

2550 Rail Vehicle Program

September 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

September 2010

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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 October 1, 2010, thirty-nine (39) vehicles have been Conditionally Accepted for operation on the Metro Gold Line.

Project accomplishments for this period:

1. As of October 1, 2010, Metro Conditionally Accepted thirty-nine (39) 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. As of to date the P2550 fleet has accumulated over 2,469,187 miles of revenue service with average Mean Miles Between Failure MMBF of 52,867 miles over an eight month period.
2. As of July 2, 2010, Metro has received a total of forty-one (41) vehicles in Los Angeles from the Pittsburg, CA Final Assembly Plant. Cars 732 and 743 are 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 testing vehicles will be transferred to MGDL in due course. Metro Management decided that all P2550 vehicles would operate at MGDL. Therefore, all future P2550 shipments will be made to the MGDL and all existing P2000 vehicles will be transferred from MGDL 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 \$11M 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.

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		45 MONTHS	MARCH/07	3/31/08			
44		45 MONTHS	MARCH/07	4/30/08			
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-one (41) cars have been delivered and to date, thirty-nine (39) 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:

- **4000 Mile Operational Test.** In order to complete the design review and approval cycle, the P2550 specification requires a 4000 mile revenue simulated test run of a 3 cars consist. AB proposed that the subject test requirement be waived by Metro, in part because the P2550 has accumulated over 1,400,000 miles of revenue service and that all vehicle failures discovered have been or will be addressed. Metro granted such waiver subject to further commercial negotiation. This item will be closed.
- **Revised Delivery Schedule.** AB's current schedule calls for delivery of 50th vehicle by April 2011. MTA is monitoring delivery of production parts in particular of Auxiliary Power Supply that are on the critical path to meet this schedule. Monitoring in progress.
- **Prototype Vehicles.** Vehicles 701 and 702 are at the Pittsburg 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	\$119,734,000	\$29,933,500	\$149,667,500	
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	
Reductions/changes	(\$9,571,039) (\$9,844,782)	(\$2,392,760) (\$2,461,196)	(\$11,963,799) (\$12,305,978)	Sales tax exemption Modification No. 17
Subtotals	\$107,575,116	\$26,893,778	\$134,468,894	
Contingency	\$12,699,094	\$3,174,773	\$15,873,867	
Add reductions back in contingency	9,571,039 9,844,782	2,392,760 2,461,196	11,963,799 12,305,978	
Minus LTK increase	*(3,110,093)	*(777,523)	*(3,887,616)	
Minus LTK increase	** (887,837)	** (221,959)	** (1,109,796)	
Balance Contingency	\$28,116,985	\$7,029,247	\$35,146,232	
Subtotals	\$135,692,101	\$33,923,025	\$169,615,146	
Rail Consultant	\$6,870,830 *+3,110,093 **887,837	\$1,717,707 *777,523 **221,959	\$8,588,537 *3,887,616 **1,109,796	Contract PS 8310- 1267 for Rail Consultant staff technical services
Contingency	\$343,542	\$85,885	\$429,427	
Subtotals	\$11,212,302	\$2,803,074	\$14,015,376	
MTA Staff	\$6,014,602	\$1,577,798	\$7,592,400	
TOTALS	\$152,919,005	\$38,303,897	\$191,222,922	

* Revision due to extension and increase to Rail Consultant (LTK) contract approved at the July 2008 MTA Board Meeting.

** Revision due to increase to Rail Consultant (LTK) contract approved at the July 2010 MTA Board Meeting.

FINANCIAL/GRANT STATUS

SEPTEMBER 2010		STATUS OF FUNDS BY SOURCE							
SOURCE	(A) ORIGINAL BUDGET	(B) TOTAL FUNDS ANTICIPATED	(C) TOTAL FUNDS AVAILABLE	(D)		(E)		(F)	
				COMMITMENTS		EXPENDITURES		BILLED to 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	59.9	97%	47.7	77%	47.2	79%
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	138.8	91%	97.7	64%	97.2	64%

in \$ millions

(1) Based on September 06 Regional Programming Funding Plan.
 Note: Expenditures are cumulative through August 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.

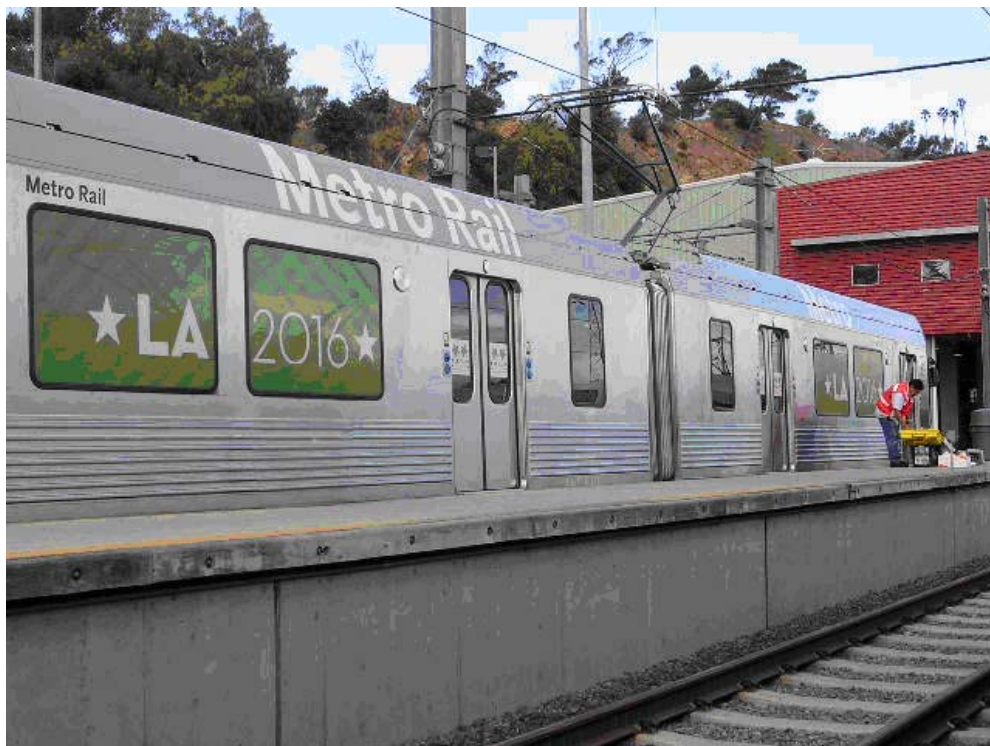
FEDERAL RSTP: A grant agreement for \$7.7 million was executed on April 7, 2005. Funds are available for drawdown.

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