

2550 Rail Vehicle Program

December 2010



Metro[®]

2550 RAIL VEHICLE PROGRAM

QUARTERLY PROJECT STATUS REPORT

THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (FTA), UNDER THE FEDERAL TRANSIT ACT OF 1964, AS AMENDED AND WITH FUNDS FROM THE STATE OF CALIFORNIA

December 2010

TABLE OF CONTENTS

	Page No.
Project Overview.....	1
Management Issues.....	2
Project Status	
• Schedules	
• P2550 Vehicle Contract & Proposed Delivery Schedule.....	3
• Schedule Issues as of December 31, 2010.....	4
• Project Budget Status.....	5
• Financial/Grant Status.....	6
• Current Photos.....	7
Appendices.....	8-9

PROJECT OVERVIEW

The 2550 Light Rail Vehicle Base Contract for a Base order of 50 LRVs was awarded to AnsaldoBreda, S.p.A. of Pistoia and Naples, Italy (A.B.). The 2550 Contract also includes two 50-LRV pre-priced options for future growth, expansions, and new lines. Per MTA Board Action in September 2009, staff was tasked to extend the expiration dates of both options to October 31, 2009, and finalize exercise of the options by that date. AnsaldoBreda, however, declined to accept Metro conditions for the options and the options expired. As of December 31, 2010, forty-two (42) vehicles have been Conditionally Accepted for operation on the Metro Gold Line.

Project accomplishments for this period:

1. As of December 31, 2010, Metro Conditionally Accepted forty-two (42) vehicles for operation on Metro Gold Line. Accepted vehicles have been operating in revenue service since March 2008. However, some operational issues have been discovered as a result of experience gained in actual revenue operation. AB has addressed all operational issues as they have been encountered and continue to support the warranty program. To date the P2550 fleet has accumulated over 3,035,831 miles of revenue service with average Mean Miles Between Failure MMBF of 32,153 miles over an eleven month period.
2. As of December 7, 2010, Metro has received a total of forty-three (43) vehicles in Los Angeles from the Pittsburg, CA Final Assembly Plant. Car 732 is located at the Metro Blue Line facility to complete the remaining system design qualification testing will commence at Metro Blue Line (MBL); upon completion of acceptance testing it will be transferred to MGD in due course. Metro Management decided that all P2550 vehicles would operate at Metro Gold Line (MGDL). Therefore, all future P2550 shipments will be made to the MGD and all existing P2000 vehicles will be transferred from MGD to MBL during the next twelve months.
3. Numerous meetings (daily, weekly and monthly) have been held with AB engineers during the period to determine the status, to close engineering open items and improve revenue operational issues. The work is ongoing.
4. Negotiations were finalized with AB and they agreed to pay \$15M to MTA in consideration for not correcting the overweight condition of the cars and the trainline compatibility. Other changes and waivers were also finalized. Discussions are on-going with FTA regarding Contract Modification No. 17 which documented the results of the negotiations.
5. Liquidated Damages. Under the Contract, AB is obligated to reimburse MTA for delivery delays up to a maximum of \$14,677,487 (10% of the total contract price). To date, over \$13M has been withheld from AB progress payments to compensate for delays.

MANAGEMENT ISSUES

Concern No. 1: Resolution of remaining open items on Conditionally Accepted vehicles and vehicle configuration finalization.

Status/Action No. 1: The Project Team is working closely with AB to address all field observed issues to insure vehicle revenue service reliability. Several project meetings with AB were held during the period to address remaining open technical issues and to close remaining open items. The work is on-going.

Concern No. 2: FTA/PMO requested plan and schedule for final acceptance of ten (10) FFGA vehicles.

Status/Action No. 2: The Project Team submitted plan and schedule to the PMOC discussing elements for final acceptance of ten (10) FFGA vehicles by March 2011. The closeout of final documentation and test procedures is ongoing with good progress. To date approximately 70% of the work is done inclusive of the required elements for final acceptance. On-target.

Concern No. 3: AB project management recently discussed that there are production parts issues on the remaining 5 cars, specifically on prototype vehicles 701 & 702.

Status/Action No. 3: Upon this notification the Metro Project Team traveled to the Pittsburg CA. assembly plant to discuss this concern in detail. AB indicated that they are investigating specifically what happened to the "missing" parts and that preliminary indications are many of the parts were used to support the revenue service in Los Angeles; while other parts are at the supplier facilities undergoing repairs. Metro insisted on and received a detailed list of "missing" parts and finds the "missing" parts range from small to significant including key electronic components with long lead delivery time. The Project Team will continue to meet with AB management on a bi-weekly basis so as to keep abreast of this concern and to minimize delays in the overall delivery schedule. The work is on-going.

P2550 LIGHT RAIL VEHICLE CONTRACT & PROPOSED DELIVERY SCHEDULE

No. Of Cars	VEHICLE NUMBER	CONTRACT DELIVERY REQUIREMENT - MONTHS AFTER JUNE 6, 2003 NTP	CONTRACT REQUIRED DELIVERY DATE (End of Month)	UNAPPROVED DELIVERY SCHEDULE	ACTUAL DATE OF ARRIVAL AT METRO	CONDITIONAL ACCEPTANCE DATE	FINAL ACCEPTANCE DATE
1	701	24 MONTHS	JUNE/05	6/15/05	6/11/05	SEE NOTE 1	
2	702	24 MONTHS	JUNE/05	7/22/05	7/26/05	SEE NOTE 1	
3	705	26 MONTHS	AUGUST/05	10/31/06	1/09/07	SEE NOTES 1 & 2	
4	704	27 MONTHS	SEPTEMBER/05	11/30/06	1/30/07	8/6/08	
5	706	28 MONTHS	OCTOBER/05	12/31/06	2/28/07	3/5/08	
6	707	28 MONTHS	OCTOBER/05	12/31/06	5/31/07	SEE NOTES 1&2	
7	708	29 MONTHS	NOVEMBER/05	1/31/07	6/20/07	3/5/08	
8	709	29 MONTHS	NOVEMBER/05	1/31/07	7/31/07	4/16/09	
9	710	30 MONTHS	DECEMBER/05	2/28/07	8/30/07	6/13/08	
10	711	30 MONTHS	DECEMBER/05	2/28/07	5/30/08	7/15/08	
11	712	31 MONTHS	JANUARY/06	3/31/07	6/06/08	8/29/08	
12	713	31 MONTHS	JANUARY/06	3/31/07	6/24/08	11/25/08	
13	714	32 MONTHS	FEBRUARY/06	4/30/07	7/22/08	11/12/08	
14	715	32 MONTHS	FEBRUARY/06	4/30/07	8/5/08	10/31/08	
15	716	33 MONTHS	MARCH/06	4/30/07	8/26/08	3/31/09	
16	717	33 MONTHS	MARCH/06	5/31/07	9/23/08	10/24/08	
17	718	34 MONTHS	APRIL/06	5/31/07	9/30/08	11/20/08	
18	719	34 MONTHS	APRIL/06	5/31/07	11/6/08	3/23/09	
19	720	35 MONTHS	MAY/06	6/30/07	11/13/08	12/12/08	
20	721	35 MONTHS	MAY/06	6/30/07	11/19/08	12/23/08	
21	722	36 MONTHS	JUNE/06	6/30/07	12/2/08	1/23/09	
22	723	36 MONTHS	JUNE/06	7/31/07	12/16/08	2/20/09	
23	724	37 MONTHS	JULY/06	7/31/07	1/8/09	1/31/09	
24	725	37 MONTHS	JULY/06	7/31/07	1/28/09	2/27/09	
25	726	38 MONTHS	AUGUST/06	8/31/07	3/20/09	4/30/09	
26	727	38 MONTHS	AUGUST/06	8/31/07	4/9/09	5/19/09	
27	728	39 MONTHS	SEPTEMBER/06	8/31/07	5/1/09	5/29/09	
28	729	39 MONTHS	SEPTEMBER/06	9/30/07	5/20/09	6/23/09	
29	730	40 MONTHS	OCTOBER/06	9/30/07	5/29/09	6/29/09	
30	731	40 MONTHS	OCTOBER/06	9/30/07	6/12/09	12/20/09	
31	732	41 MONTHS	NOVEMBER/06	10/31/07	6/30/09		
32	733	41 MONTHS	NOVEMBER/06	10/31/07	7/31/09	12/31/09	
33	734	41 MONTHS	NOVEMBER/06	10/31/07	8/21/09	2/8/10	
34	735	42 MONTHS	DECEMBER/06	11/30/07	10/21/09		
35	736	42 MONTHS	DECEMBER/06	11/30/07	12/2/09	2/3/10	
36	737	42 MONTHS	DECEMBER/06	12/31/07	1/7/10	2/23/10	
37	738	43 MONTHS	JANUARY/07	12/31/07	2/4/10	4/19/10	
38	739	43 MONTHS	JANUARY/07	1/31/08	3/4/10	4/12/10	
39	740	43 MONTHS	JANUARY/07	1/31/08	4/15/10	5/20/10	
40	741	44 MONTHS	FEBRUARY/07	2/28/08	5/12/10	6/30/10	
41	742	44 MONTHS	FEBRUARY/07	2/28/08	5/19/10	7/20/10	
42	743	44 MONTHS	FEBRUARY/07	3/31/08	7/8/10	8/31/10	
43	744	45 MONTHS	MARCH/07	3/31/08	10/20/10	11/30/10	
44	745	45 MONTHS	MARCH/07	4/30/08	12/10/10	12/31/10	
45		45 MONTHS	MARCH/07	4/30/08			
46		46 MONTHS	APRIL/07	5/31/08			
47		46 MONTHS	APRIL/07	5/31/08			
48		46 MONTHS	APRIL/07	6/30/08			
49		47 MONTHS	MAY/07	6/30/08			
50		47 MONTHS	MAY/07	7/31/08			

NOTE 1: Vehicles 701, 702, 705 and 707 were returned to AB in Pittsburg for repair/upgrade.

NOTE 2: Vehicle 707 was returned to Los Angeles after repair/upgrade on 2/27/2009 and vehicle 705 was returned on 6/17/09.

SCHEDULE ISSUES

Notice to Proceed was given June 6, 2003. The base contract engineering and assembly effort for the first vehicle was scheduled to take approximately two years and delivery of the first two cars was scheduled for June 2005. The 50 car base contract funding was divided between Metro (40 cars) and the FTA (10 cars). The last (fiftieth) base contract LRV was scheduled for delivery 48-months after NTP, or approximately May 2007.

Status as of this writing follows:

A total of forty-three (43) cars have been delivered and to date, forty-two (42) of them have been conditionally accepted by MTA.

The remaining known time critical issue that needs to be resolved to achieve the final Acceptance was the 4,000 Mile Test:

- **Revised Delivery Schedule.** AB's current schedule calls for delivery of 50th vehicle by April 15, 2011. MTA is monitoring delivery of "missing" production parts in particular of Auxiliary Power Supply that are on the critical path to meet delivery schedule-monitoring in progress.
- **Prototype Vehicles.** Vehicles 701 and 702 are at the Pittsburgh Assembly Plant undergoing modification to current configurations. Currently the vehicles are being re-wired by Italian contractor with good progress. The work is ongoing and is monitored by MTA inspectors.

PROJECT BUDGET STATUS

ELEMENT	LRV PROJECT BUDGET FOR 800151 (40 LRV'S)	LRV PROJECT BUDGET FOR 800088 (10 LRV'S)	TOTAL LRV PROJECT BUDGET	COMMENTS
Base Buy 50 LRVs	\$88,647,263	\$22,161,816	\$110,809,079	
Base Buy Spare Parts	\$5,849,886	\$1,462,471	\$7,312,357	
Base Buy Special Tools & Test Equip	\$1,407,051	\$351,763	\$1,758,814	
Additional Tools	\$1,400,000	\$350,000	\$1,750,000	
Subtotals	\$97,304,200	\$24,326,050	\$121,630,250	
Rail Consultant Total	\$10,868,759	\$2,717,190	\$13,585,949	Contract PS 8310-1267 for Rail Consultant staff technical services
Contingency	\$343,542	\$85,885	\$429,427	
Subtotals	\$11,212,301	\$2,803,075	\$14,015,376	
MTA Staff	\$6,073,920	\$1,518,480	\$7,592,400	
TOTALS	\$114,590,421	\$28,647,605	\$143,238,026	

FINANCIAL/GRANT STATUS

DECEMBER 2010		STATUS OF FUNDS BY SOURCE							
SOURCE	(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS \$	%	EXPENDITURES \$	%	BILLED to SOURCE \$	FUNDING SOURCE %
FEDERAL - STIP	71.1	15.4	15.4	15.4	100%	15.4	100%	15.4	100%
FED-SEC 5309 FIXED GUIDEWAY	38.3	25.9	25.9	25.9	100%	25.9	100%	25.9	100%
FEDERAL - RSTP	7.7	7.7	7.7	7.7	100%	0.0	0%	0.0	0%
FEDERAL - CMAQ	14.2	14.2	14.2	14.2	100%	0.0	0%	0.0	0%
STATE STIP	6.0	61.7	61.7	60.1	97%	53.5	87%	49.9	83%
STATE STA	15.6	15.6	15.6	15.6	100%	8.6	55%	8.6	55%
PROPOSITION A 35% BONDS	0.0	12.3	0.0	0.0	0%	0.0	0%	0.0	0%
UNBILLED ACRUALS									
TOTAL	152.9	152.9	140.6	138.9	91%	103.5	68%	99.8	65%

in \$ millions

(1) Based on September 06 Regional Programming Funding Plan.
 Note: Expenditures are cumulative through November 2010.
 The 2550 Rail Vehicle Program consists of 40 light rail vehicles (LRV) and associated costs. The remaining 10 LRV's and associated costs under

STATUS OF FUNDS ANTICIPATED

STIP STATE: LACMTA requests for STIP allocation have been approved. \$61.73 million is available for drawdown.

FEDERAL SECTION 5309: LACMTA grant applications have been approved. \$25.9 million in section 5309 funds were approved. Funds have been drawdown.

FEDERAL RSTP: A grant agreement for \$7.7 million was executed on April 7, 2005. Funds are available for drawdown.

FEDERAL CMAQ: A grant agreement for \$14.2 million was executed on August 25, 2005. Funds are available for drawdown.

CURRENT PHOTOS



2550 LRV Coming Around the Curve into Union Station.



2550 LRV at Metro Gold Line Yard with Decals for LA Olympic Bid.

APPENDIX

COST AND BUDGET TERMINOLOGY

COMMITMENTS: The total of actual contract awards, executed change orders or amendments, approved work orders of Master Cooperative Agreements, offers accepted for purchase of real estate, and other Metro actions that will result in specific expenditures at a future time.

INCURRED COST: The total value of work performed to date of services received and acquired materials or properties.

EXPENDITURES: The total dollar amount of checks written by Metro's Accounting department for contractor or consultant invoices, third party invoices, staff salaries, and closing payments for escrow accounts that is reported in Metro's Financial Information System (FIS).

CONSTRUCTION: Includes guideways, yards and shops, systems equipment, stations, and vehicles.

PROFESSIONAL SERVICES: Includes general engineering, construction management services, consultant design support services during construction, legal counsel, and agency (Metro staff) costs.

CONTINGENCY: A fund established at the beginning of a project to provide for anticipated but unknown additional costs that may arise during the course of the project.

SPECIAL CONDITIONS: Includes utilities relocation, environmental compliance and mitigation, master cooperative agreements, insurance program, artwork, systems integration testing and pre-revenue operations.

**APPENDIX
LIST OF ACRONYMS**

ATP	Automatic Train Protection
CN	Change Notice
CO	Change Order
CMAQ	Congestion Mitigation & Air Quality
CTC	California Transportation Commission
FFGA	Full Funding Grant Agreement
FIS	Financial Information System
FTA	Federal Transit Administration
FY	Fiscal Year
HVAC	Heating, Ventilation, Air Conditioning
LACMTA	Los Angeles County Metropolitan Transportation Authority (Metro)
LNTP	Limited Notice To Proceed
LRV	Light Rail Vehicle
METRO	Los Angeles County Metropolitan Transportation Authority
MGLEE	Metro Gold Line Eastside Extension
N/A	Not Applicable
NTE	Not to Exceed
NTP	Notice To Proceed
PGL	Pasadena Gold Line
PMOC	Project Management Oversight Consultant
QPSR	Quarterly Project Status Report
RSTP	Regional Surface Transportation Program
SSPP	System Safety Program Plan
STIP	State Transportation Improvement Program
TBD	To Be Determined
TWC	Train to Wayside Communications
US&S	Formerly Union Switch and Signal