysis

As shown on the Cost Level Analysis chart opposite, the MTA Board reviews 99% of all change costs associated with the Red Line Mid City Project, or \$24M of a total change cost of \$24.3M. This equates to 57% of the total change volume or 4 of 7 total changes.

The MTA Project team reviews all CCR's yet only has authority to sign for a small portion (less than 1%) of the overall change cost.

### Professional Service Contracts Change Cost by Consultant Dollars in Thousands



### Professional Services Change Analysis

One (1) contract Amendment approved this period, EMC CCR R83-E0070-272.00 - Mid City Environmental Evaluation for \$933K.

#### OATA SOURCE:

#### CCS: CCR REPORTS

Planned Additional Scope = Services which were anticipated or identified at the inception of the CWO but not included in the initial award. Staff will incrementally approve these known scope requirements and corresponding funds as a method to closely manage the consultant's technical and cost performance.

## AREAS OF CONCERN MID CITY EXTENSION

### NEW

***Item***

Mid City Master Schedule

***Concern/Impact***

The draft SEIS/SEIR when completed will define the project alternates. The MTA Board will be able to make a decision on the preferred alternate for the final SEIS/SEIR. The overall schedule for the design and construction is on hold until the completion of the final SEIS/SEIR. The impact to ROD cannot be determined until the preferred alternate is selected. The current SEIS/SEIR schedule is being reviewed to mitigate the schedule delays.

***Status/Action***

The SEIS/SEIR is proceeding with a current goal to have the alternates to the MTA Board at the regular January 1996 Meeting.

### ONGOING

***Item***

SEIS/SEIR Study

***Concern/Impact***

The Segment 3 Mid City Extension SEIS/SEIR is 59% complete as of August 1995. The study has incurred delays due to the environmental Engineering design support being delayed along with other delay issues.

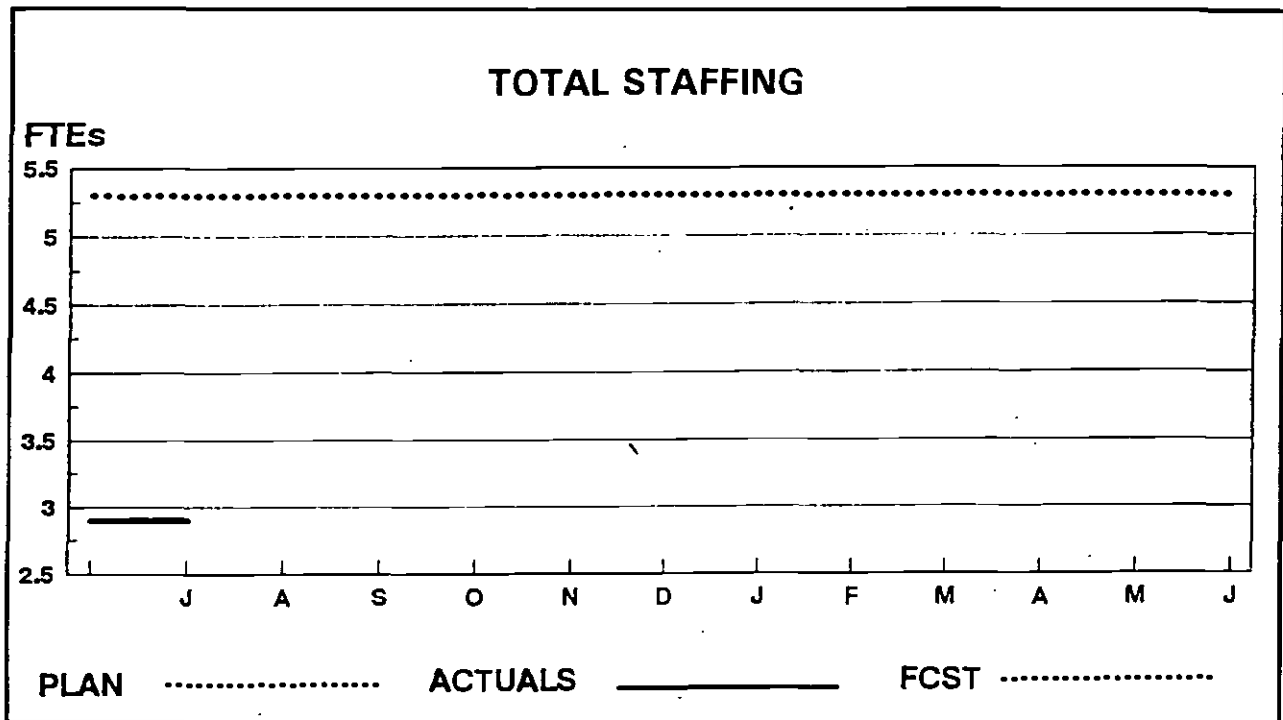
***Status/Action***

The design support has resumed and is currently supporting the draft SEIS/SEIR study. The schedule for the SEIS/SEIR study has been revised to indicate the current obtainable date to have the study available to the MTA board in January of 1996 for the decision on the preferred alignment.

### RESOLVED

NONE

## PROJECT STAFFING STATUS MID CITY EXTENSION



### STAFFING ANALYSIS

The total staffing actuals are lower than planned due to delays in initiating Preliminary Engineering activities.

The EMC is providing project support to Environmental Rail on an "as-needed basis" during the development of the supplemental Environmental Impact Statement and the coordination of the monthly PMSR. Staffing will continue to fluctuate based on the MTA's needs through the end of FY'96.

Note: Total Staffing Chart includes EMC, CM, and MTA staffing only

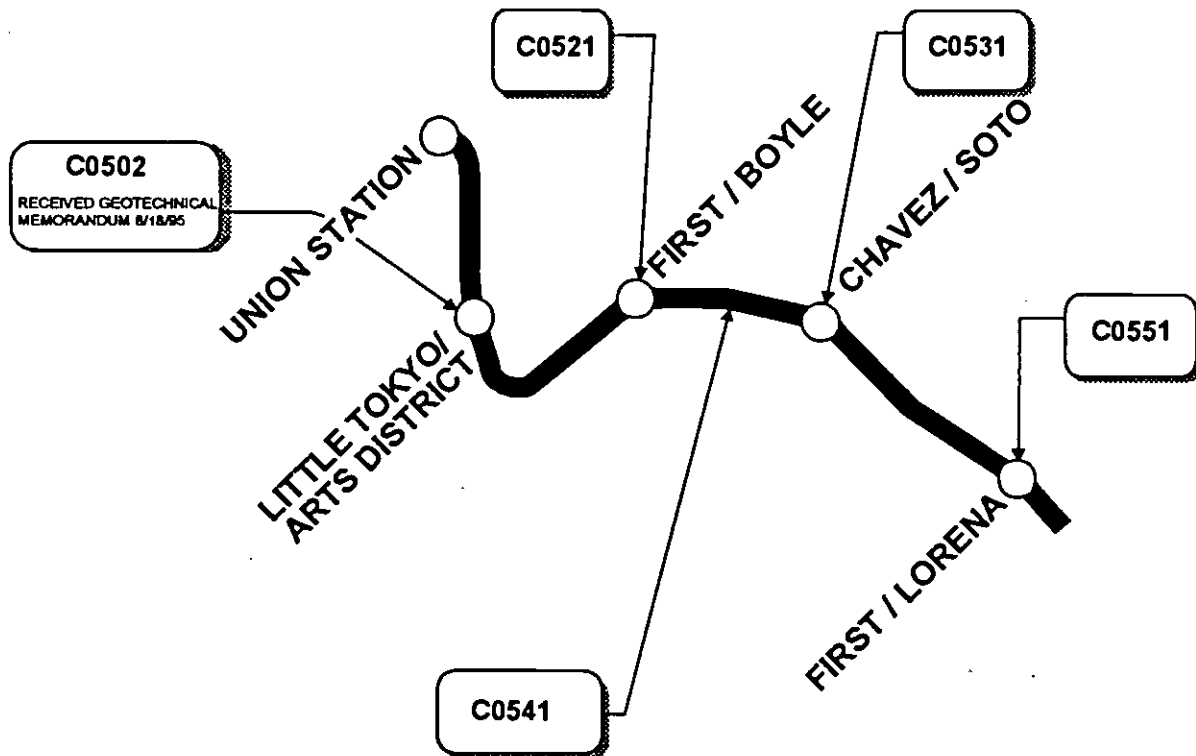
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METRO RED LINE SEGMENT 3

EAST SIDE EXTENSION

EXECUTIVE SUMMARY

## Major Activities This Period

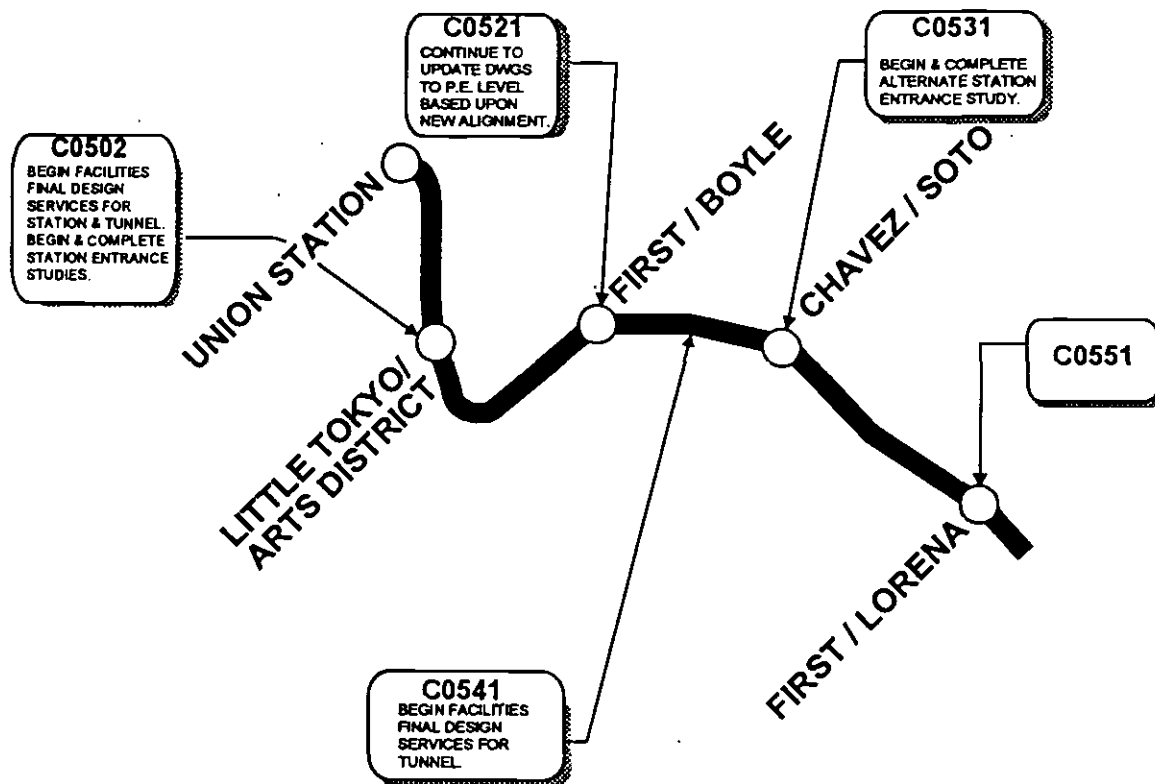


### SYSTEMWIDE ACTIVITIES

CONTINUED RIGHT-OF-WAY CERTIFICATION, ADVANCED UTILITIES RELOCATION CONTRACTS AND RESEARCHING BUILDING PLANS AT THE STATION SITES. CONTINUED CROSSOVER STUDY. CONTINUED UPDATING END MODULES WITH VERTICAL FANS DESIGN. BEGAN TPSS SIMULATION STUDY. BEGAN PROJECT IMPLEMENTATION PLAN FOR CONTINUED ENGINEERING SERVICES WITHIN \$6M AFE.



## Activities Planned For Next Period



### SYSTEMWIDE ACTIVITIES

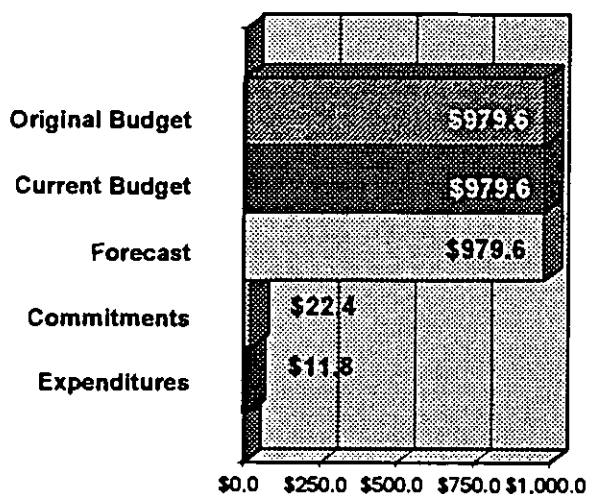
CONTINUE RIGHT-OF-WAY CERTIFICATION, REVISE RIGHT-OF WAY CERTIFICATION SCHEDULE, BEGIN SYSTEMS ATC STUDY, BEGIN BUILDING SYSTEMS CELL LIBRARY, CONCLUDE TPSS SIMULATION STUDY, CONTINUE GEOTECHNICAL SERVICES, AWARD CONTRACTS TO BUILDING PROTECTION SURVEY, POTHOLING AND PHOTO-GRAMMETERY SUBCONTRACTORS.

**FINANCIAL STATUS****Budget/Forecast Variance (x \$1,000)**

COST ELEMENT	CURRENT BUDGET	CURRENT FORECAST	VARIANCE	AUGUST CHANGE IN FORECAST
CONSTRUCTION	\$624,556.0	\$624,865.0	\$309.0	\$0.0
PROFESSIONAL SERVICES	219,522.0	227,635.0	8,113.0	0.0
REAL ESTATE	26,570.0	26,570.0	0.0	0.0
UTILITY/FORCE ACCOUNTS	14,092.0	14,092.0	0.0	0.0
SPECIAL PROGRAMS	0.0	0.0	0.0	0.0
CONTINGENCY	94,861.0	86,439.0	(8,422.0)	0.0
PROJECT REVENUE				
TOTAL PROJECT	\$979,601.0	\$979,601.0	\$0.0	\$0.0
<b>NEW REQUIREMENTS</b>				
CONSTRUCTION				
PROFESSIONAL SERVICES				
REAL ESTATE				
UTILITY/FORCE ACCOUNTS				
SPECIAL PROGRAMS				
CONTINGENCY				
PROJECT REVENUE				
TOTAL NEW REQUIREMENTS	\$0.0	\$0.0	\$0.0	\$0.0
GRAND TOTAL	\$979,601.0	\$979,601.0	\$0.0	\$0.0

**Budget/Forecast Variance Analysis**

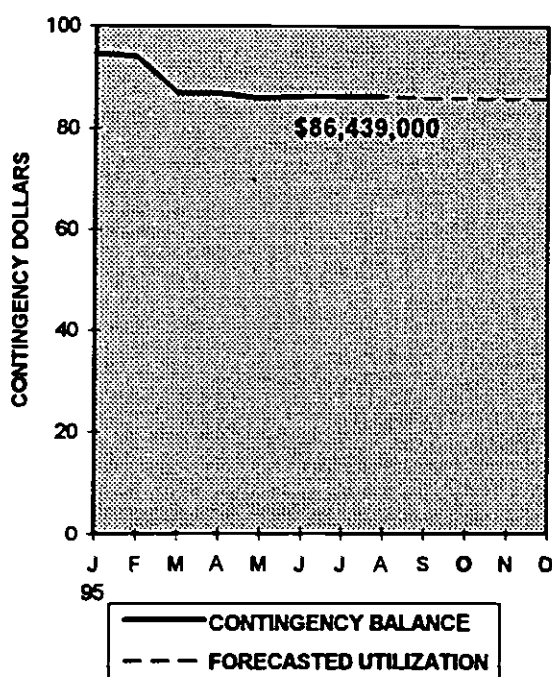
Budget and forecast remain at the same value. No trends were issued during the reporting month.

**FINANCIAL STATUS****Budget Status**

Dollars in Millions

**Budget Status Analysis**

No change in Budget for current reporting period.

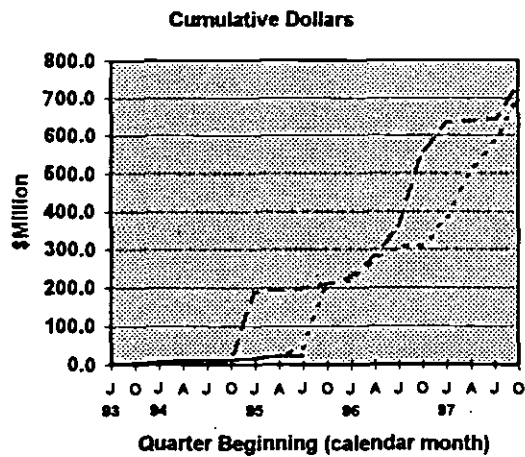
**Contingency Status**  
August 1995**Remaining Contingency Analysis**

To date, project trending has reduced contingency by \$8,422 million.

Preliminary design is 100% complete which relates to 30% complete of the total design effort.

## FINANCIAL STATUS

## Project Commitments



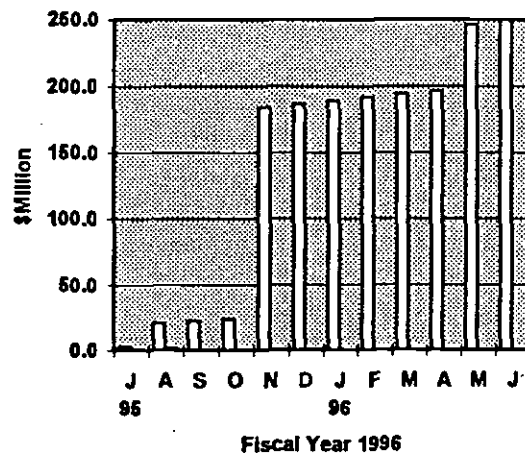
- - - Original Plan: \$979,601,000  
 . . . Current Plan: \$979,601,000  
 — Actual: \$22,401,000  
 - . - New Requirements: \$0

## Project Commitments Analysis

New commitments for the reporting period include \$50,000 for the Dept. of Water & Power, \$25,000 for Southern California Gas Company, \$25,000 for Pacific Bell, and \$25,000 for Dept. of Transportation. Original plan is impacted because of delayed full NTP for final design.

## Fiscal Year Commitments

FISCAL YEAR 1996 BUDGET \$249,775,000  
Cumulative Dollars

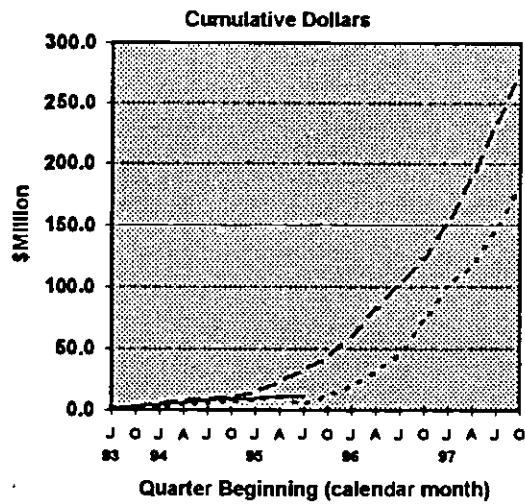


□ FY96 Planned Commitments (Current Plan)  
 ■ FY96 Actual Commitments

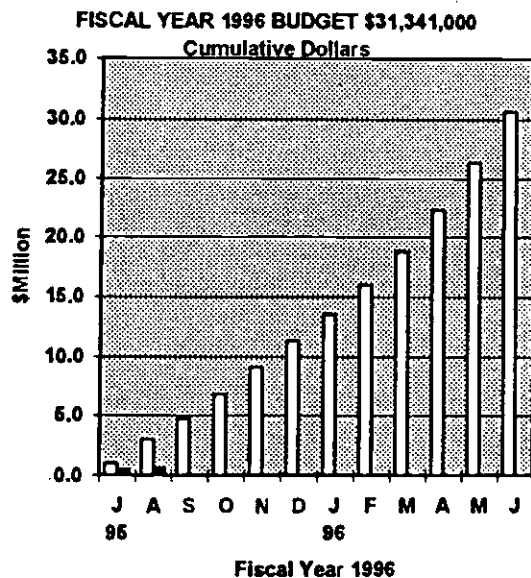
## Fiscal Year Commitments Analysis

Commitments delayed due to the delay in full NTP for final design.

## FINANCIAL STATUS

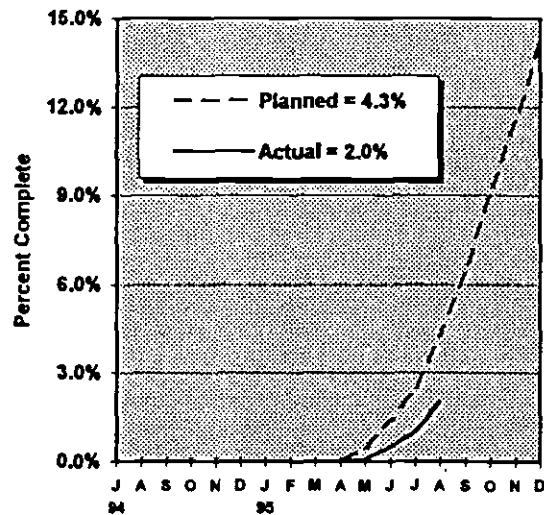
**Project Cashflow****Project Cashflow Analysis**

Original plan is impacted because of delayed full NTP for Final Design.

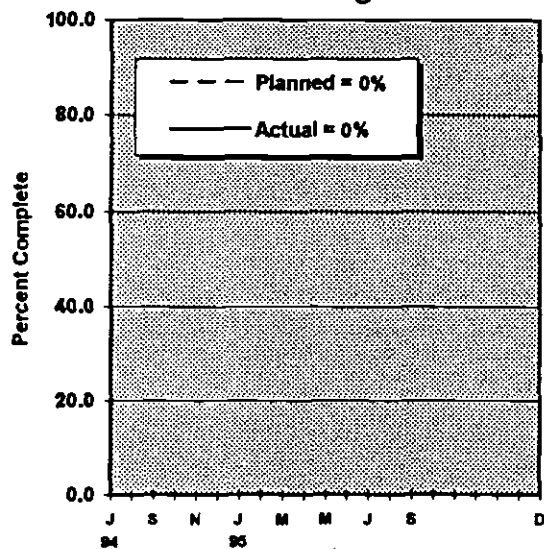
**Fiscal Year Project Cashflow****Fiscal Year Cashflow Analysis**

The planned expenditures have not been met because of the delayed start for full final design.

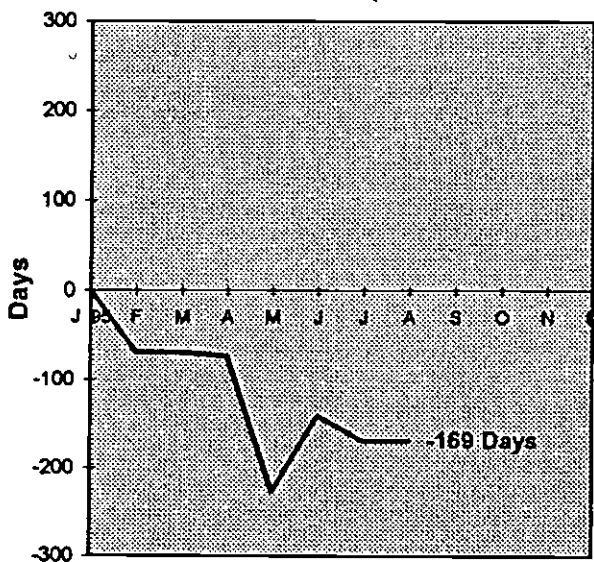
## SCHEDULE STATUS

**Schedule Status  
Final Design Progress****Final Design Schedule  
Progress Analysis**

Design began on 5/15/95 with a "Limited Notice to Proceed" with limited scope authorization.

**Schedule Status  
Construction Progress****Construction Schedule  
Progress Analysis**

Not applicable at this time.

**SCHEDULE STATUS****Current Critical Path****PROJECT FLOAT TREND ANALYSIS  
(CALENDAR DAYS)****Current Critical Path Analysis**

Design of both C0531 and C0541 is on the critical path. The critical path then becomes the C0541 bid, award, and tunneling process. When tunneling is complete, access to Chavez/Soto station box is transferred from the C0541 contractor to the C0531 contractor, as is the critical path. When station concrete is substantially complete, trackwork access is provided and the critical path becomes trackwork installation.

Eighty-six days of negative float was mitigated by moving the start of final design services (full funding) from 11/29/95 to 8/1/95.

Forecast R.O.D. now stands at July 3, 2003.

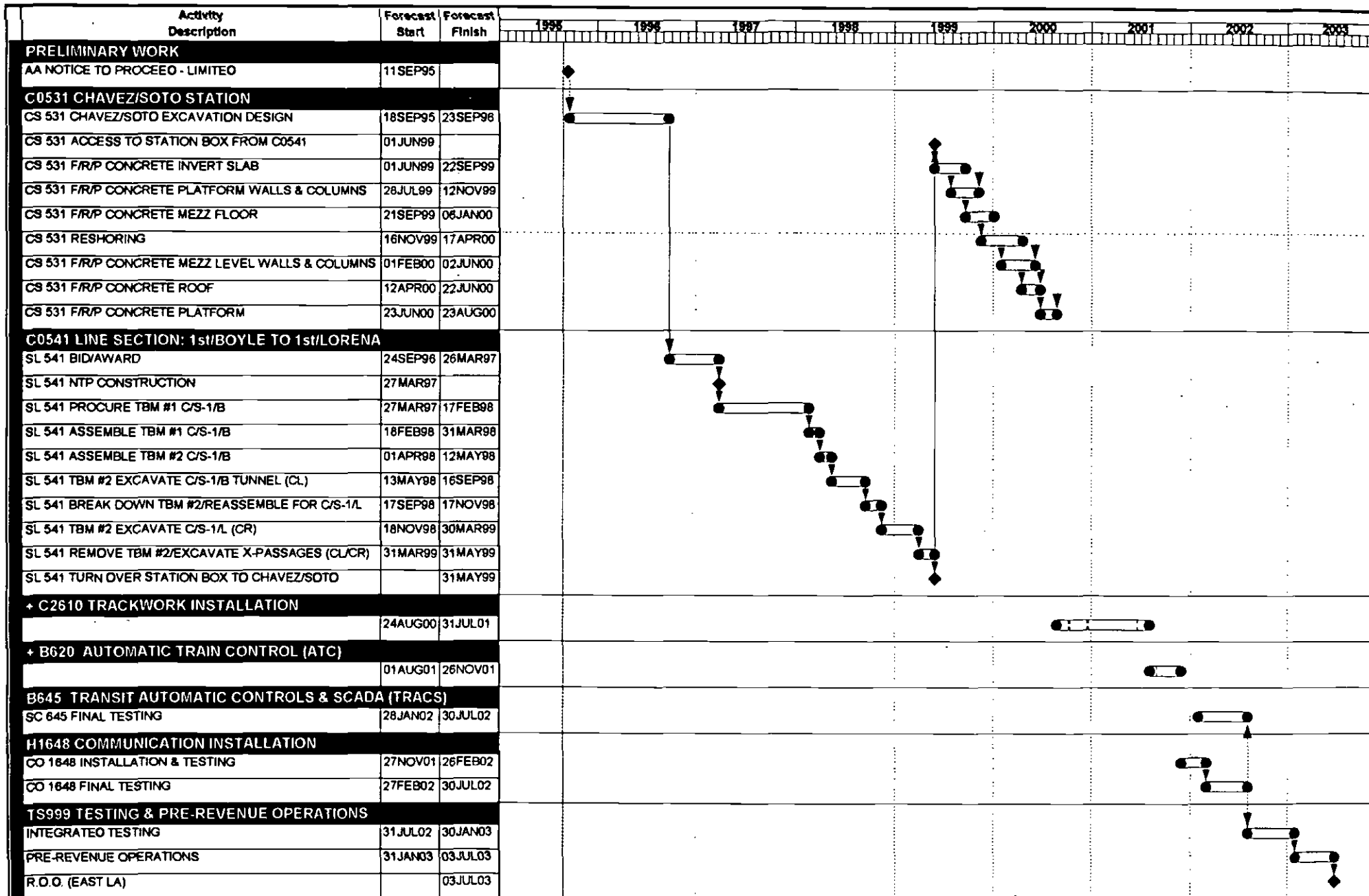
**3-Month Contract Schedule**

Contract Description

Advertise Date

**3-Month Contract Schedule Analysis**

No contracts are scheduled during this period.



Project Start 15JUL95  
 Project Finish 03JUL03  
 Date Data 28AUG00  
 Print Date 16SEP96

EL#

**MTA - SEGMENT 3**  
**EAST SIDE EXTENSION TO 1st/LORENA**  
**CRITICAL PATH**

Sheet 1 of 1

ENGINEERING MANAGEMENT CONSULTANT			
Date	Revision	Checked	Approved



**SCHEDULE STATUS*****Real Estate Status***

	NUMBER OF PARCELS	NUMBER OF PARCELS AVAILABLE	PARCELS NOT AVAILABLE (ON SCHEDULE)	PARCELS NOT AVAILABLE (BEHIND SCHEDULE)	
				NUMBER	AVG. DAYS BEHIND
THIS MONTH	198	0	198	0	0
LAST MONTH	181	0	181	0	0

***Real Estate Analysis***

To date, 19 full-take parcels have been certified. No parcels were scheduled to be acquired during this period. To date, 6 parcels are pre-owned by MTA that relate to this project.

**AREAS OF CONCERN****NEW*****Item***

There are ten systems contracts for the East Side Extension Project which are options, staged NTP's or staged releases to existing Segment 2 contracts.

***Concern/Impact***

The Federal Acquisition Regulations (FAR) states that the contracts with options which will require an extension of time beyond five years cannot be exercised and remain compliant with the law. The East Side Extension contracts are required to be exercised within 48 months of the initial NTP of the contract. Because of the delayed start to final design services, some impacts will be encountered.

***Resolution***

Impacts will be determined to see if new procurement of these contracts are necessary.

**ONGOING*****Item***

Recent U.S. Congressional ruling on affirmative action.

***Concern/Impact***

The proposed selection of section designers could become null and void, possible rebidding would occur which have a minimum three month impact to the schedule. The Construction Management Contractor selection has been delayed by one month.

***Status/Action***

Awaiting California Supreme Court ruling.

**AREAS OF CONCERN****ONGOING*****Item***

Protest to the Section Designer selection was received by MTA in March 1995.

***Concern/Impact***

If the selected Section Designers are not approved because of the protest, the process of selecting new Section Designers will have a minimum three month impact to the schedule.

***Status/Action***

MTA Board action has been re-scheduled from July 1995 to September 1995.

**ONGOING*****Item***

The Record of Decision was approved with a Revenue Operations Date of November 2002. This date was based upon a scheduled start date for Final Design services in January 1995. On April 25, 1995, MTA Board approved EMC to start limited design services for geotechnical, advanced utilities and right-of-way certifications within a Notice-to-Proceed amount of \$5 million. Authorization was given to EMC on May 15, 1995 to begin the aforementioned scope for \$2.3 million.

***Concern/Impact***

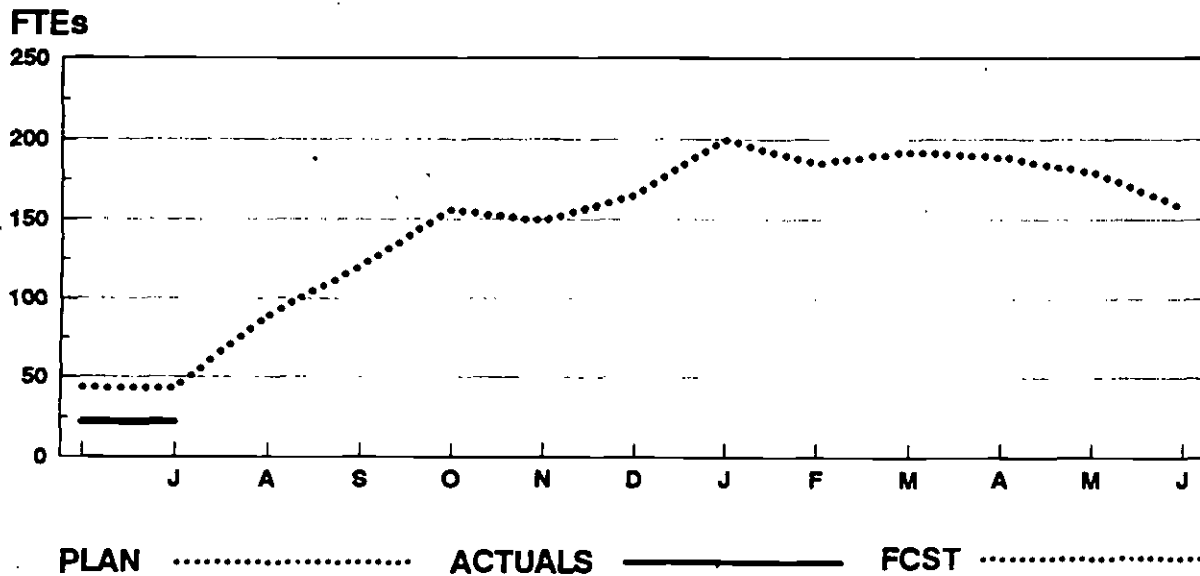
To date, the delayed impact for start for final design services has resulted in 169 working days negative float.

***Resolution***

On July 26, 1995 the MTA Board approved an additional \$1 million bringing the total AFE to \$6 million. This authorization was approved for start of final design services, as originally planned so that no further delays to the schedule would be encountered.

**SAFETY SUMMARY**  
**(N/A AT THIS TIME)**

### RED LINE SEGMENT 3 EASTERN EXTENSION TOTAL STAFFING



### STAFFING ANALYSIS

The actuals are lower than planned due to delays in initiating Final Design.

# **VEHICLE ACQUISITION PROJECT**

## **EXECUTIVE SUMMARY**

**EXECUTIVE SUMMARY**

August '95 was the 18<sup>th</sup> month of the Standard Car Program. In August, we met with Siemens Duewag to discuss general engineering issues (seat design, battery sizing, exterior lighting); with SDC and IFE to discuss door system design and operation; with SDC's new program team to discuss key issues (schedule, weight, HVAC system design) and the conduct of the program; with SDC and CCI to discuss progress of carshell design and construction; with SDC, the MTA *Interior Colors Committee*, to facilitate selection and approval of the interior colors and materials; with SDC and TRW to review progress of the ATPDP; and with Transrail, AEG, and SDC to discuss program open items with respect to the Auxiliary Electric and Propulsion Systems.

Two MTA Board actions were the most significant program events of the month. The first was the MTA adoption of their *Cost Containment Committee's* recommendation that the Standard Car fleet be reduced from 74 cars to 52 cars (P2000 Contract Option No. 5). SDC has stated that should this reduction be implemented, there would not be a sufficiently large enough market "bridge" for their Carson to sustain operation beyond the present order. SDC will also likely abort their plans to fabricate the Standard Car trucks in Carson. LTK is awaiting formal direction to commence negotiations with SDC regarding the exercise of this option.

The second MTA Board action was to request a thirty-day extension to the driverless upgrade decision (P2000 Contract Option No. 3) due date. In consideration of extending this Option date, SDC requested 60 days of schedule relief, which the MTA is considering. LTK is awaiting formal direction from the MTA regarding this issue.

Other key issues in August were schedule and weight. In a meeting at CCI's facility in Carson, SDC informed us that the first carshell would not be complete until the end of February, 1996. This would put the program back about four to six months, or two to four months, if the two months of schedule relief is granted to SDC by the MTA. SDC explained that there were several reasons for the delay, including:

- Now that the overall vehicle design is beginning to firm up, and supplier weight estimates have more validity, the vehicle is projected to exceed the allowable weight limit. In an effort to bring the vehicle weight back under control, SDC has directed their carshell designer, Duewag, to change to a more weight efficient design. To date, these efforts have resulted in changes to over 1200 parts, precluding the start of carshell construction until the weight-saving effort is complete.

- The supply of steel to CCI and it's satellite vendor base is a problem. As CCI explains, they do not represent a large enough market to the steel mills, which are slow in material deliveries. Compounding the problem, the wrong steel was sent to some suppliers, and had to be returned. Finally, CCI is beginning to experience a high rejection rate of parts being delivered from its local supplier base.

SDC does not believe they can construct a work-around to mitigate this delay. They will submit a re-baselined schedule in early September. LTK will review this schedule in depth and advise of any suggestions we may have for mitigating delay.

With regard to the weight issue, we received an analysis of the problem from SDC (Ref. SME-632) which offers that although SDC and Duewag have reduced carshell weight by 1400 lbs., and that other savings have been identified, both the Standard and Prototype Cars are projected to come in at almost exactly the specified limit of 142,500 lbs. This leaves no design contingency. SDC considers that a prudent "buffer" would be on the order of 2000 lbs. SDC is continuing to pursue other weight saving measures to build up their contingency. LTK will assist them to the extent possible in this endeavor.



**PROGRAM SUMMARY****CAR DELIVERY/COST/WEIGHT SUMMARY FOR AUGUST 1995****PROJECTED VEHICLE DELIVERY DATES**

*Schedule Data Date:      Awaiting submittal of SDC's updated Program Schedule*

*Vehicle Number:      Delivery Date:      Total Float:*

Prototype No. 1	days
LRV No. 1	days
LRV No. 15	days
LRV No. 34	days
LRV No. 72	days

**SIEMENS DUEWAG CONTRACT BUDGET STATUS**

*Contract Totals to Date:*

Total Contract Value:	\$214,370,314
Total Paid to Date:	\$48,519,379 including EPA adjustments of \$2,606,359
Total ATPDP Paid to Date:	\$6,489,703
Total Retained to Date:	[4,591,302]

*Payments and Retainage this Month:*

Progress Payments:	0
EPA Adjustments:	\$475,186
Change Orders:	None
ATPDP:	\$275,902
Retainage:	[\$457,143]

**PROJECTED VEHICLE WEIGHTS**

*Standard Cars:*

Specified Weight (AW4):	142,508 lbs.
Projected Weight (AW4):	142,508 lbs

**PROGRAM SUMMARY (CON'T)***Prototype Cars:*

Specified Weight (AW4): 142,508 lbs.  
Projected Weight (AW4): 142,508 lbs.

**ATPDP Update for August 1995****Product A: Carbody Structural Optimization***Awaiting EMC Report***Product B: Rail Sentry Obstacle Detection***Awaiting EMC Report***Product C: Advanced Air Conditioning***Awaiting EMC Report*

## FINANCIAL STATUS

Budget/Forecast Variance				
COST ELEMENT	CURRENT BUDGET (\$000)	CURRENT FORECAST (\$000)	VARIANCE (\$000)	AUGUST CHANGE IN FORECAST (\$000)
CONSTRUCTION	\$232,370	\$229,830	(\$2,539)	\$0
PROFESSIONAL SERVICES	12,960	19,505	6,544	0
PROJECT CONTINGENCY	12,267	8,262	(4,004)	0
PROJECT REVENUE	0	0	0	0
TOTAL PROJECT	\$257,597	\$257,597	\$0	\$0

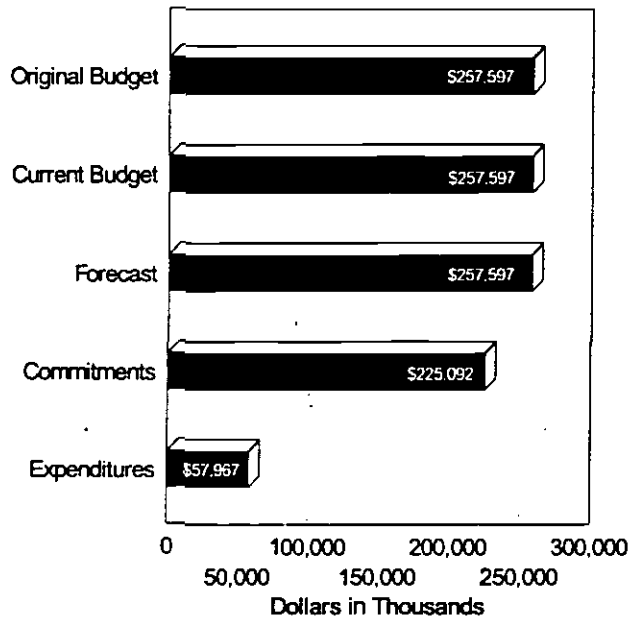
## Budget/Forecast Variance Analysis

There was no reconciliation for the month of August 1995 because there were no trends. The \$6.5 million variance in Professional Services is mainly due to the incorporation of a Project Budget Change Request (PBCR) for the E0350 contract, LTK Engineering Services (Trend #4).

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## FINANCIAL STATUS

## Budget Status

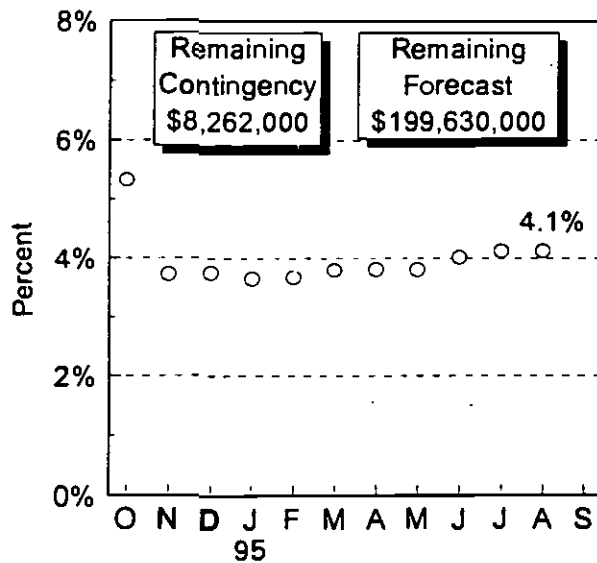


## Budget Status Analysis

The Current Project Budget is \$258 million with a current forecast of \$258 million. The Forecast includes all trends (#001 - #013).

### Remaining Contingency

As % of Remaining Forecast  
(Remain. Fcst. = Fcst. - Expend.)



## Remaining Contingency Analysis

The remaining Project Contingency for the Los Angeles Light Rail Vehicle is 4.1% of the remaining forecast for the period of August 1995. Project Contingency has remained at \$8.26 million.

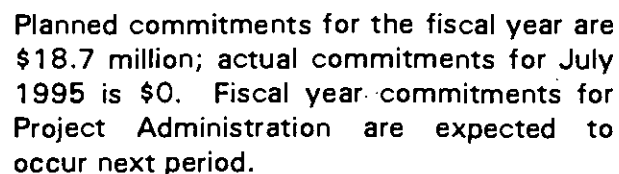
## Project Commitments



Project planned commitments are \$257.6 million; actual commitments are \$225.1 million or 87.4% of the total forecast. There was nothing committed for the month of August 1995. Fiscal year commitments for Project Administration, MY001 is expected to occur next period.

The chart is based on uncommitted amounts. Actual commitments are through July 1995.

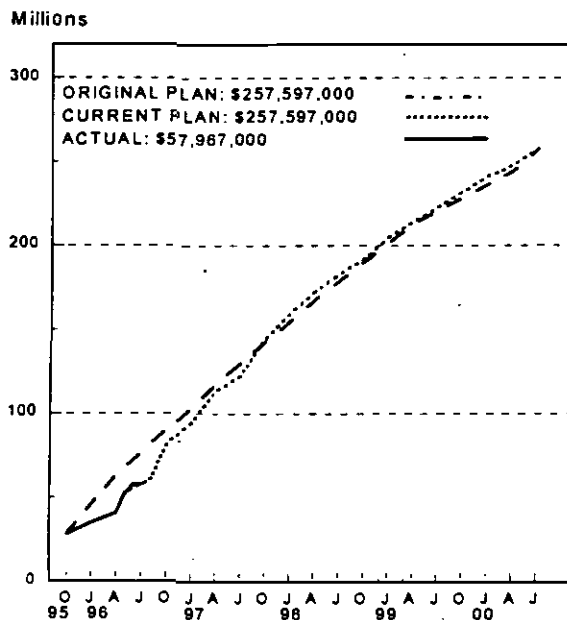
## Fiscal Year Commitment Analysis



The chart is based on uncommitted amounts. Actual commitments are through July 1995.

## FINANCIAL STATUS

## Project Cashflow



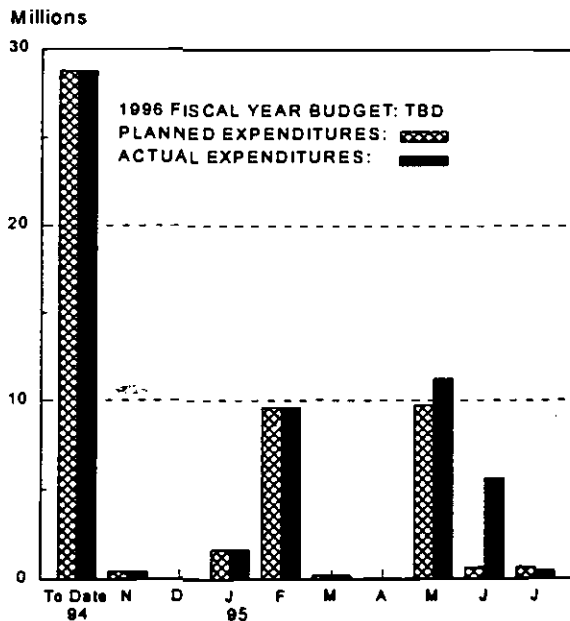
## Project Cashflow Analysis

Project planned cumulative expenditures are \$257.6 million; actual expenditures to date are \$58.0 million or 22.5% of the total forecast. These expenditures are accounted for mainly by Contract P2000, General Engineering, Specialty Services and Project Administration.

A new cashflow will be created once the rebaselined schedule is submitted.

Actual expenditures are through July 1995.

## Fiscal Year Project Cashflow



## Fiscal Year Cashflow Analysis

Planned fiscal year expenditures for 1996 will be determined once the rebaselined schedule is submitted. Actual expenditures for the current period are \$457,000.

Actual expenditures are through July 1995.

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## FINANCIAL DETAIL

LA LIGHT RAIL VEHICLE PROCUREMENT  
(IN THOUSANDS OF DOLLARS)

## STATUS OF FUNDS BY SOURCE

AUGUST 95

SOURCE	TOTAL FUNDS ANTICIPATED (1)	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA RSTP (ISTEA)	\$6,077	\$0	\$6,077	100%	\$0	0%	\$0	0%
FTA - OTHER	\$11,923	\$0	\$0	0%	\$0	0%	\$0	0%
FED ISTEA STP	\$84,000	\$26,400	\$84,000	100%	\$20,029	24%	\$15,287	18%
STATE PROP 116	\$33,550	\$16,398	\$33,550	100%	\$16,398	49%	\$16,398	49%
PROP C	\$122,047	\$26,118	\$101,465	83%	\$21,540	18%	\$21,540	18%
TOTAL	\$257,597	\$68,916	\$225,092	87%	\$57,967	23%	\$53,225	21%

(1) BASED ON CURRENT BUDGET

NOTES: EXPENDITURES ARE THROUGH JULY 1995.

# FINANCIAL DETAIL

## LA LIGHT RAIL VEHICLE PROCUREMENT

### FUNDS BY SOURCE ANALYSIS

#### STATUS OF FUNDS ANTICIPATED

##### FED ISTE A STP

STATE APPROVED RESOLUTION TO ALLOCATE \$26.4M OF FEDERAL STP FUNDS.  
GRANT AWARD LETTER HAS BEEN RECEIVED BY MTA IN JUNE 95.  
FUNDS ARE NOW AVAILABLE FOR DRAWDOWN.



METRO SYSTEM  
NCL - LA CAR - Design & Procurement  
CHANGE ACTION STATUS LOG: SUMMARY  
AS OF: 09/06/95

CONTRACT: P2000 Vehicle Acquisition Project

CONFIDENTIAL MATERIAL

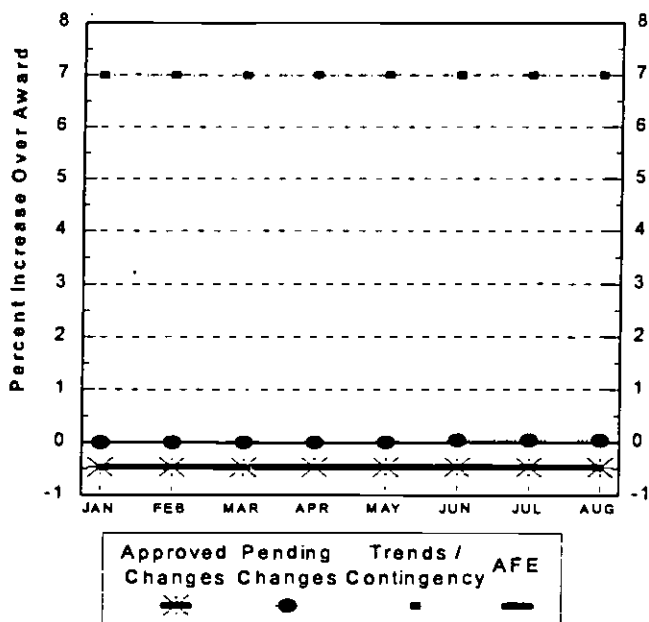
CO #	CN #	CHANGE TITLE	LOGGED	EXECUTED	FORECAST COST	DAYS	AUTHORIZED WRITE	BALL IN COURT WITHDRAW
<b>EXECUTED CHANGES</b>								
<b>EXECUTED</b>								
1.00	1.00	MISCELLANEOUS WORDING CHANGES, CONTRACT EXTENSION,...	02/24/94	03/31/94	\$0.00	540	\$0.00	COMPLETION ACTION
2.00	2.00	TESTING LOCATION CHANGE, ADD THREE OPTIONS, AND MI...	04/18/94	07/28/94	(\$1,000,000.00)	0	\$0.00	COMPLETION ACTION
TOTAL EXECUTED :		2 CN'S			(\$1,000,000.00)	540	\$0.00	
<b>UNEXECUTED CHANGES</b>								
3.00	3.00	C. D. 3 MATRIX ITEM NOS. 1,2,3,6,22 THROUGH 27,31,...	08/25/94		\$0.00	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	5.00	C. D. 3, MATRIX ITEM NO. 7, ALLOW PROPULSION GROUP...	08/25/94		(\$224,294.00)	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	8.00	C. D. 3, MATRIX ITEM NO. 10, WAIVER OF OUSSE BAR CU...	08/25/94		(\$12,598.00)	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	7.00	C. D. 3, MATRIX ITEM NO. 37, REDUCE BRAKE SYS. PRO...	08/25/94		(\$1,674.00)	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	8.00	C. D. 3, MATRIX ITEM NOS. 40 AND 41, SPALL SHELLO...	08/24/94		\$0.00	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	9.00	C. D. 3, MATRIX ITEM NO. 69, RELIEF FROM 100-111. 0...	08/25/94		(\$14,330.00)	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	10.00	C. D. 3, MATRIX ITEM NO. 105, INCREASE THE HUMOER...	08/25/94		(\$304,502.00)	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
3.00	11.00	C. D. 3 MATRIX ITEM NOS. 4, 13, 17, 18, 19, 32, 38...	08/24/94		\$0.00	0	\$0.00	CONTRACTOR SIGN AND RETURN CO
TOTAL :		8 CN'S			\$71,656.00	0	\$0.00	
<b>CN IN PROCESS</b>								
	4.00	WHEEL FLANGE LUBRICATORS...	04/13/95		\$0.00	0	\$0.00	CONTRACTOR APPROVE CN
	12.00	DRIVERS CAB SEAT OPTION...			\$0.00	0	\$0.00	REISSUE CTE PACKAGES
TOTAL CN IN PROCESS :		2 CN'S			\$0.00	0	\$0.00	

## CHANGE STATUS SUMMARY:

AWARD VALUE:			\$216,370,314.00
EXECUTED CHANGES:	2 CO'S	2 CN'S	(\$1,000,000.00) 540
CURRENT VALUE:			\$214,370,314.00
AUTHORIZED INTS:		0 CN'S	\$0.00
CURRENT VALUE (OBLIGATED):			\$214,370,314.00
OTHER PENDING:	10 CN'S	(EST LESS RTE AUTHORIZED)	(\$71,656.00) 0
CANCELLED/WITHDRAWN:		0 CN'S	\$0.00
TOTAL LOGGED:		12 CN'S	\$214,441,970.00 540

## FINANCIAL STATUS

**P2000 Contract Changes**  
as % of Original Contract Award



## Contract Changes Analysis

The figures for August 1995 are as follows:

Approved Changes.....(0.5%)

Pending Changes.....0.04%

Trends/Contingency.....7.0%

AFE.....0.5%

**P2000 Contract**  
**Contract Cost and Forecast**  
Comparison to Budget

Dollars in Thousands	Current	Previous	Variance
Original Contract Award	\$215,370	\$215,370	\$0
Approved Contract Value*	(\$1,000)	(\$1,000)	\$0
Current Value	\$214,370	\$214,370	\$0
Pending Logged Changes	\$71.7	\$71.7	\$0
Trends and Contingency	\$14,988	\$14,988	\$0
Total Forecast	\$229,430	\$229,430	\$0
Constr. Budget	\$232,370	\$232,370	\$0

\*Includes Executed Change Orders and Approved Not-to-Exceed Costs.

**P2000 Contract**  
**Contract Forecast Analysis**

The approved change value decrease is primarily due to a testing location change and the addition of three (3) options.

The pending logged changes increase is due to changes as a result of the Specification Review Conference.

## AREAS OF CONCERN (CON'T)

## ONGOING

*Item*

Axle Design

*Concern/Impact*

SDC has submitted an axle design drawing consistent with the axle stress analysis; however, there are a number of other inconsistencies that must be resolved before the design *per se* can be approved. From the information we have received thus far, it appears that due to the enhanced strength of the steel proposed, we will be able to use the lighter, smaller axle proposed by Duewag. This will be carried as an Area of Concern until final resolution.

*Status/Action*

SDC/Duewag have submitted a final design. This submittal is presently under review.

*Item*

Vehicle Structure and Truck Design

*Concern/Impact*

It is our understanding that Duewag, SDC's subcontractor for carshell and truck design, is making significant changes to the carshell design in order to reduce the carshell weight. While this is prudent, it also introduces delay in the fabrication and testing of the carshell, and may necessitate additional structural review by the MTA.

*Status/Action*

Both the carshell and truck FEA's are now Conditionally Approved. We will continue to work with SDC and Duewag to resolve the remaining difficulties; however, the design is in a somewhat fluid state at the moment due to SDC's weight reduction program.

## AREAS OF CONCERN (CON'T)

**Item**

EMI (Electromagnetic Interference) Limits

**Concern/Impact**

Some time ago, SDC had petitioned the MTA to modify the specified Conducted EMI limits in order to reduce the weight of the AEG Line Reactor. LTK reviewed the request, and, following an exchange of correspondence, new limits were mutually agreed to between the MTA Vehicle Design Group, the H1100 (Green Line) contractor, and SDC. All that remained was confirmation from the Pasadena Signal Designer (the "Engineering Management Consultant") that the new limits were acceptable as applied to the Pasadena Line.

On 27JUN95, we received such concurrence from the EMC, with certain provisos. These stipulations include the following:

- ☐ Satisfactory completion of tests on the Green Line demonstrating the new limits will not cause interference with the signal system
- ☐ That there may be some risk that future developments in signal work may necessitate change to the vehicle at some later date
- ☐ That there is some risk in that the analytical processes used in verifying that the new limits will not interfere with the signal system may not be precise

**Status/Action**

In August we received a response from SDC taking exception to the EMC's requirement that "...the maximum currents for a three-car train consist not exceed twice the single car values *when the consist is at least 100 meters from the substation*". LTK is continuing negotiations with SDC to resolve this issue.

## AREAS OF CONCERN (CON'T)

**Item****Vehicle Weight****Concern/Impact**

Weight continues to be a major and significant issue. At a Program Review Meeting on 02AUG95, SDC offered the following:

- ☐ As presently calculated, the car is overweight at approximately 143,000 lbs. This value must be considered very approximate, however, since it includes a number of changes in the car structure and interior which have not yet been submitted for approval. It must also be noted that the car has not yet passed the carshell strength tests, following which it may be necessary to add structural elements to meet specified requirements.
- ☐ SDC has developed a number of creative solutions to the weight problem which they have not yet formally proposed, nor are they included in the above weight estimate. These changes, if found acceptable, have potential for significant weight reduction.

Subsequent to this meeting, SDC forwarded Revision 6 to their Vehicle Weight Control Report, which offers the following:

- ☐ The projected weight for the Standard Car is now 142,437 lbs., marginally within the specification requirement of 142,508 lbs. The Prototype Car, however, is projected to be marginally over this requirement at 142,600 lbs.
- ☐ Recent efforts by SDC and Duewag have resulted in a carshell weight savings of about 1400 lbs. Other reductions and corrections to the previously tabulated weight have contributed in bringing the projected total down to the present projections.
- ☐ SDC proposed another option that would lower weight, and that would be to reduce the number of passenger seats in the car, down to the minimum allowed 66 seats. By retaining the same standing room, and deleting a few seats, weight total vehicle weight would lower due to both the loss of seat weight and the reduction in the number of seated passengers. The extra room realized by eliminating several seats would be used to provide more leg and foot room.

**Status/Action**

Both LTK and the MTA will continue to work with SDC in an effort to make sensible and realistic reductions in vehicle weight.

**AREAS OF CONCERN (CON'T)*****Item***

Cancellation of 22 Standard Cars

***Concern/Impact***

On 23AUG95, the MTA Board voted to reduce the Standard Car procurement from 74 cars to 52 cars. SDC has forecast this will force premature closure of the Carson Plant, and a commensurate reduction in the amount of DBE content provided.

***Status/Action***

LTK is awaiting formal direction from the MTA to commence negotiations regarding the election of Option 5, *Partial Termination for Convenience*.

***Item***

HVAC Design

***Concern/Impact***

Early in the month, we met with SDC at the Program level to discuss progress of the HVAC design effort. SDC has concurred with the MTA assessment that their designated subcontractor, Sutrak, has not performed. Late in July, SDC had given Sutrak an explicitly defined set of design milestones to meet. These milestones were as follows:

- |                          |                        |         |
|--------------------------|------------------------|---------|
| <input type="checkbox"/> | Electrical Drawings:   | 24JUL95 |
| <input type="checkbox"/> | Mechanical Drawings:   | 31JUL95 |
| <input type="checkbox"/> | Installation Drawings: | 31JUL95 |
| <input type="checkbox"/> | Anti-Skid Roof Layout: | 04AUG95 |
| <input type="checkbox"/> | Complete PDR Package:  | 11AUG95 |
| <input type="checkbox"/> | Conduct PDR            | 11SEP95 |

***Status/Action***

As of the date of this writing, we have received no substantive submittals from Sutrak. In a meeting with SDC at the end of August, they offered that the tentative 11/12SEP95 Preliminary Design Review with Sutrak would have to be pushed back, probably to sometime in October. Coupled with reports of Sutrak's non-performance on the Portland Contract, it is becoming apparent that Sutrak may not be capable of performing to the P2000 Contract Requirements. SDC was encouraged to locate another HVAC supplier as a back up. SDC was receptive to this encouragement.

**AREAS OF CONCERN (CON'T)*****Item***

Decision on Driverless Technology

***Concern/Impact***

In August, the question of whether or not to elect Driverless Technology (P2000 Contract; Option No. 3) for the Green Line has again been put before the MTA's *Cost Containment Committee* for action. A decision was due on or before 25AUG95. The Committee, however, expressed the need for an additional 30 days in which to make their decision. The MTA petitioned SDC for such an extension, and SDC offered a two month extension to the MTA's decision on Driverless Technology in return for two months of schedule relief. The MTA is considering Siemens' offer, but must analyze the financial implications of same before a decision can be made. If this is confirmed, then a Change Order to the P2000 Contract must be generated.

***Status/Action***

LTK is awaiting formal direction from the MTA to commence negotiations regarding the implementation of the requested change.

**RESOLVED FROM LAST MONTH*****Item***

SDC Quality Assurance Program

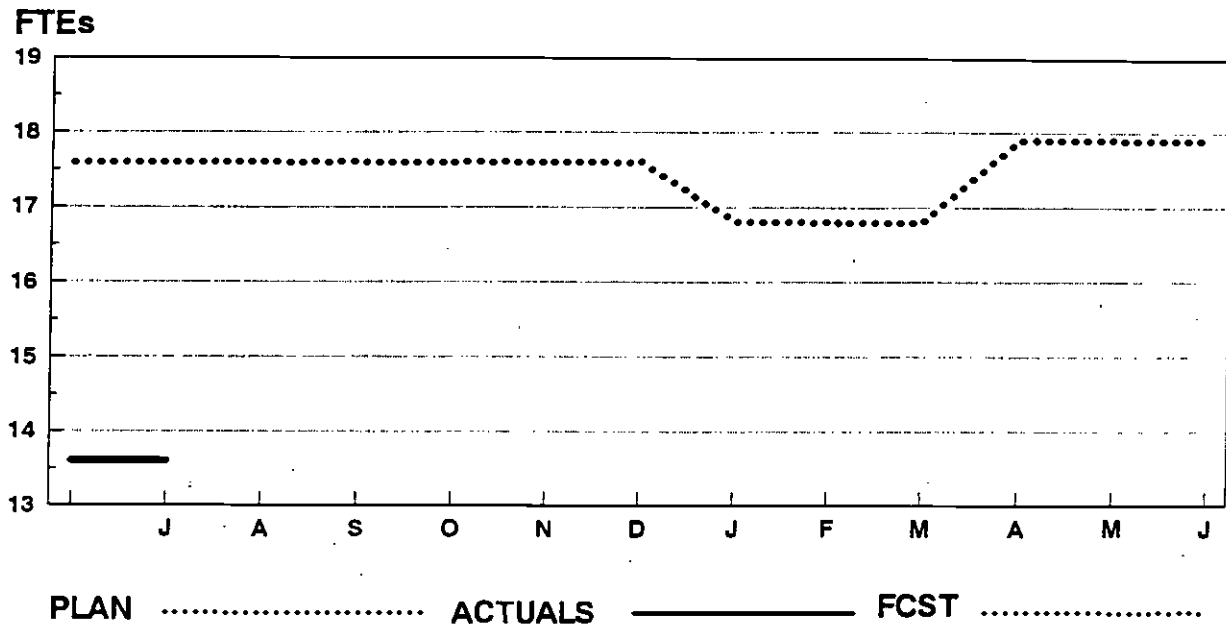
***Concern/Impact***

SDC acknowledged in writing that they will provide Source Inspection at the facilities of major suppliers; specifically, the propulsion and braking suppliers, at whose facilities they had not intended to provide such inspection. In their letter, however, they noted that they disagree with the MTA's interpretation of the specification requirement necessitating Source Inspection, and they notified the MTA that they may file a claim in this regard. With regard to the issue of providing Quality Assurance Engineering attendance at Design Review meetings, we noted for the first time that SDC had a QA Engineer in attendance (part time) during our engineering meetings in Sacramento.

***Status/Action***

All outstanding Quality Assurance issues are now resolved. Quality Assurance will be dropped as an Area of Concern unless new problems arise.

## LIGHT RAIL VEHICLE PROCUREMENT TOTAL STAFFING



## STAFFING ANALYSIS

Metro Construction actuals are lower than planned due to lower than anticipated Program Management and Project Engineering support.

Note: Total Staffing Chart includes CM and MTA Staffing only.