



**Metro™**

Metropolitan Transportation Authority

One Gateway Plaza  
Los Angeles, CA 90012-2952

213.922.2000 Tel  
metro.net

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**OPERATIONS COMMITTEE  
JUNE 21, 2007**

**SUBJECT: METRO RED LINE HEAVY RAIL SUBWAY VEHICLE MID-LIFE  
REFURBISHMENT**

**ACTION: ESTABLISH THE LIFE-OF-PROJECT BUDGET**

**RECOMMENDATION**

Establish a life-of-project (LOP) budget for the mid-life refurbishment of the Metro Red Line heavy rail subway vehicles CP# 206034 in the amount of \$202,000,000.

**RATIONALE**

The projected and planned useful revenue life of the Metro Red Line heavy rail vehicles is thirty years with a mid-life overhaul to repair and/or upgrade all operating and safety systems to ensure adequate performance, passenger comfort, and passenger safety.

The heavy rail vehicle fleet has reached its mid-life overhaul life-cycle period. Equipment age and technology life-cycle are issues for the fleet. For example, the base-fleet structure was made in the 1990's, although the propulsion system provided on the fleet is 1960's technology. Parts availability and system compatibility are growing issues for this fleet and it has become more difficult and expensive to maintain the fleet reliably.

The base structure and stainless steel exteriors of the heavy rail vehicles are in good condition and should support the full 30-year life-cycle until these rail-cars are retired. However, the major systems such as brakes, propulsion, doors, couplers, traction motors, drive gearboxes, axle/wheel assemblies, pneumatics, air conditioning, heating, passenger seating, flooring, power distribution, communications, signaling, destination signs, windows, door panels, and interior linings are systems which will be refurbished or replaced through the mid-life overhaul process.

**FINANCIAL IMPACT**

This action will establish an LOP budget of \$202,000,000 for the mid-life refurbishment of 104 Metro Red Line heavy rail subway vehicles. The full funding plan has been included as Attachment A.

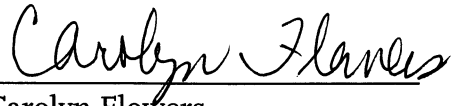
## **ALTERNATIVES CONSIDERED**

The Board of Directors may choose not to authorize the life-of-project budget for this project. This alternative is not recommended by Metro staff because without proceeding with this refurbishment safety and efficiency of the Metro Red Line vehicles may be compromised.

## **ATTACHMENTS**

### **A. Capital Project Funding & Expenditure Plan**

Prepared by: Larry Kelsey, Contract Administration Manager, Rail Fleet Acquisitions  
Suresh Shrivavle, Project Manager  
Melvin Clark, Acting General Manager, Rail Operations



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Carolyn Flowers  
Interim Chief Operations Officer



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Roger Snoble  
Chief Executive Officer

**ATTACHMENT A**

**SUBWAY RAILCAR MIDLIFE OVERHAUL – CP 206034**

**CAPITAL PROJECT FUNDING & EXPENDITURE PLAN**

	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12+</b>	<b>TOTAL</b>	<b>% of Total</b>
<b>Uses of Funds</b>							
Rehabilitation	\$ 3,500,000	\$ 24,500,000	\$ 61,250,000	\$ 61,250,000	\$ 31,500,000	\$ 182,000,000	90%
Professional Services	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ 50,000	0%
Labor	\$ 393,338	\$ 515,014	\$ 528,889	\$ 544,756	\$ 561,098	\$ 2,543,095	1%
Contingency	\$ 503,000	\$ 2,203,905	\$ 5,900,000	\$ 5,900,000	\$ 2,900,000	\$ 17,406,905	9%
<b>Total Project Cost</b>	<b>\$ 4,421,338</b>	<b>\$ 27,243,919</b>	<b>\$ 67,678,889</b>	<b>\$ 67,694,756</b>	<b>\$ 34,961,098</b>	<b>\$ 202,000,000</b>	<b>100%</b>
<b>Sources of Funds</b>							
Prop A35% Bond Funds	\$ 4,421,338	\$ 27,243,919	\$ 67,678,889	\$ 67,694,756	\$ 34,961,098	\$ 202,000,000	100%
<b>Total Project Funding</b>	<b>\$ 4,421,338</b>	<b>\$ 27,243,919</b>	<b>\$ 67,678,889</b>	<b>\$ 67,694,756</b>	<b>\$ 34,961,098</b>	<b>\$ 202,000,000</b>	