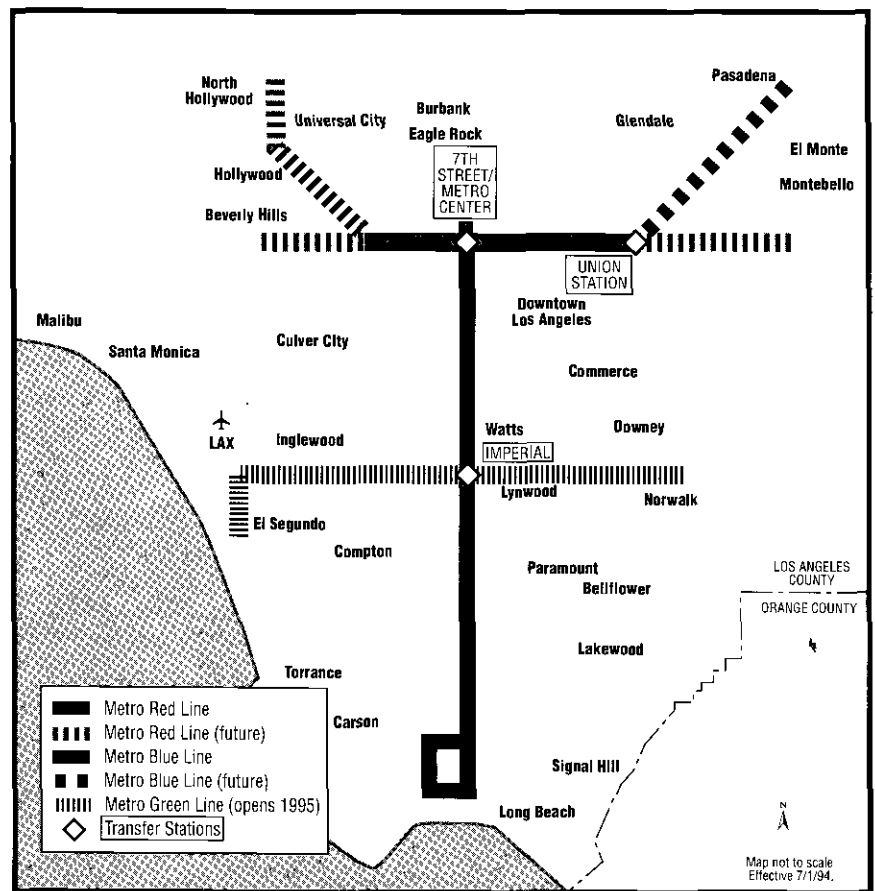


# MTA METRO CONSTRUCTION



## Executive Report Rail Program Status



# **RAIL PROGRAM STATUS SUMMARY**

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

**DECEMBER 1994**

## RAIL PROGRAM STATUS SUMMARY

<b>Metro Pasadena Blue Line</b>			
<b>Cost Status</b>	(\$000)	<b>Project Progress</b>	
Original Budget	841,000	Design (Rebaselined)	
Expended to Date	93,870 *	Actual:	76%
Current Budget	841,000	Construction	
<b>Schedule Status:</b>		Actual:	0%
Revenue Operations Date:			
Original	November 1997		
Forecast	June 1998		
<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	
Expended to Date	576,711*	Actual:	100%
Current Budget	717,802	Construction	
<b>Schedule Status</b>		Actual:	94%
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	
Expended to Date	1,396,372*	Actual:	100%
Current Budget	1,450,019	Construction	
<b>Schedule Status</b>		Actual:	99%
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	
Expended to Date	844,237*	Actual:	99%
Current Budget	1,517,657	Construction	
<b>Schedule Status: Revenue Operations Dates:</b>		Actual:	46%
Wilshire	Vermont/Hlywd		
Original	Jul '96	Sep '98	
Forecast	Feb '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	
Expended to Date	149,426*	Actual:	85%
Current Budget	1,310,822	Construction	
<b>Schedule Status</b>		Actual:	4.5%
Revenue Operations Date:			
Original	2000		
Forecast	May 2000		

\*Expenditure data through Nov 1994

**RAIL PROGRAM STATUS SUMMARY****Metro Red Line Segment 3 - Mid-City Extension**

**Cost Status** (\$000)  
Original Budget 490,663  
Expended to Date 8,762\*  
Current Budget 490,663

**Schedule Status**

Revenue Operations Date:  
Original 1999  
Forecast 1999

**Project Progress**

Suspended for Reassessment  
Design

Actual: 27%

**Construction**

Actual: 0%

**Vehicle Acquisition Project**

**Cost Status** (\$000)  
Original Budget 257,597  
Expended to Date 29,227\*  
Current Budget 257,597

**Schedule Status:**

Delivery of Final Cars:  
Original November 1997  
Forecast November 1999

**Project Progress**

Design

Actual: 6%\*\*

Manufactured

Actual: 6%\*\*

\*\* Based on Milestone Payments

\* Expenditure data through Nov 1994

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

STATUS DATE: 12/30/94

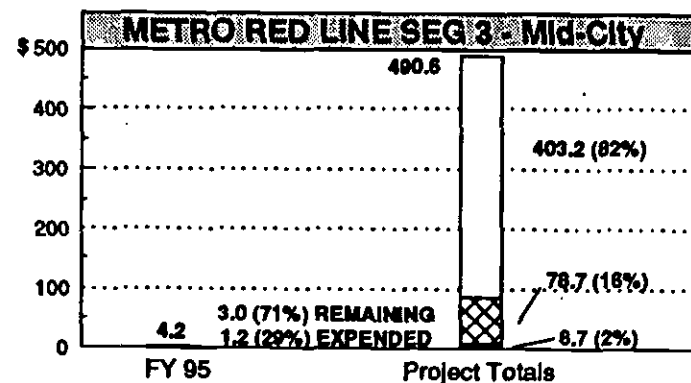
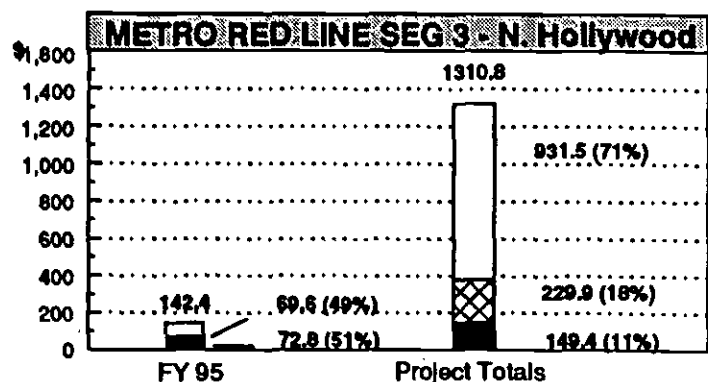
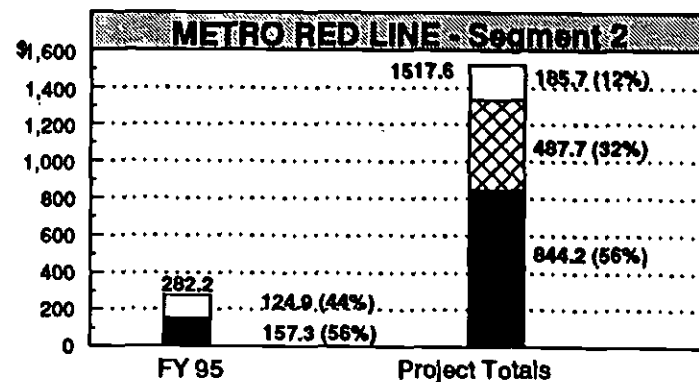
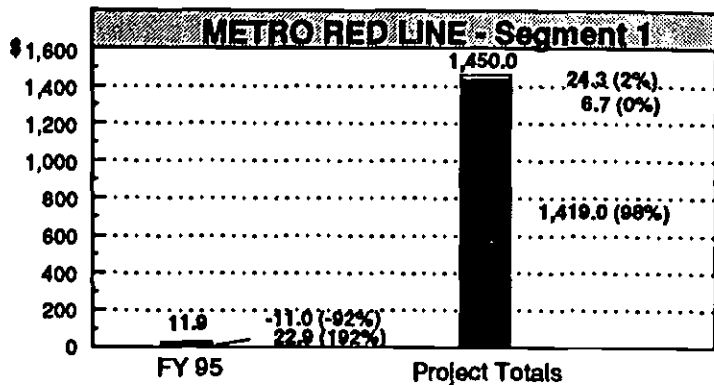
PROJECT: TOTAL RAIL PROGRAM

ELEMENT DESCRIPTION	BUDGET		COMMITMENTS		INCURRED COST		EXPENDITURES		CURRENT	VARIANCE
	ORIGINAL (1)	CURRENT (2)	PERIOD (3)	TO DATE (4)	PERIOD (5)	TO DATE (6)	PERIOD (7)	TO DATE (8)	FORECAST (9)	(9-2) (10)
T CONSTRUCTION	4,528,953	4,596,834	12,946	3,193,091	22,982	2,322,910	42,408	2,264,664	4,686,640	89,806
S PROFESSIONAL SERVICES	1,466,008	1,768,799	1,277	1,372,777	13,735	1,171,959	13,888	1,169,940	1,810,700	41,901
R REAL ESTATE	453,432	522,489	23,259	349,394	18,046	350,647	18,046	350,557	520,236	(2,253)
F UTILITY/AGENCY FORCE ACCOUNTS	132,187	146,936	431	122,255	1,622	97,423	1,622	96,903	153,988	7,052
D SPECIAL PROGRAMS	11,044	20,884	59	6,434	103	3,314	120	3,351	21,537	653
C CONTINGENCY	465,256	372,247	0	0	0	0	1	0	258,250	(113,997)
A PROJECT REVENUE	(18,115)	(36,585)	(2)	(1,056)	(2)	(6,465)	(1,323)	(7,900)	(35,745)	839
PROJECT GRAND TOTAL	7,038,766	7,391,605	37,972	5,042,898	56,488	3,939,790	74,763	3,877,517	7,415,607	24,001

NEW REQUIREMENTS DESCRIPTION	BUDGET		COMMITMENTS		INCURRED COST		EXPENDITURES		CURRENT	VARIANCE
	ORIGINAL (1)	CURRENT (2)	PERIOD (3)	TO DATE (4)	PERIOD (5)	TO DATE (6)	PERIOD (7)	TO DATE (8)	FORECAST (9)	(9-2) (10)
T CONSTRUCTION	0	52,245	16	44,006	496	3,580	462	580	60,832	8,587
S PROFESSIONAL SERVICES	0	15,875	54	10,065	0	9,284	0	9,285	16,351	476
R REAL ESTATE	0	0	0	1	0	1	0	1	0	0
F UTILITY/AGENCY FORCE ACCOUNTS	0	130	0	0	0	0	0	0	130	0
D SPECIAL PROGRAMS	0	0	0	20	0	22	0	22	20	20
C CONTINGENCY	0	2,975	0	0	0	0	0	0	3,091	116
A PROJECT REVENUE	0	0	0	0	0	0	0	0	0	0
NEW REQ. SUBTOTAL	0	71,225	70	54,092	496	12,889	463	9,889	80,426	9,200
PROJECT GRAND TOTAL	7,038,766	7,462,830	38,042	5,096,990	56,984	3,952,679	75,226	3,887,407	7,496,034	33,202

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

**BUDGET STATUS - December 30, 1994**  
(In \$ Millions)



**BUDGET STATUS - December 30, 1994**  
(In \$ Millions)

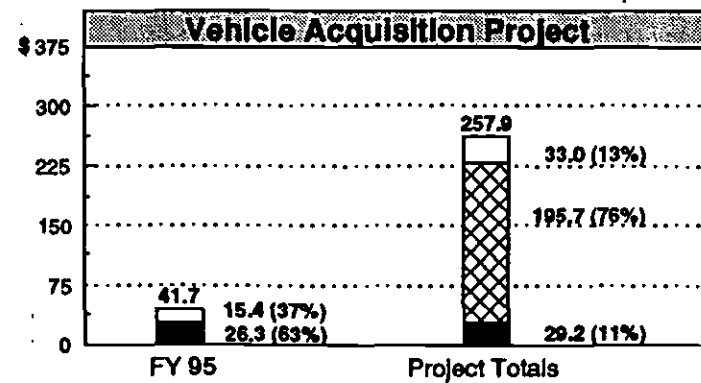
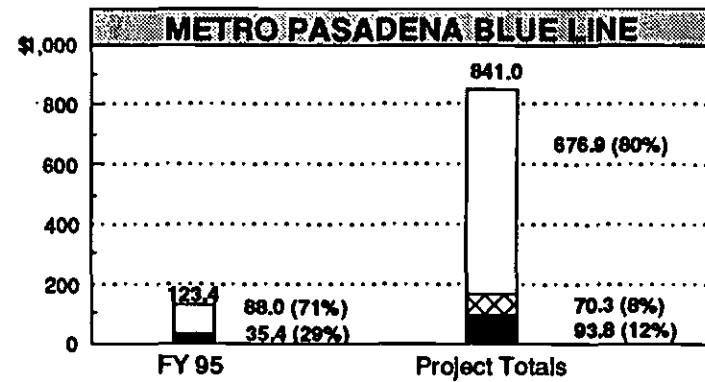
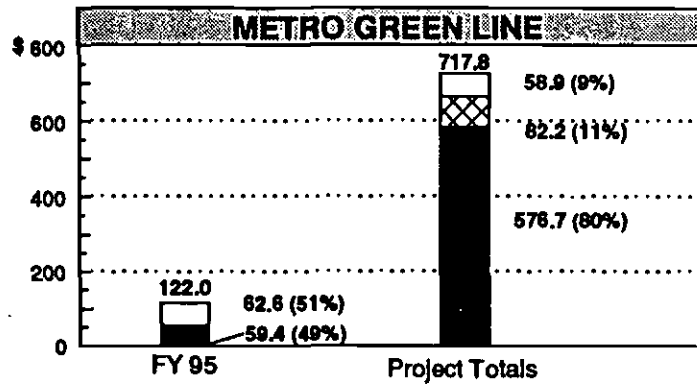
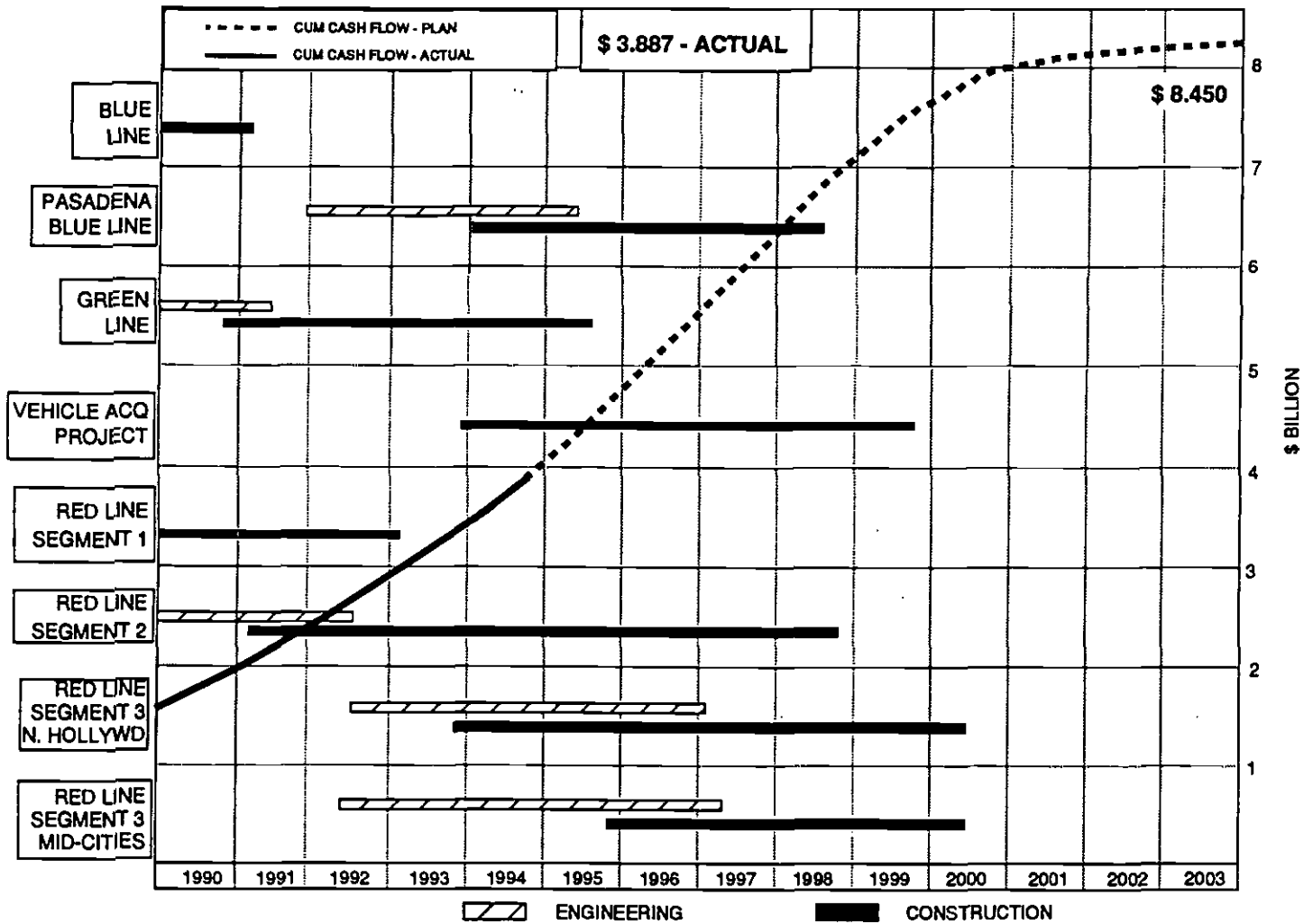


Figure 1 - Rail Construction Plan





METROPOLITAN TRANSPORTATION AUTHORITY  
FUNDING SOURCES

(IN MILLIONS)

	METRO BLUE LINE*		PASADENA BLUE LINE		METRO GREEN LINE		METRO RED SEG 1**		METRO RED SEG 2		METRO RED LIN SEG 3 - NH		METRO RED LIN SEG 3 - MC		VEHICLE ACQUISITION PROJECT		TOTAL PROGRAM	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
FTA-SECTION 3							605.3	42	667.0	44	681.0	52	242.6	49			2195.9	29
FTA - OTHER															18.0	7	18.0	0
ISTEA-FED SURFACE TRANSIT PROG									2.5	0	119.2	9	113.7	23	90.1	35	325.5	4
FLEXIBLE CONGESTION RELIEF																		
FTA-SECTION 9							90.6	6									90.6	1
STATE			337.8	40	106.4	15	210.3	15	185.1	12	24.1	2	47.2	10	33.6	13	944.5	13
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	23
PROP A/C (TRANSIT ENHANCEMENT)									62.7	4							62.7	1
PROPOSITION C			503.2	60	400.3	56					411.6	31	87.2	18	115.9	45	1518.2	20
PROP C (AMERICAN DISABILITY ACT)					6	1			5.9	0							11.9	0
CITY OF LOS ANGELES							34.0	2	96.0	6							130.0	2
BENEFIT ASSESSMENT							130.3	9	58.0	4							188.3	3
COST OVERRUN ACCOUNT							200.1	14									200.1	3
CITY OF PASADENA																		
TOTAL	877.2	100	841.0	100	717.8	100	1450.1	100	1517.5	100	1310.9	100	490.7	100	257.6	100	7462.8	100

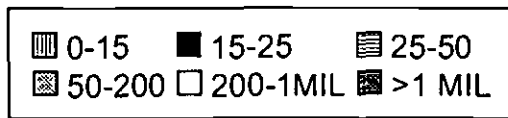
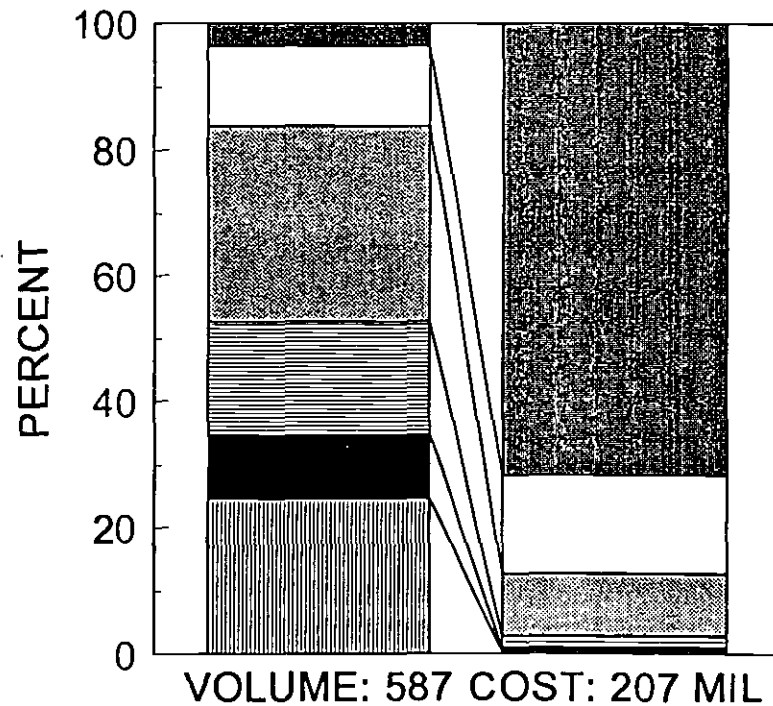
\* CONSISTS OF LIGHT RAIL LINE (\$847) AND MC-5 WORK (\$30).

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

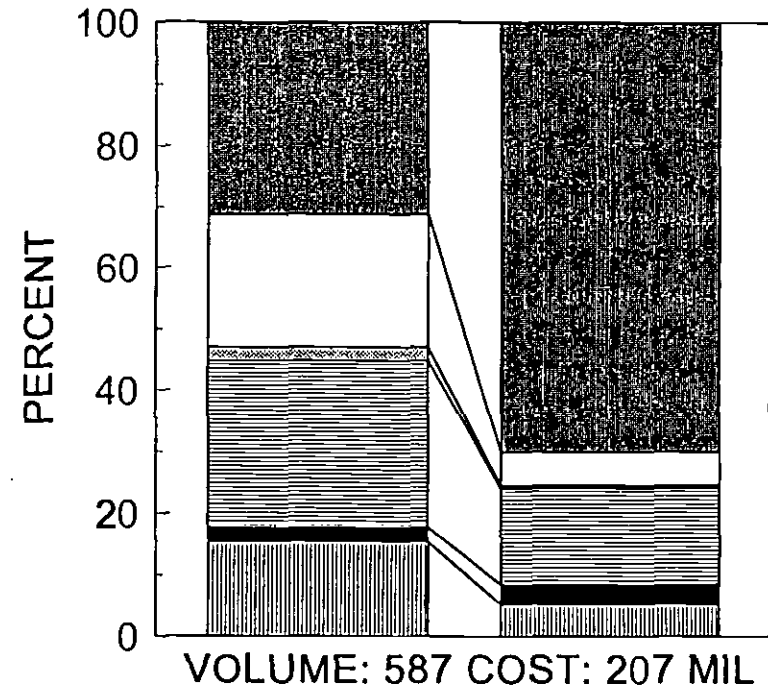
Note: Data reflects current budget.

CONSULTANT CHANGE REQUEST (CCR)  
CHANGE VOLUME BY COST LEVEL AND BASIS  
BASED ON EXECUTED CHANGES AS OF 12/30/94

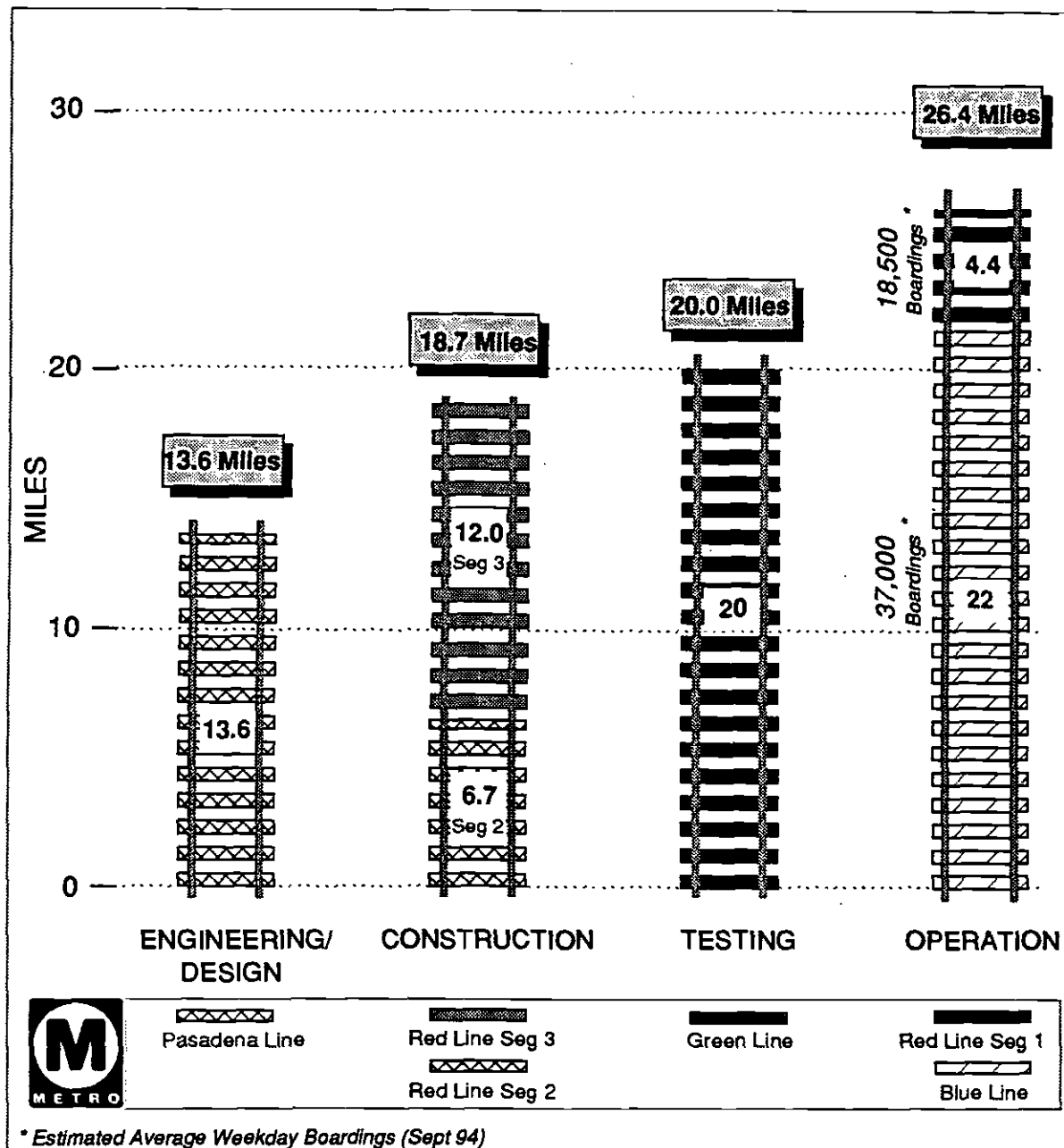
**COST LEVEL**  
Total: \$207 Million



**BASIS**  
Total: 587



# METRO RAIL SYSTEMS PROGRESS REPORT



**REAL ESTATE**

Figure 3 - Real Estate Acquisition Status Summary

	Number of Parcels	Number of Parcels Available	Parcels Not Available (on Schedule)	Parcels Not Available (Behind Schedule)	
				Number	Avg. Days Behind
Pasadena Blue Line	161	11	128	22	30
Green Line	39	39	0	0	0
Red Line Seg 2	88	86	2	0	0
Red Line Seg 3 NH	175	43	***	11	***
Red Line Seg 3 MC***	61	0	54	7	120

\* Due to project reschedule, need dates are under review.  
 \*\*\* Reporting Suspended.

**MANAGEMENT ENGINEERING AND ADMINISTRATION COSTS**

The goals of the MTA include limitations on the percentage of total project costs which will be spent on project administration and on MTA staff.

The MTA goal for project administration costs is 20%. The current forecast data for project administration costs totals 25.13% which exceeds the MTA goal by 5.13%. The percentage includes all costs previously expended by the SCRTD when the Metro Red Line Segment 1 project was under SCRTD management.

Staff costs are projected at 4.21% of total program costs, which just exceeds the 4% MTA goal by 0.21%. Figure 6 illustrates the forecast figures for each project and for total program.

Figure 6 - Cost Performance Relative to Corporate Goals

IN THOUSANDS

	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 NH		METRO RED LINE SEGMENT 3 MC		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	
CONSTRUCTION	657,487	74.95%	508,824	58.82%	488,023	67.99%	812,270	56.11%	1,004,644	66.19%	831,941	63.03%	333,208	67.91%	229,759	89.19%	4,866,156	64.92%	
REAL ESTATE	55,592	6.34%	74,308	8.59%	26,047	3.63%	140,000	9.66%	91,002	6.00%	84,743	6.42%	48,543	9.89%	0	0.00%	520,235	6.94%	
PROFESSIONAL SERVICES:																			
ENGINEERING/DES	69,587	7.93%	84,949	9.82%	81,794	11.40%	221,659	15.29%	154,232	10.16%	77,781	5.89%	36,706	7.48%	1,700	0.66%	728,408	9.72%	
CONSTR MGMT.	91,642	10.45%	72,620	8.40%	72,337	10.08%	116,429	8.03%	140,657	9.27%	103,207	7.82%	35,000	7.13%	0	0.00%	631,892	8.43%	
STAFF	17,655	2.01%	38,611	4.46%	27,607	3.85%	95,558	6.59%	53,155	3.50%	57,676	4.37%	19,627	4.00%	5,335	2.07%	315,224	4.21%	4%
OTHER	14,222	1.62%	26,236	3.03%	18,020	2.51%	32,671	2.25%	56,433	3.72%	36,459	2.76%	11,647	2.37%	12,469	4.84%	208,157	2.78%	
SUBTOTAL	193,106	22.01%	222,416	25.71%	199,758	27.83%	466,317	32.16%	404,477	26.65%	275,123	20.84%	102,980	20.99%	19,504	7.57%	1,883,681	25.13%	20%
UTILITY/FORCE ACC													0	0.00%			0	0.00%	
CONTINGENCY	963	0.11%	59,453	6.87%	9,543	1.33%	31,432	2.17%	17,978	1.18%	128,068	9.70%	5,932	1.21%	8,333	3.24%	261,702	3.49%	
PROJECT REVENUE	(29,877)	-3.41%		0.00%	(5,569)	-0.78%		0.00%	(300)	-0.02%	0	0.00%	0	0.00%	0	0.00%	(35,746)	-0.48%	
GRAND TOTAL	877,271	100.00%	865,000	100.00%	717,802	100.00%	1,450,019	100.09%	1,517,801	100.00%	1,319,875	100.00%	490,663	100.00%	257,597	100.00%	7,496,028	100.00%	

NOTE: Data reflects Current Forecast.

**METRO CONSTRUCTION  
PROJECT MANAGEMENT OVERSIGHT CONSULTANT  
ACTION ITEMS**

The following items reflect action requirements identified in the December Project Report submitted by the Project Management Oversight Consultant, Fluor Daniel, Inc.

**NEW - December 1994**

No New Items

**ONGOING**

**Concern:** The Pasadena Blue Line (PBL) Construction Manager should complete project controls procedures development.

**Action:** Procedures for cost estimating, scheduling and portions of cost control management should be drafted, approved and issued by the Construction Manager.

**Status:** Under PBL staff review.

**Concern:** Pasadena Blue Line (PBL) budget fluctuations and design changes may impact the designers' ability to complete work elements within the current estimates.

**Action:** Each active design contract should be reviewed to determine current cost status and estimated cost to complete.

**Status:** Revised baseline cost estimates are being prepared.

**Concern:** The EMC should complete a Design Management Plan for the PBL Project.

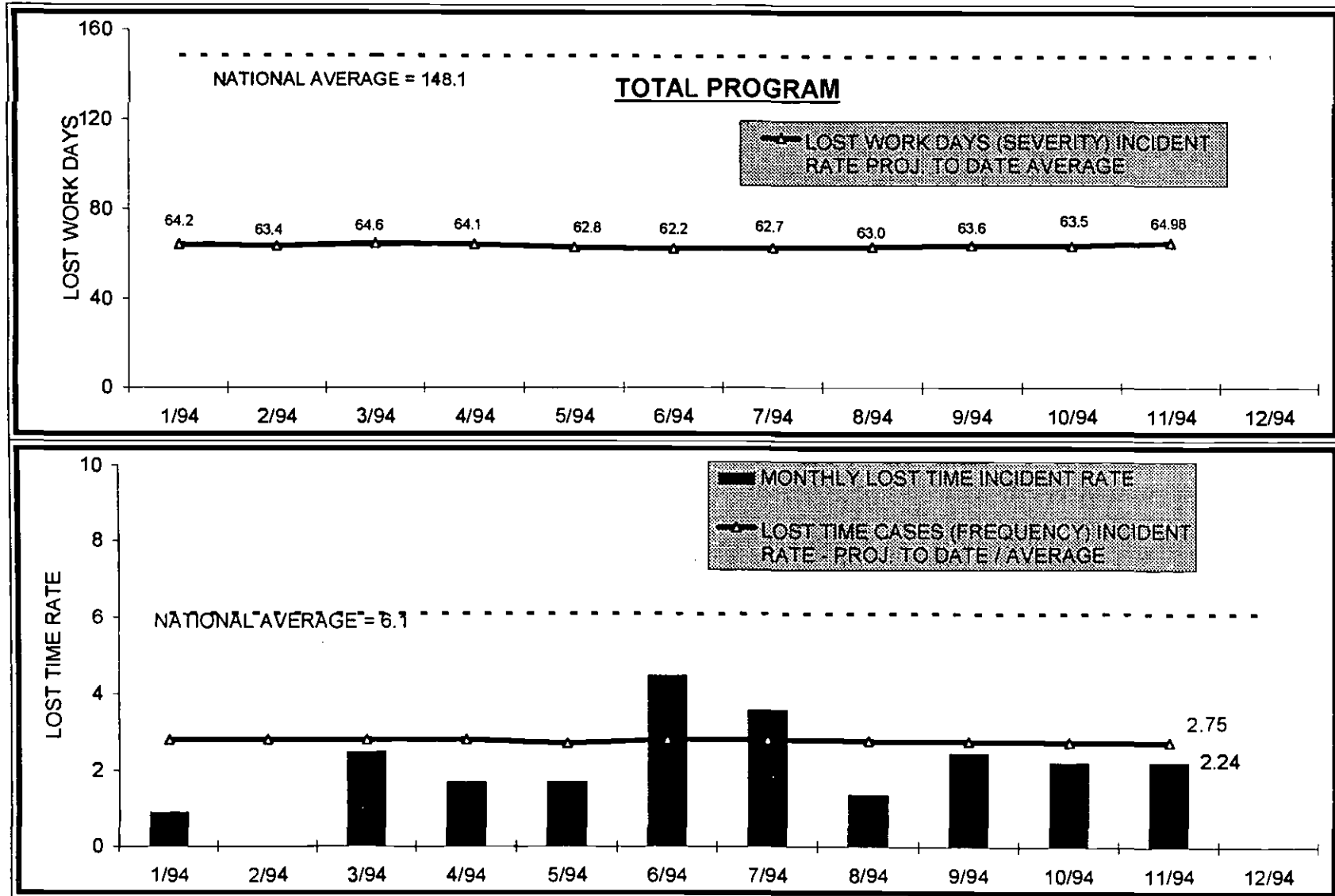
**Action:** The PBL staff should direct the EMC to complete this management tool.

**Status:** Under Metro Construction review.

**RESOLVED**

No New Items

# Summary of Lost Time Accidents (FREQUENCY) and Lost Work Days (SEVERITY)



prepared by : MASS TRANSIT GROUP

# METRO BLUE LINE GRADE CROSSING INCIDENT STATUS

7th/Metro Station

## Line Section

**Los Angeles Street Running -**  
Slow Speeds.

**Cab Signal -**  
Speeds Between 25 and 55 MPH.

**Long Beach Street Running -**  
Slow Speeds.

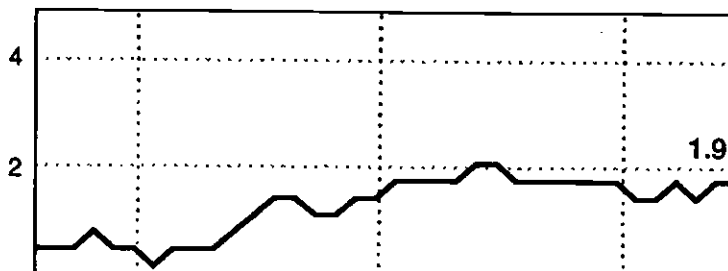
Long Beach Transit Mall

**Blue Line Summary**

## Cumulative Accident Rate Per Month

## Total Accidents

Avg. Accidents Per Month

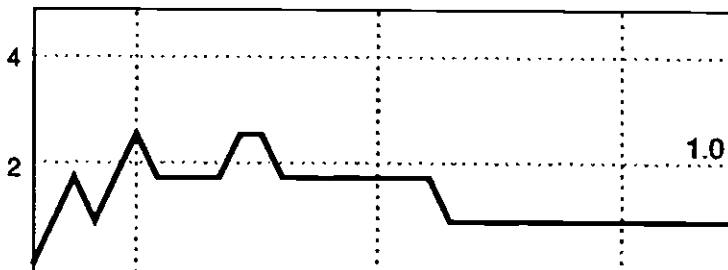


**103 Accidents**

Majority of accidents were caused by illegal left turns into the path of the train.

*1 Accident this month.*

Avg. Accidents Per Month

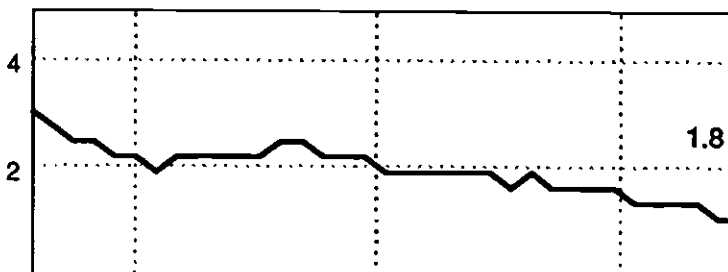


**55 Accidents**

Majority of accidents were caused by barrier arm violations. Major injuries and most fatalities occurred here.

*2 Accidents this month.*

Avg. Accidents Per Month

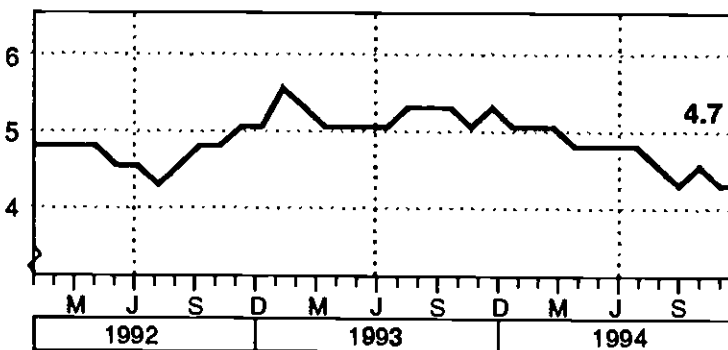


**95 Accidents**

Majority of accidents were caused by illegal left turns into the path of the train.

*No Accidents this month.*

Avg. Accidents Per Month



**253 Total Accidents**

*3 Accidents this month.*



METRO CONSTRUCTION  
PRE CONTRACT STATUS SCHEDULE  
SUMMARY LOOK AHEAD

90 Days

R81 Metro Red Line Segment 2

Page: 1

UPDATE:04-Jan-95

Cont. No.	Contractor/Description	Contract Type	85% Design Approval	IFB/RFP Ready	Advertise Date	Pre-Bid Meeting	Bid Opening	Bid Report Complete	Committee Approval	MTA Board Approval	Contracts Lead	Engineering Lead	Project Controls Lead
B216	WILSHIRE/VERMONT SITE RESTORATIO	unit			01/30/95	02/16/95	03/30/95	04/14/95	05/01/95	05/24/95	CERVANTES	\Tamuri	\Brown

METRO CONSTRUCTION  
PRE CONTRACT STATUS SCHEDULE  
SUMMARY LOOK AHEAD

90 Days

R82 Metro Red Line Segment 3

Page: 2

UPDATE:04-Jan-95

Cont. No.	Contractor/Description	Contract Type	85% Design Approval	IFB/RFP Ready	Advertise Date	Pre-Bid Meeting	Bid Opening	Bid Report Complete	Committee Approval	MTA Board Approval	Contracts Lead	Engineering Lead	Project Controls Lead
C0321	Universal City Station	Unit			03/20/95	04/12/95	05/25/95	06/06/95	06/19/95	06/28/95	Gatewood	\Givens	\Williams

METRO CONSTRUCTION  
PRE CONTRACT STATUS SCHEDULE  
SUMMARY LOOK AHEAD

90 Days

T01 System-wide Projects

Page: 3

UPDATE:04-Jan-95

Cont. No.	Contractor/Description	Contract Type	85% Design Approval	IFB/RFP Ready	Advertise Date	Pre-Bid Meeting	Bid Opening	Bid Report Complete	Committee Approval	MTA Board Approval	Contracts Lead	Engineering Lead	Project Controls Lead
C0190	Western Ave. Traffic Signal Improvements	FFP			01/15/95	01/30/95	02/14/94	02/21/95	03/08/95	03/22/95	Escalle	\Vardanian	\Kendrick
MS067	Project Mngmnt Oversight/Assistance	CPAF			02/15/95						Escalle	\Dawson	\Kendrick

## EXECUTIVE SUMMARY

The Final Design percent complete for the month of December is 76%. Design is progressing according to the recently rebaselined plan. The progress represents an decrease of 2% from last month's cumulative progress of 78%. The decrease to the the percent complete is due to additional work of approved CCRs for contracts C6390, Chinatown Aerial, and C6450, Del Mar to Memorial Park line segment, Holly Street open design.

Work continues on defining an ongoing limited construction program for Pasadena. A new baseline budget and schedule is being developed. Camera Ready bid documents were completed for C6435, Bridge Retrofit and Reconstructions of Concrete and Steel Bridges. Invitation for bid was issued December 20, 1994.

Conformed contract drawings were submitted to MTA Construction Division for Contract C6430, Arroyo Seco Bridge reconstruction. Chinatown Station continues to be delayed pending follow-up presentation of Chinatown pedestrian linkage alternatives at a community meeting scheduled January 11, 1995. Negotiations continue with Sierra Madre Villa Station designer to finalize scope of work for new station location at the Johnson & Johnson site. Design has been restarted on Contract C6450, Del Mar to Memorial Park Line Segment, with a new prime consultant, KaWES & Associates. Final negotiations are in progress with Memorial Park Station to accommodate leaving Holly Street open to vehicular traffic as agreed to by MTA and City of Pasadena.

Contract C6410, Los Angeles River Bridge Construction, is continuing. Work is essentially complete on the south bridge retaining wall approach. Erection of falsework is in progress over the Metrolink main tracks. Pier table construction at Bents 5 and 6 is well underway for start of construction on segmental bridge spans in late January.

Soil remediation work continues by Santa Fe at the Arroyo Seco Bridge site. Full site access to Kiewit Pacific Company has been delayed until mid-January 1995.

Pre-Final design for Contract C6400, Yard and Shops, and In-Progress design for Contract C6500, Del Mar Station, submitted to MTA for review.

The MTA Art-for-Rail Program staff continue to work closely with the station artists and designers as station designs are proceeding to Final and Camera Ready submittals.

## EXECUTIVE SUMMARY (cont.)

## COST STATUS (in millions)

- Current Budget \$841
- Current Forecast \$865 (A)

(A) Includes an estimated \$5 million in grant monies to be sought in FY 95 for the "Urban Greenways" Program and the additional administrative and escalation costs associated with the present forecasted ROD date of June 1998. Both items are not included in the current budget.

## SCHEDULE STATUS

- Current Approved Revenue Operations Date: November 1997
- Design Progress
  - Final Design - Actual 76%
  - Overall Design - Actual 84%
- Construction Progress
  - Los Angeles River Bridge - Actual 48%
  - Arroyo Seco Bridge (B) - Actual 0%
  - Overall Construction - Actual < 01%

(B) Administrative work authorization was issued to Kiewit Pacific for Contract C6430, Arroyo Seco Bridge Reconstruction, on October 21, 1994.

## REAL ESTATE STATUS

MONTH	NUMBER OF PARCELS	PARCELS AVAILABLE	PARCELS NOT AVAILABLE (ON SCHEDULE)	PARCELS NOT AVAILABLE (BEHIND SCHEDULE)	
				NUMBER	AVG DAYS BEHIND
THIS MONTH	161	11	128	22	30
LAST MONTH	161	11	150	0	0

## AREAS OF CONCERN

ONGOING

## Yard Site Location

- Concern:** A temporary maintenance facility at the Midway Yard has been formally adopted as part of the baseline scope of work. The project has been experiencing cost growth in making the yard a more permanent facility due to the uncertainty of constructing the Glendale-Burbank LRT Line.
- Action:** EMC and MTA Construction Division have identified the budget issues related to maintenance facility. Value engineering was initiated to reduce cost growth.
- Status:** Final design is progressing. A pre-final submittal was issued December 19, 1994. Evaluation is continuing on providing wheel truing and heavy repair at either Long Beach Yard or Metrolink's Taylor Yard facilities. An evaluation report is due by March 15. SCRRA's facilities are preferred due to their close proximity to Midway Yard.

## 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 with Ratkovich. Completion of Chinatown Aerial Structure Camera Ready design submittal is on hold.
- Status:** Meeting was held with Ratkovich and LADOT on November 30 regarding the street improvements on Vignes Street. A tentative agreement was reached with all parties. Final drawings are being prepared by MTA and will be submitted for approval in January 1995.

**AREAS OF CONCERN (cont.)****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. A priority list for real estate acquisitions has been prepared for the project to reflect the approved fiscal year budget.

**Del Mar Station**

- Concerns:** The transportation center proposed by the City of Pasadena has major 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 on interface with the station and line segment design and transportation center.
- Status:** A consultant has been recommended for design of the transportation center. The City's planning charette was held November 17 through November 19. A second design charette is planned by the City on February 4, 1995. Light rail designs are in progress based on design assumptions for the transportation center.

AREAS OF CONCERN (cont.)

**Sierra Madre Villa Station**

Concern: Selection of an alternative station site is required over the original Space Bank site due to the potential for serious hazardous material on the property.

Action: The MTA Board has approved the selection of the SMV station site. MTA has submitted an offer to purchase the alternative Johnson and Johnson station site.

Status: MTA has completed a new property appraisal and will be submitting a revised offer to Johnson & Johnson pending board action scheduled for February. Condemnation proceedings are tentatively scheduled in March.

**Marmion Way Corridor**

Concern: Evaluation of the design of Marmion Way between Avenue 50 and Avenue 60 as a betterment has increased project design and construction costs.

Action: Agreement is required from City of Los Angeles for betterment issues.

Status: Notification has been issued to affected City agencies. The City has responded that the improvements identified by MTA Construction Division as betterments are project mitigation measures. MTA Construction Division continues to work with legal council on betterment.

AREAS OF CONCERN (cont.)

**Chinatown Station**

- Concern: Selection of Chinatown pedestrian linkage alternative will impact the Chinatown aerial structure and station design, and may require additional property acquisition.
- Action: MTA Construction Division is working closely with Central Area Team on defining suitable pedestrian access from Broadway Street to the Chinatown Station platform.
- Status: A final community meeting is scheduled for January 11, 1995 to review two pedestrian alternatives. Discussions are in progress on a full or partial acquisition of Little Joe's Restaurant to support the pedestrian linkage.

**210 Freeway Stations**

- Concern: Evaluation of noise impacts at Lake, Allen and Sierra Madre Villa Stations from adjacent freeway traffic.
- Action: Review of noise criteria and conformance to EIR.
- Status: EMC has submitted proposed changes to the MTA noise criteria. Project impacts are being reviewed.

**NEW**

None.

**RESOLVED**

None.

**KEY ACTIVITIES - ACCOMPLISHED IN DECEMBER**

- MTA Construction Division and EMC continued negotiations on contract change requests for design changes. Twenty-one CCRs have been fully processed. Thirty-two CCRs are in progress.
- Work continued on construction of pier tables and back spans for bridge superstructure. Preparation for casting segmental bridge spans continued with concrete work to start in late January.
- Contract C6400, Yard and Shops, Pre-Final submittal was issued to MTA.
- Contract C6410, L.A. River Bridge. Placed Pier Table stem walls. Placed Unit 1 soffit and stem walls.
- Contract C6430, Arroyo Seco Bridge Reconstruction, Santa Fe continued with remediation of lead contaminated soil at site. Completion of work delayed until mid-January 1995.
- Completed Camera Ready bid documents for Contract C6435, Bridge Retrofit and Reconstruction of Concrete and Steel Bridges. Invitation for Bid was issued December 20, 1994.
- Negotiations are completed with new C6450 section designer on Del Mar to Memorial Park line segment. Final design restarted December 1, 1994.
- In-Progress submittal for Contract C6500, Del Mar Station, issued to MTA.
- All outstanding work on Contract C7300, East Wall, retaining wall construction has been 100% completed at Union Station.
- Contract P2100, Precast Concrete Ties. Reviewed and returned for revision Contractor's early action items.
- MTA continues to work with EMC on establishing a new baseline budget and schedule for the Pasadena Project.



**KEY ACTIVITIES - PLANNED FOR JANUARY**

- Continue Public Affairs and Art Program meetings with Community Advisory Committees representing the cities of Los Angeles, South Pasadena and Pasadena.
- Contract C6410, LA River Bridge: complete pier tables at main river bents and begin segmental bridge superstructure. Complete retaining walls south of Abutment 1.
- Contract C6430, Arroyo Seco Bridge: Santa Fe to complete site restoration work. Issue NTP to MTA's bridge contractor, Kiewit Pacific.
- Contract C6435, Retrofit Bridges: Hold the pre-bid meeting for retrofit of 13 bridges along the Pasadena Blue Line alignment and issue contract addendum number 1.
- Contract C6520, Memorial Park Station, to restart final design activities.
- Contract P2100, Precast Concrete Ties. Contractor to return revised submittals.

Project: R05

MTA CONSTRUCTION DIVISION  
PASADENA BLUE LINE  
Project Cost by Element

Page: 1  
Report Date: 11-Jan-95  
Status Date: 31-Dec-94

(\$ x 000's)

		----- Budget -----		--- Commitments ---		--- Incurred Cost ---		----- Expenditures -----		Current	
Description		Original	Current	Period	To Date	Period	To Date	Period	To Date	Forecast	Variance
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(9-2)
T	Construction	515,171	473,523	248	58,943	110	14,333	13	11,196	486,665	13,142
S	Professional Services	183,206	197,415	1	85,705	2,113	67,112	2,113	67,112	215,512	18,097
R	Real Estate	68,100	72,308	342	14,169	41	13,627	41	13,627	74,308	2,000
F	Utility/Agency Force Accounts	8,442	21,997	41	4,960	0	1,657	0	1,657	22,159	162
D	Special Programs	3,377	4,402	0	386	(6)	280	(6)	280	6,904	2,502
C	Contingency	62,705	71,355	0	0	0	0	0	0	59,453	(11,902)
A	Project Revenue	0	0	0	0	0	0	0	0	0	0
Project Grand Total :		841,000	841,000	632	164,164	2,257	97,007	2,161	93,870	865,000	24,000

NOTE: REFER TO APPENDIX FOR REPORT DEFINITIONS - EXPENDITURES LAG ONE MONTH

METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL PASADENA LINE PROJECT  
(IN THOUSANDS OF DOLLARS)

18-Jan-95

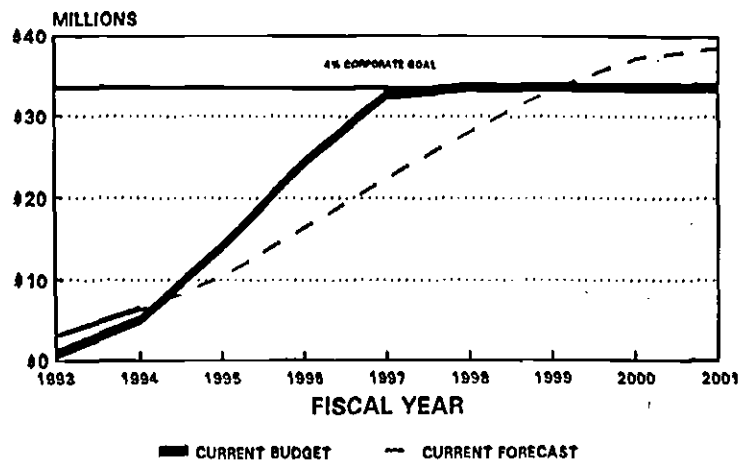
DECEMBER 94

STATUS OF FUNDS BY SOURCE

SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
STATE PROP 108	\$21,200	\$20,000	\$20,000	94%	\$17,546	83%	\$0	0%
STATE RAIL BOND	\$316,600	\$0	\$0	0%	\$0	0%	\$0	0%
PROP C (HIGHWAY 25%)	\$162,698	\$49,189	\$13,388	8%	\$13,388	8%	\$13,388	8%
PROP C (40% DISC.)	\$340,502	\$67,250	\$130,776	38%	\$62,936	18%	\$62,936	18%
TOTAL	\$841,000	\$136,439	\$164,164	20%	\$93,870	11%	\$76,324	9%

NOTES: EXPENDITURES ARE THROUGH NOVEMBER 1994.

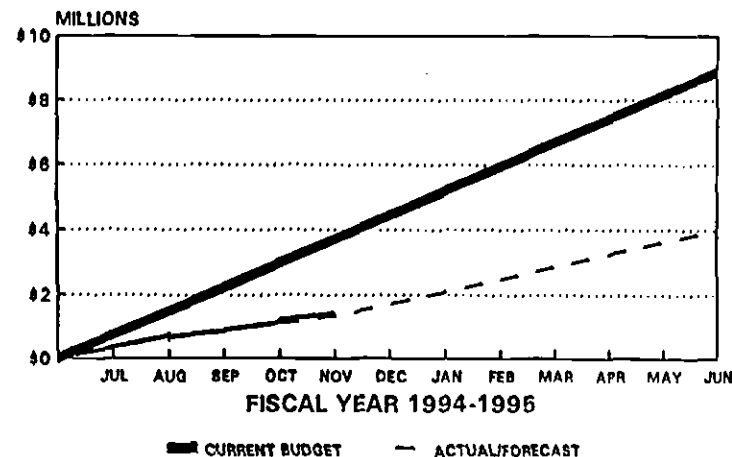
### AGENCY COSTS PASADENA LINE



### PROJECT AGENCY COSTS PASADENA LINE (\$000)

TOTAL PROJECT BUDGET	\$ 841,000
CURRENT BUDGET	\$ 33,640
CURRENT FORECAST	\$ 38,611
ACTUAL THROUGH FY 94	\$ 6,338

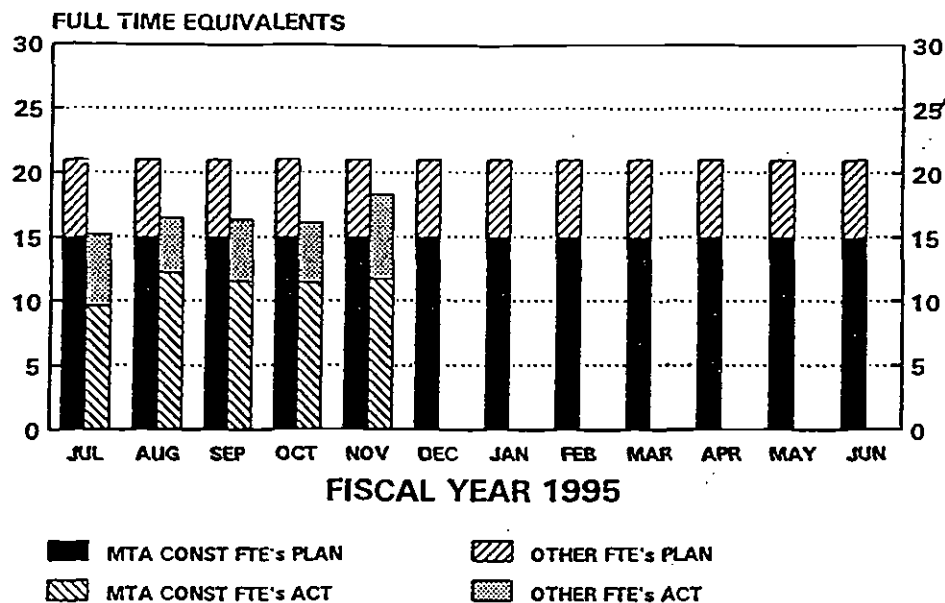
### FISCAL YEAR 1995 AGENCY COSTS PASADENA LINE



### FISCAL YEAR 1995 AGENCY COSTS PASADENA LINE (\$000)

CURRENT BUDGET	\$8,900
CURRENT FORECAST	\$4,008
BUDGET PLAN TO DATE	\$3,708
ACTUAL TO DATE	\$1,329

## MTA STAFFING PLAN VS. ACTUAL PASADENA LINE



FY'95 Budget

## PASADENA LINE STAFFING PLAN FISCAL YEAR 1995

MTA CONSTRUCTION FTE's PLAN	17
MTA CONSTRUCTION FTE's ACTUAL	12
OTHER FTE's PLAN (*)	6
OTHER FTE's ACTUAL	6
TOTAL FTE's PLAN	23
TOTAL FTE's ACTUAL	18

(\*) Other FTE's :

- Contract Compliance
- Minority Outreach
- Art Program
- Area Team
- Contract Accounting
- Risk Management
- Real Estate

COSTS SHOWN ARE FOR  
PROJECT R05 ONLY. (ALLOCATED)

R05 - Pasadena Blue Line  
PROJECT CHANGE VALUES ONLY

PROJECT CHANGE ACTIVITY SUMMARY:  
CHANGES V. BOARD APPROVED CHANGE CONTINGENCY  
AS OF 12/18/94

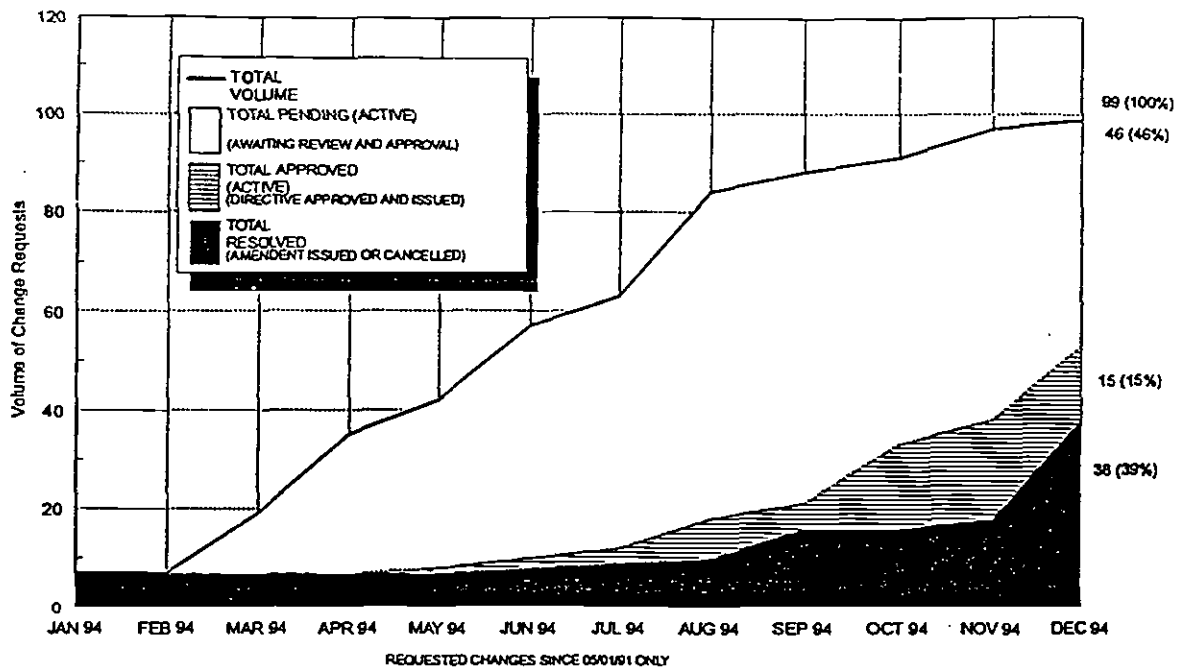
MTA APPROVED CONTRACT AWARD		MTA APPROVED CHANGE CONTINGENCY (AFE)			APPROVED CHANGES TO DATE					REMAINING AFE	PROJECTED			
CONTRACT	AWARD VALUE	% ALLOWED	CURRENT & ALLOWED	TOTAL APPROVED AFE (R05)	APPROVED CHANGES	CURRENT CONTRACT VALUE	% INCR	% CTO USED	% COMP. LETE	CURRENT UNUSED ALLOWANCE	PENDING CHANGES	REMAINING FORECAST AFE	% AFE USED	% INCR
A.	B.	C.	D.	E.(B+D)	F.(1)	G.(B+F)	H.(2)	I.	J.	K.(D-F)	L.(3)	M.(K-L)	N.	O.
*B811	\$4,445,450	10%	\$444,545	\$4,889,995	\$0	\$4,445,450	0.0%	0%	0%	\$444,545	(\$317,975)	\$762,520	-72%	-7.2%
C6410	\$12,758,037	10%	\$1,275,804	\$14,033,841	\$162,562	\$12,920,619	1.3%	13%	31%	\$1,113,222	\$161,763	\$1,174,985	8%	0.8%
C6430	\$10,359,464	10%	\$1,035,948	\$11,395,410	\$0	\$10,359,464	0.0%	0%	0%	\$1,035,948	\$2,000	\$1,033,948	0%	0.0%
C7300	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	0.0%
EN026	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	***%
EN031	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	***%
PM801	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	***%
	\$27,582,951	10%	\$2,758,295	\$30,319,246	\$162,562	\$27,726,833	0.6%	8%	1%	\$2,593,713	\$1377,738	\$2,971,451	-8%	-0.8%

II - AFE Increase required

I - AFE Increase MAY be required to cover pending changes.

[\*] Costs shared with other projects. Costs shown are for R05 ONLY. [1] Includes both executed CO's and authorized (WACN) changes [2] % Increase over original award [3] Logged contract changes ONLY

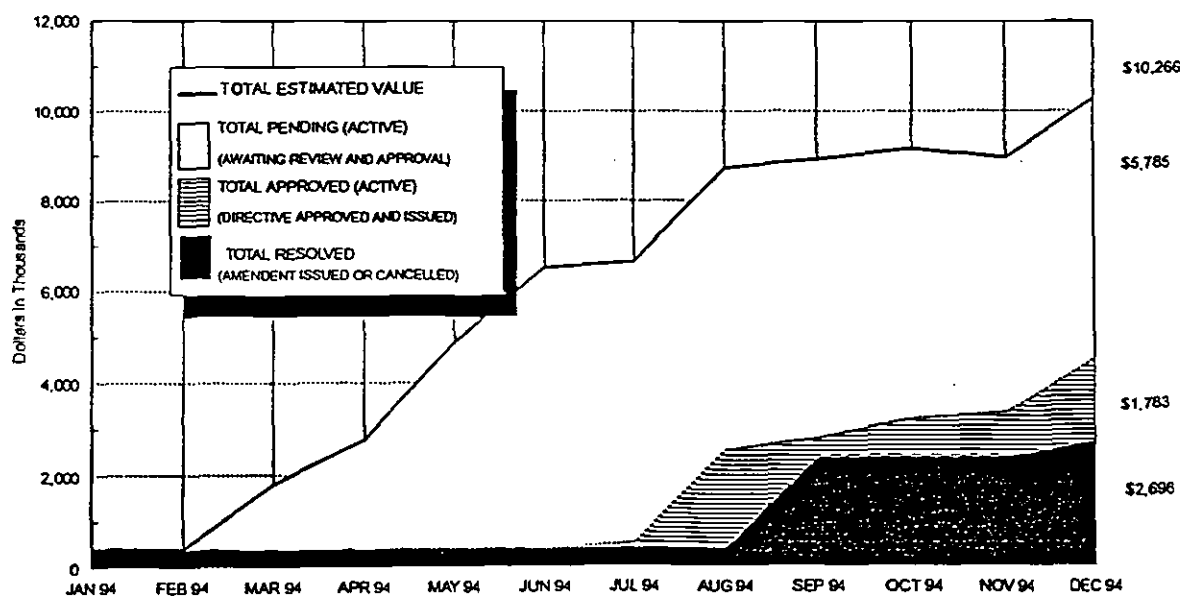
CONSULTANT CONTRACT CHANGE SUMMARY  
PASADENA BLUE LINE CONSULTANT CHANGE REQUEST VOLUME



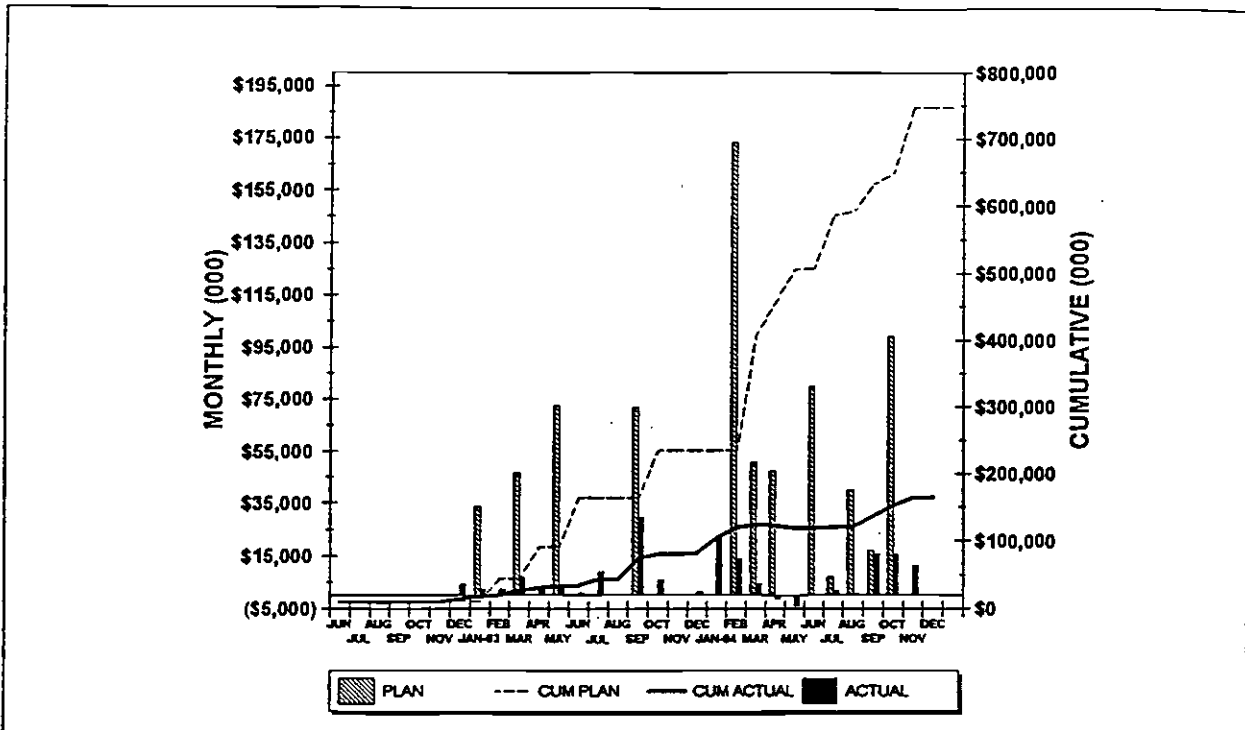
AGE OF UNRESOLVED CONSULTANT CHANGES

TIME	0-30 DAYS	30-60 DAYS	61-90 DAYS	OVER 90	TOTAL ACTIVE
VOLUME	12	6	3	40	61
PERCENT	20%	10%	5%	65%	100%

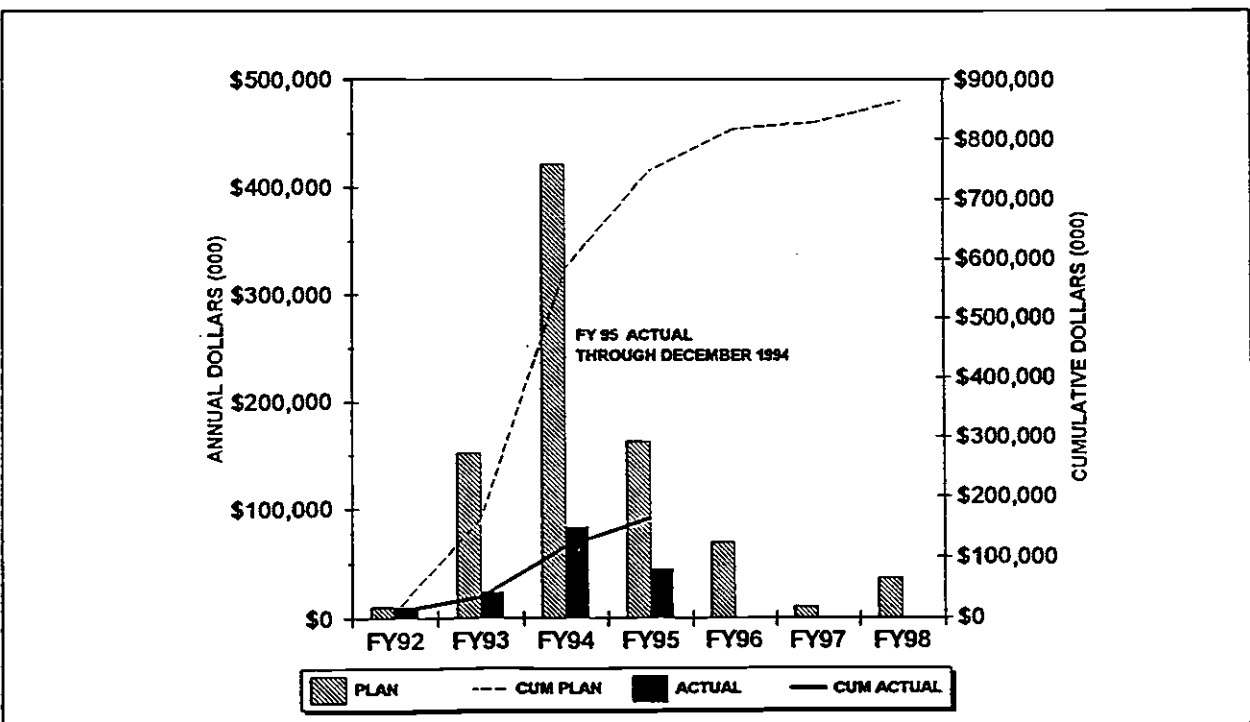
CONSULTANT CONTRACT CHANGE SUMMARY  
PASADENA BLUE LINE CONSULTANT CHANGE REQUEST VALUES



## ANNUAL PROJECT COMMITMENTS

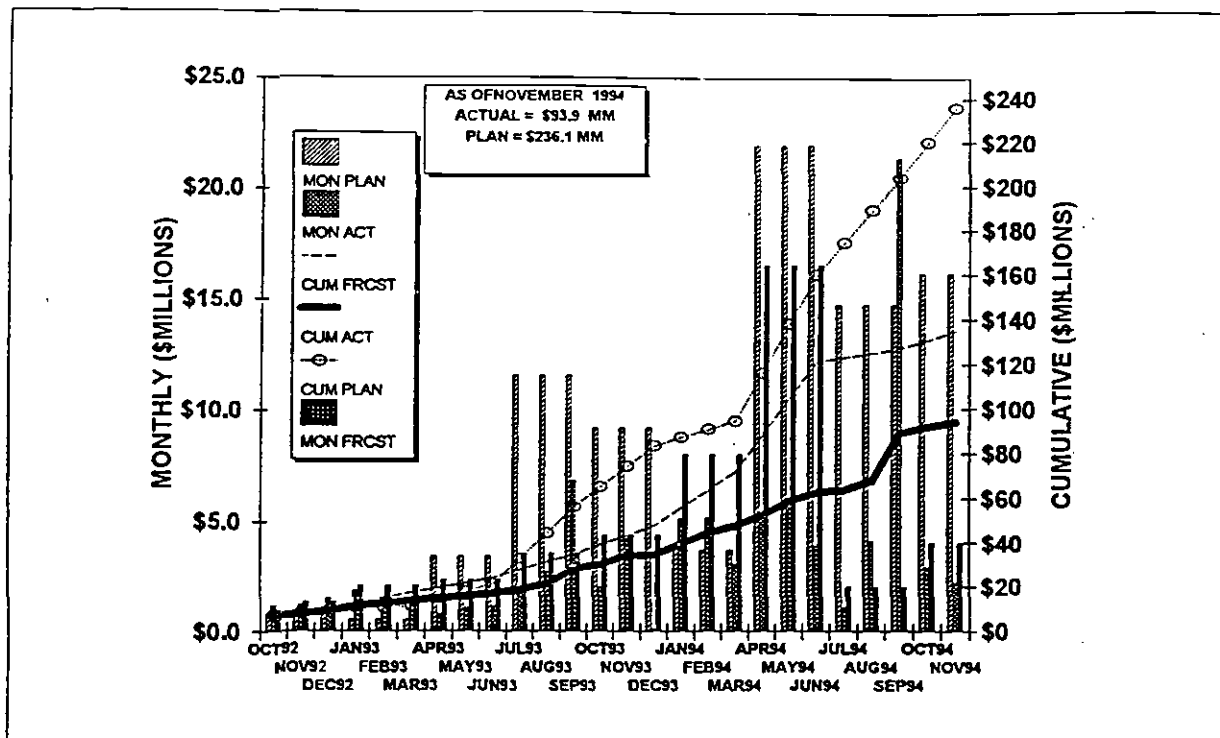


## TOTAL PROJECT COMMITMENTS

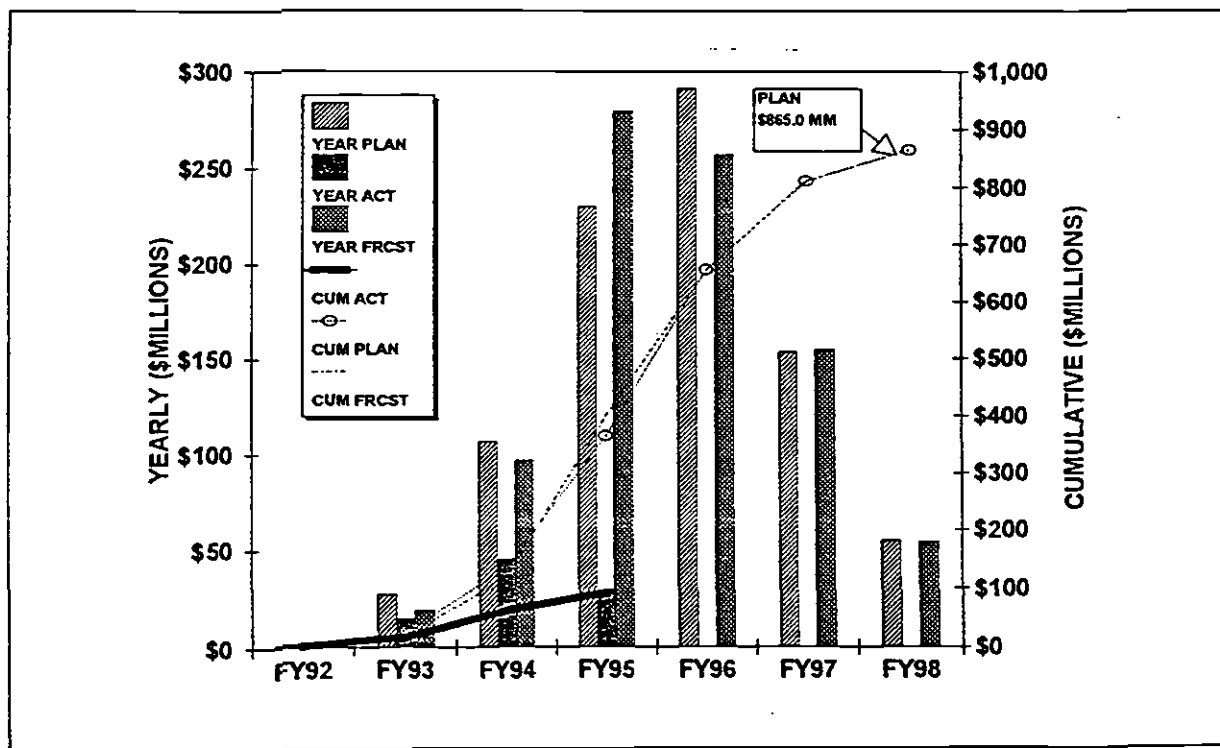




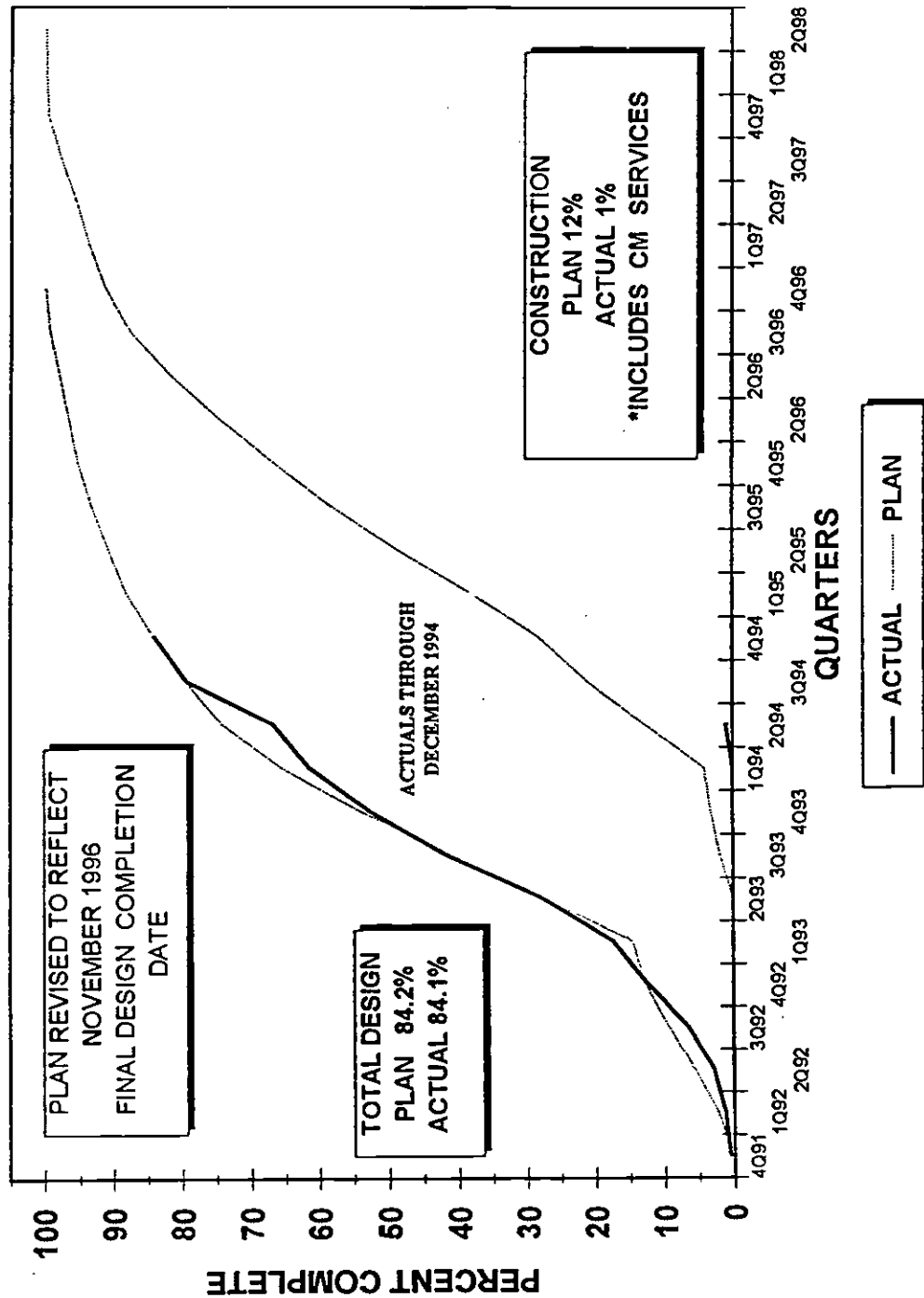
## ANNUAL PROJECT CASHFLOW



## TOTAL PROJECT CASH FLOW



# PASADENA BLUE LINE - PROGRESS SUMMARY



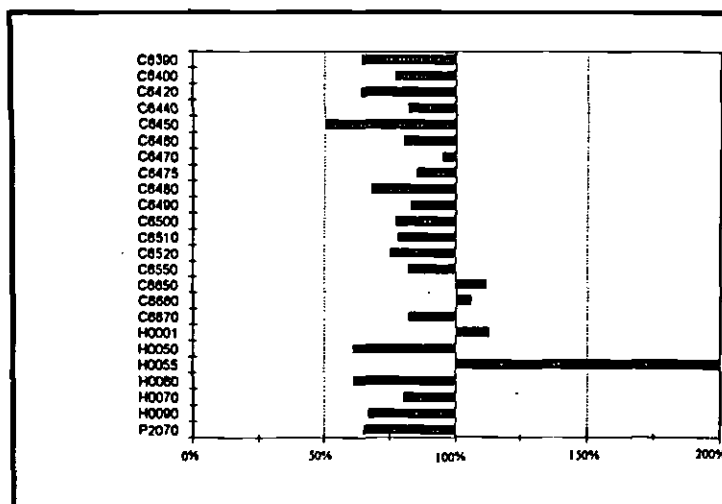
## CRITICAL PATH DIAGRAM

The Pasadena Blue Line schedule for design and construction is currently being rebaselined. The approved schedule and critical path will be included in the Project Manager's Status Report once they are approved.

## Pasadena Blue Line

Design Work Only

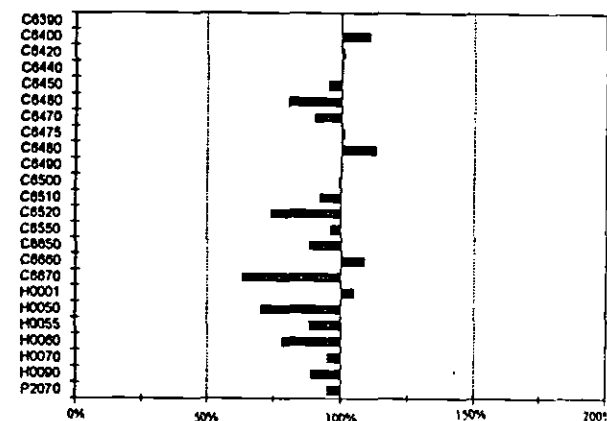
## Cost Performance Index



## CPI Legend

Under 100% = Over Budget  
Over 100% = Under Budget

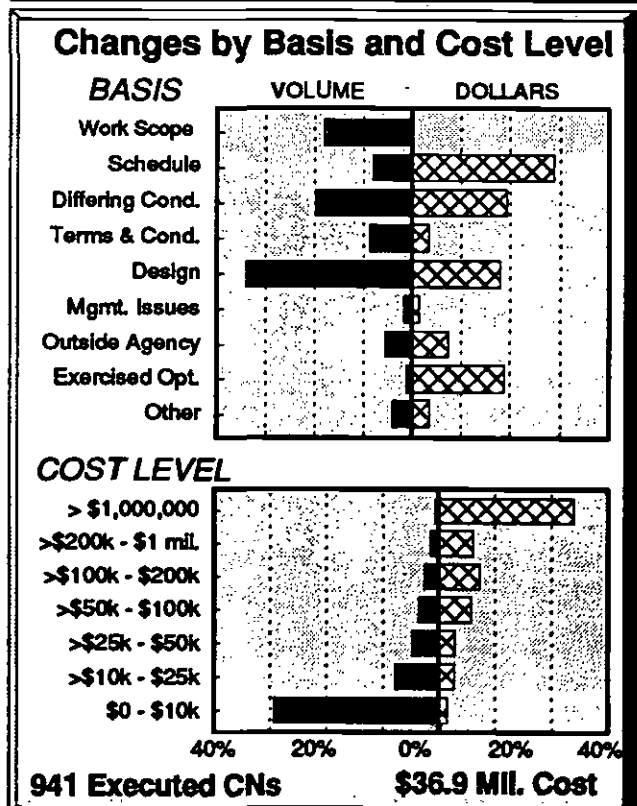
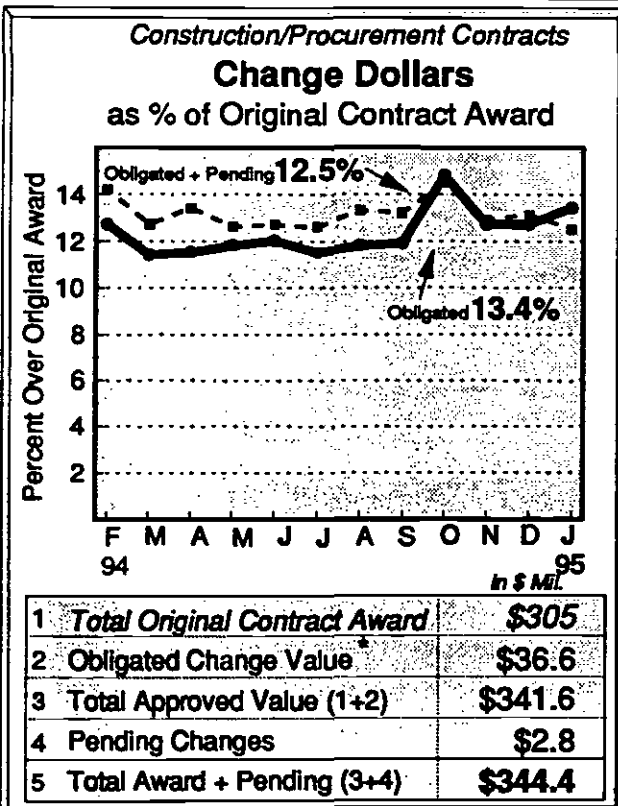
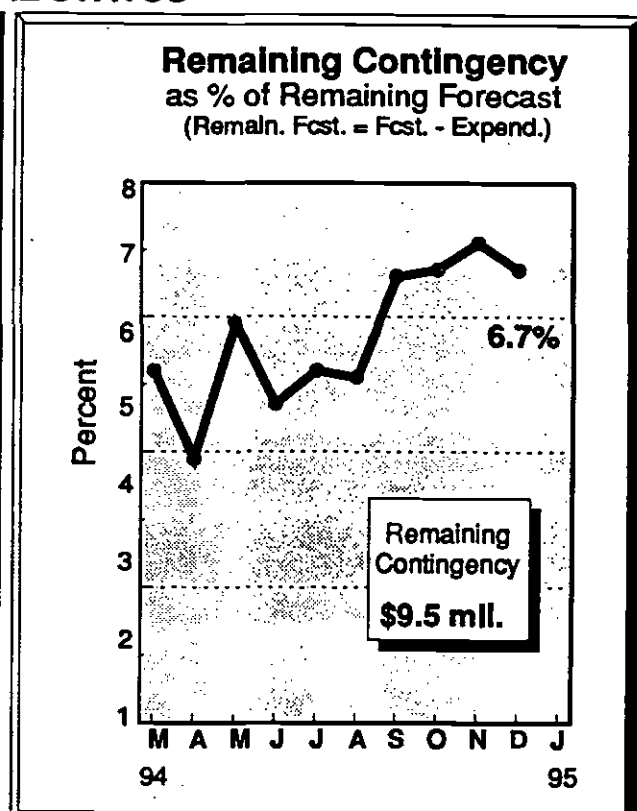
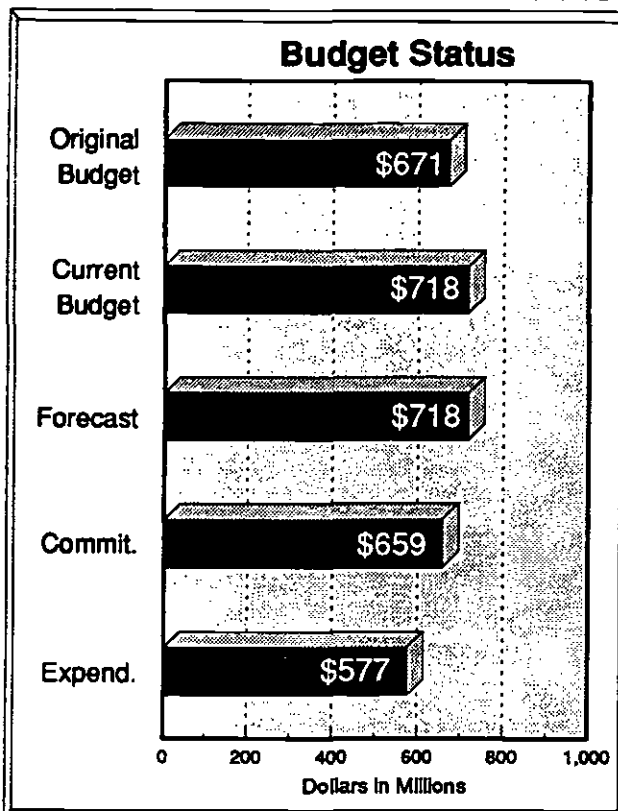
## Schedule Performance Index



## SPI Legend

Under 100% = Behind Schedule  
Over 100% = Ahead of Schedule

## FINANCIAL STATUS



## SCHEDULE AND SAFETY STATUS

### MTA Critical Activities

February 1995

- ✓ **AWARD APPROVAL**  
No contract awards this month.

### Employment Status

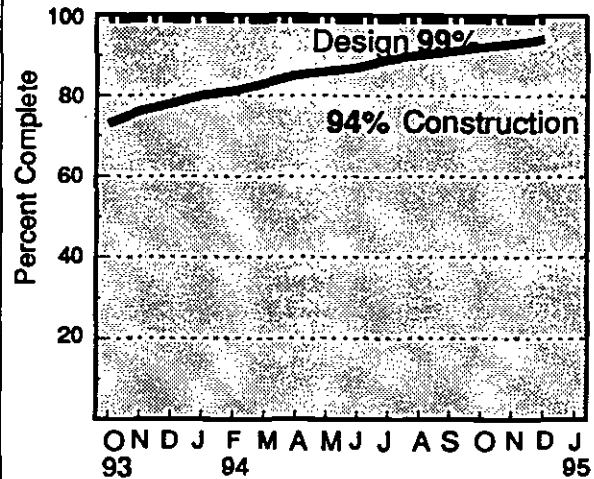
Months of Employment Provided

**16,704**

*Based on an average  
29 job-months provided  
per million expended*

### Schedule Status

**PROGRESS**



Revenue Operation Date: **May 1995**  
(Approved)

### Schedule Status CRITICAL PATH - 1 Year Outlook

The following contracts are on  
the Critical Path through June 95:

**H0831 Systems**  
SCADA

**H1100 Systems**  
Automatic Train Control

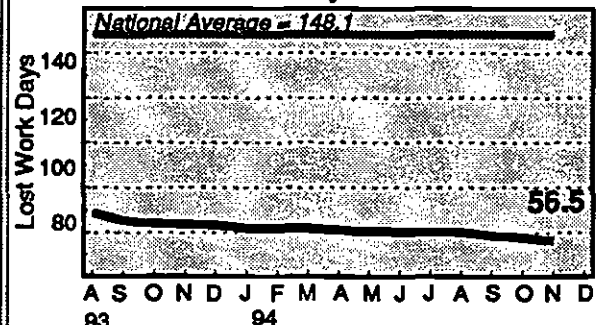
**H0832 Systems**  
Cable Transmission

**Systems Integrated Test**  
Norwalk-Marine ABS

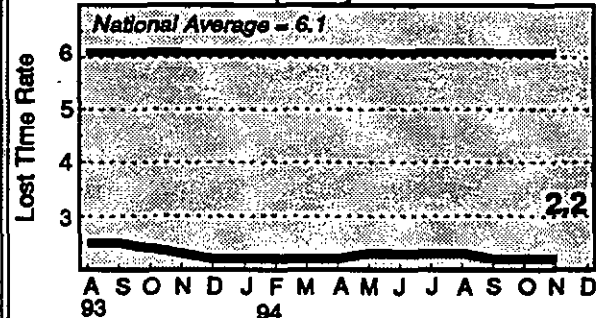
**H0900 Systems**  
Safety Systems

### Safety

#### Accident Severity Rate - Cumulative



#### Accident Frequency Rate - Cumulative



**EXECUTIVE SUMMARY****COST STATUS** (in millions)

- Current Budget \$717.8
- Current Forecast \$717.8

**SCHEDULE STATUS**

- Current Approved Revenue Operations Date May 1995
- Design Progress - Actual 100%
- Construction Progress - Actual 94%

**REAL ESTATE STATUS**

MONTH	NUMBER OF PARCELS	PARCELS AVAILABLE	PARCELS NOT AVAILABLE (ON SCHEDULE)	PARCELS NOT AVAILABLE (BEHIND SCHEDULE)	
				NUMBER	AVG DAYS BEHIND
THIS MONTH	39	39	0	0	0
LAST MONTH	39	39	0	0	0

**AREAS OF CONCERN****ONGOING****Contract H1100 (ATC) ATP Scheduled Completion**

- Concern:** The recent H1100 Schedule dates do not support the current MTA program plan.
- Action:** Negotiations failed to resolve the outstanding contractual milestone issues. A unilateral change will be issued if the contractor does not sign Change Order 23.
- Status:** A phased approach to opening with ATP has been developed. ABS is no longer considered an option. A bilateral change (CO-23) has been prepared and forwarded to Union Switch and Signal for signature.

**All Contracts Cross Connect Engineering and Installation**

- Concern:** Without the layout and installation of the cross-connects between the SCADA RTUs to MDF data points and other contract MDF data points, the integrated testing, using SCADA, cannot be performed. Approximately 80 percent of integrated testing requires SCADA.
- Action:** The EMC was directed to do the cross-connect layout on August 24, 1994. Change Notice is being written for H0832 to perform the cross-connects.
- Status:** - OKA has received H0900 interface data sheets. Cross connects are scheduled to begin 1/3/95. Cross connects at the CCF are being generated.

**Contract H0900 (S & SCS) Schedule Recovery**

- Concern:** The contractor's performance has continually slipped over the past few months to the point of impacting integrated testing.
- Action:** The contractor has provided OKA with a recovery schedule that reflects the January dates established in CO # 9.
- Status:** LFAT testing scheduled to begin in earnest 1/4/95. Test crews are scheduled to work seven days per week. However, even with this concentrated effort, the contractor will be hard pressed to meet the contractual milestone dates.



**KEY ACTIVITIES - DECEMBER 1994**

- Contract H1100 (ATC) preliminary control line testing.
- Contract H1100 (ATC) completed integration testing, Paramount to Wilmington East.
- Contract H0840 (Fare Collection Equipment) ticket vending machine cabinets were installed at Vermont, and Avalon Stations.
- Contract H0900 (S&SCS) completed LFAT of PA and CCTV Systems at CCF
- Contract H0900 (S&SCS) First shipment of VMS signs and cabinets was received; installation has begun
- Load sharing and pull away test was conducted at TPS-05

**KEY ACTIVITIES - PLANNED FOR JANUARY 1995**

- Complete Contract H1100 (ATC) installation at the Central Control Facility (CCF) for Automatic Train Control; start testing.
- Complete Contract H1100 (ATC) cable pulling at all locations, Norwalk-Marine
- Complete Contract H0900 (S&SCS) LFAT/SFAT testing of all systems in East and West segments
- Complete Contract H0900 installation of all VMS equipment system wide for Contract H0900 (S&SCS)
- Complete Contract H1200 Traction Power integration tests
- Complete Supervisory Control and Data Acquisition (SCADA)/Traction Power tests.
- Complete Emergency Transfer Switch (ETS) integration tests
- Start Contract H0901 Platform Intrusion Detection System (PIDS) integration tests

**MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT**

Project: R23 METRO GREEN LINE

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 6, 1995  
Units: \$ In Thousands (Truncated)

ELEMENT / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
T CONSTRUCTION	470,191	0	485,898	6,256	437,751	4,423	384,307	2,786	371,544	962	476,510	-9,388
S PROFESSIONAL SERVICES	108,562	0	180,477	182	181,448	1,978	169,339	1,978	169,339	0	194,967	14,490
R REAL ESTATE	36,927	0	28,522	56	24,903	56	24,899	56	24,899	0	26,047	-2,475
F UTILITY/AGENCY FORCE ACCOUNTS	7,656	0	10,500	4	11,598	18	9,628	18	9,628	0	11,512	1,012
D SPECIAL PROGRAMS	4,675	0	4,790	17	4,579	68	1,907	68	1,907	0	4,790	0
C PROJECT RESERVE	89,613	0	14,131	0	0	0	0	0	0	-962	9,543	-4,588
A PROJECT REVENUE	-16,626	0	-6,518	0	-1,264	0	-604	0	-604	0	-5,569	945
GRAND TOTAL	671,000	0	717,802	6,517	658,978	6,546	591,474	4,909	576,711	0	717,802	0

METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL GREEN LINE PROJECT  
(IN THOUSANDS OF DOLLARS)

18-Jan-95

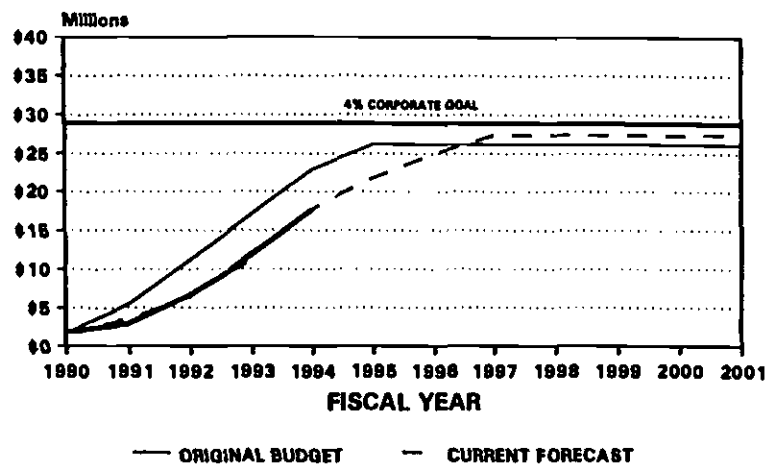
DECEMBER 94

STATUS OF FUNDS BY SOURCE

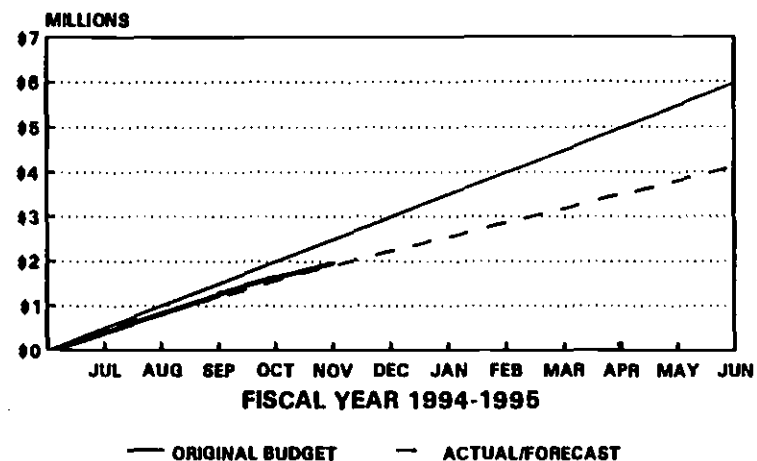
SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
PROP A	\$205,136	\$205,136	\$205,136	100%	\$205,136	100%	\$205,136	100%
PROP C (40% ALLOCATION)	\$200,816	\$200,816	\$200,816	100%	\$200,816	100%	\$200,816	100%
PROP C (25% ALLOCATION)	\$199,458	\$132,422	\$140,661	71%	\$123,112	62%	\$123,112	62%
STATE PROP 108	\$22,400	\$22,400	\$22,400	100%	\$22,400	100%	\$22,400	100%
STATE PROP 116	\$84,000	\$84,000	\$84,000	100%	\$21,590	26%	\$11,453	14%
PROP C (AMERICAN DISABILITY ACT)	\$5,994	\$3,657	\$5,965	100%	\$3,657	61%	\$3,657	61%
TOTAL	\$717,802	\$648,431	\$658,978	92%	\$576,711	80%	\$566,574	79%

NOTE : EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 1994.

## AGENCY COST GREEN LINE



## FISCAL 1995 AGENCY COSTS GREEN LINE



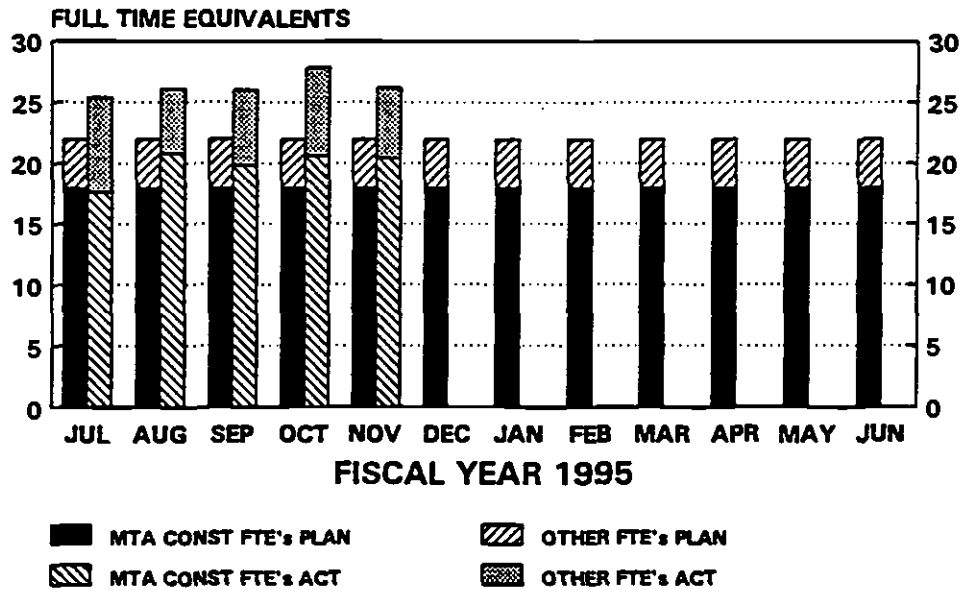
## PROJECT AGENCY COSTS GREEN LINE (\$000)

TOTAL PROJECT BUDGET	\$717,802
ORIGINAL BUDGET	\$26,189
BUDGET % OF TOTAL PROJECT	3.8%
CURRENT FORECAST	\$27,407
FORECAST % OF TOTAL PROJECT	3.8%
ACTUALS THROUGH FY 94	\$17,711

## FISCAL YEAR 1995 AGENCY COSTS GREEN LINE (\$000)

ORIGINAL BUDGET	\$5,965
CURRENT FORECAST	\$4,117
BUDGET PLAN TO DATE	\$2,485
ACTUAL TO DATE	\$1,911

## STAFFING PLAN VS. ACTUAL GREEN LINE



FY'95 BUDGET

## GREEN LINE STAFFING PLAN FISCAL YEAR 1995

MTA CONSTRUCTION FTE's PLAN	18
MTA CONSTRUCTION FTE's ACTUAL	20
OTHER FTE's PLAN	4
OTHER FTE's ACTUAL	6
TOTAL FTE's PLAN	22
TOTAL FTE's ACTUAL	26

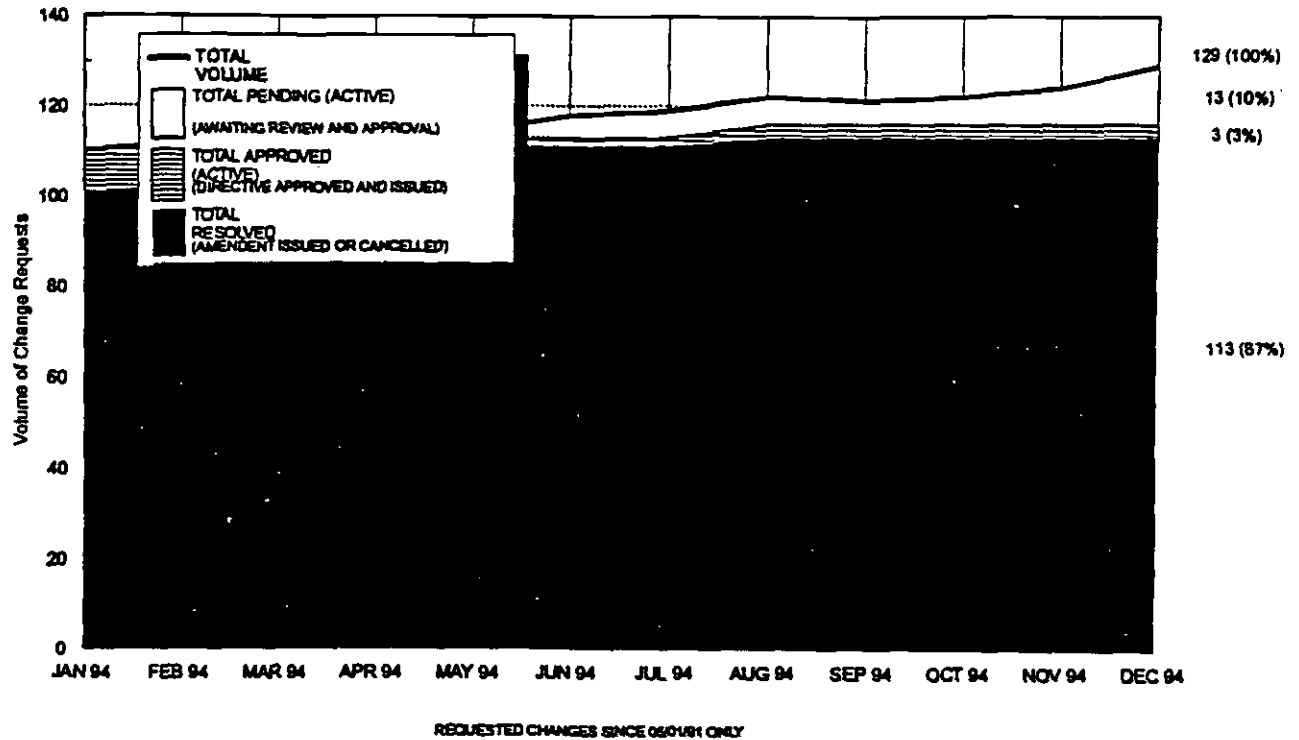
AS OF 12/30/84

**Page 8**

- = AFE increase required to cover obligated changes

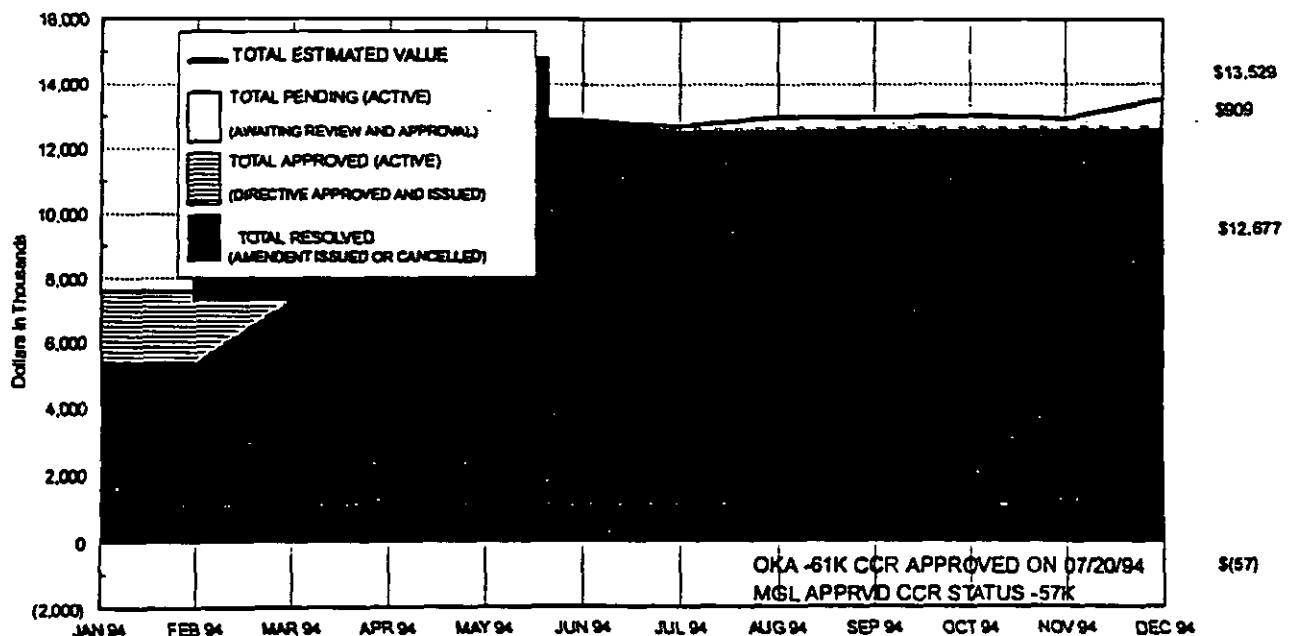
NIKKA CHANEY  
01/18/95 08:26:27

**CONSULTANT CONTRACT CHANGE SUMMARY  
GREEN LINE CONSULTANT CHANGE REQUEST VOLUME**



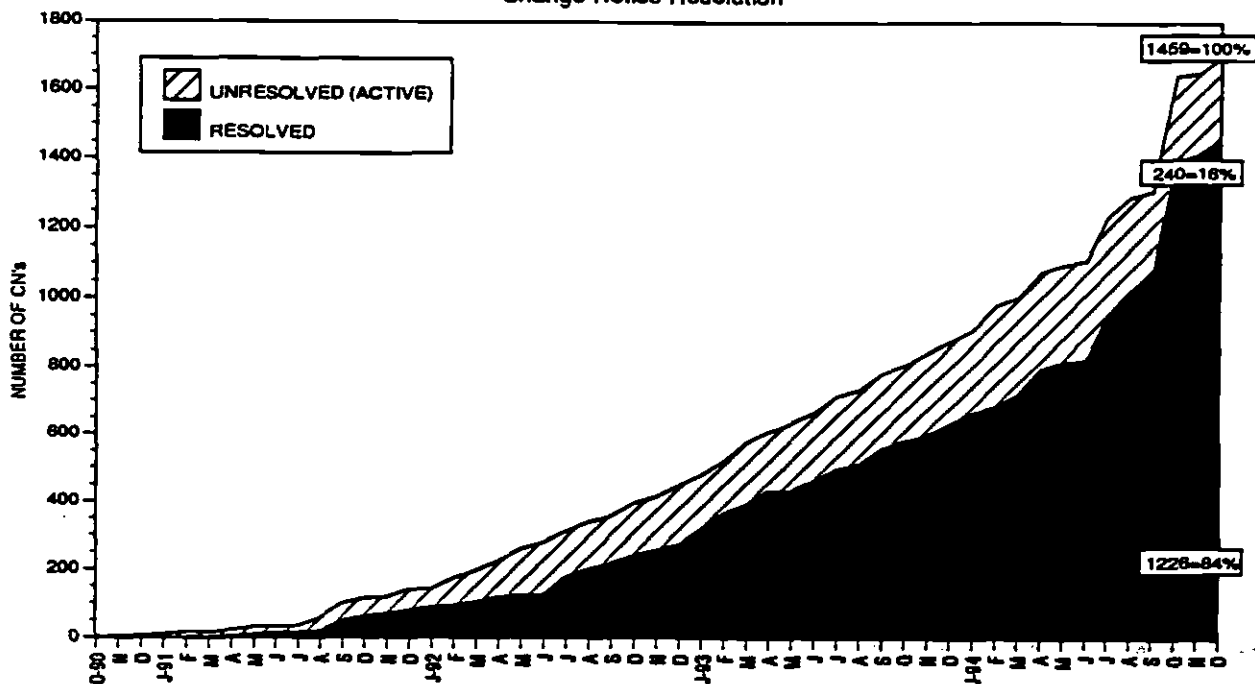
AGE OF UNRESOLVED CONSULTANT CHANGES					
TIME	0-30 DAYS	30-60 DAYS	61-90 DAYS	OVER 90	TOTAL ACTIVE
VOLUME	6	1	0	9	16
PERCENT	38%	6%	0%	56%	100%

**CONSULTANT CONTRACT CHANGE SUMMARY  
GREEN LINE CONSULTANT CHANGE REQUEST VALUES**



### CONSTRUCTION/PROCUREMENT CONTRACT CHANGES

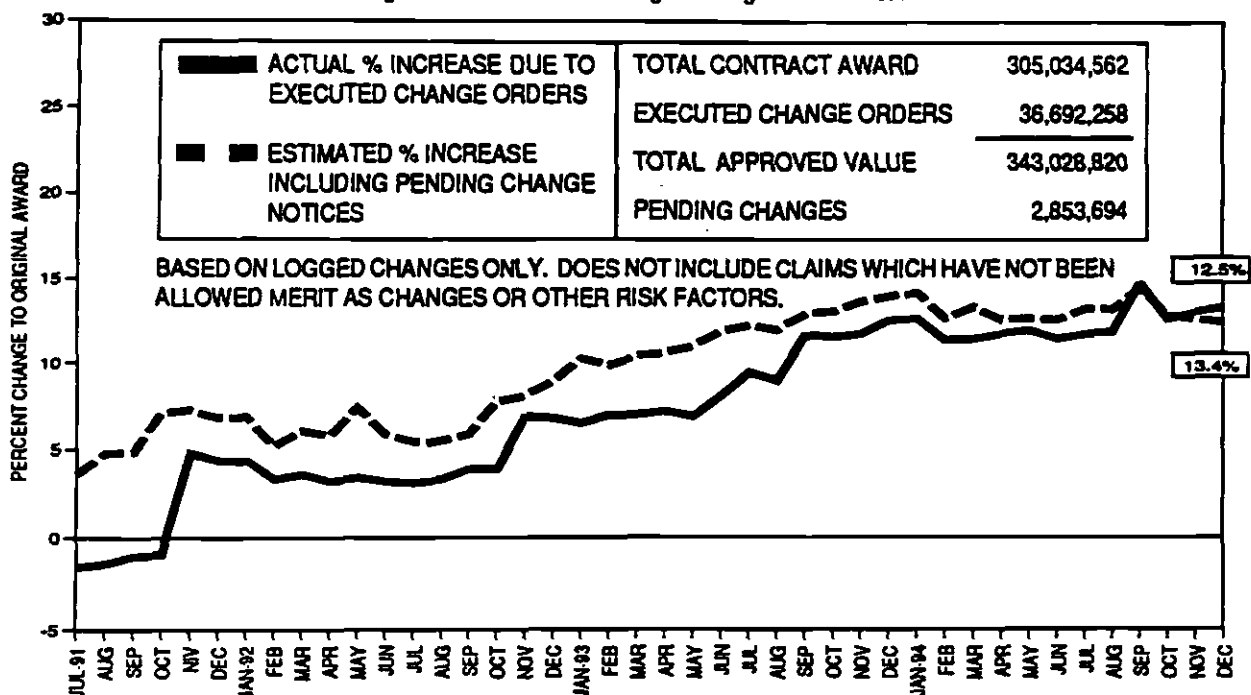
Change Notice Resolution



AGE OF UNRESOLVED CHANGES					
TIME	0-30 days	31-60	61-90	90+	TOTAL ACTIVE
VOLUME	72	18	30	120	240
PERCENT	30%	8%	12%	50%	100%

### CONSTRUCTION/PROCUREMENT CONTRACT CHANGES

Change Dollars as a Percentage of Original Contract Award





**R23 - Metro Green Line**  
**CONSTRUCTION/PROCUREMENT CONTRACT CHANGES**  
**CHANGE COST LEVEL BREAKDOWN**  
**EXECUTED CHANGES AS OF 01/04/95**

<b>COST RANGE (ABSOLUTE VALUE)</b>	<b># CN'S</b>	<b>% Total Volume</b>	<b>Change Cost</b>	<b>% Total Change Cost</b>
> 1 MILLION	11	1.17%	\$17,877,708.46	47.79%
> 200 - 1 MILLION	26	2.76%	\$4,464,399.78	12.07%
> 100-200	48	5.10%	\$5,322,033.49	14.39%
> 50-100K	67	7.12%	\$4,271,579.33	11.55%
> 25-50K	90	9.56%	\$2,159,303.10	5.84%
10-25K	145	15.41%	\$1,995,235.90	5.39%
0-10K	554	58.87%	\$1,098,039.79	2.97%
<b>PROJECT TOTALS:</b>	<b>941</b>	<b>100.00%</b>	<b>\$36,988,299.85</b>	<b>100.00%</b>

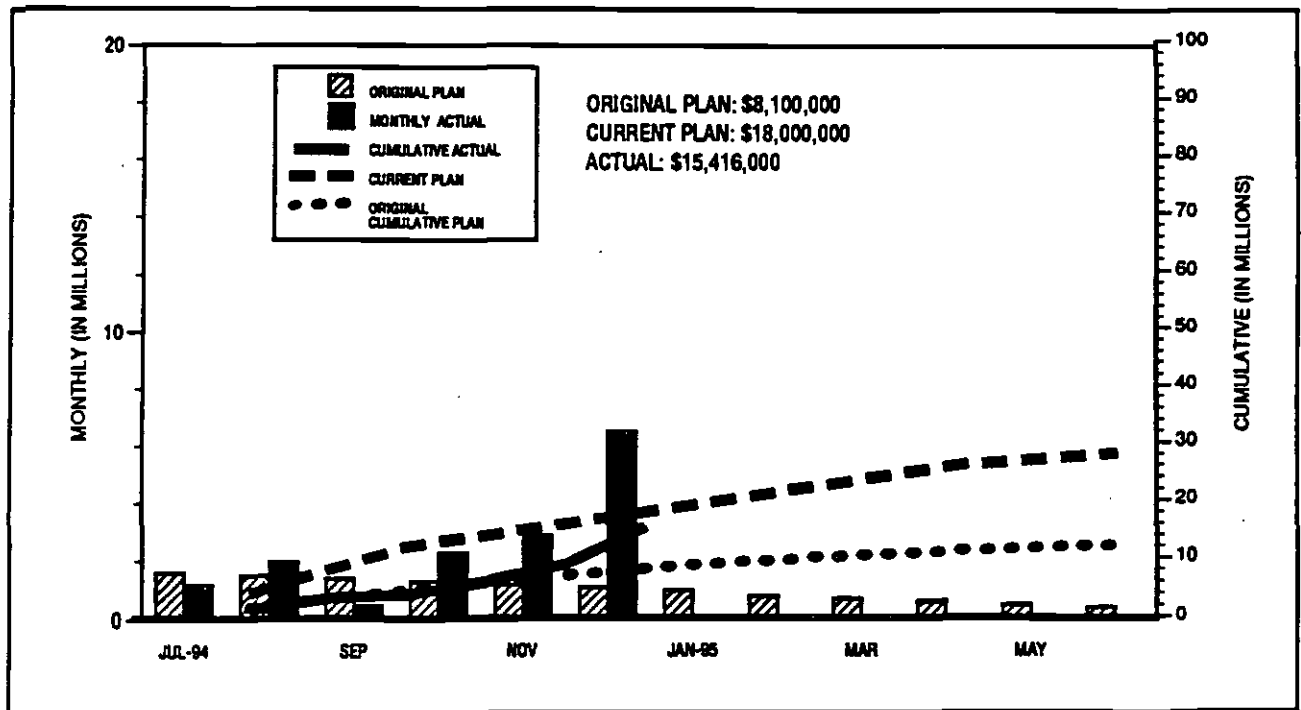
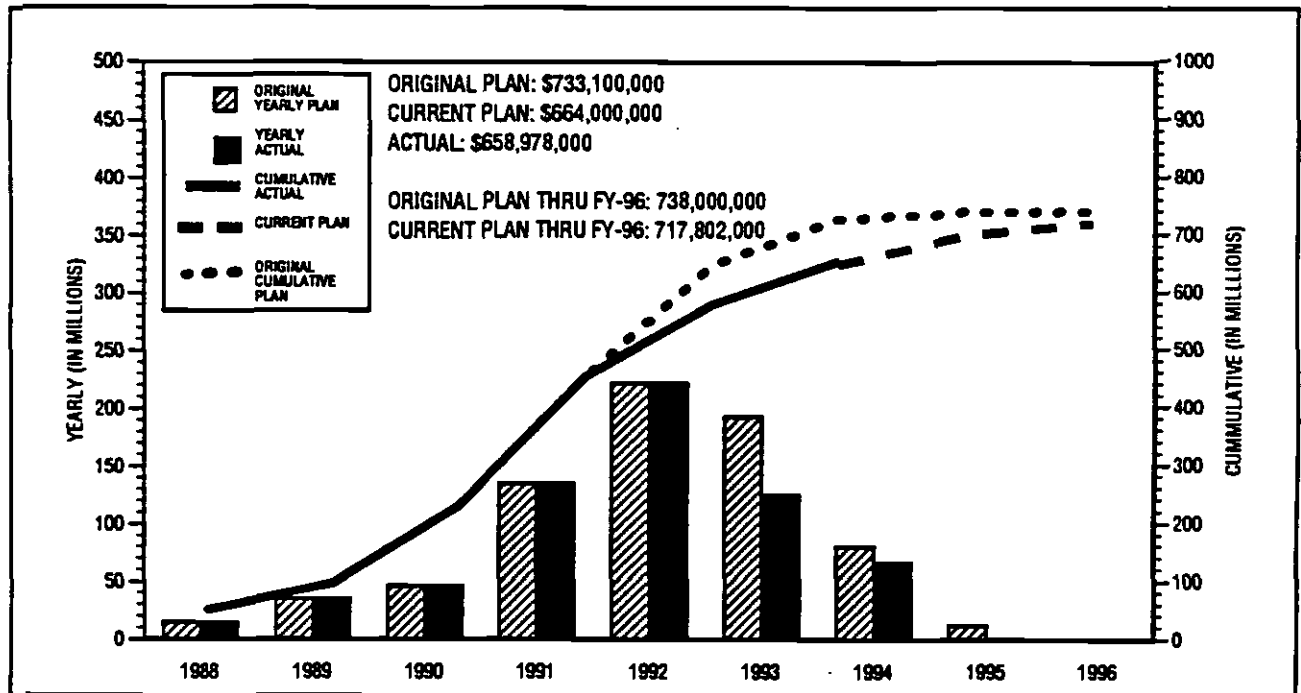
R23 - Metro Green Line  
CONSTRUCTION/PROCUREMENT CONTRACT CHANGES

LIST ALL CHANGES TO CONTRACTS  
AWARDED UNDER:  
R23C0090 - R23P2020

CHANGE NOTICE BASIS BREAKDOWN  
EXECUTED CHANGES AS OF 01/04/95

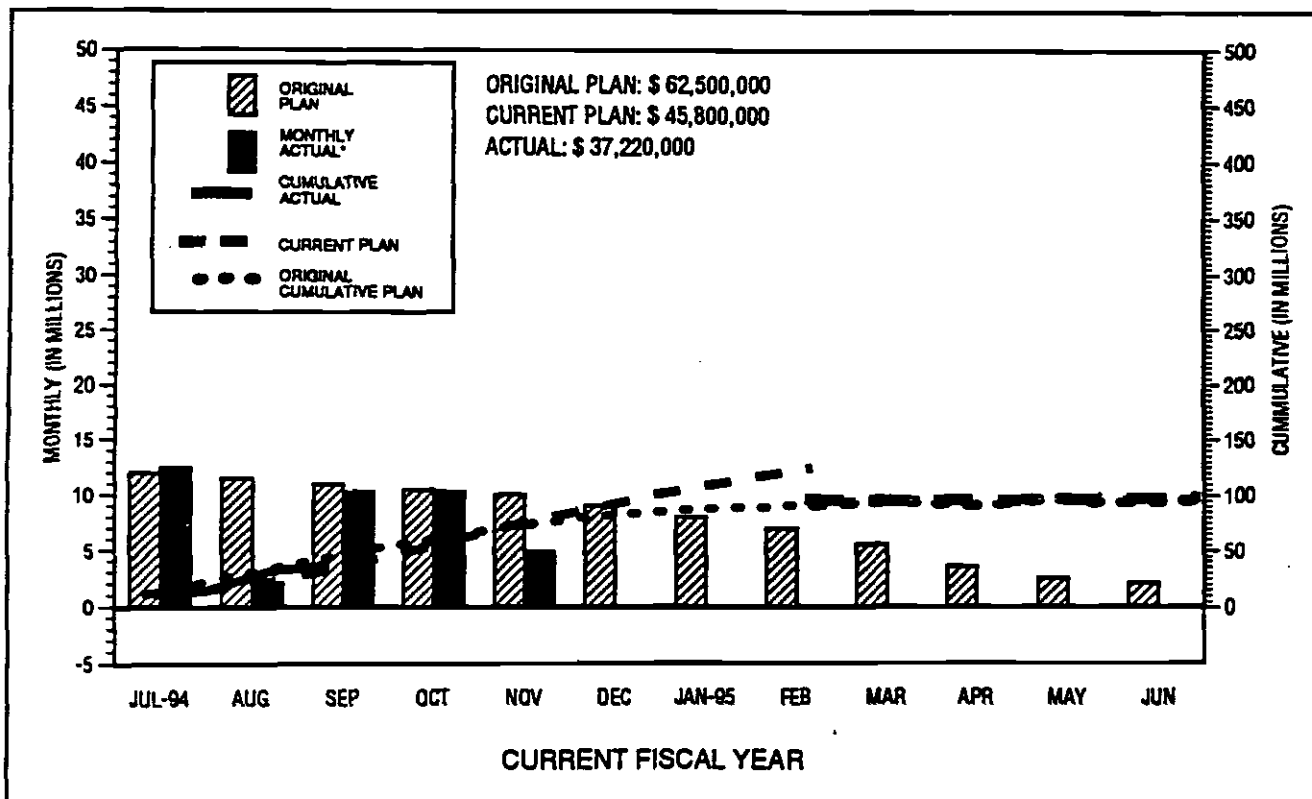
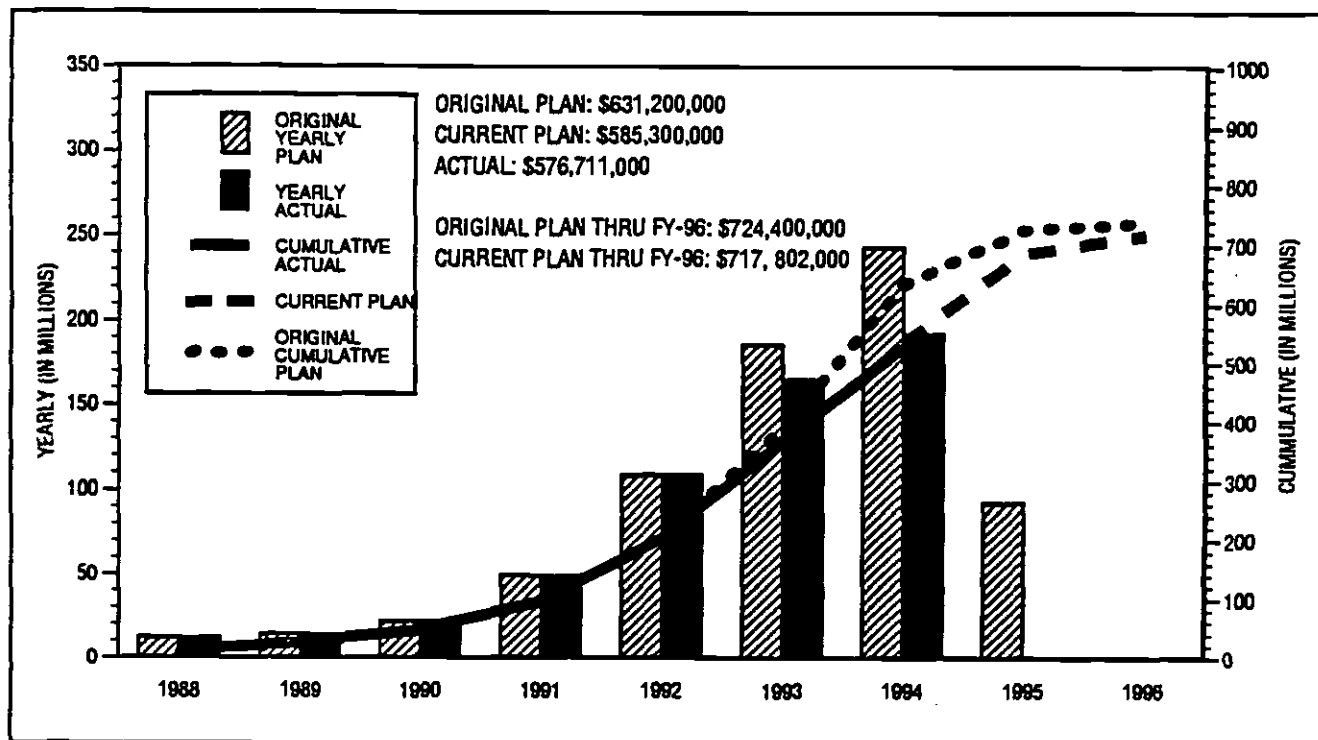
		# CN'S	% Total Volume	Change Cost	% Total Change Cost
<b>WORK SCOPE</b>					
110	EXTRA WORK	115	12.22%	\$1,984,487.19	5.37%
115	ADDITIONAL/NEW WORK	11	1.17%	\$313,006.43	0.85%
120	DELETION OF WORK	38	4.04%	(\$2,484,546.25)	-6.72%
130		1	0.11%	\$0.00	0.00%
		---	---	-----	-----
		185	17.53%	(\$187,052.63)	-0.51%
<b>SCHEDULE CHANGES</b>					
210	DELAY OF WORK (COMPENSABLE)	25	2.66%	\$8,997,550.28	24.33%
220	ACCELERATION OF WORK	14	1.49%	\$1,305,688.00	3.53%
230	MILESTONE REVISIONS (NON-COMPENSABLE)	36	3.83%	\$345,300.00	0.93%
		---	---	-----	-----
		75	7.97%	\$10,648,536.26	28.79%
<b>DIFFERING CONDITIONS</b>					
310	DIFFERING SITE CONDITIONS	184	19.55%	\$8,308,872.87	25.17%
320	HAZARDOUS MATERIALS	1	0.11%	(\$2,313,704.84)	-6.26%
330	SAFETY CONDITIONS	1	0.11%	\$103,000.00	0.28%
		---	---	-----	-----
		186	19.77%	\$7,099,168.03	19.19%
<b>TERMS AND CONDITIONS</b>					
410	TERMS AND CONDITIONS (OWNER ORIGINATED)	45	4.78%	\$1,272,694.67	3.44%
430	EDITORIAL CLARIFICATIONS/DOCUMENT MAINTENANCE	37	3.93%	\$0.00	0.00%
		---	---	-----	-----
		82	8.71%	\$1,272,694.67	3.44%
<b>DESIGN CHANGES</b>					
510	DESIGN CHANGES/ENHANCEMENTS (OWNER ORIGINATED)	122	12.96%	\$4,811,330.31	12.47%
515	DESIGN CHANGES/ENHANCEMENTS (EMC ORIGINATED)	12	1.28%	\$518,481.92	1.40%
520	DESIGN CHANGES/ENHANCEMENTS (MTA OPERATIONS ORIGINATED)	3	0.32%	\$0.00	0.00%
530	CORRECTIONS TO PLANS AND SPECIFICATIONS	173	18.38%	\$2,118,175.08	5.73%
540	VALUE ENGINEERING CHANGES (CONTRACTOR ORIGINATED)	9	0.96%	(\$631,798.78)	-1.71%
		---	---	-----	-----
		319	33.90%	\$6,617,197.55	17.89%
<b>MANAGEMENT ISSUES</b>					
610	DISRUPTION/INEFFICIENCY (CLAIMS ONLY)	2	0.21%	\$2,375.00	0.01%
620	COMPREHENSIVE CLAIMS	13	1.38%	\$572,374.00	1.55%
		---	---	-----	-----
		15	1.59%	\$574,749.00	1.55%
<b>OUTSIDE AGENCY REQUESTS</b>					
720	DESIGN CHANGES (OUTSIDE AGENCY ORIGINATED)	43	4.57%	\$2,666,172.77	7.21%
730	TERMS AND CONDITIONS (OUTSIDE AGENCY ORIGINATED)	9	0.96%	\$44,119.62	0.12%
		---	---	-----	-----
		52	5.53%	\$2,710,292.39	7.33%
<b>CONTRACT OPTIONS</b>					
800	CONTRACT OPTIONS	10	1.06%	\$6,938,932.00	18.76%
		---	---	-----	-----
		10	1.06%	\$6,938,932.00	18.76%
<b>OTHER</b>					
900	OTHER	37	3.93%	\$1,313,782.58	3.55%
		---	---	-----	-----
		37	3.93%	\$1,313,782.58	3.55%
<b>PROJECT TOTALS:</b>					
		941	100.00%	\$36,988,299.85	100.00%

## PROJECT COMMITMENTS

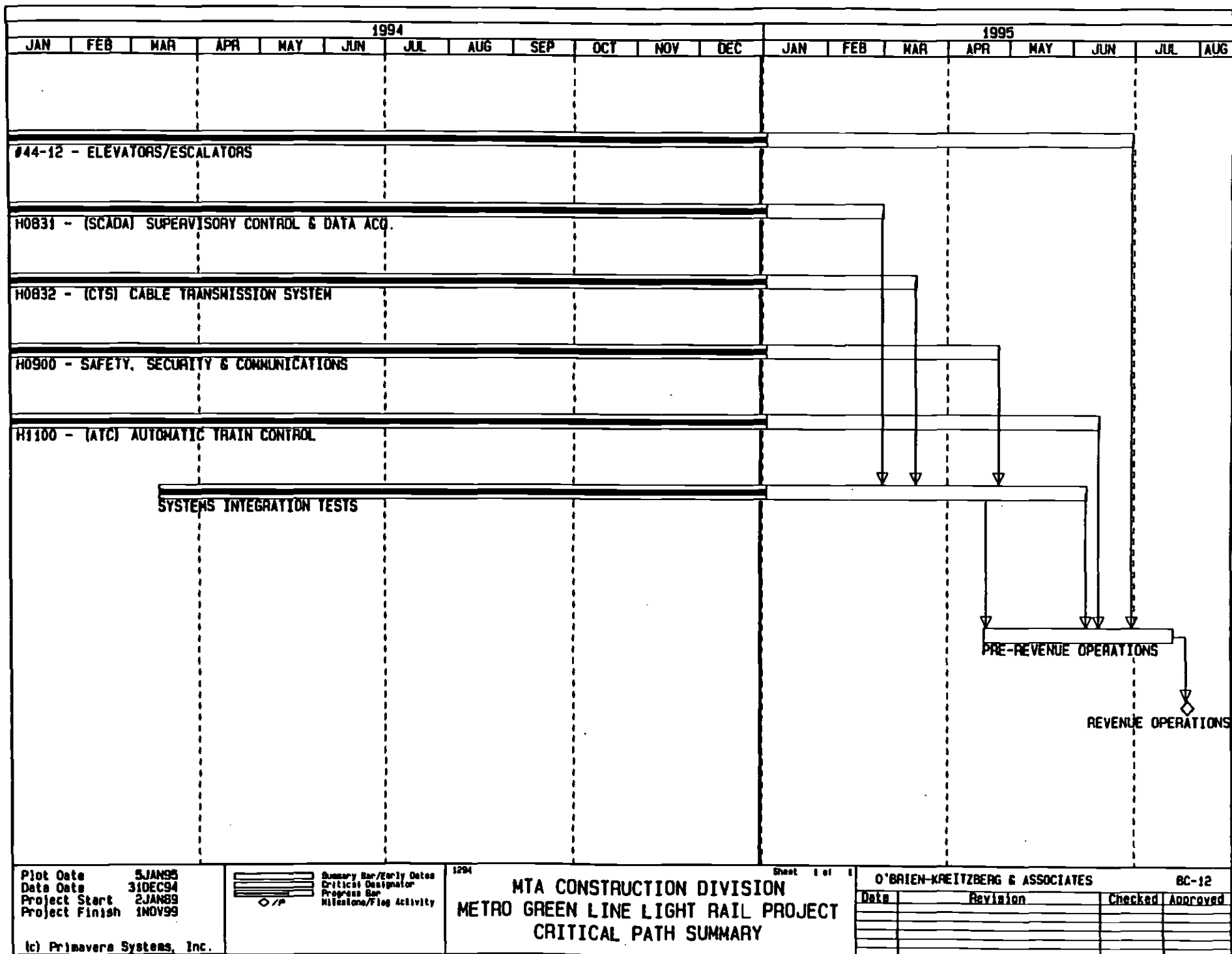


CURRENT FISCAL YEAR

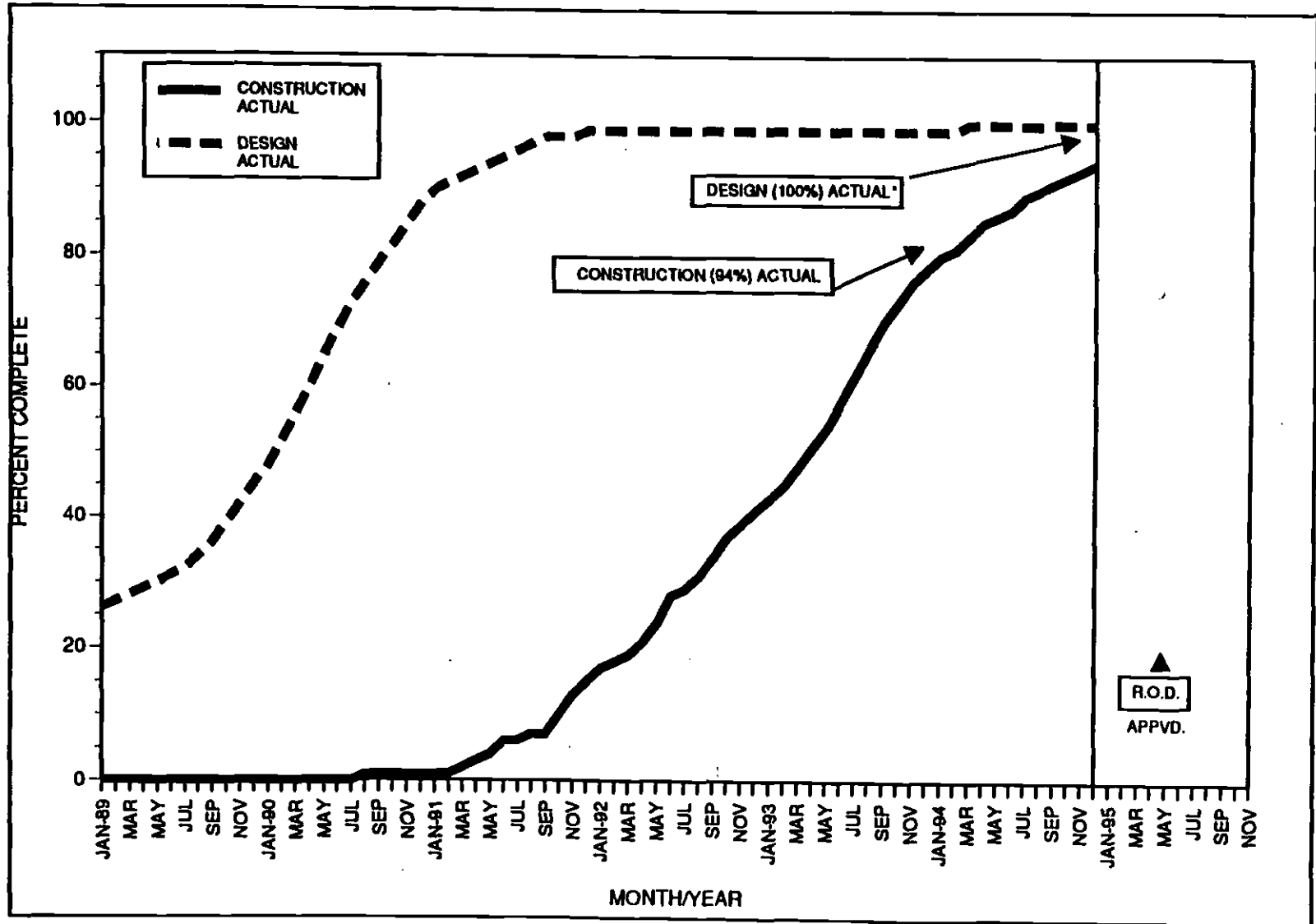
# PROJECT CASH FLOW



\* ACTUAL EXPENDITURES ARE THROUGH PREVIOUS MONTH END.



## PROGRESS SUMMARY



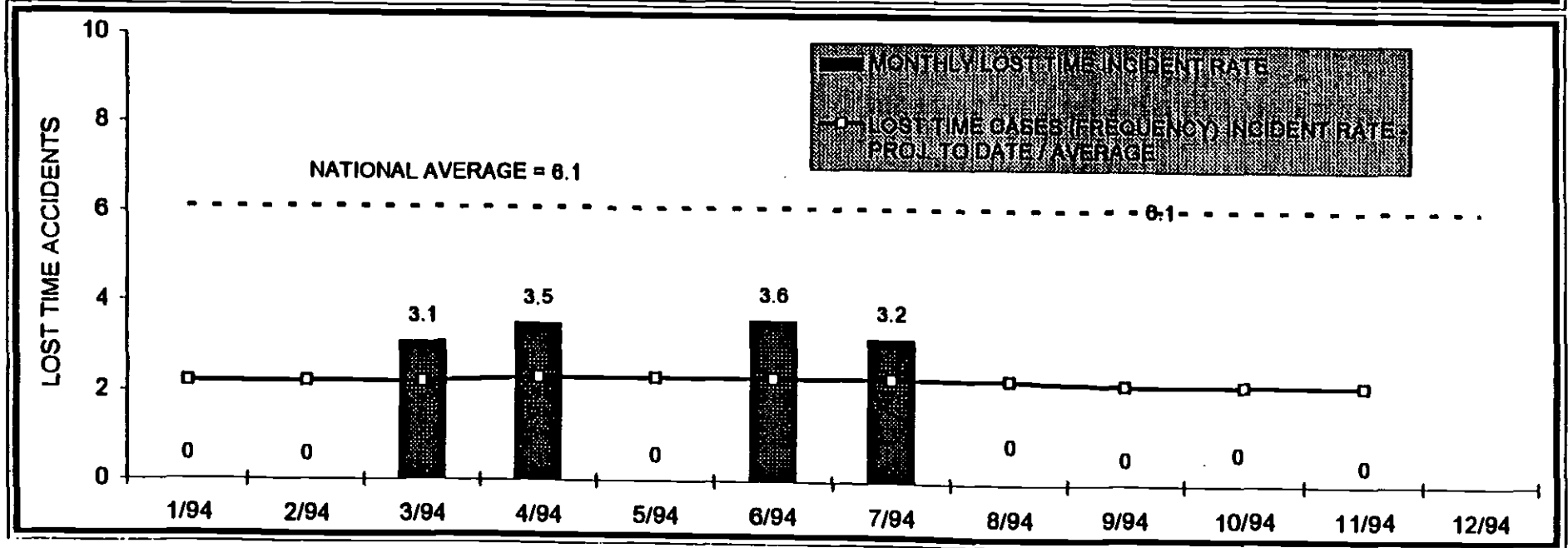
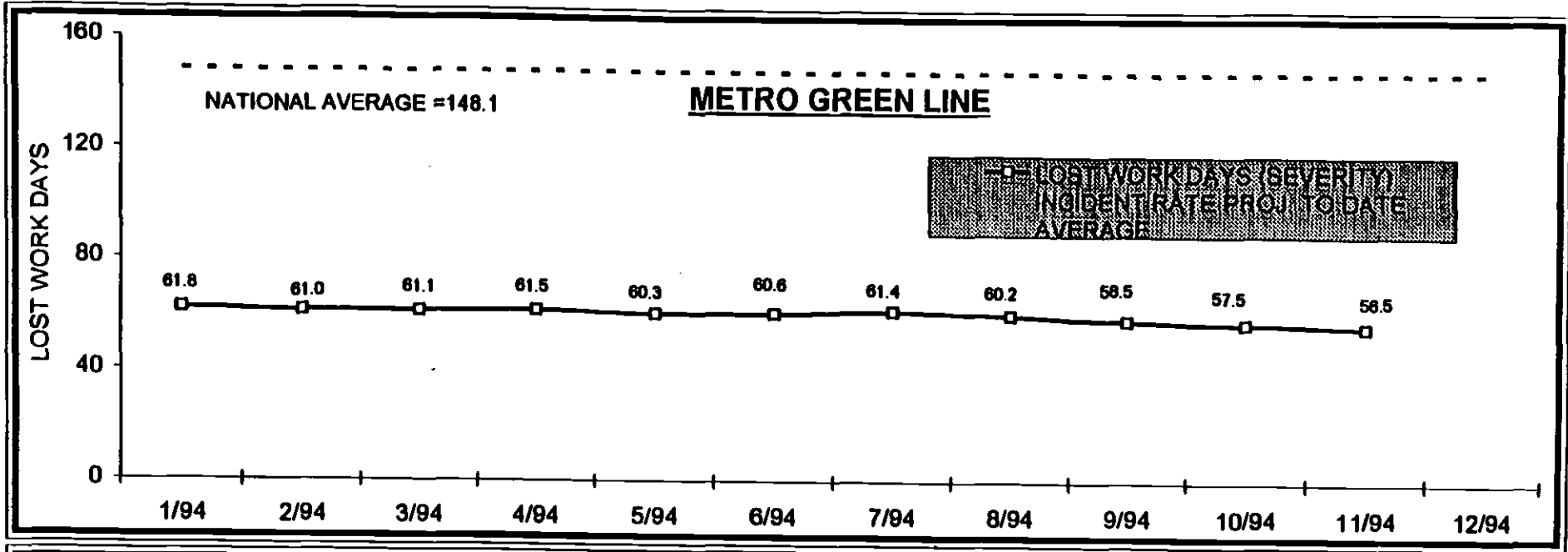
\* EXCLUDES NORTH COAST EXTENSION

# Summary of Lost Time Accidents (FREQUENCY) and Lost Work Days (SEVERITY)

METRO GREEN LINE

DECEMBER 1994

Page 17



## LEGEND

0	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.		
C0600	Trackwork I-105			0	0			Jan 95
C0610	Trackwork - El Segundo				0			Jan 95
C0400	Main Yard & Shop	0	0	0	0			Jan 95
C0095	Fencing/WIDS	0	0	0	0			Feb 95
H0831	SCADA	0	0	0	0			Feb 95
H1200	TPSS	0	0	0	0			Feb 95
H1400	OCS	0	0	0	0			Feb 95
C0501	Systems Facilities Sitework	0	0	0	0			Mar 95
H0901	PIDS	0	0	0	0			Mar 95
H1310	Signs & Graphics	0	0	0	0	0		Mar 95
C0090	Miscellaneous Construction	0	0	0	0			Apr 95
C0100	Guideway Construction	0	0	0	0			Apr 95
C0170	ADA Elevators	0	0	0	0			Apr 95
H0832	CTS	0	0	0	0			Apr 95
H0840	Fare Collection Equipment	0	0	0	0	0		Apr 95
H0900	SSCS	0	0	0	0			May 95
H0889	Radios	0	0	0	0	0		Jun 95
P2020	LRV's - 15 cars	0	0	0	0	0	15 cars received; Undergoing testing	Jul 95
H1100	ATC	0	0	0	0	0		Mar 96



## EXECUTIVE SUMMARY

## COST STATUS

- The current forecast remains at \$1,450 million.

## CONTRACT CLOSEOUT

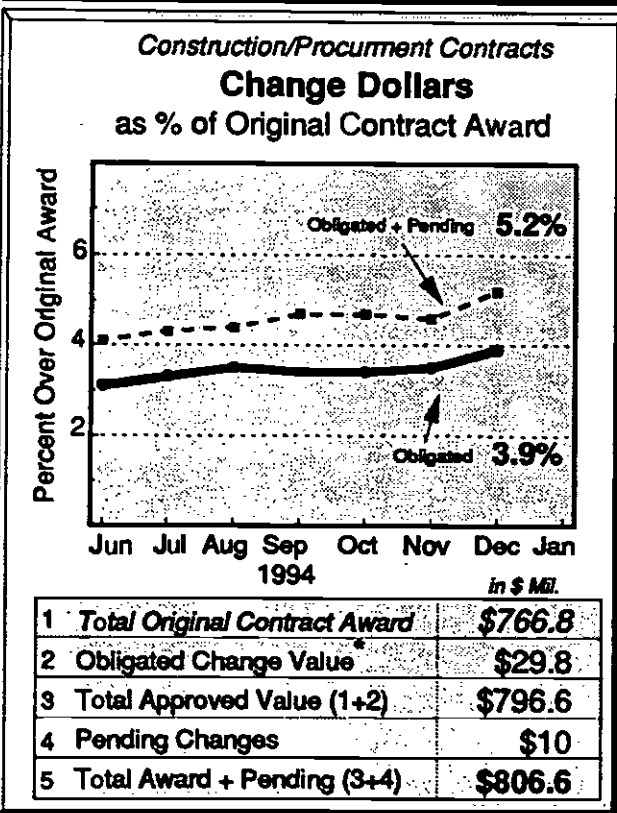
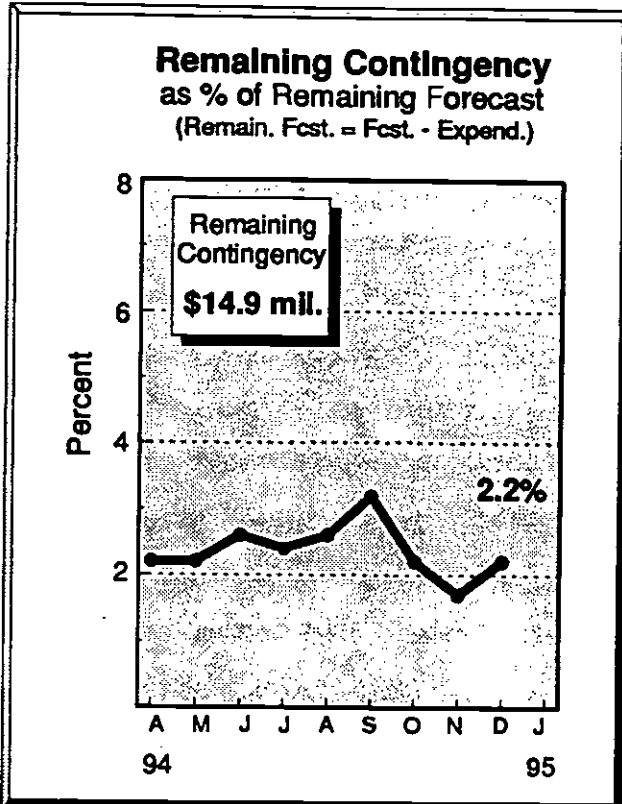
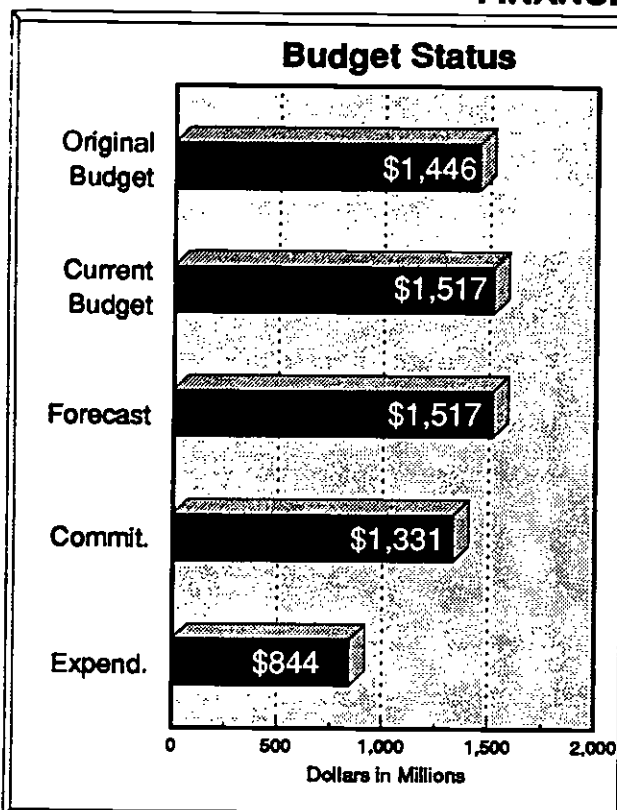
- Continue closeout of the following construction contracts:

LEGEND		CONTRACT CLOSE OUT STATUS						
O	Open. Action still required.	METRO RED LINE SEGMENT 1						
	Completed or Not Applicable							
CLOSE OUT STATUS								
CONTRACT NUMBER	DESCRIPTION	CLAIMS/CHANGE ORDERS	FINAL PROG. PAYMENT	FINAL RELEASE	FINAL ACCEPT. CERTIF.	EQUIP. FINAL DELIV.	COMMENTS	PROJECTED CLOSE-OUT DATE
A610/115	Track Installation	0	0	0	0	0	Final closeout pending claims litigation.	Mar 95

## REMAINING ACTIVITIES

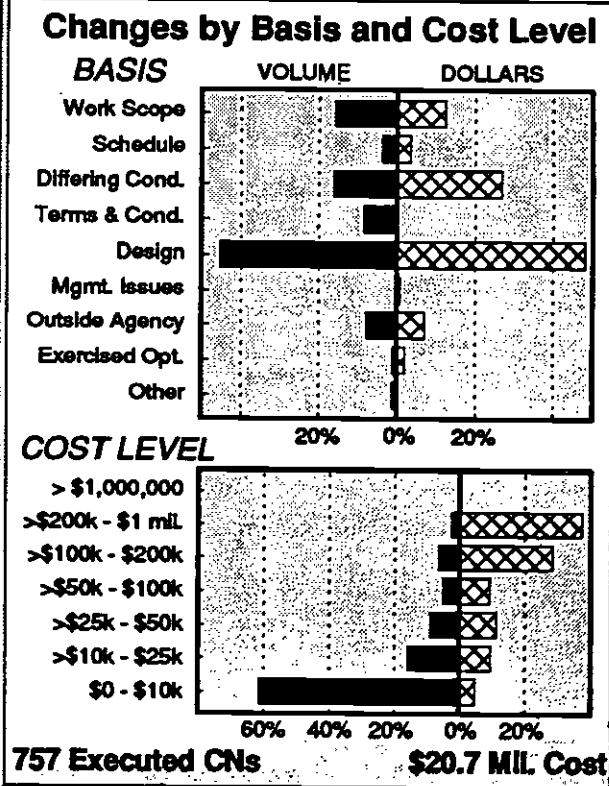
- Continue support and test of Breda vehicles.
- Continue supporting Grant closeout activities.
- Negotiate closeout of professional services contracts.
- Continue closeout of third party work orders.

## FINANCIAL STATUS



RBT12041.DRW

\* Includes Approved and NTE Authorizations



## SCHEDULE AND SAFETY STATUS

### MTA Critical Activities

February 1995

✓ **AWARD APPROVAL**

*No contract awards this month.*

### Employment Status

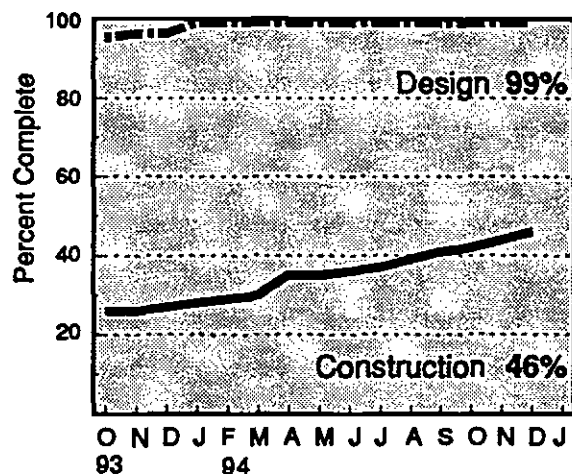
Months of Employment Provided

**24,476**

Based on an average  
29 job-months provided  
per million expended

### Schedule Status

**PROGRESS**



Revenue Operation Date:

Wilshire Corridor	<b>July 1996</b>
Vermont/Hollywood Corridor	<b>Sep 1998</b>

### Schedule Status

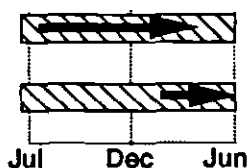
**CRITICAL PATH - 1 Year Outlook**

Wilshire

**161 days ahead  
(positive float)**

B610 Construction  
Trackwork Installation

B620 Construction  
Auto Train Control



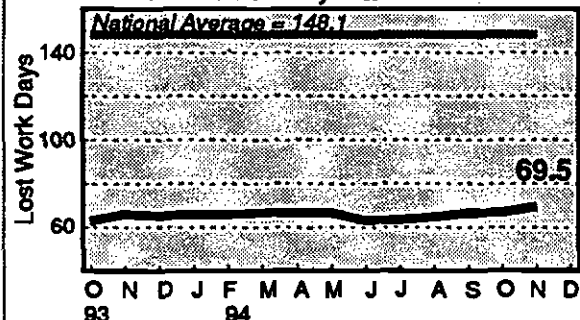
Vermont/Hollywood

**180 days behind  
(negative float)**

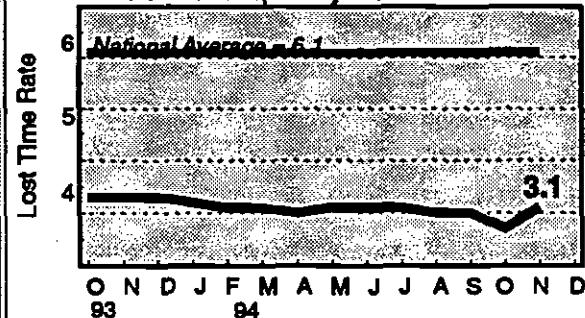
The forecasted start date for activities  
on the Critical Path is August 1994.

### Safety

**Accident Severity Rate - Cumulative**



**Accident Frequency Rate - Cumulative**



## EXECUTIVE SUMMARY

## COST STATUS

in \$ million

- Current Budget \$1,517.6
- Current Forecast \$1,517.8  
(including new requirements)

## SCHEDULE STATUS

- Revenue Operation Dates:
 

Wilshire Corridor	Planned:	July 1996
	Forecast:	February 1996
Vermont/Hollywood Corridor	Planned:	September 1998
	Forecast:	March 1999
- Design Progress
 

Planned:	99%
Actual:	99%
- Construction Progress
 

Planned:	48%
Actual:	46%

## REAL ESTATE

	NUMBER OF PARCELS	NUMBER OF PARCELS AVAILABLE	PARCELS NOT AVAILABLE (ON SCHEDULE)	PARCELS NOT AVAILABLE (BEHIND SCHEDULE)	
				NUMBER	AVG. DAYS BEHIND
THIS MONTH	88	86	2	0	0
LAST MONTH	88	86	2	0	0

- 88 parcels of land are required for the Segment 2 Project. The acquisition breakdown for this land is as follows: 31 full takes\*, 44 subsurface easements, 3 temporary construction easements, and 3 part-takes. Six additional parcels have been added for temporary Rights of Entry and one temporary license.

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\* Two of the full take parcels are not required for construction.

## EXECUTIVE SUMMARY (CON'T)

To date, 86 parcels have been acquired. Forty-two of the 86 parcels were acquired through condemnation and the remaining 44 parcels were negotiated acquisitions.

## AREAS OF CONCERN

### ONGOING

#### **Contract B610, Trackwork Installation, Realignment Impact - Wilshire Corridor**

**Concern:** Contract B610 concrete operations between Wilshire/Normandie Station and Wilshire/Western Station were delayed due to track realignment issues.

**Action:** Corrective measures should be formulated and forwarded to the Contractor for implementation.

**Status:** Change Notice 23, the realignment of tracks between Stations 335+29 to 337+60 and Stations 338+70 to 348+80 has been given to the Contractor. The Contractor is using six coring machines to meet the projected completion date of January 20, 1995. Contract B620, Automatic Train Control, access has been coordinated, allowing train control installation to proceed as scheduled.

#### **Contract B610, Trackwork Installation, Delays - Wilshire Corridor**

**Concern:** The Contractor may not be able to achieve the original planned rate of concrete installation for the overall contract. There are potential impacts to follow-on system contract access dates.

**Action:** Develop work around plan to minimize delays to follow on contracts.

**Status:** Mitigation efforts are underway to facilitate coordinated access, to ensure the timely completion of follow-on contractor's work. Contract B620, Automatic Train Control, installed all conduit for the 34.5 kV line. The Contractor has added a second contact rail pedestal crew to mitigate delays. The Contractor is forecasting substantial completion of Wilshire line by end of March 1995.

## AREAS OF CONCERN (CON'T)

### **Contract B251, Vermont/Hollywood Tunnels, Concrete Placement - Vermont/Hollywood Corridor**

**Concern:** Delays to concrete placement in the Vermont tunnels.

**Action:** The CM and the Contractor should develop a detailed path forward plan to ensure the start and continuation of tunnel concrete operations and coordinate lower station excavation interface milestones with the B251 Contractor.

**Status:** A detail path forward plan has been developed. Tunnel invert concrete placement has been completed on the Vermont Corridor, and the VAR arch concrete placement started south of Vermont/Sunset Station. The CM and the B251 contractor have established a concrete placement schedule utilizing the turnout structure and the 60 foot access at the south side of the Vermont Stations. The lower excavation can take place after the arch concrete placement. This mitigation plan will improve the stations interface milestones by several months. The CM continues to meet with B241, B252, and B261 station contractors to coordinate the station interface milestones.

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

**Concern:** The Vermont/Hollywood Corridor Revenue Operation Date (ROD) forecast has slipped, and the negative float to the September 1998 planned ROD has increased due to the Contract B251, Hollywood Tunnel shutdown. Tunnel mining operations under Hollywood Boulevard have been on hold since August 18, 1994. The critical path runs through the Hollywood Boulevard implementation plan, restart of HAR and HAL tunneling, tunnel concrete placement, and turnover to Contract B271, Hollywood/Western Station.

**Action:** The MTA directed the EMC and the Construction Manager to prepare an implementation plan and schedule. The B251 contractor has been directed to proceed with implementation activities and the revised sequence of tunnel concrete placement according to the implementation and mitigation schedule.

### AREAS OF CONCERN (CON'T)

Status: Implementation and mitigation schedules were developed in November 1994. Commencement of HAR tunnel mining is currently scheduled for January 4, 1995. Due to inevitable Contract B251 delays, Contract B271 work has been suspended for approximately four months to avoid early mobilization of station excavation labor and equipment. Meetings continue between the Construction Manager, B251 and B271 Contractors to evaluate the delays and possible alternative courses of action.

**FTA PROJECT MANAGEMENT OVERSIGHT CONSULTANT  
ITEMS FOR MTA ACTION**

The following items reflect action requirements identified in the November Monthly Project Report submitted to FTA by their Project Management Oversight Consultant, Hill International.

**NEW**

**NONE**

**ONGOING**

**August 1994, Grantee Staffing**

**Concern:** Spot report No. 1 contains several recommendations for MTA action.

**Action:** The grantee should respond to the recommendations outlined in the Spot Report within the one month time period allowed by FTA.

**Status:** The MTA has responded to the recommendations in Spot Report No. 1 and is waiting for the FTA to finish its review.

**RESOLVED**

**NONE**



## KEY ACTIVITIES - DECEMBER

### Design

- Contract B215, Wilshire/Vermont Station, Stage II; completed change notices for emergency generator, Variable Message Signs (VMS), relocation of fire protection valve pit, and roll up grille revisions.
- Contract B216, Wilshire/Vermont Site Restoration and Landscaping, received Final Design Review comments and incorporated them into specifications and drawings.
- Contract B251, Vermont/Hollywood Tunnel, completed design of compaction grouting system under the La Reina Building at 7083 Hollywood Boulevard. Continued evaluation of tunnel misalignment.
- Contract B261, Vermont/Sunset Station, continued work on Change Notices resulting from adding the Kaiser Building second entrance. Issued Kaiser Remodel Change Notice 20.
- Contract B263, Vermont/Sunset Station, Kaiser Permanente Building Second Entrance, continued design and development of bid documents.
- Contract B271, Hollywood/Western Station, Change Notice 3.00 (DCN-93-101.01) Automatic Sprinkler System partially completed - mechanical and electrical drawings.
- Contract B643, Closed Circuit Television (CCTV), Factory Acceptance Testing of Segment 2A, Wilshire Corridor equipment, including measurement of Signal to Noise ratios, was successfully completed.
- Contract B740, Ventilation Equipment, testing and inspection by EMC of failed damper actuators at the factory has been completed. Manufacturer is proceeding to correct defects. Replacement actuators are expected to be installed in February 1995.

**KEY ACTIVITIES - DECEMBER (CON'T)****Construction**

- Contract B215, Wilshire/Vermont Station, Stage 2, completed concrete placement for slab columns, and exterior walls of the upper track level of the station entrance structure. Courtyard and emergency exit #4 excavation commenced as planned to mitigate impacts to the project schedule. Handed over TC&C room to the follow-on contractor B620, Automatic Train Control.
- Contract B221, Wilshire/Normandie Station and Line, completed final walk-through of DWP incoming service room and granted access to the Department of Water and Power. Opened south Ardmore Street to traffic following completion of street paving work. Completed all the punchlist items in the TC&C room.
- Contract B241, Vermont/Beverly Station, continued excavation of the main station, 12,381 cy have been excavated to date. Decking of east side structures and support of utilities is continuing.
- Contract B251, Vermont/Hollywood Tunnel, completed concrete placement for the VAL invert between Sunset Station and the turnout structure. Arch concrete placement has begun from VAR at Sunset Station toward the turnout structure. Hollywood Boulevard chemical grouting replacement of drypack and supplemental support work continued to support the restart of mining operations.
- Contract B252, Vermont/Santa Monica Station, completed main station level 1 south run excavation along western side of station from south pit to south bulkhead, and level 1 north run from south pit to north bulkhead.
- Contract B261, Vermont/Sunset Station, established four lane traffic areas on east side of Vermont Avenue in order to continue required work on west side of Vermont Avenue. Installed temporary storm drain system on east side of Vermont.
- Contract B271, Hollywood/Western Station, completed installation of the precast decking system at north Serrano Boulevard, and continued supporting the utilities below the decking.

**KEY ACTIVITIES - DECEMBER (CON'T)**

- Contract B281, Hollywood/Vine Station, completed installation of the north station pile line. Implemented WTCP Phase II, moving work to south side of Hollywood Boulevard. Removed the ten remaining Hollywood Walk of Fame Stars located in front of the Hastings Hotel lot.
- Contract B610, Trackwork Installation, completed Yard final line and surface on tracks #4 through #8. All of the Type I and II plinth has been completed on the AL/BL alignment. The 645' radius double crossover has been completed at Wilshire/Western Station.
- Contract B620, Automatic Train Control, submittal process continued. The Contractor has manufactured and shipped TC&C equipment for the Vermont/Hollywood line, Vermont/Sunset and Hollywood/Western Stations.
- Contract B641, Radio, design engineering continues.
- Contract B643, Closed Circuit Television, Contractor successfully completed signal-to-noise testing for the CCTV system.
- Contract B740, Ventilation Equipment, completed fan equipment testing.
- Contract B745, Air Handlers and TPSS Fans, completed all testing at Contract B231, Wilshire/Western Station.
- Contract B760, Signs and Graphics, modified map case design to incorporate mock-up review comments.
- Contract B761, Illuminated Signs and Edgelights, Contractor delivered Wilshire/Normandie Station set.

**KEY ACTIVITIES - PLANNED FOR JANUARY****Design**

- Contract B216, Wilshire/Vermont Site Restoration and Landscaping, complete design drawings, specifications, and Schedule of Quantities and Prices in order to meet Advertise Date of January 1995.
- Contract B251, Vermont/Hollywood Tunnel, issue Change Notice 122 Compaction Grouting at La Reina Building for Change Control Board (CCB) approval. Issue Design Change Notice (DCN-76.02) for the addition of a construction ventilation shaft at crosspassage #37. Continue to provide field support for tunnel resumption. Continue tunnel realignment analysis for Hollywood Boulevard Tunnels.
- Contract B261, Vermont/Sunset Station, continue work on change notices related to Kaiser entrance. Change Notices 3a and 3b will be issued to LKG for distribution. Continue working on Rough-Order-of-Magnitude (ROM) cost estimates for Change Notice-3b.
- Contract B263, Vermont/Sunset Station, Kaiser Permanente Building Second Entrance, continue design of the second entrance. Complete ROM cost estimate.
- Contract B631, Traction Power Installation, complete the review of CAD drawings of the wire interconnection schedule for Wilshire/Vermont substation per Contract B630 as-built drawings.
- Contract B643, Closed Circuit Television (CCTV), continue construction support. Process a Design Change Notice to add additional cameras and associated CCF equipment for the new Kaiser Hospital entrance to the Vermont/Sunset Station.
- Contract B648A, Communications Installation, Wilshire Corridor/Gas Monitoring and Seismic Detection Procurement, continue review of contractor's proposals for Change Notices 2.00 and 3.00, addressing the expanded utilization of the Fire and Emergency Management System Programmable Logic Controller and updated requirements.

**KEY ACTIVITIES - PLANNED FOR JANUARY (CON'T)****Construction**

- Contract B215, Wilshire/Vermont Station, Stage II, continue installation of form shoring, reinforcement steel and concrete formwork for the ancillary level slab. Continue installation of HVAC ducts, fire sprinkler system, electrical conduits, masonry walls, lathing, and acoustic spraying at the lower and upper track levels. Continue finish work at the main station box.
- Contract B221, Wilshire/Normandie Station and Line, continue installation of major electrical, and HVAC equipment. Continue installation of edge lights and message sign supports at platform level. Continue finish work at the station entrance and plaza area.
- Contract B241, Vermont/Beverly Station, continue with main station excavation and support of utilities.
- Contract B251, Vermont/Hollywood Tunnel, continue concrete placement in the crosspassages. Continue the VAR arch concrete placement. Continue efforts to mitigate impacts to stations lower excavation access milestones. Start the VAL arch concrete placement. Start HAR tunnel mining.
- Contract B252, Vermont/Santa Monica Station, continue inspection and monitoring of Spancrete hollow core deck planks, directing replacement as needed. Obtain access to start the station lower excavation.
- Contract B261, Vermont/Sunset Station, continue installation of soldier piles, cap wales and cap beams, and relocation of underground utilities.
- Contract B271, Hollywood/Western Station, continue supporting the utilities below the decking.
- Contract B281, Hollywood/Vine Station, continue with the cap wale, cap beam installation on the south side of Hollywood Boulevard, and pile installation on El Centro Avenue.
- Contract B610, Trackwork Installation, continue punch list work and cleanup on the south switches and Tracks 1 through 8. Continue final line and surfacing. Continue installation of contact rail pedestals in the pocket track.

**KEY ACTIVITIES - PLANNED FOR JANUARY (CON'T)**

- Contract B630, Traction Power, delivery of equipment for the Wilshire/Vermont Station is scheduled for February 17, 1995.
- Contract B631, Traction Power Installation, continue submittal review process.
- Contract B740, Ventilation Equipment, completion of the remedial work on the damper hydraulic system.
- Contract B745, Air Handling, installation of equipment for Wilshire/Vermont Station.

**MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT  
WITH NEW REQUIREMENTS**

**Project:** R81 METRO RED LINE - SEGMENT 2

**Period:** Dec 2, 1994 to Dec 30, 1994  
**Run Date:** Jan 10, 1995  
**Units:** \$ in Thousands (Truncated)

ELEMENT / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
<b>TOTAL PROJECT</b>												
T CONSTRUCTION	893,000	0	943,224	2,838	860,574	5,719	526,564	22,546	500,788	-6,915	951,712	8,488
S PROFESSIONAL SERVICES	289,150	0	351,981	337	308,494	3,733	233,703	3,733	233,728	4,264	352,392	411
R REAL ESTATE	79,827	0	87,300	7,478	82,654	94	82,747	94	82,747	0	91,002	3,702
F UTILITY/AGENCY FORCE ACCOUNTS	36,668	0	31,122	0	26,229	344	16,820	344	16,820	0	34,035	2,913
D SPECIAL PROGRAMS	2,044	0	4,416	42	602	5	468	22	505	0	2,647	-1,768
C PROJECT CONTINGENCY	145,743	0	28,579	0	0	0	0	0	0	2,651	14,941	-13,637
A PROJECT REVENUE	0	0	-190	-2	-236	-2	-236	-2	-236	0	-300	-110
<b>TOTAL PROJECT</b>	<b>1,446,432</b>	<b>0</b>	<b>1,446,432</b>	<b>10,693</b>	<b>1,278,318</b>	<b>9,894</b>	<b>860,068</b>	<b>26,738</b>	<b>834,353</b>	<b>0</b>	<b>1,446,432</b>	<b>0</b>
<b>NEW REQUIREMENTS</b>												
T CONSTRUCTION	0	0	52,245	33	43,924	496	3,557	462	576	-105	52,931	686
S PROFESSIONAL SERVICES	0	0	15,875	54	9,654	0	9,284	0	9,284	54	15,253	-621
R REAL ESTATE	0	0	0	0	1	0	1	0	1	0	0	0
F UTILITY/AGENCY FORCE ACCOUNTS	0	0	130	0	0	0	0	0	0	0	130	0
O SPECIAL PROGRAMS	0	0	0	0	20	0	22	0	22	0	20	20
C PROJECT CONTINGENCY	0	0	2,975	0	0	0	0	0	0	51	3,037	62
<b>TOTAL NEW REQUIREMENTS</b>	<b>0</b>	<b>0</b>	<b>71,225</b>	<b>87</b>	<b>53,600</b>	<b>496</b>	<b>12,865</b>	<b>462</b>	<b>9,884</b>	<b>0</b>	<b>71,572</b>	<b>147</b>
<b>GRAND TOTAL</b>	<b>1,446,432</b>	<b>0</b>	<b>1,517,657</b>	<b>10,780</b>	<b>1,331,919</b>	<b>10,390</b>	<b>872,934</b>	<b>27,201</b>	<b>844,237</b>	<b>0</b>	<b>1,517,804</b>	<b>147</b>

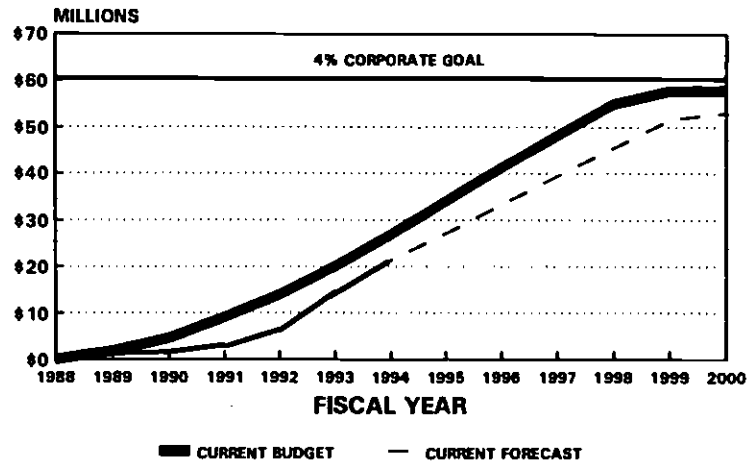
METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL PROJECT SEGMENT 2  
(IN THOUSAND OF DOLLARS)

STATUS OF FUNDS BY SOURCE

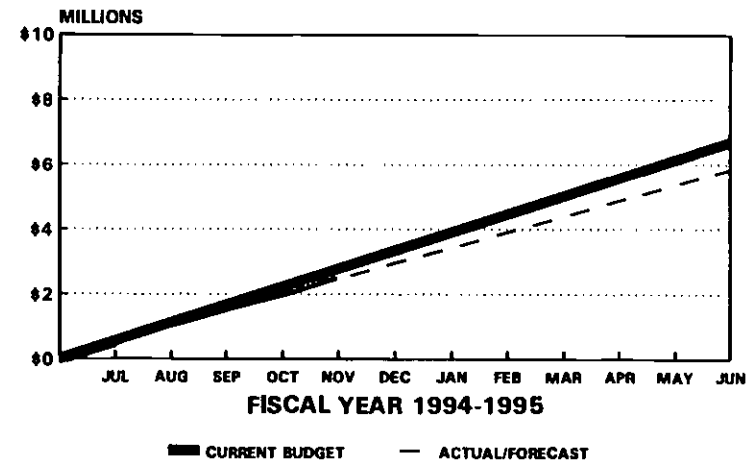
SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	* COMMITMENTS		EXPENDITURES (4)		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA-SECTION 3	\$667,000	\$597,653	\$610,305	92%	\$366,105	55%	\$335,664	50%
FTA-SECTION 3 DEFERRED LOCAL SHARE (1)			\$0		\$92,507		\$82,360	
STATE	\$185,129	\$133,000	\$185,129	100%	\$133,000	72%	\$133,000	72%
PROPOSITION A	\$440,303	\$158,043	\$363,402	83%	\$150,241	34%	\$160,389	36%
CITY OF L.A.	\$96,000	\$67,300	\$85,211	89%	\$57,688	60%	\$54,943	57%
BENEFIT ASSESS.	\$58,000	\$0	\$34,838	60%	\$34,838	60%	\$0	0%
COST OVERRUN ACCOUNT (2)	\$0	\$19,635	\$0	0%	\$0	0%	\$0	0%
BENEFIT ASSESS. SHORTFALL (3)	\$0	\$0	\$0	0%	\$0	0%	\$34,838	
<b>TOTAL</b>	<b>\$1,446,432</b>	<b>\$975,631</b>	<b>\$1,278,885</b>	<b>88%</b>	<b>\$834,379</b>	<b>58%</b>	<b>\$801,194</b>	<b>55%</b>
PROP C (AMERICAN DISABILITY ACT)	\$5,996	\$610	\$4,080	68%	\$610	10%	\$610	10%
PROP A (TRANSIT ENHANCEMENTS)	\$62,702	\$9,248	\$48,954	78%	\$9,248	15%	\$9,248	15%
ISTEA CMAQ/RSTP (TRANSIT ENH.)	\$2,528	\$0	\$0	0%	\$0	0%	\$0	0%
<b>GRAND TOTAL</b>	<b>\$1,517,658</b>	<b>\$985,489</b>	<b>\$1,331,919</b>	<b>88%</b>	<b>\$844,237</b>	<b>56%</b>	<b>\$811,052</b>	<b>53%</b>
(1) FTA Section 3 Deferred Local Share. Commitments and expenditures are effective starting July 1st. 1992. (2) The Cost Overrun Account includes CAPRA funds only. (3) The current Benefit Assessment District revenue shortfall is being funded by MTA. (4) Expenditures are cumulative through November 1994.								



### AGENCY COSTS RED LINE SEGMENT 2



### FISCAL YEAR 1995 AGENCY COSTS RED LINE SEGMENT 2



### PROJECT AGENCY COSTS RED LINE SEGMENT 2 (\$000)

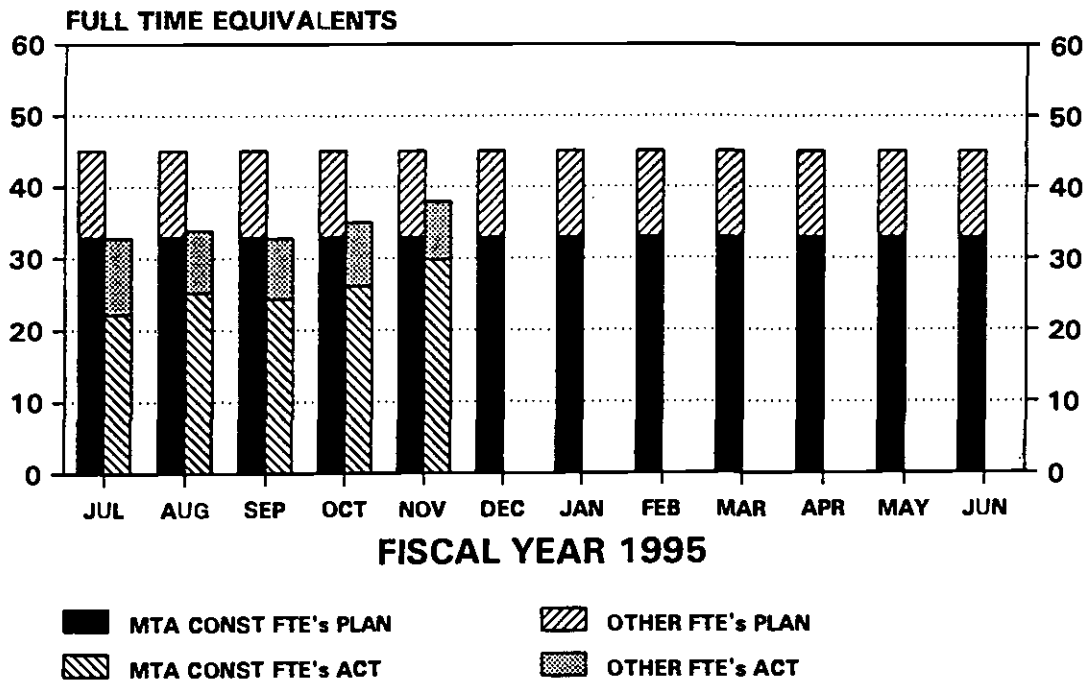
TOTAL PROJECT BUDGET	\$1,517,657
CURRENT BUDGET	\$57,840
BUDGET % OF TOTAL PROJECT	3.8%
CURRENT FORECAST	\$53,155
FORECAST % OF TOTAL PROJECT	3.5%
ACTUAL THROUGH FY 94	\$21,324

### FISCAL YEAR 1995 AGENCY COSTS RED LINE SEGMENT 2 (\$000)

ORIGINAL BUDGET	\$6,692
CURRENT BUDGET	\$5,841
BUDGET PLAN TO DATE	\$2,788
ACTUAL TO DATE	\$2,469

## STAFFING PLAN VS. ACTUAL

### RED LINE SEGMENT 2



FY'95 Budget

## RED LINE (SEGMENT 2) STAFFING PLAN

### FISCAL YEAR 1995

MTA CONSTRUCTION FTE's PLAN	33
MTA CONSTRUCTION FTE's ACTUAL	29
OTHER FTE's PLAN	12
OTHER FTE's ACTUAL	9
TOTAL FTE's PLAN	45
TOTAL FTE's ACTUAL	38

COSTS SHOWN ARE FOR  
PROJECT R81 ONLY. (ALLOCATED)

**R81 - Metro Red Line Seg-2**  
**PROJECT CHANGE VALUES ONLY**

**PROJECT CHANGE ACTIVITY SUMMARY:**  
**CHANGES V. BOARD APPROVED CHANGE CONTINGENCY**

AS OF 12/16/94

MTA APPROVED CONTRACT AWARD		MTA APPROVED CHANGE CONTINGENCY (AFE)			APPROVED CHANGES TO DATE					REMAINING AFE	PROJECTED			
CONTRACT	AWARD VALUE	% ALLOWED	CURRENT \$ ALLOWED	TOTAL APPROVED AFE (R81)	APPROVED CHANGES	CURRENT CONTRACT VALUE	% INCR	% CTG USED	% COMP- LETE	CURRENT UNUSED ALLOWANCE	PENDING CHANGES	REMAINING FORECAST AFE	% AFE USED	% INCR
A.	B.	C.	D.	E.(B + D)	F.(1)	G.(B + F)	H.(2)	I.	J.	K.(D-F)	L.(3)	M.(K-L)	N.	O.
HA840		***%	\$0		\$44,835	\$44,835	***%	***%	%	(\$44,835)	\$0	(\$44,835)	***%	0.0%
*A850	\$57,588,082	5%	\$2,879,398	\$60,467,480	\$0	\$57,588,082	0.0%	0%	0%	\$2,879,398	\$138,838	\$2,740,562	5%	***%
B201	\$44,577,273	20%	\$8,922,727	\$53,500,000	\$8,022,870	\$60,800,143	13.5%	88%	100%	\$2,899,857	(\$355,052)	\$3,254,909	64%	12.7%
B211	\$38,487,177	13%	\$4,958,818	\$43,445,995	\$2,587,875	\$41,074,852	6.7%	52%	100%	\$2,371,143	(\$280,338)	\$2,051,481	47%	6.0%
B215	\$28,177,700	10%	\$2,811,830	\$28,789,530	\$855,967	\$27,033,867	3.3%	33%	36%	\$1,755,883	\$130,715	\$1,625,168	38%	3.8%
B218	\$64,000	135%	\$88,000	\$150,000	\$80,194	\$144,194	125.3%	93%	100%	\$6,406	\$0	\$6,406	93%	125.3%
B221	\$78,812,793	14%	\$10,864,531	\$90,677,324	\$8,429,782	\$88,242,555	10.6%	78%	91%	\$2,434,769	\$2,943,783	(\$508,995)	105%	14.3%
B228	\$957,428	10%	\$95,742	\$1,053,170	\$53,648	\$1,011,074	5.6%	56%	63%	\$42,098	\$24,873	\$17,223	82%	8.2%
B231	\$53,645,201	10%	\$5,364,520	\$59,009,721	\$5,231,732	\$58,878,933	9.8%	98%	99%	\$132,788	\$380,927	(\$228,139)	104%	10.4%
B241	\$40,857,557	10%	\$4,085,756	\$45,053,313	\$302,500	\$41,280,067	0.7%	7%	22%	\$3,783,255	\$546,221	\$3,247,035	21%	2.1%
*B251	\$129,855,578	10%	\$12,985,558	\$142,821,136	\$4,583,359	\$134,218,937	3.5%	35%	77%	\$8,402,200	\$2,890,917	\$5,511,282	57%	5.7%
B252	\$50,879,831	11%	\$5,551,158	\$56,730,789	\$103,434	\$50,983,085	0.2%	2%	12%	\$5,747,724	\$1,017,150	\$4,730,574	19%	2.2%
B261	\$44,866,998	10%	\$4,486,700	\$49,483,698	\$198,532	\$45,183,530	0.4%	4%	13%	\$4,300,188	\$90,320	\$4,209,868	6%	0.6%
B268	\$88,000	10%	\$8,800	\$96,800	\$8,550	\$98,550	9.7%	87%	100%	\$250	\$0	\$250	97%	9.7%
B271	\$38,948,000	10%	\$3,894,800	\$42,842,800	(\$50,020)	\$38,897,980	-0.1%	-1%	6%	\$3,944,820	\$3,612,500	\$332,320	91%	9.1%
B281	\$49,287,000	12%	\$5,914,440	\$55,201,440	\$473,115	\$49,780,115	1.0%	8%	10%	\$5,441,325	\$281,281	\$5,160,064	13%	1.5%
B288	\$78,478	14%	\$10,822	\$87,100	\$9,845	\$88,323	12.9%	93%	100%	\$777	\$0	\$777	93%	12.9%
B290	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	0.0%
*B810	\$16,889,652	10%	\$1,688,965	\$18,358,617	\$183,657	\$18,853,309	1.0%	10%	28%	\$1,505,308	(\$1,152,087)	\$2,657,405	58%	***%
*B811	\$2,719,049	10%	\$271,905	\$2,990,954	\$0	\$2,719,049	0.0%	0%	34%	\$271,905	(\$178,925)	\$448,830	85%	-8.5%
*B812	\$3,994,355	10%	\$399,436	\$4,393,791	\$0	\$3,994,355	0.0%	0%	28%	\$399,436	\$0	\$399,436	0%	0.0%
*B814	\$2,646,829	10%	\$264,683	\$2,911,512	\$800	\$2,647,629	0.0%	0%	41%	\$283,883	\$0	\$283,883	0%	0.0%
*B816	\$759,583	10%	\$75,958	\$835,541	\$0	\$759,583	0.0%	0%	0%	\$75,958	\$18,720	\$57,238	25%	2.5%
*B820	\$18,031,285	13%	\$2,328,033	\$20,357,288	(\$113,158)	\$17,818,107	-0.6%	-5%	48%	\$2,439,191	(\$28,415)	\$2,467,606	-8%	-0.8%
*B830	\$6,157,150	10%	\$615,715	\$6,772,865	\$103,231	\$6,280,381	1.7%	17%	18%	\$512,484	\$0	\$512,484	17%	1.7%
B831	\$4,467,185	10%	\$446,717	\$4,913,882	\$0	\$4,467,185	0.0%	0%	14%	\$446,717	\$395,588	\$51,131	89%	8.9%
*B841	\$10,230,158	10%	\$1,023,016	\$11,253,175	\$0	\$10,230,158	0.0%	0%	0%	\$1,023,016	(\$1,800)	\$1,024,816	0%	0.0%
*B842	\$1,102,267	21%	\$234,242	\$1,336,509	\$0	\$1,102,267	0.0%	0%	0%	\$234,242	\$0	\$234,242	0%	0.0%

(\*) Costs shared with other projects. Costs shown are for R81 ONLY. (1) Includes both executed CD's and authorized (WACN) changes (2) % increase over original award (3) Logged contract changes ONLY

R81 - Metro Red Line Seg-2  
REV 2.0 08/16/94 lss

PAGE 1

T RUBID  
PROJECT VALUE SUMMARY 12/16/94

COSTS SHOWN ARE FOR  
PROJECT RB1 ONLY. (ALLOCATED)

**R81 - Metro Red Line Seg-2**  
**PROJECT CHANGE VALUES ONLY**

**PROJECT CHANGE ACTIVITY SUMMARY:**  
**CHANGES V. BOARD APPROVED CHANGE CONTINGENCY**  
AS OF 12/16/94

MTA APPROVED CONTRACT AWARD		MTA APPROVED CHANGE CONTINGENCY (AFE)			APPROVED CHANGES TO DATE					REMAINING AFE	PROJECTED			
CONTRACT	AWARD VALUE	% ALLOWED	CURRENT % ALLOWED	TOTAL APPROVED AFE (R81)	APPROVED CHANGES	CURRENT CONTRACT VALUE	% INCR	% CTG USED	% COMP. LETE	CURRENT UNUSED ALLOWANCE	PENDING CHANGES	REMAINING FORECAST AFE	% AFE USED	% INCR
A.	B.	C.	D.	E.(B+D)	F.(1)	G.(B+F)	H.(2)	I.	J.	K.(D-F)	L.(3)	M.(K-L)	N.	O.
*B643	\$780,127	10%	\$78,013	\$858,140	\$0	\$780,127	0.0%	0%	0%	\$78,013	\$0	\$78,013	0%	0.0%
*B644	\$3,280,988	13%	\$435,017	\$3,716,005	(\$8,000)	\$3,254,988	-0.2%	-1%	0%	\$441,017	(\$898,047)	\$1,337,064	-207%	-27.7%
*B645	\$2,588,871	5%	\$117,258	\$2,684,129	\$0	\$2,588,871	0.0%	0%	0%	\$117,258	(\$128,000)	\$243,258	-107%	-4.9%
*B646	\$2,547,788	10%	\$254,777	\$2,802,565	\$25,000	\$2,572,788	1.0%	10%	0%	\$229,777	\$147,445	\$82,332	88%	6.8%
B648A	\$2,208,354	10%	\$220,838	\$2,428,990	\$0	\$2,208,354	0.0%	0%	0%	\$220,838	(\$128,180)	\$348,798	-57%	-5.7%
B648B	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	0.0%
*B710	\$14,442,982	19%	\$2,715,277	\$17,158,259	\$10,000	\$14,452,982	0.1%	0%	5%	\$2,705,277	\$826,433	\$1,878,844	31%	***%
*B740	\$10,528,288	10%	\$1,052,827	\$11,578,895	\$251,307	\$10,777,575	2.4%	24%	39%	\$801,320	(\$157,359)	\$958,678	8%	0.9%
*B745	\$1,808,381	48%	\$825,138	\$2,633,519	\$405,019	\$2,213,400	22.4%	48%	40%	\$420,117	\$0	\$420,117	48%	22.4%
*B760	\$484,849	10%	\$48,485	\$533,334	\$0	\$484,849	0.0%	0%	0%	\$48,485	(\$30,000)	\$78,485	-82%	-5.2%
*B761	\$3,228,872	10%	\$322,887	\$3,549,339	\$74,848	\$3,301,518	2.3%	23%	30%	\$247,821	\$59,082	\$188,739	42%	4.2%
*B795	\$2,004,883	10%	\$200,488	\$2,205,371	\$0	\$2,004,883	0.0%	0%	15%	\$200,488	\$0	\$200,488	0%	0.0%
F815M		***%	\$0		\$0	\$0	***%	***%	%	\$0	\$0	\$0	***%	0.0%
PM801	\$0	***%	\$0	\$0	\$0	\$0	***%	***%	0%	\$0	\$0	\$0	***%	***%
	\$780,822,271	11%	\$86,818,031	\$865,441,302	\$29,828,498	\$798,050,770	3.9%	34%	27%	\$58,790,532	\$10,154,558	\$48,635,978	48%	5.2%

11 - AFE increase required

1 - AFE increase MAY be required to cover pending changes.

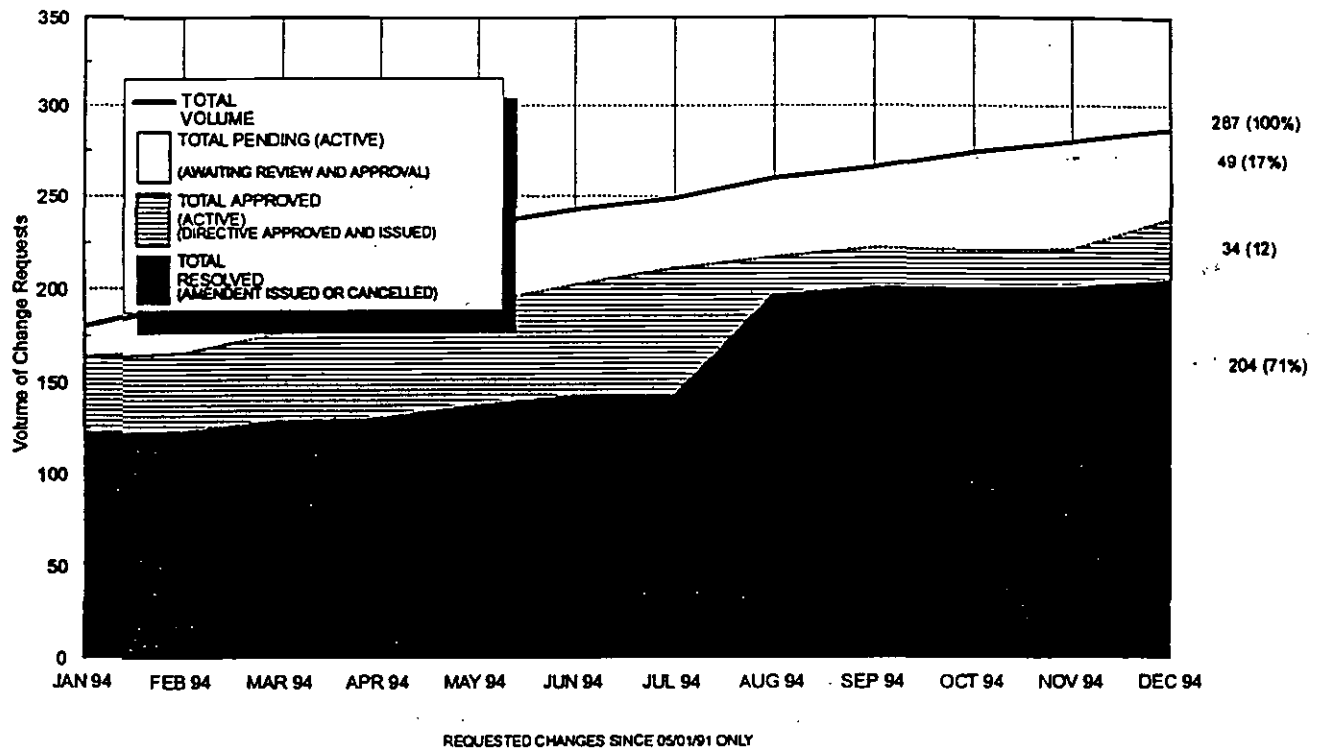
1\*) Costs shared with other projects. Costs shown are for RB1 ONLY. (1) Includes both executed CO's and authorized (WACN) changes (2) % increase over original award (3) Logged contract changes ONLY

**CONTRACT CLOSE OUT STATUS**  
**METRO RED LINE SEGMENT 2**

0	Open. Action still required.
	Completed or Not Applicable

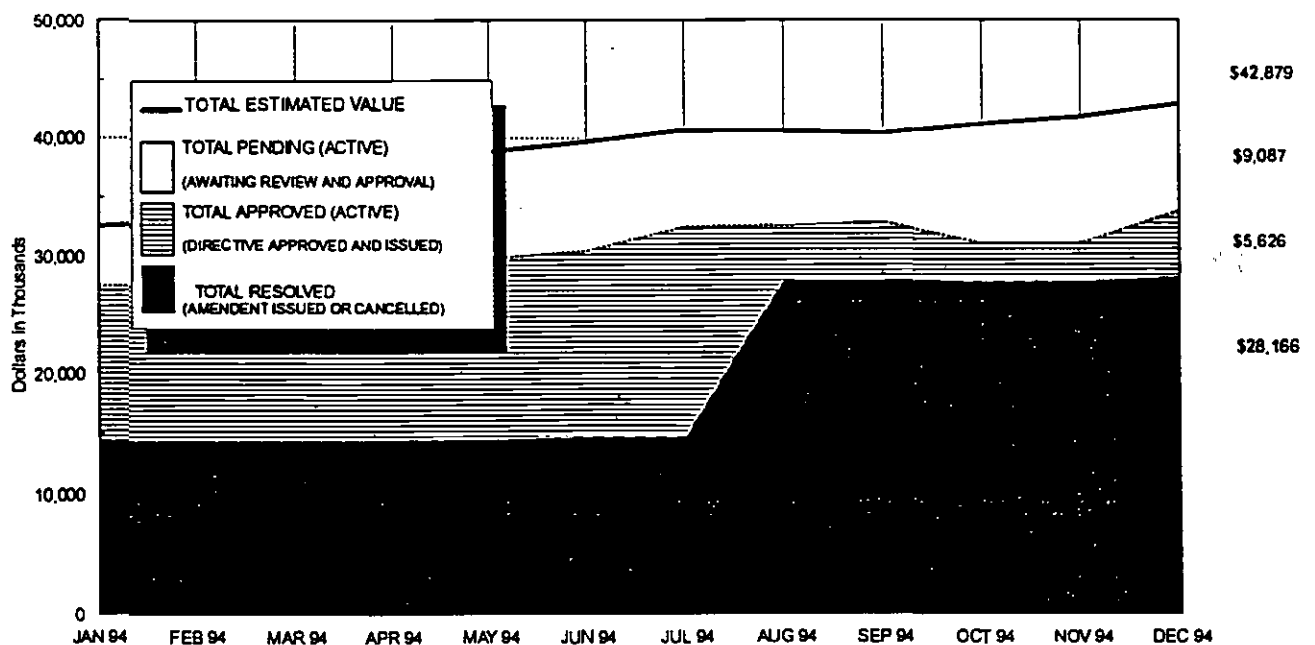
[illegible]

CONSULTANT CONTRACT CHANGE SUMMARY  
RED LINE SEG-2 CONSULTANT CHANGE REQUEST VOLUME

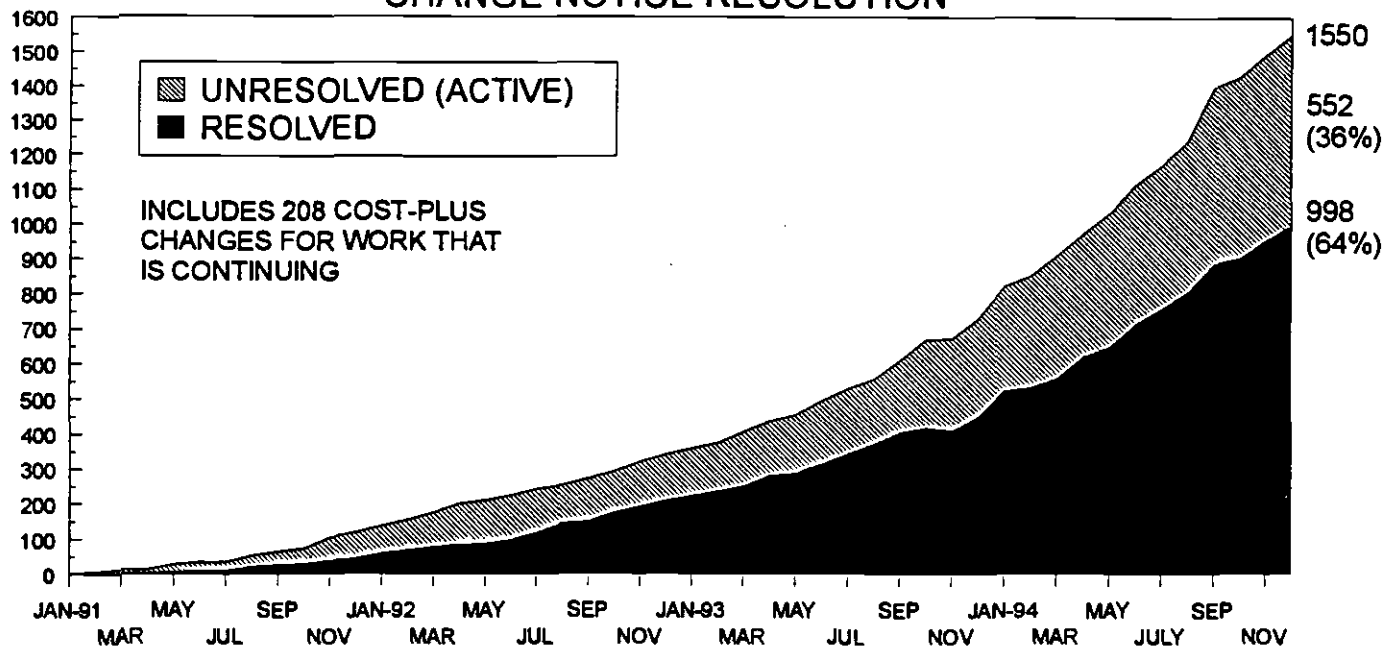


AGE OF UNRESOLVED CONSULTANT CHANGES					
TIME	0-30 DAYS	30-60 DAYS	61-90 DAYS	OVER 90	TOTAL ACTIVE
VOLUME	15	4	7	57	83
PERCENT	18%	5%	8%	69%	100%

CONSULTANT CONTRACT CHANGE SUMMARY  
RED LINE SEG-2 CONSULTANT CHANGE REQUEST VALUES

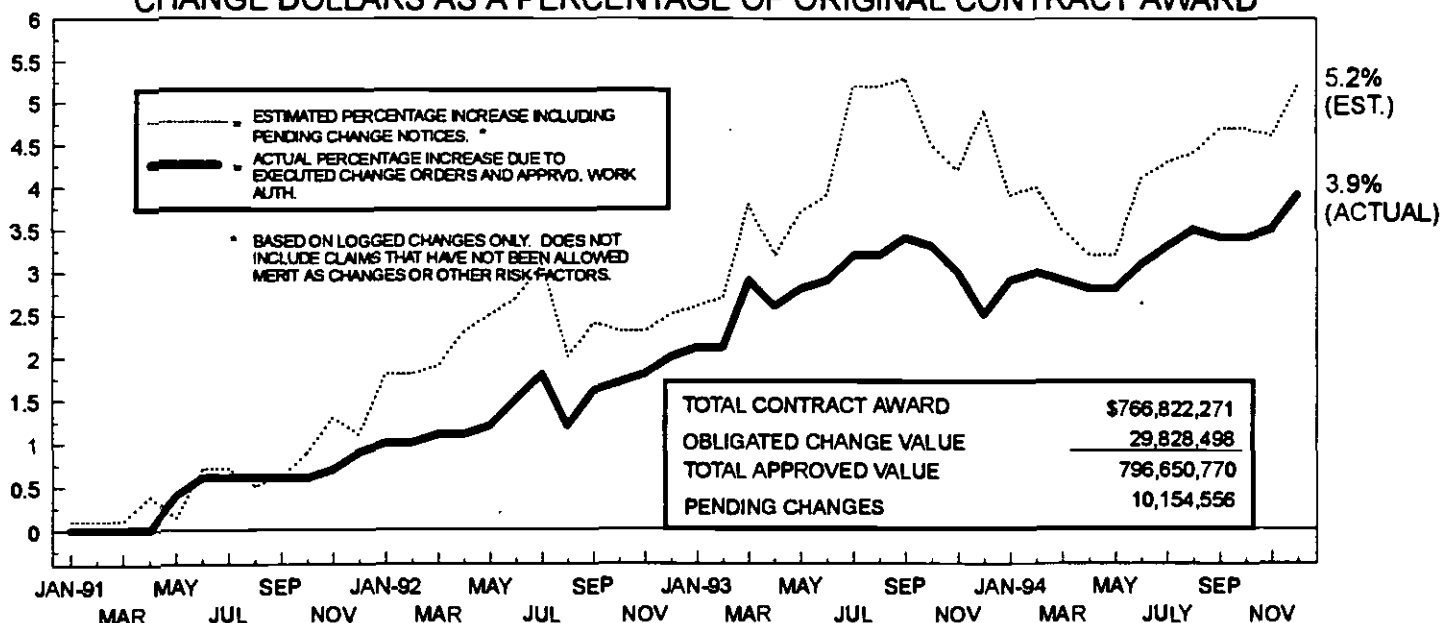


### CONSTRUCTION/PROCUREMENT CONTRACT CHANGES CHANGE NOTICE RESOLUTION



AGE OF UNRESOLVED CHANGES					
TIME	0-30 DAYS	31-60	61-90	OVER 90	TOTAL ACTIVE
VOLUME	161	48	57	286	552
PERCENT	29%	9%	10%	52%	100%

### CONSTRUCTION/PROCUREMENT CONTRACT CHANGES CHANGE DOLLARS AS A PERCENTAGE OF ORIGINAL CONTRACT AWARD



## R81 - Metro Red Line Seg-2

## CONSTRUCTION/PROCUREMENT CONTRACT CHANGES

LIST ALL CHANGES TO CONTRACTS  
AWARDED UNDER:  
R81 - R81

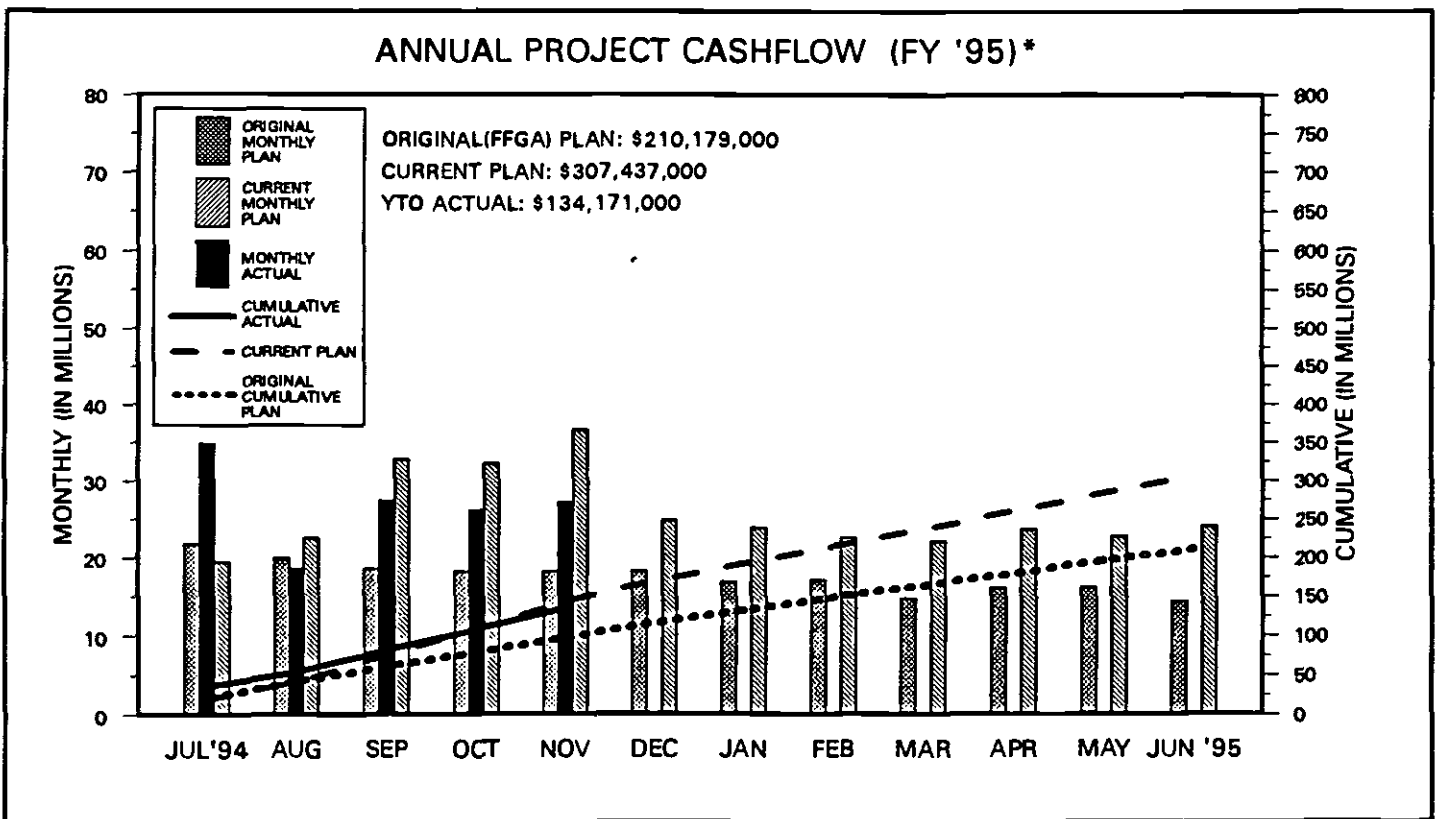
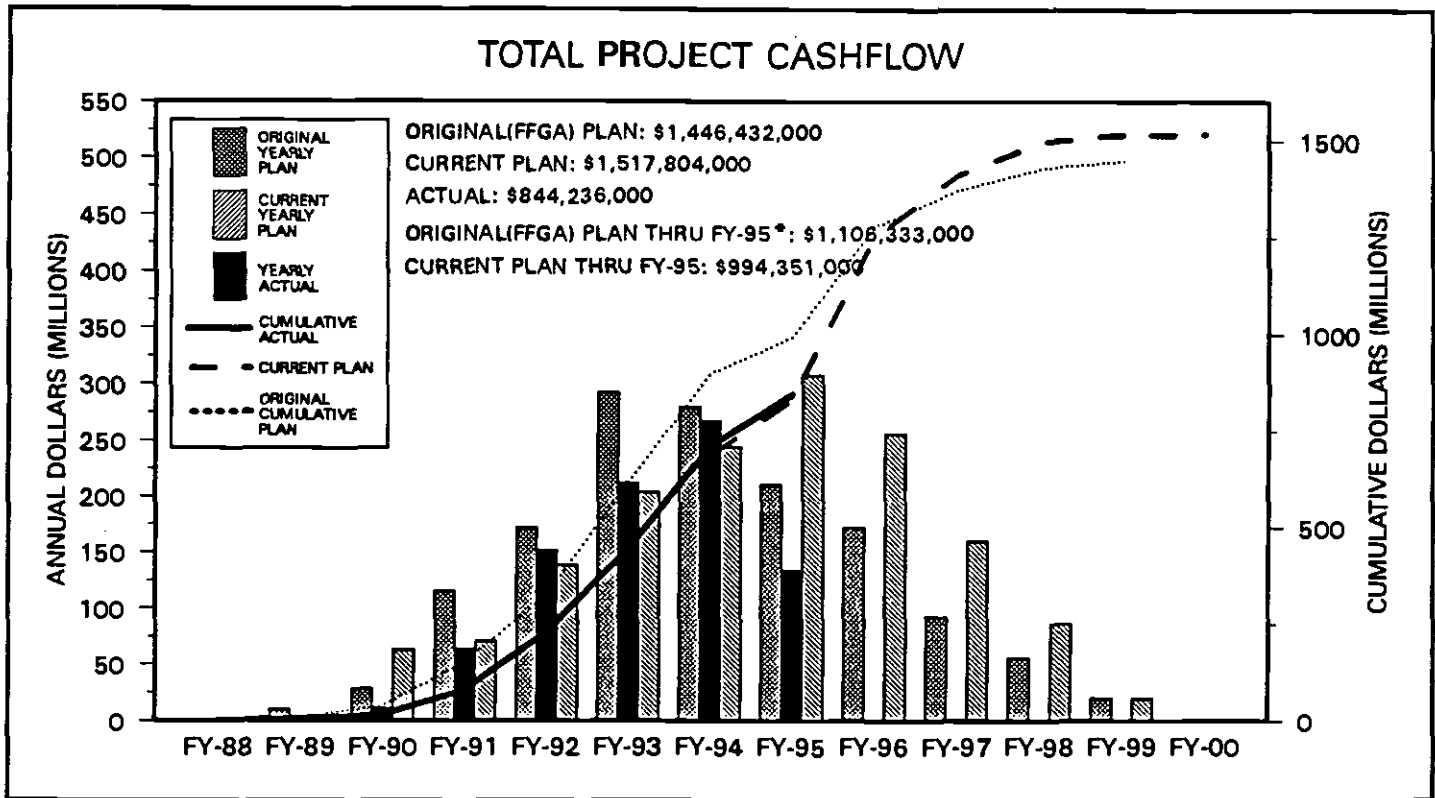
CHANGE NOTICE BASIS BREAKDOWN  
EXECUTED CHANGES AS OF 12/16/94

		# CN'S	% Total Volume	Change Cost	% Total Change Cost
<b>WORK SCOPE</b>					
110	EXTRA WORK	88	11.62%	\$1,978,998.60	9.51%
115	ADDITIONAL/NEW WORK	24	3.17%	\$636,308.21	2.58%
120	DELETION OF WORK	9	1.19%	\$41,807.30	0.20%
		---	---	---	---
		121	15.98%	\$2,555,210.11	12.29%
<b>SCHEDULE CHANGES</b>					
210	DELAY OF WORK (COMPENSABLE)	13	1.72%	\$653,888.00	3.14%
220	ACCELERATION OF WORK	4	0.53%	\$67,832.07	0.42%
230	MILESTONE REVISIONS (NON-COMPENSABLE)	12	1.59%	(\$13,676.00)	-0.07%
		---	---	---	---
		29	3.83%	\$728,243.07	3.50%
<b>DIFFERING CONDITIONS</b>					
310	DIFFERING SITE CONDITIONS	99	13.08%	\$4,099,697.31	19.71%
320	HAZARDOUS MATERIALS	10	1.32%	\$513,378.74	2.47%
330	SAFETY CONDITIONS	15	1.98%	\$839,693.43	4.52%
		---	---	---	---
		124	16.38%	\$5,552,967.48	26.70%
<b>TERMS AND CONDITIONS</b>					
410	TERMS AND CONDITIONS (OWNER ORIGINATED)	36	4.76%	(\$152,480.00)	-0.73%
430	EDITORIAL CLARIFICATIONS/DOCUMENT MAINTENANCE	28	3.70%	\$178,487.60	0.85%
		---	---	---	---
		64	8.45%	\$24,017.50	0.12%
<b>DESIGN CHANGES</b>					
510	DESIGN CHANGES/ENHANCEMENTS (OWNER ORIGINATED)	67	8.85%	\$2,221,217.82	10.68%
515	DESIGN CHANGES/ENHANCEMENTS (EMC ORIGINATED)	179	23.65%	\$6,105,244.08	29.36%
520	DESIGN CHANGES/ENHANCEMENTS (MTA OPERATIONS ORIGINATED)	17	2.25%	\$1,789,232.43	8.51%
530	CORRECTIONS TO PLANS AND SPECIFICATIONS	73	9.64%	\$617,002.83	2.97%
540	VALUE ENGINEERING CHANGES (CONTRACTOR ORIGINATED)	7	0.92%	(\$728,651.10)	-3.50%
		---	---	---	---
		343	45.31%	\$9,984,045.86	48.01%
<b>MANAGEMENT ISSUES</b>					
610	DISRUPTION/INEFFICIENCY (CLAIMS ONLY)	3	0.40%	\$179,584.76	0.86%
		---	---	---	---
		3	0.40%	\$179,584.76	0.86%
<b>OUTSIDE AGENCY REQUESTS</b>					
710	WORK SCOPE CHANGES (OUTSIDE AGENCY ORIGINATED)	38	5.02%	\$842,183.41	4.05%
720	DESIGN CHANGES (OUTSIDE AGENCY ORIGINATED)	18	2.38%	\$457,046.00	2.20%
730	TERMS AND CONDITIONS (OUTSIDE AGENCY ORIGINATED)	3	0.40%	\$159,130.40	0.77%
		---	---	---	---
		59	7.79%	\$1,458,359.81	7.01%
<b>CONTRACT OPTIONS</b>					
800	CONTRACT OPTIONS	8	1.06%	\$395,915.00	1.90%
		---	---	---	---
		8	1.06%	\$395,915.00	1.90%
<b>OTHER</b>					
900	OTHER	6	0.79%	(\$83,324.20)	-0.40%
		---	---	---	---
		6	0.79%	(\$83,324.20)	-0.40%
<b>PROJECT TOTALS:</b>					
		757	100.00%	\$20,795,019.39	100.00%



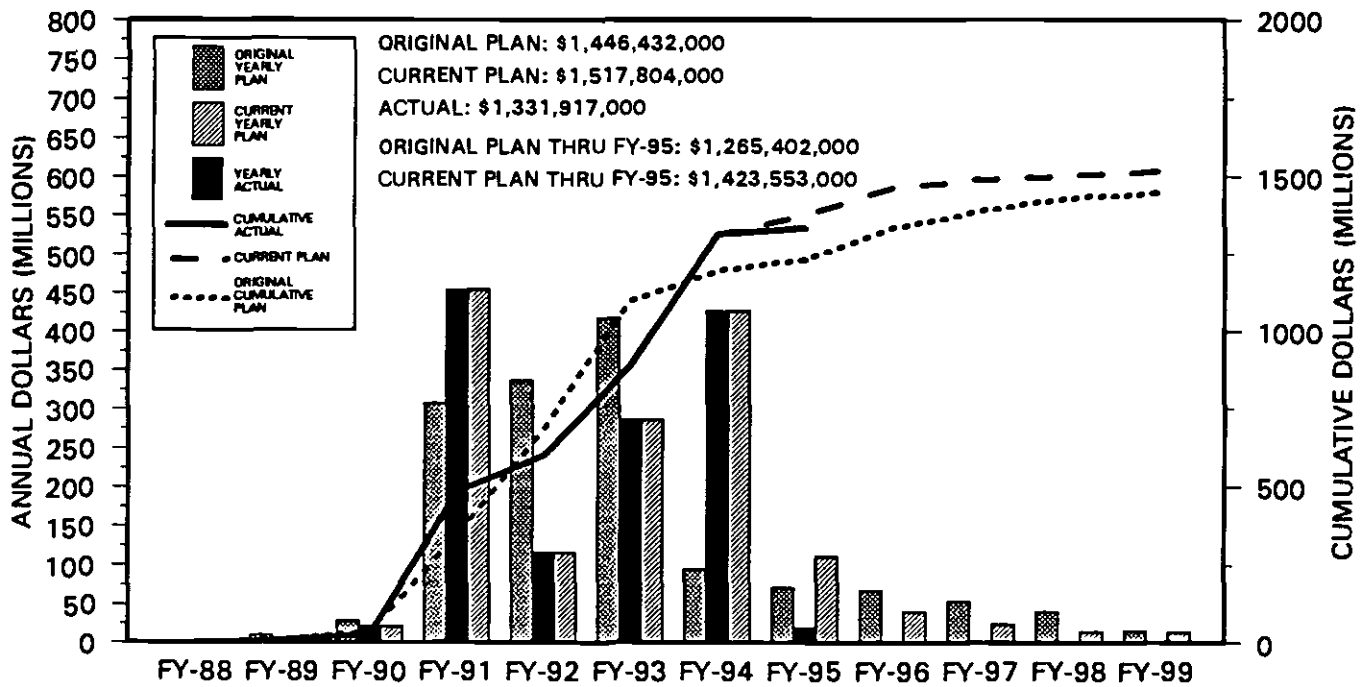
**R81 - Metro Red Line Seg-2**  
**CONSTRUCTION/PROCUREMENT CONTRACT CHANGES**  
**CHANGE COST LEVEL BREAKDOWN**  
**EXECUTED CHANGES AS OF 12/16/94**

<b>COST RANGE (ABSOLUTE VALUE)</b>	<b># CN'S</b>	<b>% Total Volume</b>	<b>Change Cost</b>	<b>% Total Change Cost</b>
> 200 - 1 MILLION	19	2.51%	\$7,753,897.97	37.29%
> 100-200	48	6.34%	\$5,935,215.42	28.54%
> 50-100K	37	4.89%	\$1,885,525.39	9.07%
> 25-50K	67	8.85%	\$2,318,236.79	11.15%
10-25K	120	15.85%	\$1,928,022.61	9.27%
0-10K	466	61.56%	\$974,121.21	4.68%
<b>PROJECT TOTALS:</b>	<b>757</b>	<b>100.00%</b>	<b>\$20,795,019.39</b>	<b>100.00%</b>

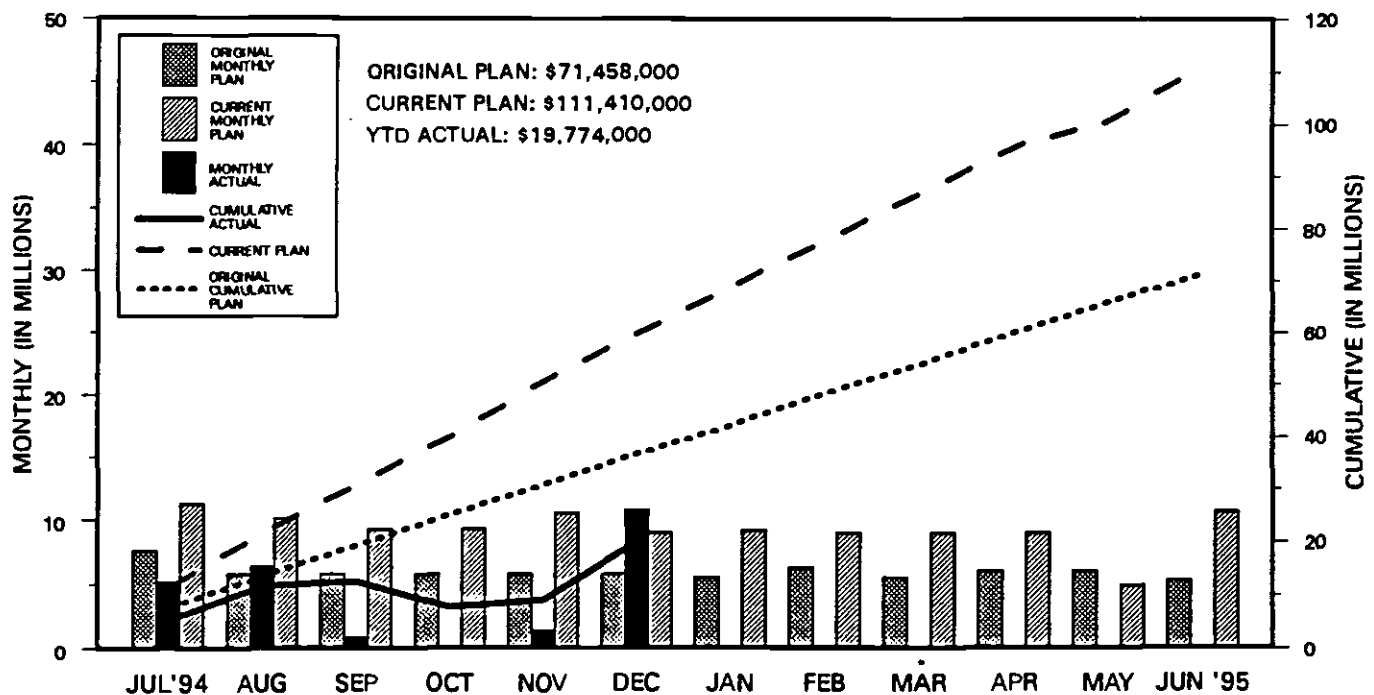


\* CASHFLOW PLAN FOR FY '95 AND FY '96 IS UNDERGOING REVISION.  
 REVISED PLAN WILL BE ISSUED IN THE JANUARY PMSR.

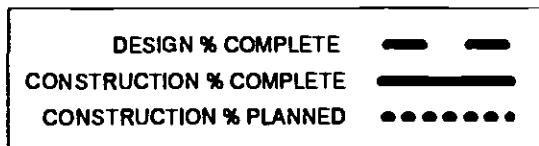
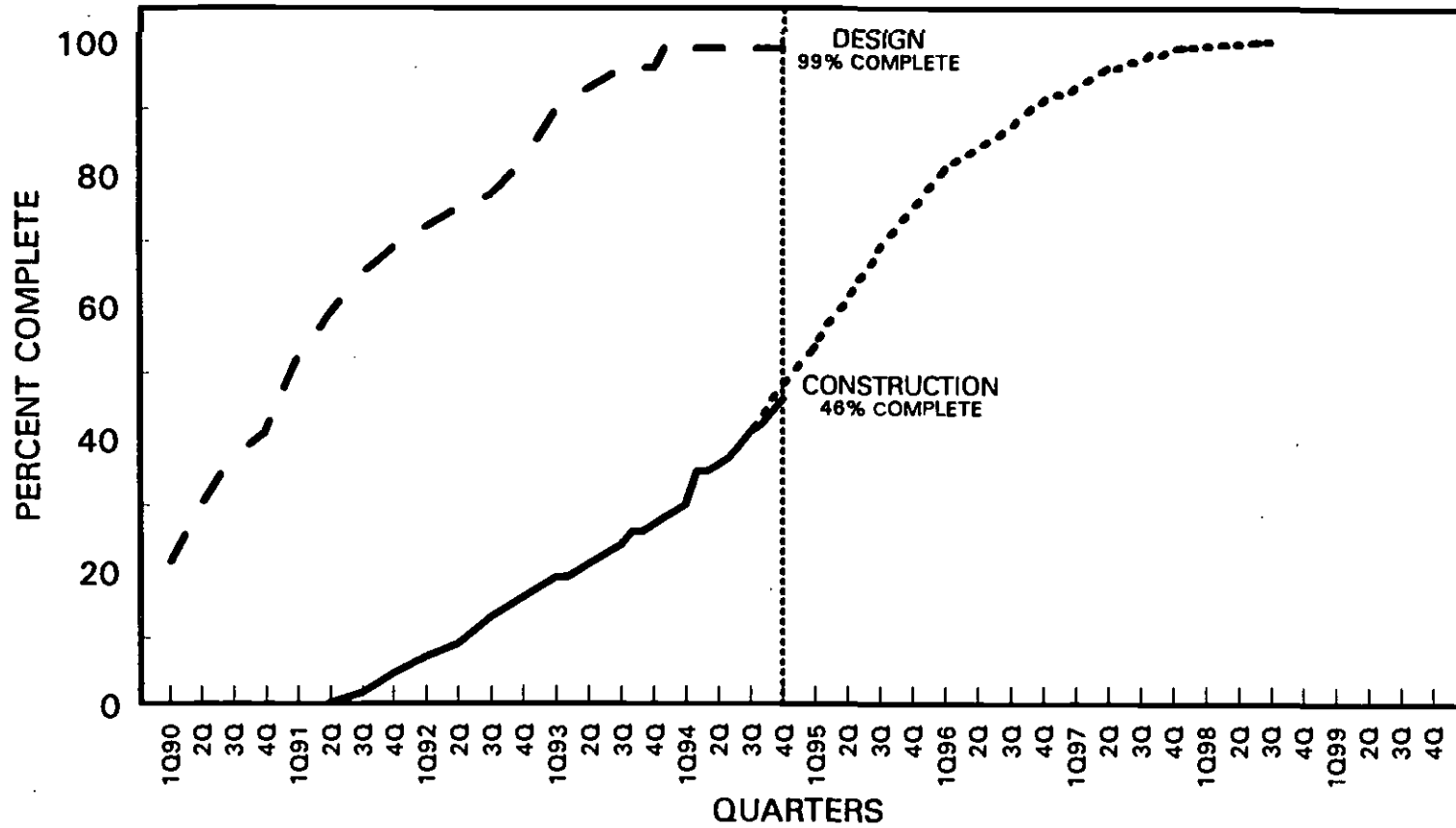
### TOTAL PROJECT COMMITMENTS



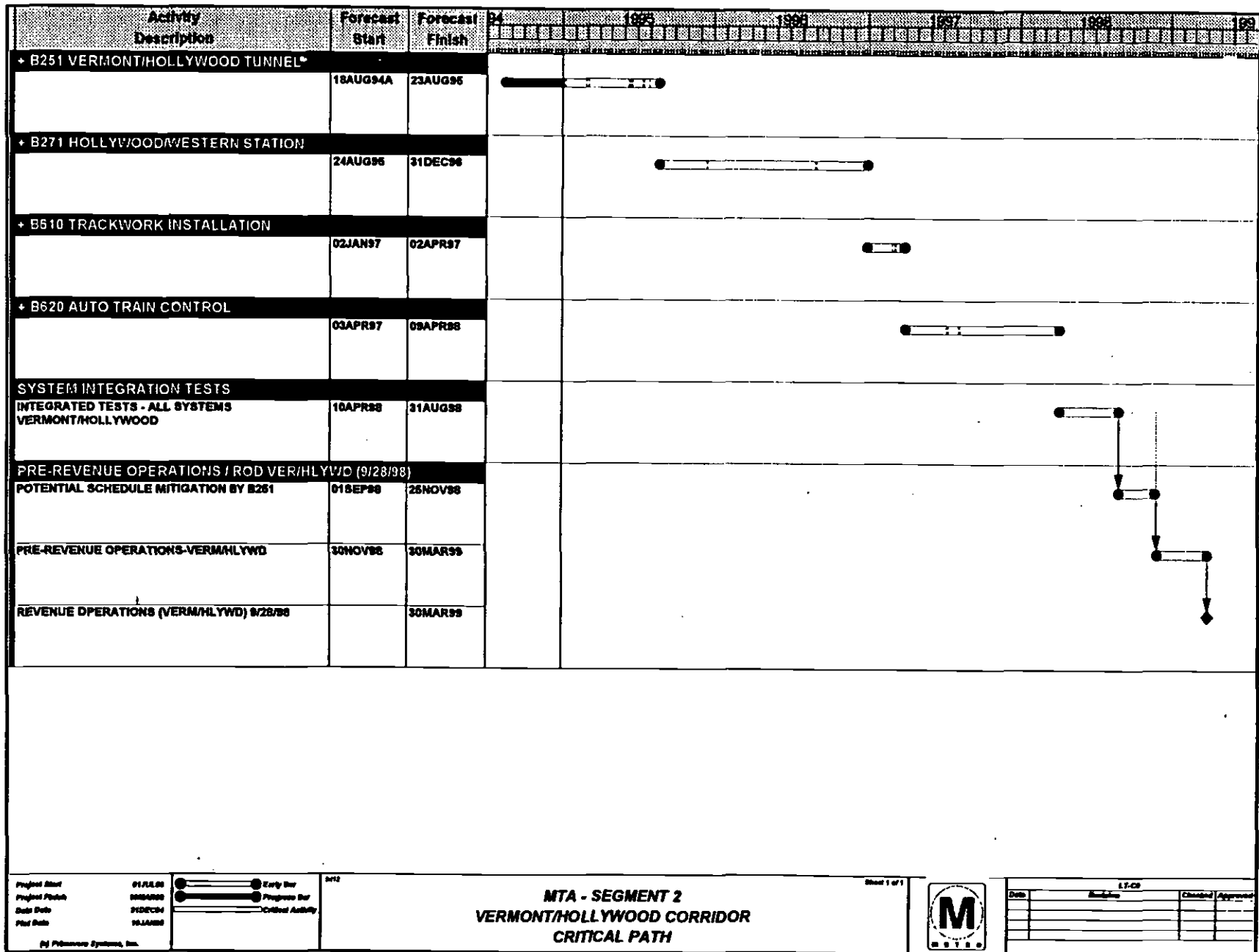
### ANNUAL PROJECT COMMITMENTS (FY '95)



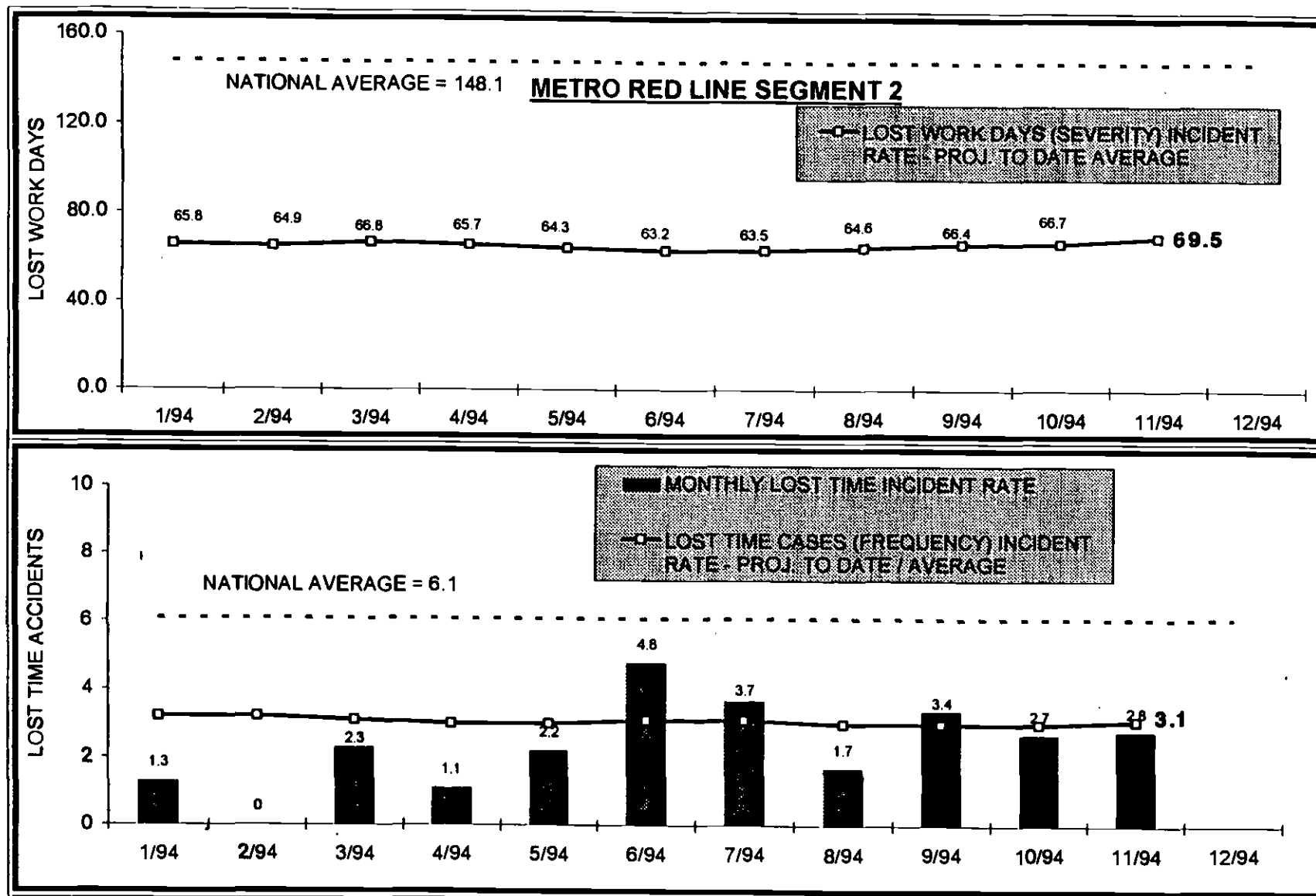
# METROPOLITAN TRANSPORTATION AUTHORITY METRO RED LINE SEGMENT 2 PROGRESS SUMMARY







# Summary of Lost Time Accidents (FREQUENCY) and Lost Work Days (SEVERITY)



prepared by : MASS TRANSIT GROUP

## EXECUTIVE SUMMARY

### COST STATUS

North Hollywood Extension	(\$000's)
• Current Budget	\$1,310,822
• Current Forecast	\$1,310,822
Mid City Extension	
• Current Budget	\$490,663
• Current Forecast	\$490,663
East Side Extension	
• Current Budget	\$650,000
• Current Forecast	\$650,000
Total	
• Current Budget	\$2,451,485
• Current Forecast	\$2,451,485

### SCHEDULE STATUS

#### North Hollywood Extension

- Design Status: 85%
- Construction Status: 4.5%

#### Mid City Extension

- Design Status: 27%

#### East Side Extension

- FEIS/FEIR Planning Project: 93.7%
- Preliminary Engineering: 100.0%

---

THE CURRENT BUDGET AND FORECAST EXCLUDE NEW REQUIREMENTS COSTS.



## EXECUTIVE SUMMARY (CON'T)

## REAL ESTATE

## North Hollywood Extension

VV CCU	NUMBER OF PARCELS	NUMBER CERTIFIED		JUST COMP APPROVED		OFFERS MADE		AGREEMENT SIGNED		CONDEMNATION		PARCELS AVAILABLE		NUMBER OF PARCELS PROJECTED NOT TO BE AVAILABLE BY NEED DATE*
		PLAN	ACT	PLAN	ACT	PLAN	ACT	PLAN	ACT	PLAN	ACT	PLAN	ACT	
S251	15	15	15	15	15	15	15	15	5	12	11	15	15	0
C0301	3	3	3	3	3	3	3	3	2	3	3	2	2	0
C0311	108	108	108	108	108	12	12	8	5	4	4	8	8	4
C0321	25	25	25	12	12	12	12	8	8	2	2	10	9	3
C0331	11	11	11	10	10	10	10	10	8	0	0	8	7	0
C0351	12	12	12	8	8	8	8	8	8	3	2	4	4	4
TOTAL	176	176	176	157	157	60	60	52	34	24	22	45	43	11

- To date, 43 parcels have been acquired. Twenty-one parcels were acquired through negotiated acquisition and the remaining parcels were acquired through condemnation.

## AREAS OF CONCERN

ONGOING

## Contract C0331, Line Section North Hollywood to Universal City

**Concern:** The start of tunnel mining has been 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 on the project schedule critical path. In addition, the mining operation must be conducted to ensure against ground settlement.

**Action:** The MTA 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.

**Status:** Tunnel mining is planned to begin in January. The first increment of excavation will be closely monitored. At the time a schedule impact assessment will be prepared.

**AREAS OF CONCERN (CON'T)****Contract B251, Line Section from the Hollywood/Vine Station to Station 630+00 - Tunneling Shut Down - North Hollywood Extension**

**Concern:** Tunnel mining operations on the Hollywood Boulevard have not resumed as of the report date, and the latest study indicates the tunneling to start in January 1995.

**Action:** The MTA directed the EMC and Parsons-Dillingham to prepare an implementation plan.

**Status:** An implementation plan was developed. The prerequisite activities required prior to the start of tunnel mining are underway.

**Additional Contracts for the Universal City Area - North Hollywood Extension**

**Concern:** The MTA requested the EMC to assist them in defining scope for repackaging the site restoration at Universal City Station into a number of smaller construction contracts. Multiple contracts could have an adverse effect on the schedule due to limited site availability for several contractors, and to the resultant complications of maintaining traffic.

**Action:** Identify scheduling/interfaces for various contractors and apportion use of the properties as staging areas for the different contractors.

**Status:** MTA/EMC/P-D are jointly identifying potential solutions to discuss with Caltrans, the City and MCA. Preliminary Design of the overall work scope is being advanced, and will assist in the process.

**Contract C0312 Mid-line Vent Structure Construction - North Hollywood Extension**

**Concern:** There is currently no provision for a Mid-line vent structure. This scope was deleted from Contract C0311.

**Action:** Determine the Mid-line vent shaft requirements, design, and construction.

**Status:** Currently there is a study underway to determine a vertical or horizontal Mid-line vent shaft design approach.

## AREAS OF CONCERN (CON'T)

### Contract C0322 Universal City Station MCA Entrance - North Hollywood Extension

**Concern:** The addition of a pedestrian tunnel (under Lankershim Boulevard and portals on the east side of the boulevard on MCA, Inc. property) could impact the cost forecast, follow-on systems contracts and Contract C0326 (C1326, C2326, and C3326).

**Action:** Proceed with design activities to determine the detail scope, utility relocation, systemwide and real estate requirements.

**Status:** The process of developing a design schedule and construction schedule continue.

**AREAS OF CONCERN (CON'T)****RESOLVED****Contract C0311, Line Section Universal City Station to STA 613+00**

**Concern:** This contract is currently in the Bid/Award cycle and is part of the current project schedule critical path. The apparent low bid recommendation was brought for review to the MTA Committee meeting held on November 9, 1994. The Committee did not decide to act upon the MTA staff recommendation. The delay in awarding and issuing Notice to Proceed (NTP) for this contract results in a day-for-day slip in the ROD milestone and potential cost increases.

**Action:** The MTA staff resubmitted the issue at the December 14, 1994, Committee meeting.

**Status:** The decision of the MTA Committee was to approve the staff recommendations, and the MTA Board approved the award.

**Contract C0321 Universal City Station - Section Designer Recovery Plan**

**Concern:** Insufficient mobilization and apparent organizational problems contributed to an incomplete In-Progress submittal from the Section designer. Subsequent value engineering changes to the entrance and appendages have further increased the amount of coordination and time required to complete Final Design.

**Action:** With the Section Designers' input, EMC submitted to MTA a recovery plan which requires an approximately five week schedule extension.

**Status:** The design team is executing the recovery plan.

## AREAS OF CONCERN (CON'T)

### Contract C0351, North Hollywood Station with Crossover & Tailtrack

- Concern:** This contract is currently in the Bid/Award cycle. There are two real estate parcels that may not be available for turnover to the C0351 Contractor as currently stated in the bid documents. This is due to the fact that the parcels require environmental clean-up and demolition (by C0358) to be completed prior to the turnover. The parcels are C3-804 and C3-809. These two parcels are to be available (per Appendix B of the Contract Bid Documents, Part C - Special Provision) 90 calendar days after NTP.
- Action:** The MTA and its consultants are studying the progress of acquiring the properties in an effort to see if the environmental clean-up and demolition efforts can be accomplished to meet the C0358 need date. In addition, the Bid/Award cycle is being closely monitored to see if Contract C0351 will be issued NTP in late February 1995 as currently planned.
- Status:** The MTA is coordinating Real Estate and Environmental activities associated with the parcels. The MTA's consultant prepared a Contract addendum addressing the parcel availability dates, and was issued by MTA to the C0351 bidders.

## FTA PROJECT MANAGEMENT OVERSIGHT CONSULTANT ITEMS FOR MTA ACTION

The following items reflect action requirements identified in the November Monthly Project Report submitted to FTA by their Project Management Oversight Consultant, Hill International.

### NEW

#### November 1994, Spot Report No. 3, Safety Review

Concern: The FTA issued Spot Report No. In November 1994 and requested a response within 30 days.

Action: The MTA is preparing a response.

Status: The MTA will release its response before the end of January 1995.

#### November 1994, Project Management Plan

Concern: The FTA required a revision of the Project Management Plan (PMP) within 90 days of its November 10, 1994, release of funding.

Action: The MTA will provide the PMP per the FTA requirement.

Status: The data that is represented by the PMP is a review process and may be revised. The MTA is developing a schedule to show when different sections can be updated.

### ONGOING

#### August 1994, Grantee Staffing

Concern: Spot report No. 1, Grantee Staffing, contains several recommendations for MTA action.

Action: The Grantee should respond to the recommendations outlined in the spot report within the one month time period allowed by the FTA.

Status: The MTA has submitted its response to the FTA for its review.

**FTA PROJECT MANAGEMENT OVERSIGHT CONSULTANT (CON'T)****August 1994, Segment 1 Grant Close-out**

**Concern:** The MTA agreed to close out the grant by June of 1994. That due date has passed and the grant remains open.

**Action:** The projected date of September 1994 seems optimistic to the PMOC. MTA needs to focus more attention on the close-out process.

**Status:** At the quarterly meeting with the FTA, The MTA projected a close-out completion date in line with the FTA deadline of January 1995. In addition, an updated status report was distributed in November.

**RESOLVED**

**NONE**

**KEY ACTIVITIES - DECEMBER****North Hollywood Extension**Design

- As of December 30, 1994, Facilities Design for the North Hollywood Extension was 90% complete versus 96% planned. Systems Design was 33% complete versus 69% planned. The total design progress is 85% actual compared to 94% planned.
- C0301 Addendum #1 Re-Bid occurred on December 5, 1994.
- Pre-Final submittal of drawings for contract C0321, Universal City Station, was made on December 22, 1994.
- A Camera Ready submittal for C0329, Universal City Demolition & Site Clearing, was made on December 23, 1994, after delivery of a review version occurred on December 5.
- Completion of design for contract C0352, North Hollywood Sitework, remains on hold. Scope definition for the remaining work is underway.

Bid/Award

- Contract C0311, Line Section from Universal City Station to STA 630+00, the MTA Board approved construction award to Traylor Bros./Frontier-Kemper. The NTP is planned for January 23, 1995.



**KEY ACTIVITIES - PLANNED FOR JANUARY****North Hollywood Extension****Design**

- Completion of Preliminary Engineering on Contract C0326, Universal City Roads, Site Restoration, is currently forecast as January 31, 1995; however, completion may be delayed until the end of March 1995.

**Bid/Award**

- Contract C0301R, Hollywood/Highland Station and Tunnels, bids were opened on December 22, 1994. NTP is planned for April 1, 1995.
- Contract C0351, No. Hollywood Station, Crossover and Tailtrack, bids are planned to be opened. NTP is planned for April 1, 1995.

**Construction**

- Contract C0311, Line Section from Universal City Station to STA 630+00, NTP is planned for January 23, 1995.

**MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
Original Scope / New Requirements By Element**

Project: R82 METRO RED LINE - SEGMENT 3 - NORTH HOLLYWOOD

Period: Dec 2, 1994 to Dec 30, 1994

Run Date: Jan 11, 1995

Units: \$ in Thousands (Truncated)

ELEMENT / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
<b>T CONSTRUCTION</b>												
Original Scope	890,729	0	766,847	598	230,120	2,203	52,655	4,847	51,912	3,561	801,236	34,389
New Requirements	0	0	0	-17	81	0	23	0	4	-82	7,901	7,901
Total Element	890,729	0	766,847	580	230,202	2,203	52,679	4,847	51,917	3,479	809,137	42,290
<b>S PROFESSIONAL SERVICES</b>												
Original Scope	254,747	0	279,125	0	100,547	3,360	54,571	3,360	54,571	0	274,024	-5,100
New Requirements	0	0	0	0	410	0	0	0	0	0	1,098	1,098
Total Element	254,747	0	279,125	0	100,958	3,360	54,571	3,360	54,571	0	275,123	-4,001
<b>R REAL ESTATE</b>												
Original Scope	84,534	0	85,644	4,841	38,808	4,841	38,808	4,841	38,808	-514	84,743	-901
New Requirements	0	0	0	0	0	0	0	0	0	0	0	0
Total Element	84,534	0	85,644	4,841	38,808	4,841	38,808	4,841	38,808	-514	84,743	-901
<b>F UTILITY/AGENCY FORCE ACCOUNTS</b>												
Original Scope	13,237	0	18,711	384	9,360	861	4,252	861	4,252	0	22,504	4,093
New Requirements	0	0	0	0	0	0	0	0	0	0	0	0
Total Element	13,237	0	18,711	384	9,360	861	4,252	861	4,252	0	22,804	4,093
<b>C PROJECT CONTINGENCY</b>												
Original Scope	67,575	0	160,495	0	0	0	0	0	0	-3,047	128,013	-32,481
New Requirements	0	0	0	0	0	0	0	0	0	0	55	55
Total Element	67,575	0	160,495	0	0	0	0	0	0	-3,047	128,068	-32,426
<b>A PROJECT REVENUE</b>												
Original Scope	0	0	0	0	0	0	0	-9	-123	0	0	0
New Requirements	0	0	0	0	0	0	0	0	0	0	0	0
Total Element	0	0	0	0	0	0	0	-9	-123	0	0	0

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 11, 1995  
Units: \$ in Thousands (Truncated)

[illegible]

**MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT**

Project: **RB3 METRO RED LINE - SEGMENT 3 - MID CITY**

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 13, 1995  
Units: \$ in Thousands (Truncated)

ELEMENT / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
T CONSTRUCTION	334,139	0	334,139	-70	43,264	1	809	1	223	-1,091	328,119	-6,019
S PROFESSIONAL SERVICES	98,133	0	98,133	0	43,134	63	8,254	63	8,258	0	102,980	4,847
R REAL ESTATE	53,303	0	53,303	0	128	0	128	0	128	0	48,543	-4,760
F UTILITY/AGENCY FORCE ACCOUNTS	5,088	0	5,088	0	874	0	151	0	151	0	5,088	0
C PROJECT CONTINGENCY	0	0	0	0	0	0	0	0	0	1,091	5,932	5,932
A PROJECT REVENUE	0	0	0	0	0	0	0	0	0	0	0	0
<b>GRAND TOTAL</b>	<b>490,663</b>	<b>0</b>	<b>490,663</b>	<b>-70</b>	<b>87,402</b>	<b>64</b>	<b>9,344</b>	<b>64</b>	<b>8,762</b>	<b>0</b>	<b>490,663</b>	<b>0</b>

## Page 14

Period:	Dec 2, 1994 to Dec 30, 1994
Run Date:	Jan 13, 1995
Units:	\$ In Thousands

ELEMENT / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
T CONSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0
B PROFESSIONAL SERVICES	11,068	0	11,068	0	11,488	348	9,180	348	9,180	70	11,369	(929)
R REAL ESTATE	0	0	0	0	18	0	18	0	18	0	18	18
F UTILITY/AGENCY FORFE ACCOUNTS	2	0	2	0	2	0	2	0	2	0	2	0
C PROJECT CONTINGENCY	0	0	0	0	0	0	0	0	0	0	0	0
A PROJECT REVENUE	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	12,000	0	12,000	0	11,488	348	9,180	348	9,180	70	11,369	(911)

METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL RED LINE NORTH HOLLYWOOD PROJECT  
(IN THOUSANDS OF DOLLARS)

DECEMBER 1994

## STATUS OF FUNDS BY SOURCE

SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA-SECTION 3	\$681,037	\$33,862	\$263,767	39%	\$33,862	5%	\$33,862	5%
FED ISTEA STP/CMAQ (STATE)	\$94,145			0%		0%		0%
FED ISTEA STP/CMAQ (REGIONAL)	\$25,000	\$19,908	\$19,908	80%	\$19,908	80%	\$19,908	80%
SB 1995 TRUST FUND	\$75,000	\$75,000	\$36,106	48%	\$36,106	48%	\$36,106	48%
STATE ARTICLE XIX	\$20,855	\$20,855	\$20,855	100%	\$20,855	100%	\$7,261	35%
STATE TSM Match	\$3,239			0%		0%		0%
PROP C	\$411,546	\$38,693	\$38,693	9%	\$38,693	9%	\$35,501	9%
TOTAL	\$1,310,822	\$188,318	\$379,329	29%	\$149,424	11%	\$132,638	10%

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 1994.

METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL RED LINE MID CITY PROJECT  
(IN THOUSANDS OF DOLLARS)

DECEMBER 94

STATUS OF FUNDS BY SOURCE

SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA-SECTION 3	\$242,563	\$5,838	\$84,478	35%	\$5,838	2%	\$5,838	2%
FED ISTEA STP/CMAQ (STATE)	\$58,300			0%		0%		0%
FED ISTEA STP/CMAQ (REGIONAL)	\$55,400	\$1,418	\$1,418	3%	\$1,418	3%	\$1,418	3%
STATE ARTICLE 116	\$40,000			0%		0%		0%
STATE TSM Match	\$7,178			0%		0%		0%
PROP C	\$87,222	\$4,469	\$1,506	2%	\$1,506	2%	\$1,506	2%
TOTAL	\$490,663	\$11,725	\$87,402	18%	\$8,762	2%	\$8,762	2%

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 1994.

METROPOLITAN TRANSPORTATION AUTHORITY  
METRO RAIL RED LINE EAST SIDE EXTENSION PROJECT  
PRELIMINARY ENGINEERING  
(IN THOUSANDS OF DOLLARS)

DECEMBER 94

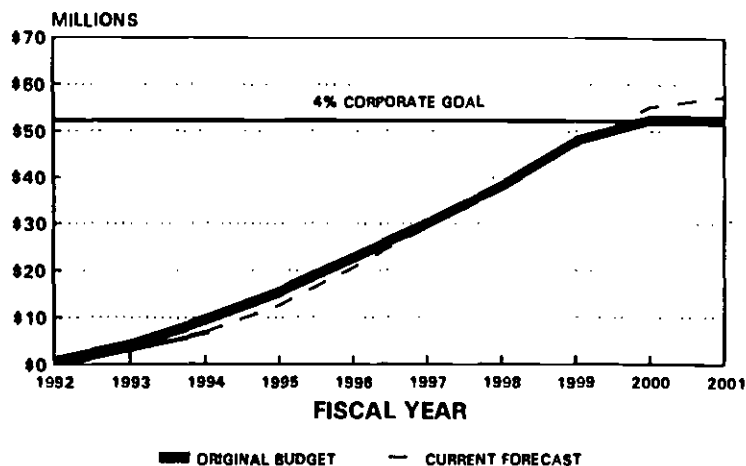
## STATUS OF FUNDS BY SOURCE

SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA-SECTION 3	\$19,850	\$19,850	\$10,886	55%	\$8,716	44%	\$7,857	40%
PROP A	\$18,150	\$18,150	\$580	3%	\$464	3%	\$464	3%
TOTAL	\$38,000	\$38,000	\$11,466	30%	\$9,180	24%	\$8,321	22%

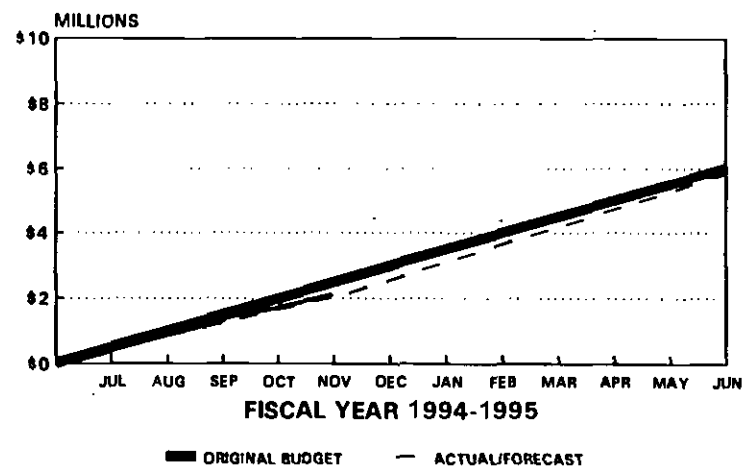
NOTE: EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 1994.



## AGENCY COSTS RED LINE NORTH HOLLYWOOD



## FISCAL YEAR 1995 AGENCY COSTS RED LINE NORTH HOLLYWOOD



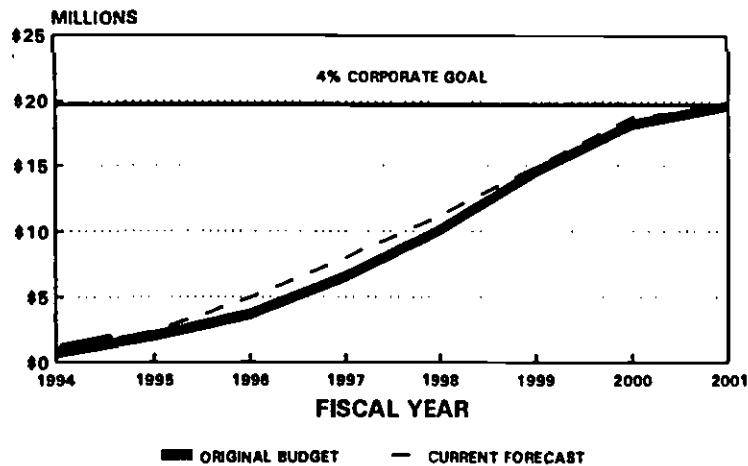
## PROJECT AGENCY COSTS RED LINE NORTH HOLLYWOOD (\$000)

TOTAL PROJECT BUDGET	\$ 1,310,822
ORIGINAL BUDGET	\$ 52,433
BUDGET % OF TOTAL PROJECT	4.0%
CURRENT FORECAST	\$ 57,560
FORECAST % OF TOTAL PROJECT	4.4%
ACTUAL THROUGH FY 94	6,891

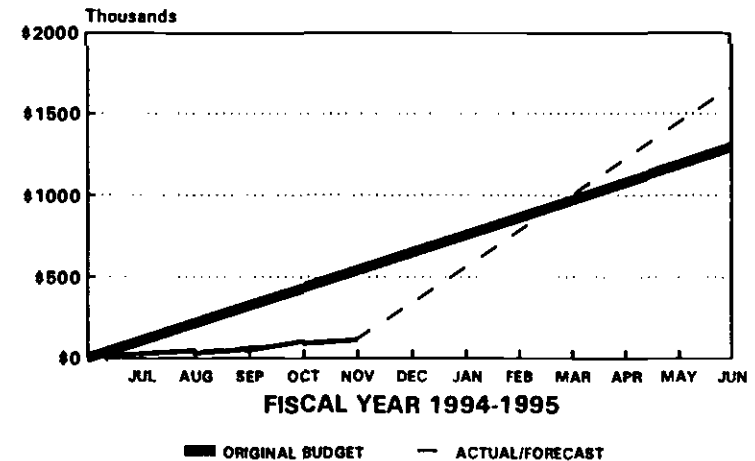
## FISCAL YEAR 1995 AGENCY COSTS RED LINE NORTH HOLLYWOOD (\$000)

ORIGINAL BUDGET	\$6,005
CURRENT FORECAST	\$5,809
PLAN BUDGET TO DATE	\$2,502
ACTUAL TO DATE	\$2,032

### AGENCY COSTS RED LINE MID CITY



### FISCAL YEAR 1995 AGENCY COSTS RED LINE MID CITY



### PROJECT AGENCY COSTS RED LINE MID CITY (\$000)

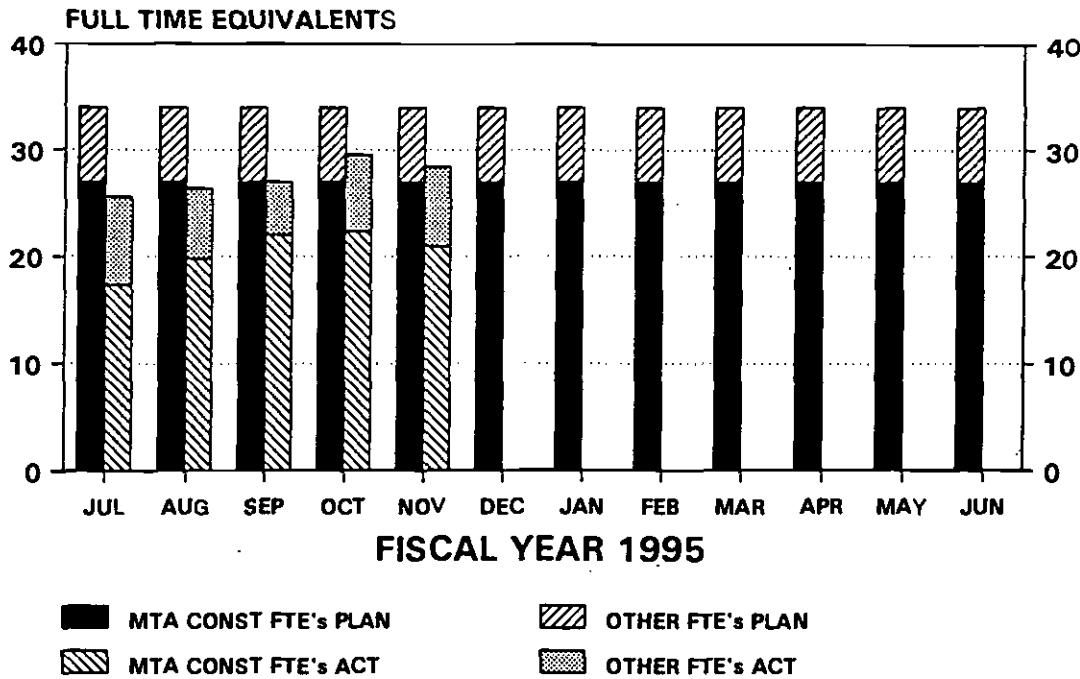
TOTAL PROJECT BUDGET	\$ 490,663
ORIGINAL BUDGET	\$ 19,627
BUDGET % OF TOTAL PROJECT	4.0%
CURRENT FORECAST	\$19,627
FORECAST % OF TOTAL PROJECT	4.0%
ACTUAL THROUGH FY 94	\$740

### FISCAL YEAR 1995 AGENCY COSTS RED LINE MID CITY (\$000)

ORIGINAL BUDGET	\$1,295
CURRENT FORECAST	\$1,668
BUDGET PLAN TO DATE	\$539
ACTUAL TO DATE	\$120

## STAFFING PLAN VS. ACTUAL

### RED LINE NORTH HOLLYWOOD



FY'95 Budget

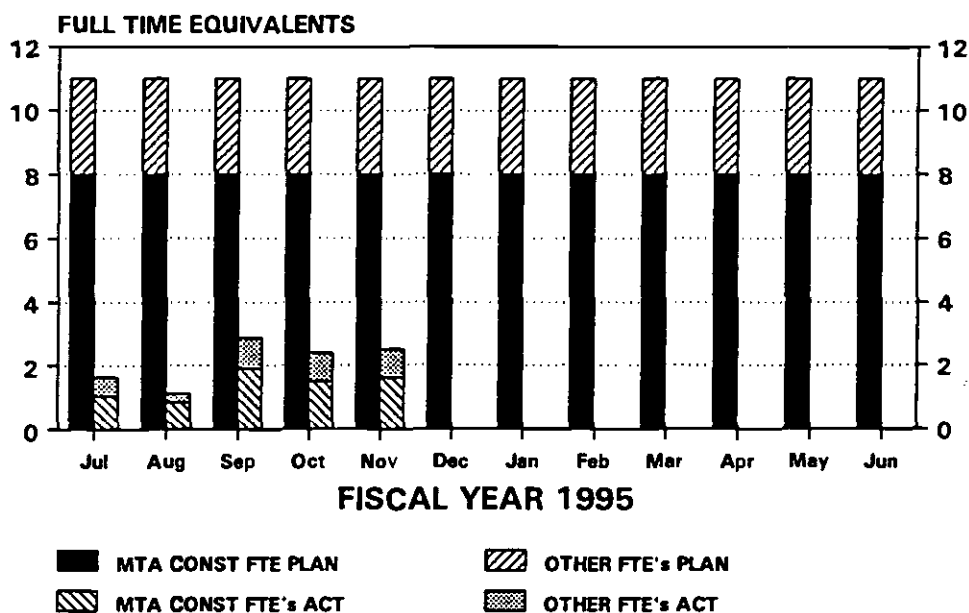
## RED LINE (NO. HOLLY.) STAFFING PLAN

### FISCAL YEAR 1995

MTA CONSTRUCTION FTE's PLAN	28
MTA CONSTRUCTION FTE's ACTUAL	21
OTHER FTE's PLAN	7
OTHER FTE's ACTUAL	7
TOTAL FTE's PLAN	35
TOTAL FTE's ACTUAL	28

## STAFFING PLAN VS. ACTUAL

### RED LINE MID CITY



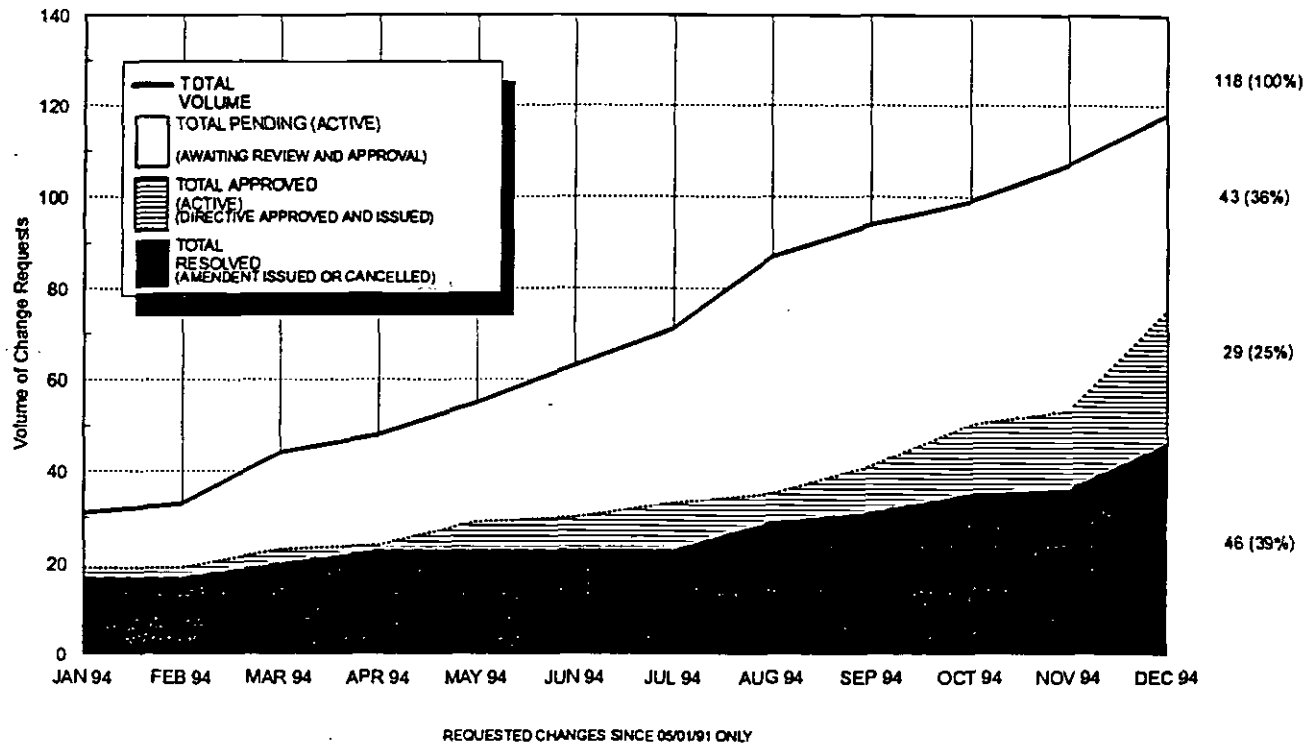
FY'95 Budget

## RED LINE (MID CITY) STAFFING PLAN

### FISCAL YEAR 1995

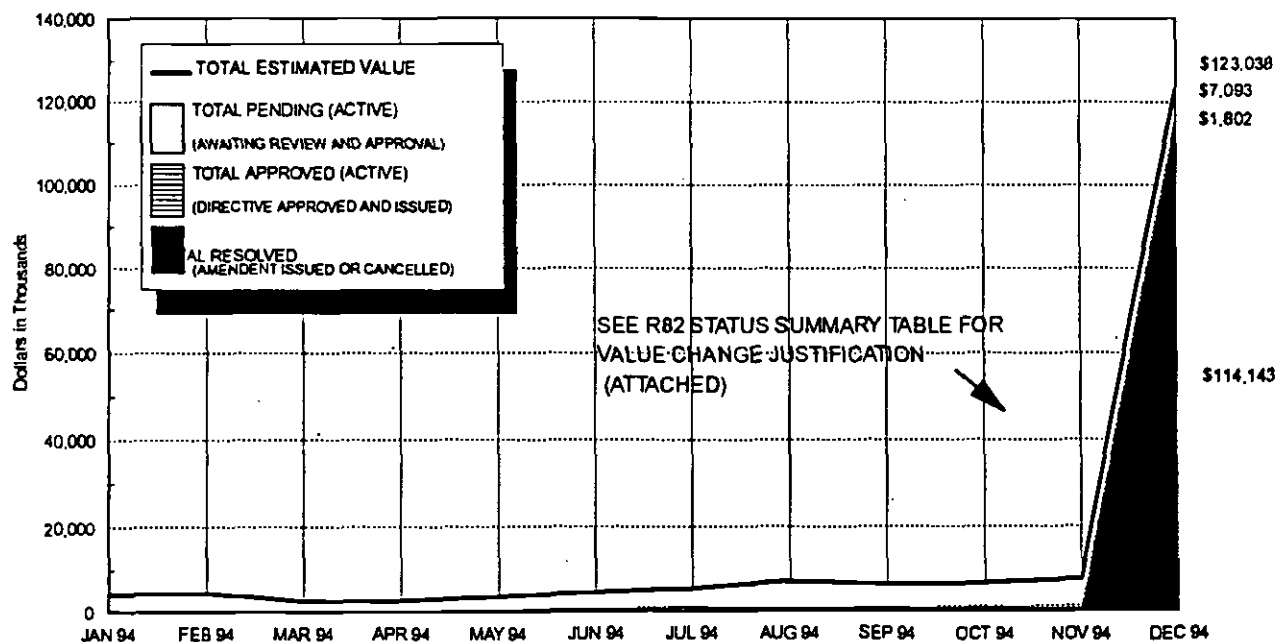
MTA CONSTRUCTION FTE's PLAN	8
MTA CONSTRUCTION FTE's ACTUAL	2
OTHER FTE's PLAN	3
OTHER FTE's ACTUAL	1
TOTAL FTE's PLAN	11
TOTAL FTE's ACTUAL	3

CONSULTANT CONTRACT CHANGE SUMMARY  
RED LINE SEG-3 N. HOLLYWOOD CONSULTANT CHANGE REQUEST VOLUME

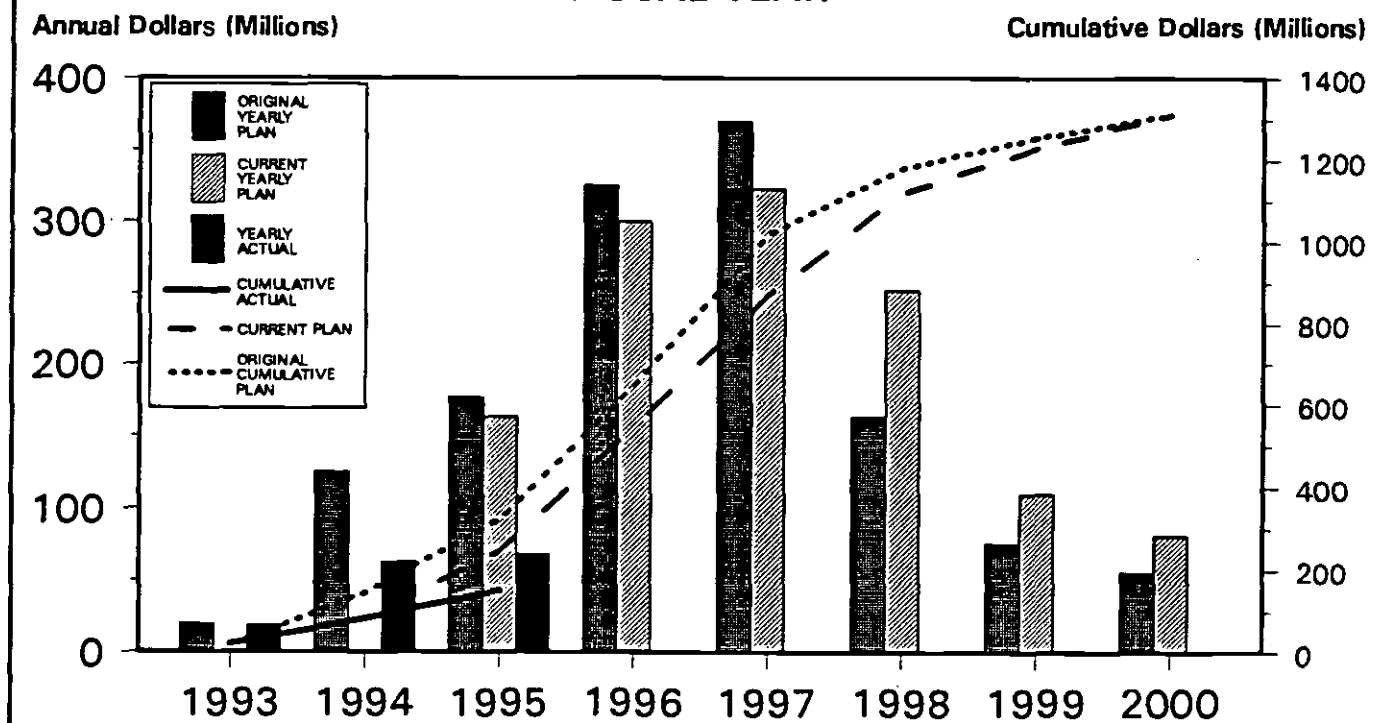
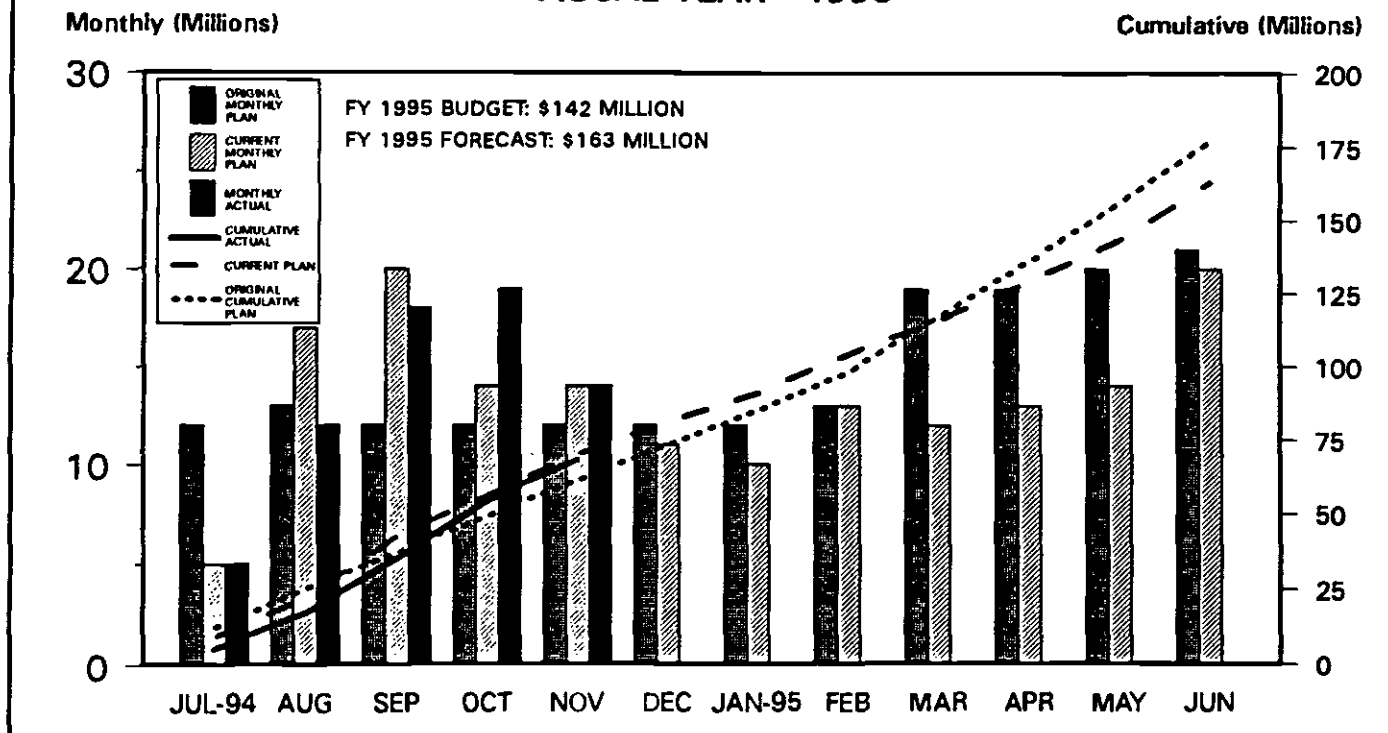


AGE OF UNRESOLVED CONSULTANT CHANGES					
TIME	0-30 DAYS	30-60 DAYS	61-90 DAYS	OVER 90	TOTAL ACTIVE
VOLUME	9	7	3	53	72
PERCENT	13%	10%	4%	73%	100%

CONSULTANT CONTRACT CHANGE SUMMARY  
RED LINE SEG-3 N. HOLLYWOOD CONSULTANT CHANGE REQUEST VALUES

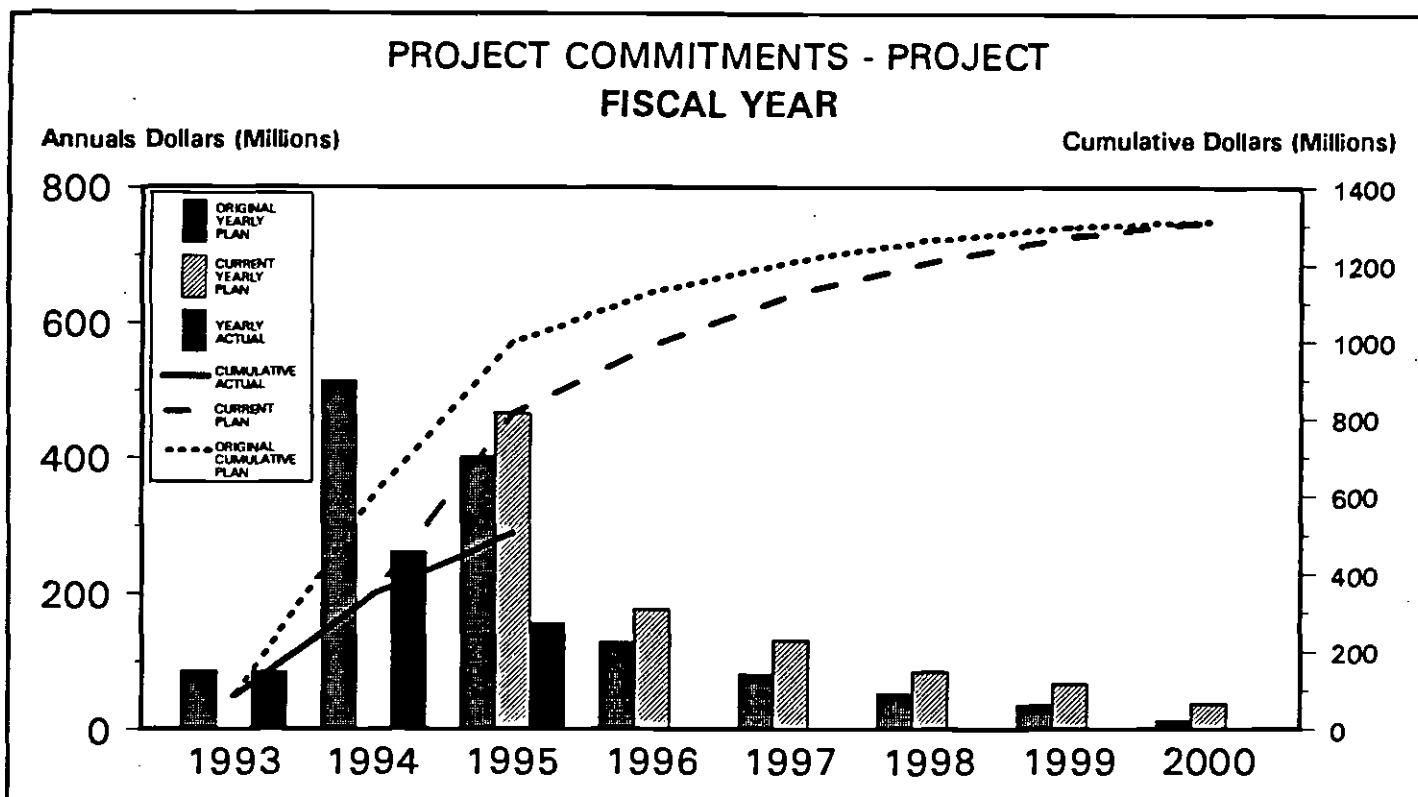
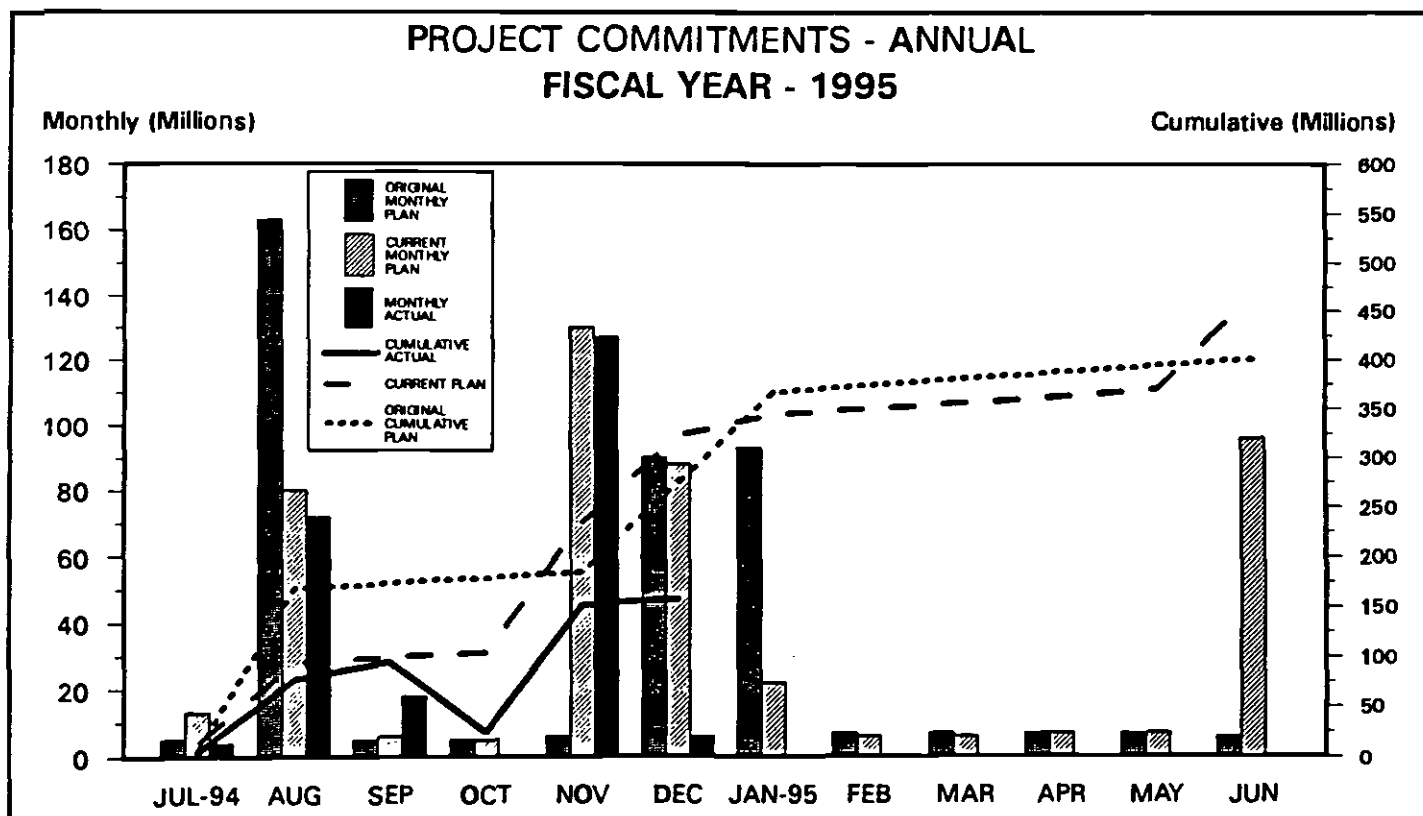


## NORTH HOLLYWOOD

PROJECT CASH FLOW - PROJECT  
FISCAL YEARPROJECT CASH FLOW - ANNUAL  
FISCAL YEAR - 1995

NOTES: THESE CHARTS ARE BASED ON ACTUAL EXPENDITURES CURRENT THROUGH NOVEMBER 1994.  
THE PLAN WAS REVISED IN SEPTEMBER.

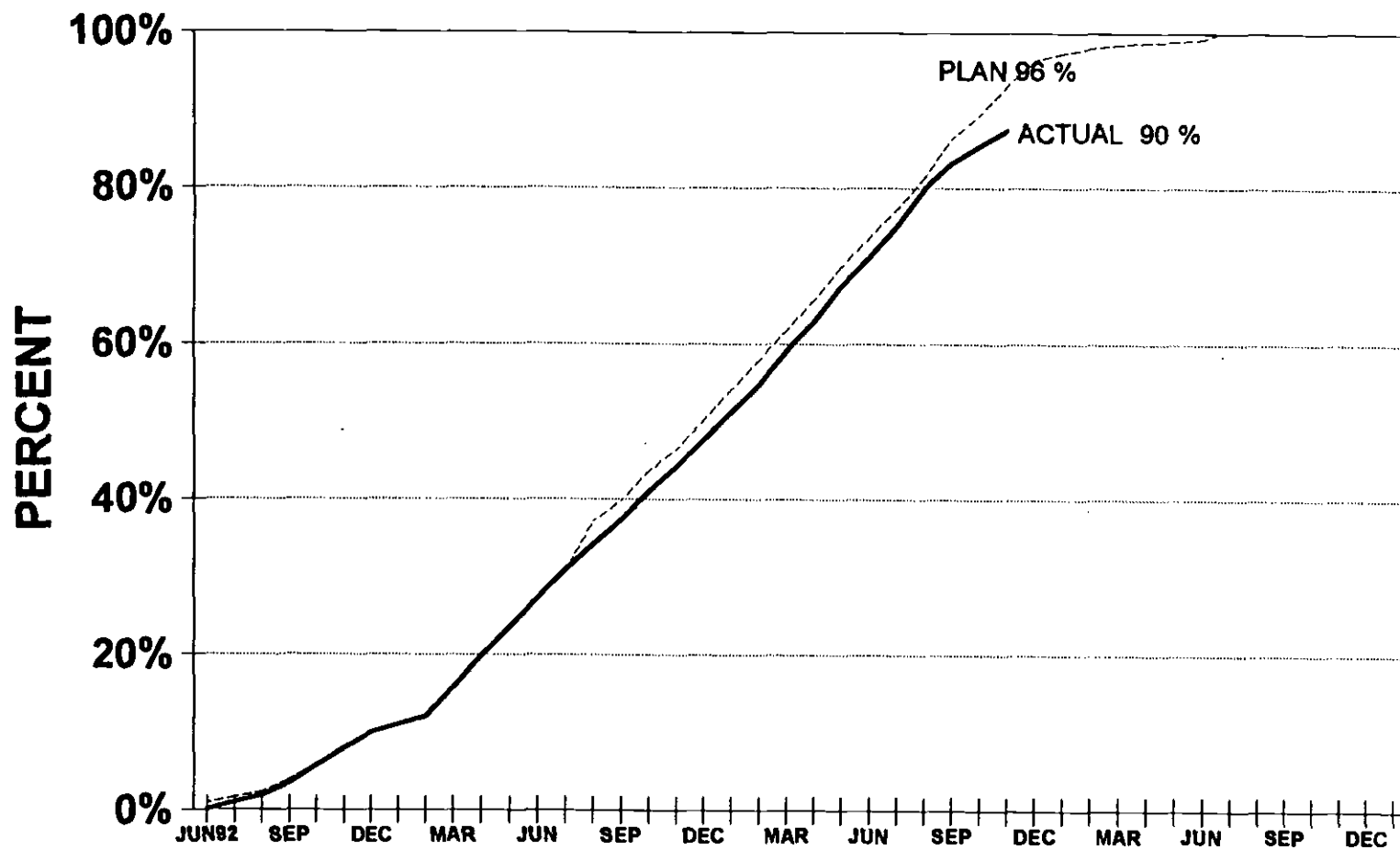
## NORTH HOLLYWOOD

PROJECT COMMITMENTS - PROJECT  
FISCAL YEARPROJECT COMMITMENTS - ANNUAL  
FISCAL YEAR - 1995

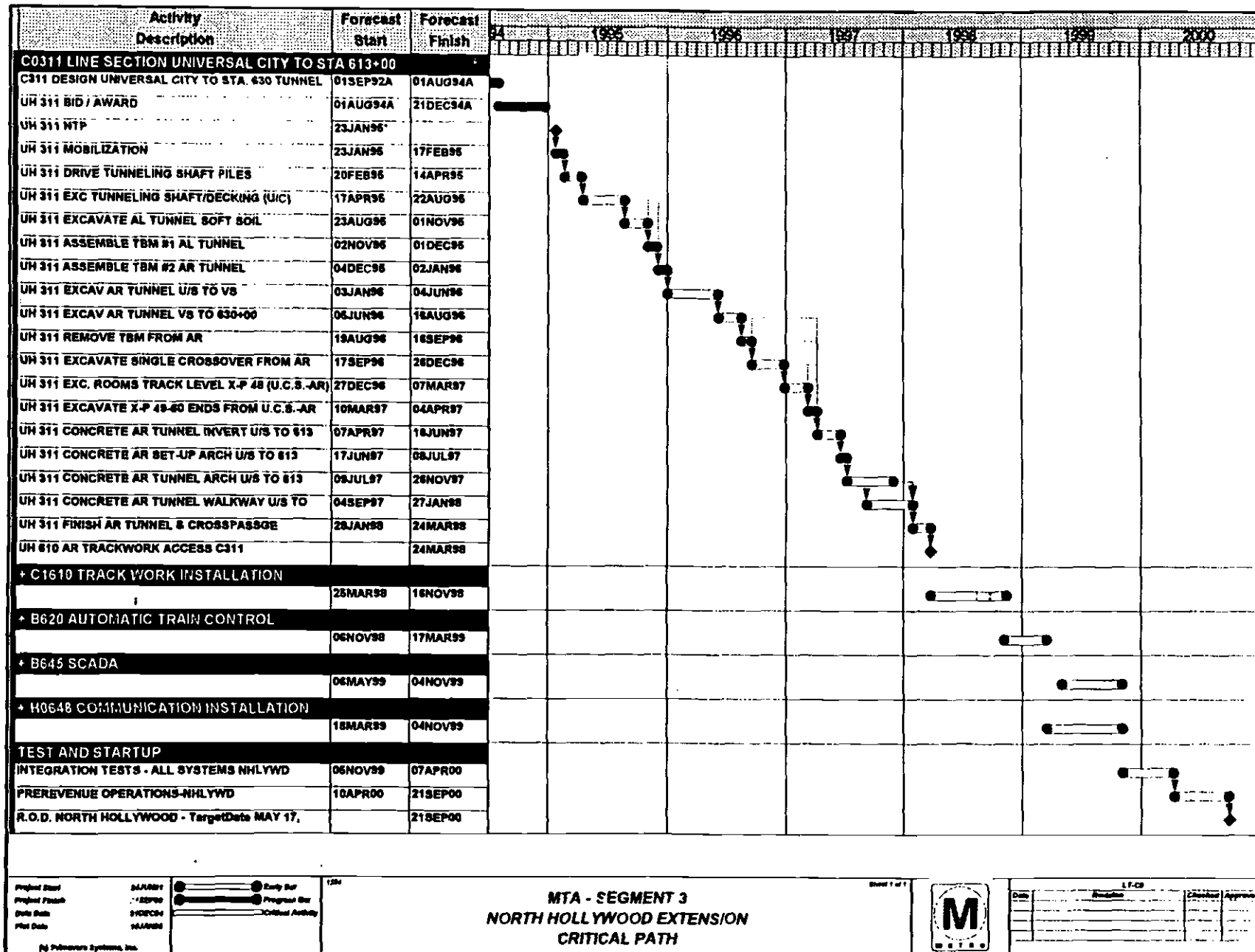
NOTE: THE PLAN WAS REVISED IN JUNE 1994.

## METRO RED LINE SEGMENT 3 NORTH HOLLYWOOD - FACILITIES DESIGN

(NOTE: The Systems Design Curve has been excluded pending development / approval of a revised Systems baseline. It is anticipated that this, along with a Total Design Curve, will be available in the next status report)







## EXECUTIVE SUMMARY

December 1994 is the tenth month of the P2000 Program. To date, the bulk of the Contractor's activities have been in securing system subcontractors and commencing the detail design. In December, Siemens has taken a step forward in the process by initiating improvements to the Carson Carbuilding Facility, and laying plans for the fabrication of carshell tooling in the Carson Community environs. The first step toward actual construction will be the award of subcontracts for tooling fabrication and detail subassemblies for the seven design priorities, viz.: girders, underframe, sidewalls, roof, welding, attachments, and painting. Presently, it is planned that these bids will be awarded in January of 1995. Design activity has progressed well for several vehicle subsystems.

Problems have surfaced in Siemen's selection of a side door system supplier. Siemens originally chose Vapor Corporation of Chicago to fulfill this role. Their performance to date, however, has not been satisfactory. Siemens reports that they have missed deliverables, and it appears that the door control system offered may not meet the specification requirements with regard to reliability. Siemens is investigating the possibility of selecting a more reliable type of drive system, either by Vapor, or if not satisfactory, by a German manufacturer.

Another change in subcontractors involves the design and construction of the Auxiliary Power Supply. Power Rail, Siemens' initial choice for the supply of the Auxiliary Power Supply, was found to lack sufficient design experience for a project of this complexity. Attempts were made to team Power Rail with General Atomics of San Diego, to assist Power Rail in design effort, but the two organizations were not able to come to terms commercially. Recently, however, Siemens reports a teaming arrangement which allows Power Rail to use a German design by Transtechnik.

Upgrading to more sophisticated, reliable designs in both the door and auxiliary power systems would be a positive development for the P2000 program, as it would allow transfer of existing, service-proven technology to the U.S.

## PROGRAM DETAILS

### SCHEDULE STATUS

#### *Key Delivery Dates:*

<u>Unit</u>	<u>Delivery Date/Float</u>	
LRV No. 1	October 24, 1996	+04 days
Prototype Cars	October 24, 1996	+04 days
LRV No. 15	April 13, 1997	+48 days

## EXECUTIVE SUMMARY (CON'T)

<u>Unit</u>	<u>Delivery Date</u>	<u>Float</u>
LRV No. 34	January 23, 1998	+48 days
LRV No. 72	August 16, 1999	+45 days

### ***Key Carbuilding Activities in Progress:***

#### Siemens Engineering Design

- Operator's Compartment (Cab)
- Articulation Portal
- Floor Lining
- Passenger Compartment
- Passenger Windows/Window Masks

#### Carson Facility Planning

- Continuing Factory Renovation
- Production planning for 5 of 7 structural design tasks

#### Duewag Trucks and Carshell Design

- Finite Element Model and Finite Element Analysis for trucks and carshell
- Tool design for 5 of 7 structural priorities
- Truck frame and truck test stand tooling

#### AEG Propulsion System Design

- Controls/Final design
- Traction Motor/Final design
- Begin procurement of materials for First Article and six production traction motors
- Propulsion Test Equipment/Continued design

#### Vapor Door System Design

Siemens is presently involved in re-evaluating Vapor's proposed design. At least two alternative designs are presently being discussed. Status of the design effort will be determined in January. Reference *Areas of Concern* below.

## EXECUTIVE SUMMARY (CON'T)

### Sutrak HVAC System Design

Sutrak is continuing with the preliminary design of an R-22 based air conditioning, per specification; however, MTA Operations has expressed interest in switching to the more environmentally-safe R134a refrigerant. If the change is made, cost and schedule impact would be involved. Reference Areas of Concern below.

### WABCO Brakes and Coupler Design

- Continuing Brake and Coupler design.

### Coach and Car Passenger Seat Design

- Preliminary Design Review
- Continued passenger seat design

### Luminator Lighting and Sign Design

- Continued drafting of preliminary drawings
- Implement changes from the Preliminary Design Review meeting

### Turner/Gold/France RMS (Reliability/Maintainability/Safety) Design

- Continued preparation of *Preliminary Mean-Time-Between-Failure Analysis*
- Continued preparation of *Historical Analysis*
- Initiate *Failure Mode Effect and Criticality Analysis*
- Completion of *Preliminary Hazard Analysis*
- Commencement of *Final Hazard Analysis*
- Prepare *Preventive Maintenance Recommendations*
- Prepare revisions to *Electromagnetic Compatibility Plan*

### Transrail Auxiliary Power Supply Design

No activity was planned for December. It is anticipated that Transrail, the proposed Power Rail/Transtech team, will come under contract to Siemens in early January.

### VH Corporation Communications Design

- Complete design of communications protocol
- Complete design of CPU controls

**EXECUTIVE SUMMARY (CON'T)**

- Complete design of Control Head Interface
- Complete design of system diagnostics
- Validate circuit design
- Submit drawings for approval

**Penn Machine Wheel and Axle Design**

- Preparation of preliminary wheel and axle drawings
- Axle stress analysis
- Procurement of axle steel

**BUDGET STATUS*****P2000 Standard Car Contract:***

*Present Contract Total:* \$214,370,314  
*Total Paid to Date:* \$24,098,804 (includes \$1,042,915 in EPA adjustments)  
*Total Paid this Month ¾*

- *Progress Payments:* None
- *EPA Adjustments:* \$539,700
- *Change Orders:* None

***E0350 Professional Services Contract:***

*Present Budget Total:* \$6,512,994  
*Total Paid to Date:* \$934,091 (14%)  
*Total Paid this Month:* \$85,986

**WEIGHT STATUS*****Standard Cars:***

*Specified Weight (AW4):* 142,508 lbs.  
*Projected Weight (AW4):* 138,576 lbs., including 262 passengers (76 seated); one motorman

## EXECUTIVE SUMMARY (CON'T)

### ***Prototype Cars:***

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

*Projected Weight (AW4):* 140,728 lbs., including 264 passengers (78 seated); no motorman

## AREAS OF CONCERN

### UPDATES ON PREVIOUSLY NOTED AREAS OF CONCERN

#### ***Construction of the Carshell Facility and Carshell Tooling in Carson***

Siemens is proceeding with renovations to the Carson fabrication facility, and preparing tool and detail part contracts for bid. Their schedule still appears aggressive, however, and the situation bears close scrutiny. This issue is not resolved.

#### ***Equipment Space Problem on the Motor Trucks***

This problem is resolved; Duewag and WABCO have agreed to a truck configuration which accommodates all relevant specification requirements with no compromise to performance.

#### ***Siemens Technical Staffing Problem***

Siemens is making an earnest effort to remedy its program weakness in the area of systems. Both the Electrical Systems Engineer and the Mechanical Systems Engineer, are becoming significantly more visible in the program. Typically, both Engineers now attend design reviews. Siemens' Engineering is also more organized. Individual work schedules (per engineer) have been drafted and published, and a schedule of drawing releases has been generated. This issue is not resolved, but Siemens is taking appropriate steps to remedy the situation.

#### ***Between Car Protective Barriers***

No change from the last report; the MTA is continuing to pursue the possibility of implementing the ADA-mandated requirement for between-car barriers on the station platform.

## AREAS OF CONCERN (CON'T)

### NEW AREAS OF CONCERN

#### ***Axle Design***

The P2000 Technical specification requires the use of an axle design to specific AAR Standards. Duewag, however, through Siemens, has petitioned to be allowed to use an alternative steel material for the axles, and to design to German Federal Railway Standards. Use of the German Standards will result in an axle which is about ½ inch smaller in diameter than the AAR axle. Duewag maintains it will be adequate for the purpose intended. Complicating resolution of this issue are the following factors:

- Siemens has already instructed AEG to proceed with their motor and gearbox design predicated on the smaller axle. Switching to an AAR-compliant design may cause delay.
- It may be that the MTA cannot extend relief to Siemens in this area. Indications are that the g-loading on certain segments of the Metro Blue Line track *may* necessitate use of the stronger, AAR-compliant axle. LTK is presently reducing data from measurements taken along the MBL right of way to determine if this is indeed the case.

#### ***Vehicle Structure and Truck Design***

Concern is mounting in two areas with regard to Duewag's structure and truck design progress. The first concern is the progress of the design to date. We met with Duewag in October, and helped to "fine tune" their car structure and truck Finite Element Model (FEM). Duewag was at that time tasked with completing the model, developing an appropriate load schedule, then producing the required Finite Element Analysis (FEA). These submittals were expected within a few weeks of our meeting; to date, nothing has been submitted, and Siemens has asked for a postponement of the deliverables until early February.

The second area of concern is with regard to the completeness of the drawings submitted. All submittals of the truck design in December were disapproved, largely due to the incompleteness of the drawings submitted.

#### ***EMI (Electromagnetic Interference) Limits***

Siemens has petitioned for relief from select portions of the specification-mandated EMI current limits. The carbuilder maintains that the present limits can be reduced in part, with no compromise to performance, saving cost and weight by permitting a smaller inductive reactor to be used in the line filter. LTK has reviewed Siemens' petition for relief and concurs to some extent, counteroffering a revised set of EMI conductive limits. We must now obtain the

## AREAS OF CONCERN (CON'T)

additional concurrence of the EMC Pasadena Signal system engineers, Union Switch and Signal (the MGL Signal contractor), and confirm that all future rail lines on which the Standard Cars will run will conform to the new proposed limits.

### *ATPDP Management Transition*

TRW's overall Program Manager for the ATPDP Program has elected to retire at the end of December. He is well regarded by both the MTA and Siemens. MTA requested that TRW retain the outgoing Program Manager until the new manager is phased in.

### *Side Door Procurement*

Siemens presently has a contract with Vapor Corporation to provide side door operators and controls. Siemens intends to fabricate the side door panels themselves, through a local (Sacramento) DBE sheet metal fabricator. There are problems with Vapor's proposed operation and control, however. For example, the proposed system from Vapor contains 11 bulky, electromechanical relays per doorway, or 88 such devices per car. Given this control system, it would appear that Vapor would have a difficult time meeting the specified reliability requirements. Additionally, the mechanical linkage Vapor proposed to meet the specification requirements appears unnecessarily complicated, and prone to failure. Indications are that Siemens is presently involved in re-evaluating the system with Vapor, and may elect to offer a different design by Vapor, or a linear drive design by a German firm.

### *R134a Refrigerant Fluid*

MTA Operations has recently expressed interest in switching from the specified refrigerant fluid, R22, to the more environmentally safe fluid, R134a. MTA requested Siemens to review this change in refrigerant and submit cost and schedule impact information. Details will be provided in subsequent PMSR's. This change, however, is not without its drawbacks. R134a is less efficient as a refrigerant fluid than R22, and there is little industry experience with this fluid in rail transit applications. The use of R134a will mandate increasing the size of several key HVAC components, such as the compressor, evaporator, and condenser units. Moreover, the carshell structure is almost completely designed. It is not certain if the oversized components can be used to maximum efficiency, given the constraints of the present design.



## Page No. 1

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 18, 1995  
Units: \$ in Thousands (Truncated)

**NOTE:** 1) REFER TO APPENDIX FOR REPORT DEFINITIONS  
2) EXPENDITURES ARE THROUGH NOVEMBER 30, 1994.  
3) INCURRED COSTS ARE THROUGH SEPTEMBER 30, 1994.

METROPOLITAN TRANSPORTATION AUTHORITY  
LA LIGHT RAIL VEHICLE PROCUREMENT  
(IN THOUSANDS OF DOLLARS)

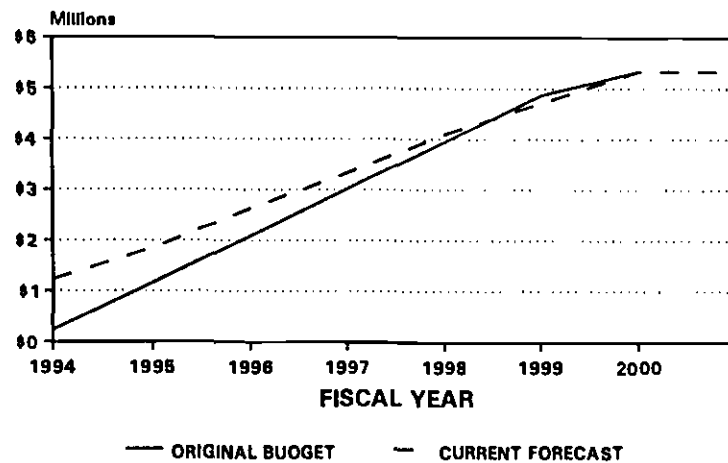
STATUS OF FUNDS BY SOURCE

DECEMBER 94

SOURCE	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO SOURCE	
			\$	%	\$	%	\$	%
FTA RSTP (ISTEA)	\$6,077	\$0	\$5,579	92%	\$0	0%	\$0	0%
FTA - OTHER	\$18,000	\$0	\$0	0%	\$0	0%	\$0	0%
ISTEA FED SURFACE TRANSIT	\$84,000	\$0	\$77,533	92%	\$0	0%	\$0	0%
STATE PROP 116	\$33,550	\$16,398	\$31,831	95%	\$13,191	39%	\$12,656	38%
PROP C	\$115,970	\$26,118	\$110,025	95%	\$16,036	14%	\$16,036	14%
TOTAL	\$257,597	\$42,516	\$224,968	87%	\$29,227	11%	\$28,692	11%

NOTES: EXPENDITURES ARE THROUGH NOVEMBER 1994.

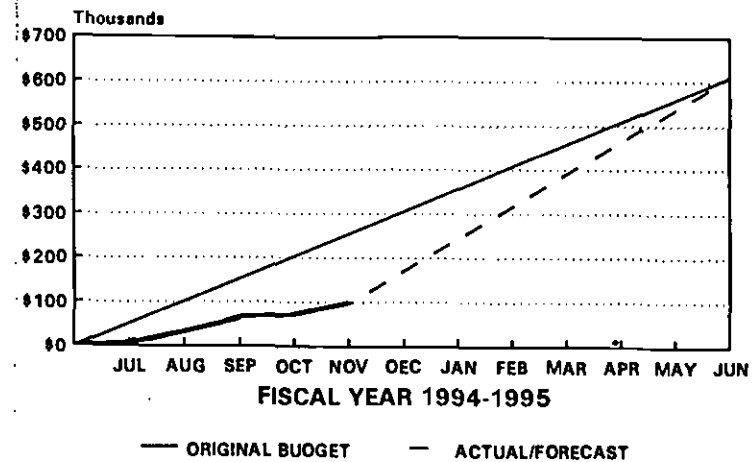
### AGENCY COST LA LIGHT RAIL VEHICLE PROCUREMENT



### PROJECT AGENCY COSTS LA LIGHT RAIL VEHICLE PROCUREMENT (\$000)

TOTAL PROJECT BUDGET	\$257,597
ORIGINAL BUDGET	\$ 5,335
BUDGET % OF TOTAL PROJECT	2.1%
CURRENT FORECAST	\$ 5,335
FORECAST % OF TOTAL PROJECT	2.1%
ACTUALS THROUGH FY 94	\$ 1,229

### FISCAL 1995 AGENCY COSTS LA LIGHT RAIL VEHICLE PROCUREMENT

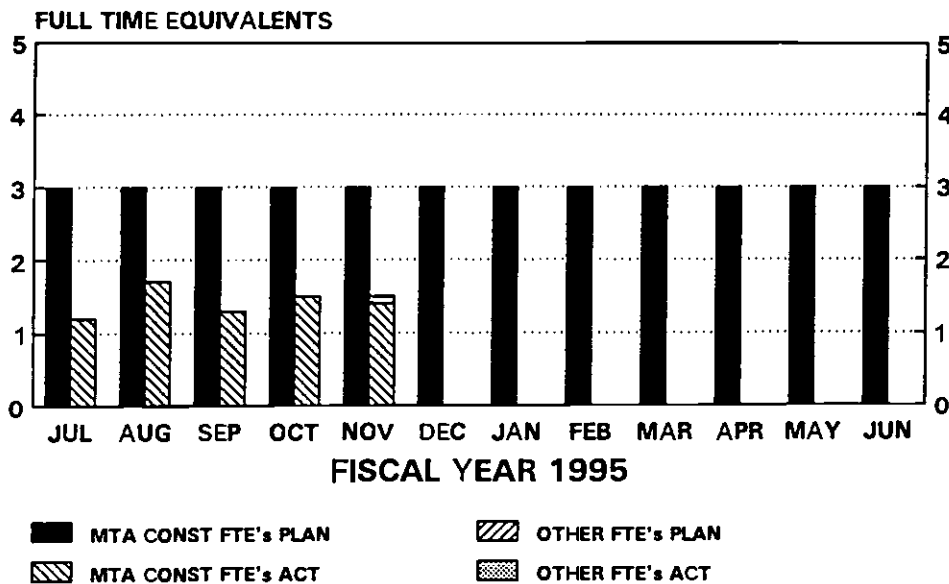


### FISCAL YEAR 1995 AGENCY COSTS LA LIGHT RAIL VEHICLE PROCUREMENT (\$000)

ORIGINAL BUDGET	\$ 611
CURRENT FORECAST	\$ 611
BUDGET PLAN TO DATE	\$ 254
ACTUAL TO DATE	\$ 97

## STAFFING PLAN VS. ACTUAL

### LA LIGHT RAIL VEHICLE PROCUREMENT



FY'95 BUDGET

## LA LIGHT RAIL VEHICLE PROCUREMENT

FISCAL YEAR 1995

MTA CONSTRUCTION FTE's PLAN	3
MTA CONSTRUCTION FTE's ACTUAL	1
OTHER FTE's PLAN	0
OTHER FTE's ACTUAL	0
TOTAL FTE's PLAN	3
TOTAL FTE's ACTUAL	1

COSTS SHOWN ARE FOR  
PROJECT RCL ONLY. (ALLOCATED)

RCL - LA CAR - Design & Procurement  
PROJECT CHANGE VALUES ONLY

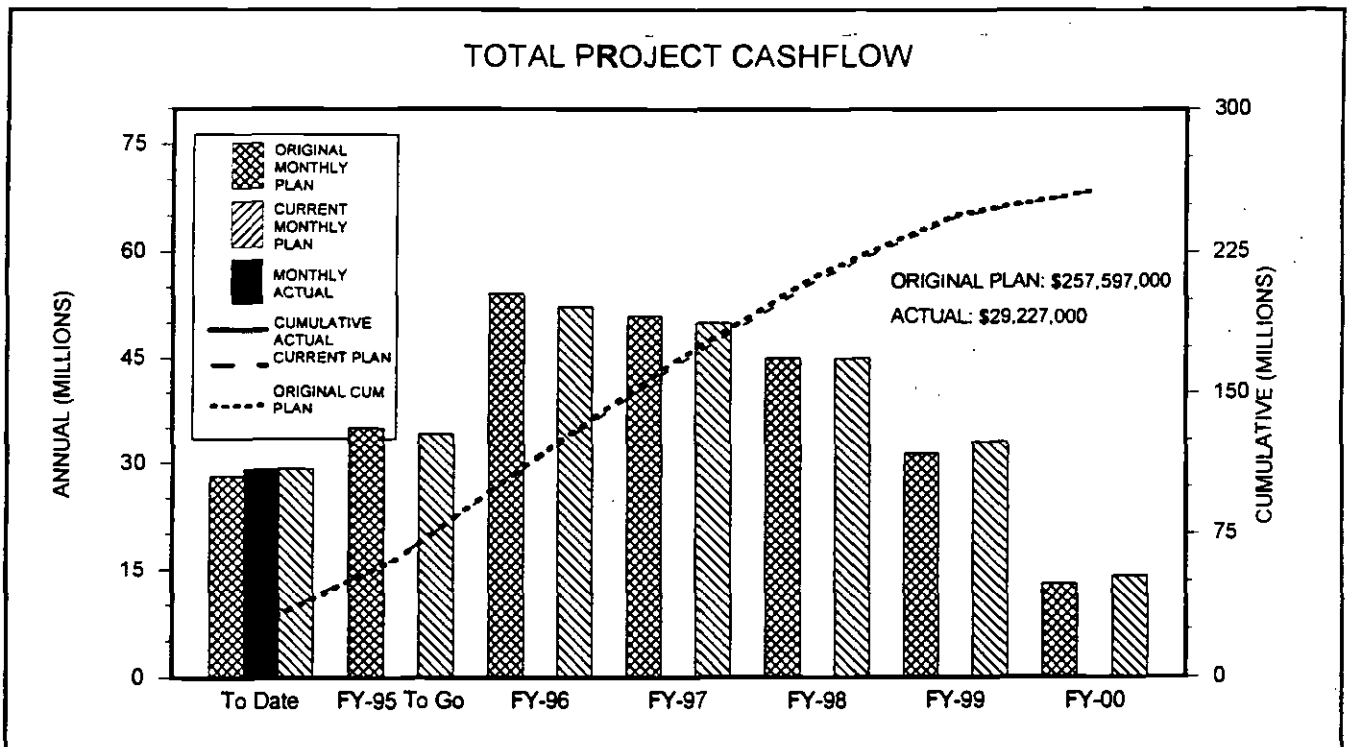
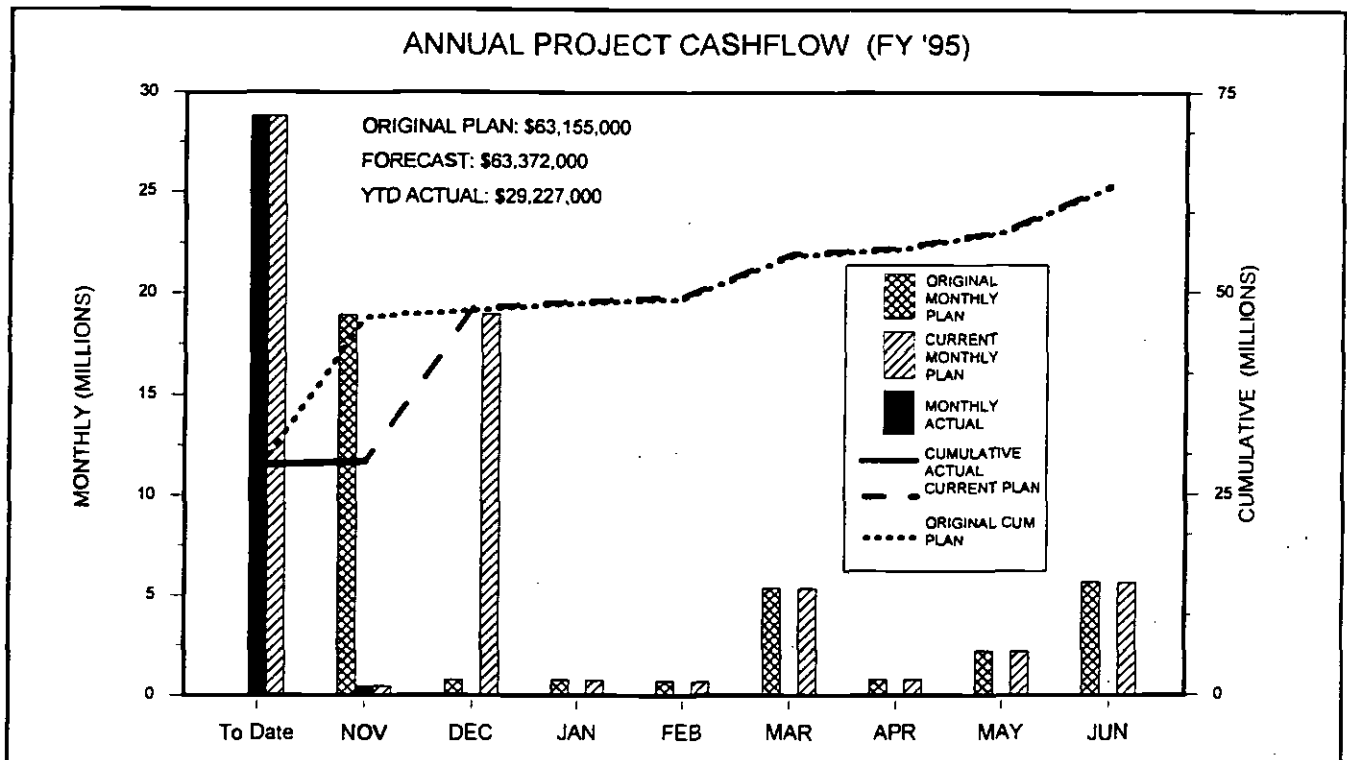
PROJECT CHANGE ACTIVITY SUMMARY:  
CHANGES V. BOARD APPROVED CHANGE CONTINGENCY  
AS OF 01/24/95

MTA APPROVED CONTRACT AWARD		MTA APPROVED CHANGE CONTINGENCY (AFE)			APPROVED CHANGES TO DATE						REMAINING AFE	PROJECTED			
CONTRACT	AWARD VALUE	% ALLOWED	CURRENT \$ ALLOWED	TOTAL APPROVED AFE (RCL)	APPROVED CHANGES	CURRENT CONTRACT VALUE	% INCR	% CTG USED	% COMP- LETE	CURRENT UNUSED ALLOWANCE	PENDING CHANGES	REMAINING FORECAST AFE	% AFE USED	% INCR	
A.	B.	C.	D.	E.(B+D)	F.(1)	G.(B+F)	H.(2)	I.	J.	K.(10-F)	L.(3)	M.(K-L)	N.	O.	
E0350	\$0	***%	\$0	\$0	\$0	\$0	***. **%	***%	0%	\$0	\$0	\$0	***%	0.0%	
P2000	\$215,370,314	10%	\$21,587,330	\$236,957,644	(\$1,000,000)	\$214,370,314	-0.5%	.5%	0%	\$22,587,330	\$0	\$22,587,330	.5%	***. **%	
	\$215,370,314	***%	\$21,587,330	\$236,957,644	(\$1,000,000)	\$214,370,314	***. **%	***%	%	\$22,587,330	\$0	\$22,587,330	***%	***. **%	

11 - AFE increase required

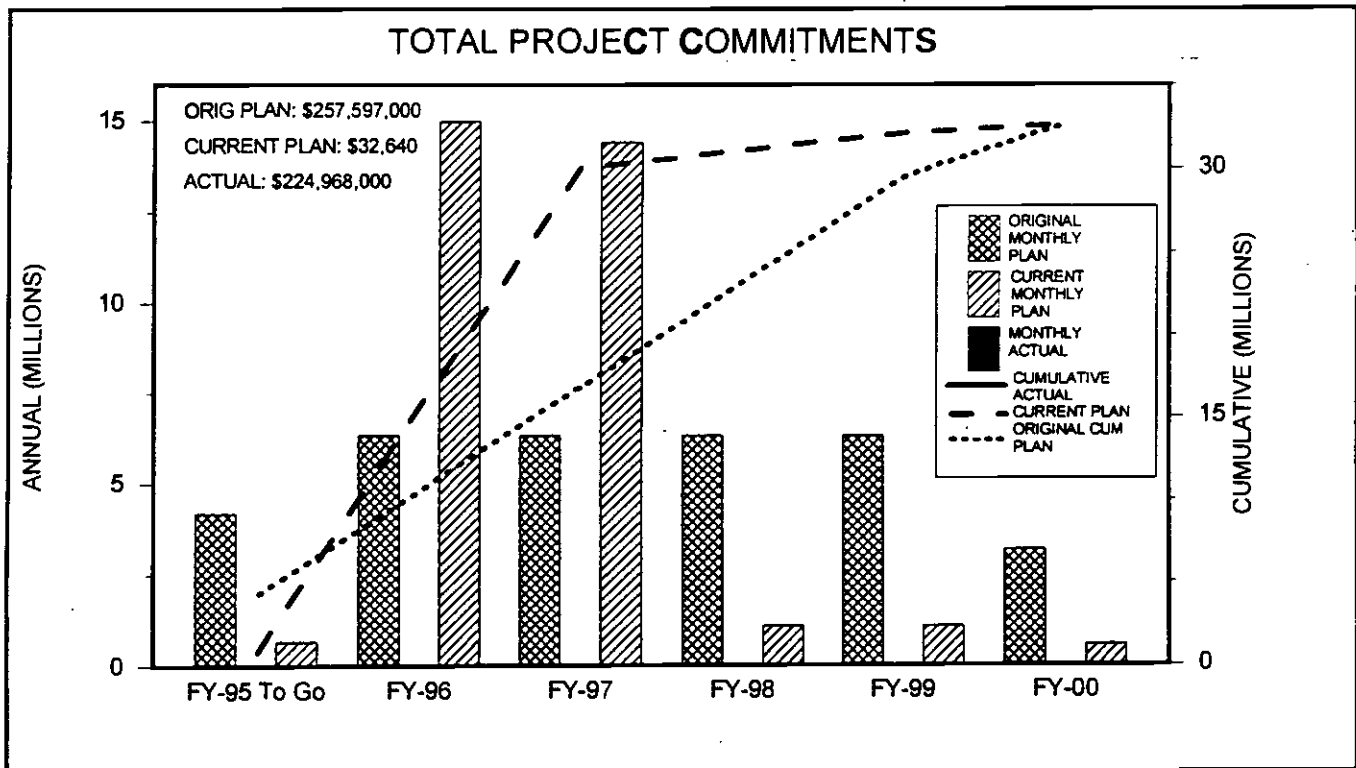
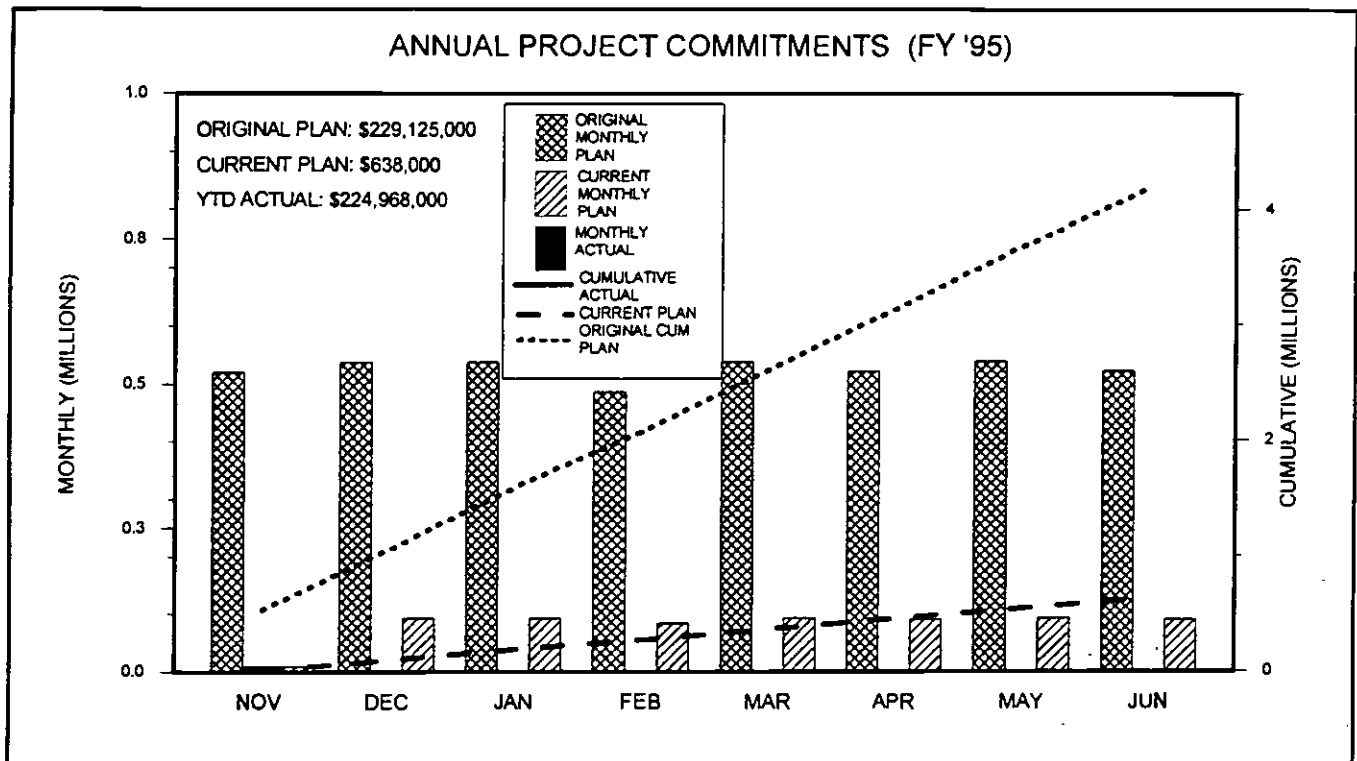
1 - AFE increase MAY be required to cover pending changes.

(\*) Costs shared with other projects. Costs shown are for RCL ONLY. (1) Includes both executed CO's and authorized (WACN) changes (2) % increase over original award (3) Logged contract changes ONLY



## Notes:

- 1) Actual expenditures are through November 1994.

**Notes:**

- 1) These charts are based on uncommitted amounts only.
- 2) Actual commitments are through November 1994.

## COST SUMMARY

## COST REPORT

The Project Budget is \$258 million with a current forecast of \$258 million. The Forecast includes all trends (#001 - #011).

## BUDGET/FORECAST VARIANCE

COST ELEMENT	CURRENT BUDGET (\$000's)	CURRENT FORECAST (\$000's)	VARIANCE (\$000's)	DECEMBER CHANGE IN FORECAST (\$000's)
CONSTRUCTION	\$232,370	\$229,759	(\$2,611)	\$0
PROFESSIONAL SERVICES	12,960	19,505	6,544	0
PROJECT CONTINGENCY	12,267	8,333	(3,932)	0
PROJECT REVENUE	0	0	0	0
TOTAL PROJECT	\$257,597	\$257,597	\$0	N/A

## RECONCILIATION

The following list is a reconciliation of the forecast changes in December. The forecast changes were offset by a corresponding adjustment to the Project Contingency.

	(\$000's)	
	Current Budget	Total Forecast
November 1994 Status	\$257,597	\$257,597

## December 1994 Changes

<u>Trend No.</u>	<u>Description</u>	<u>Budget</u>	<u>Forecast</u>
010	<b>Contract FM014, December Forecast Changes</b> The cost forecast increased this period to reflect the contract estimate-at-completion.	\$0	\$206
011	<b>Contingency</b> The cost forecast decreased because the increase in the contract forecast resulted in a	\$0	\$206



**COST SUMMARY (CON'T)**

corresponding decrease to the Project  
Contingency.

<b>December 1994 Total Project Forecast</b>	<b>\$257,597</b>	<b>\$257,597</b>
---	------------------	------------------

**COMMITMENTS**

Project Commitments are \$225 million, or 87.3% of the total forecast. These commitments are primarily due to cost associated with Contract P2000, LA Standard Light Rail Vehicles, Owner Controlled Insurance Program (OCIP), General Engineering, Specialty Services, and Project Administration.

**INCURRED COSTS**

Incurred costs are \$28 million or 10.9% of the total forecast. These costs were incurred in relation to Contract P2000, General Engineering, Specialty Services, and Project Administration. Please note that incurred costs are through the month of October 1994.

**CASH FLOW**

Project expenditures ending November 30, 1994, were \$29 million or 11.3% of the total forecast. These expenditures are accounted for mainly by Contract P2000, General Engineering, Specialty Services, and Project Administration.

**CHANGE ORDERS**

There were no Change Orders executed this period.

**CLAIMS**

To date, there are no pending claims.

**CONTINGENCY**

The Project Contingency forecast decreased a net of \$206 thousand this month due to Trend 10. Project Contingency currently stands at \$8.3 million.

## Page No. 1

DECEMBER 1994

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 18, 1995  
Units: \$ in Thousands (Truncated)

[illegible]

**Page CS-3**

**MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT & LINE ITEM**

Page No. 2

**LOS ANGELES LIGHT RAIL VEHICLE PROCUREMENT**

**DECEMBER 1994**

Project: RCL LOS ANGELES RAIL VEHICLE PROCUREMENT  
Element: S PROFESSIONAL SERVICES

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 18, 1995  
Units: \$ in Thousands (Truncated)

LINE ITEM / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
11 GENERAL ENGINEERING	0	0	0	0	1,700	0	1,315	0	1,315	0	1,700	1,700
13 SPECIALTY SERVICES	7,625	0	7,625	9	6,978	0	913	126	1,264	206	12,469	4,844
19 PROJECT ADMINISTRATION	5,335	0	5,335	0	1,840	0	1,297	26	1,326	0	5,335	0
Element Total - S PROFESSIONAL SERVICES	12,960	0	12,960	9	10,518	0	3,526	153	3,906	206	19,505	6,544

MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT & LINE ITEM

Page No. 3

LOS ANGELES LIGHT RAIL VEHICLE PROCUREMENT

DECEMBER 1994

Project: RCL LOS ANGELES RAIL VEHICLE PROCUREMENT  
Element: C PROJECT CONTINGENCY

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 18, 1995  
Units: \$ in Thousands (Truncated)

LINE ITEM / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
24 PROJECT CONTINGENCY	12,266	0	12,266	0	0	0	0	0	0	-206	8,333	-3,932
Element Total - C PROJECT CONTINGENCY	12,266	0	12,266	0	0	0	0	0	0	-206	8,333	-3,932

MTA CONSTRUCTION DIVISION  
PROJECT COST REPORT  
COST BY ELEMENT & LINE ITEM

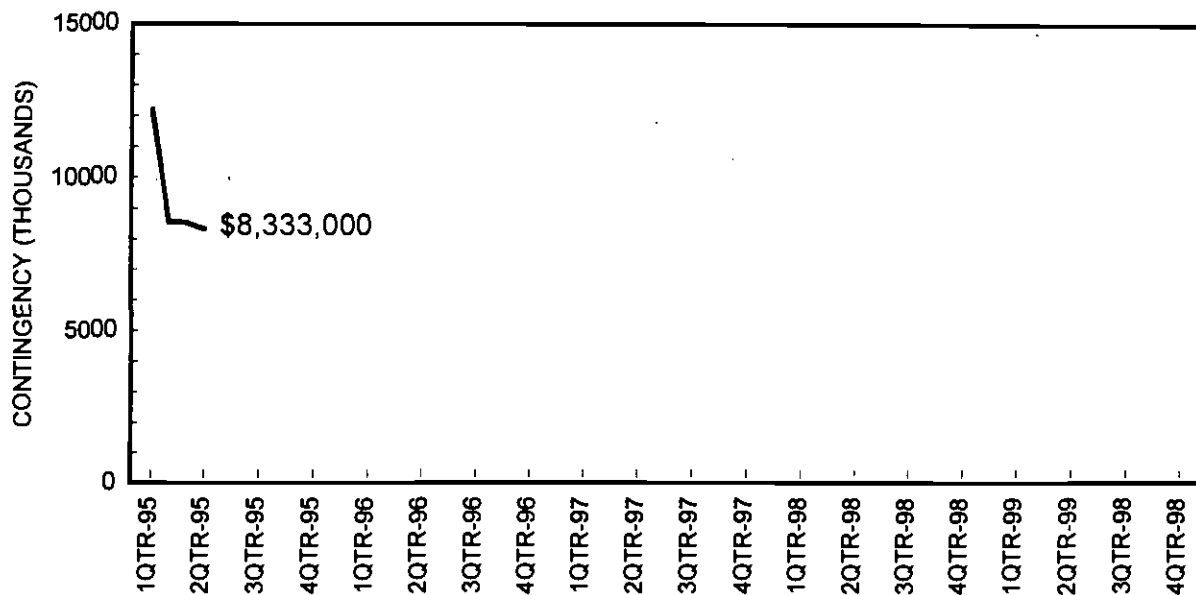
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Project: RCL LOS ANGELES RAIL VEHICLE PROCUREMENT  
Element: A PROJECT REVENUE

Period: Dec 2, 1994 to Dec 30, 1994  
Run Date: Jan 18, 1995  
Units: \$ in Thousands (Truncated)

LINE ITEM / DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		INCURRED		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		Period	To Date	Period	To Date	Period	To Date	Period	To Date	Period	To Date	
25 PROJECT REVENUE	0	0	0	0	0	0	-2	0	-2	0	0	0
Element Total - A PROJECT REVENUE	0	0	0	0	0	0	-2	0	-2	0	0	0
GRAND TOTAL	257,597	0	257,597	9	224,968	0	28,126	451	29,227	0	257,597	0

## CONTINGENCY STATUS



DATE	TREND NO.	VARIANCE (\$000)	CONTINGENCY FORECAST (\$000)
05/25/94	Original Budget		12,267
10/28/94	T001 - T008	(3,727)	8,540
11/30/94	N/A	0	8,540
12/31/94	T010	(206)	8,333

The Project Contingency decreased a net of \$206,000 this month due to the incorporation of trend 010. Please refer to page CS-1 through CS-2 of this section for a complete explanation of this change.

ACTIVITY DESCRIPTION	EARLY START	EARLY FINISH	1994 1995 1996 1997 1998 1999					
			JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
NOTICE TO PROCEED	28FEB94A		◆NOTICE TO PROCEED					
SPECIFICATION REVIEW CONFERENCE		16MAY94A	◆SPECIFICATION REVIEW CONFERENCE					
SUBMIT CARSHILL FEA MODEL		14OCT94A	◆SUBMIT CARSHILL FEA MODEL					
REG CDR -- PROPULSION SYSTEM		18NOV94A	◆REG CDR -- PROPULSION SYSTEM					
DUEWAG CDR -- CAR SHELL		20FEB95	◆DUEWAG CDR -- CAR SHELL					
DUEWAG CDR -- TRUCKS		22FEB95	◆DUEWAG CDR -- TRUCKS					
CAR SHELL FACILITY MANUFACTURING OCCUPANCY		22FEB95	◆CAR SHELL FACILITY MANUFACTURING OCCUPANCY					
SACRAMENTO ASSEMBLY FACILITY READY FOR OCCUPANCY	31MAR95		◆SACRAMENTO ASSEMBLY FACILITY READY FOR OCCUPANCY					
CAR SHELL FACILITY TOTAL OCCUPANCY		1APR95	◆CAR SHELL FACILITY TOTAL OCCUPANCY					
DECISION POINT FOR ATPDP PRODUCT A		30APR95	◆DECISION POINT FOR ATPDP PRODUCT A					
DECISION POINT FOR DRIVERLESS CONFIGURATION		28AUG95	◆DECISION POINT FOR DRIVERLESS CONFIGURATION					
COMPLETE CAR BODY STRUCTURAL TESTING		20OCT95	◆COMPLETE CAR BODY STRUCTURAL TESTING					
COMPLETE TRACTION MOTOR TESTING		30SEP95	◆COMPLETE TRACTION MOTOR TESTING					
COMPLETE INTEGRATED SYSTEMS CONFORMANCE TEST		18NOV95	◆COMPLETE INTEGRATED SYSTEMS CONFORMANCE TEST					
ARRIVAL OF LRV #01		22MAY96	◆ARRIVAL OF LRV #01					
ARRIVAL OF LRV #02		24MAY96	◆ARRIVAL OF LRV #02					
ARRIVAL OF PROTOTYPE #01		1JUL96	◆ARRIVAL OF PROTOTYPE #01					
ARRIVAL OF PROTOTYPE #02		8JUL96	◆ARRIVAL OF PROTOTYPE #02					
DECISION POINT FOR ATPDP PRODUCT B		30NOV96	◆DECISION POINT FOR ATPDP PRODUCT B					
DECISION POINT FOR ATPDP PRODUCT C		30NOV96	◆DECISION POINT FOR ATPDP PRODUCT C					
DELIVERY LRV #01		28OCT96	◆DELIVERY LRV #01					
DELIVERY LRV #02		28OCT96	◆DELIVERY LRV #02					
DELIVERY OF PROTOTYPE #01		28OCT96	◆DELIVERY OF PROTOTYPE #01					
DELIVERY OF PROTOTYPE #02		28OCT96	◆DELIVERY OF PROTOTYPE #02					
DELIVERY LRV #03		15NOV96	◆DELIVERY LRV #03					
DELIVERY LRV #04		26NOV96	◆DELIVERY LRV #04					

Plot Date 07FEB95		Activity Summary Dates 30MAY95		Project Start 1JAN94		Project Finish 21DEC94	
LACHTA - P2000		CURRENT PROJECT SCHEDULE -- 03JAN95		TECH SPEC 1.4.2a		PROJECT SCHEDULE	
Date	Revision	Checked	Approved				





ACTIVITY DESCRIPTION	EARLY START	EARLY FINISH	1994	1995	1996	1997	1998	1999	
			JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	
DELIVERY LRV #31		26NOV97					◇DELIVERY LRV #31		
DELIVERY LRV #32		12DEC97					◇DELIVERY LRV #32		
DELIVERY LRV #33		26DEC97					◇DELIVERY LRV #33		
DELIVERY LRV #34		9JAN98					◇DELIVERY LRV #34		
DELIVERY LRV #35		24JAN98					◇DELIVERY LRV #35		
DELIVERY LRV #36		8FEB98					◇DELIVERY LRV #36		
DELIVERY LRV #37		23FEB98					◇DELIVERY LRV #37		
DELIVERY LRV #38		10MAR98					◇DELIVERY LRV #38		
DELIVERY LRV #39		25MAR98					◇DELIVERY LRV #39		
DELIVERY LRV #40		9APR98					◇DELIVERY LRV #40		
DELIVERY LRV #41		24APR98					◇DELIVERY LRV #41		
DELIVERY LRV #42		9MAY98					◇DELIVERY LRV #42		
DELIVERY LRV #43		24MAY98					◇DELIVERY LRV #43		
DELIVERY LRV #44		8JUN98					◇DELIVERY LRV #44		
DELIVERY LRV #45		23JUN98					◇DELIVERY LRV #45		
DELIVERY LRV #46		8JUL98					◇DELIVERY LRV #46		
DELIVERY LRV #47		23JUL98					◇DELIVERY LRV #47		
DELIVERY LRV #48		7AUG98					◇DELIVERY LRV #48		
DELIVERY LRV #49		22AUG98					◇DELIVERY LRV #49		
DELIVERY LRV #50		6SEP98					◇DELIVERY LRV #50		
DELIVERY LRV #51		21SEP98					◇DELIVERY LRV #51		
DELIVERY LRV #52		6OCT98					◇DELIVERY LRV #52		
DELIVERY LRV #53		21OCT98					◇DELIVERY LRV #53		
DELIVERY LRV #54		5NOV98					◇DELIVERY LRV #54		
DELIVERY LRV #55		20NOV98					◇DELIVERY LRV #55		
DELIVERY LRV #56		5DEC98					◇DELIVERY LRV #56		
			JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	JFMAMJJASON	
			1994	1995	1996	1997	1998	1999	
Plot Date 07/29/95 Drawing Date 03/24/95 Project Start 1/20/94 Project Finish 21DEC99			LACMTA - P2000 CURRENT PROJECT SCHEDULE -- 03JAN95 TECH SPEC 1.4.2a						PROJECT SCHEDULE Date Revision Checked/Approved
(c) Planning Systems, Inc.									

Date	Revision	Checked	Approved