



Customer Service, Operations and Safety Committee

Action Item III-B

February 14, 2008

Rail Geometry Vehicle

**Washington Metropolitan Area Transportation Authority
Board Action/Information Summary**

Action
 Information

MEAD Number:
99946

Resolution:
 Yes No

PURPOSE

Request Board authority to initiate, advertise and award a competitive contract for the procurement of a rail geometry vehicle if within Board approved budget.

DESCRIPTION

WMATA has over 211 miles of track in a system that is over 30 years old. Our goal is to ensure peak efficiency under the safest possible conditions. To achieve this, basic track geometry inspections are conducted four times annually and the rail undergoes ultrasonic inspection five times annually at a cost of \$450,000.

It is necessary to increase frequency of inspections and examine a much greater number and type of components. The intention is to develop targeted maintenance that will radically reduce both the number of failures and the cost to prevent them.

The Rail Geometry Vehicle addresses rail profiles, gauge, super elevation, curvature, surface profile, lateral alignment and third rail location under load along with thermal imaging and wayside signal measurement. In addition, it is designed to test and evaluate the condition of the wayside signaling system. Thermal imaging technology has proven to locate potential failures that could lead to service disruptions and fires.

WMATA's rail system is large enough to make the use of a dedicated rail geometry vehicle cost effective. It would permit a full range of inspections on a monthly basis with the results evaluated by our own engineers. It can be operated during revenue hours between trains to take measurements at normal operating speeds.

The cost to contract the full range of needed services to assess track defects, track geometry and third rail geometry is \$2,200,000 annually. Contracting these services also negatively impacts a system already experiencing congestion during non-revenue hours from train movement, contractors and maintenance crews during a very short work window.

The cost of the Rail Geometry Vehicle is \$8.1 million with a useful life of 20 years. Maintenance costs would be commensurate with that of a standard railcar.

FUNDING IMPACT

The \$8.1 million in funding required for this program is available in the Locomotives and Prime Movers budget.

Program:	Capital Improvement Program		
Project:	Maintenance Facilities		
	FY08	FY09	Total
Budget:	\$5,121,000	\$4,216,000	\$9,337,000
This Action:			\$8,100,000
Prior Approvals:	\$0		
Remaining Budget:	\$1,237,000		

Funding for FY09 is subject to Board budget approval

RECOMMENDATION

Board approve the request to initiate, advertise, and award a competitive contract for a rail geometry vehicle if within Board approved budget.



Rail Geometry Vehicle

Presented to the Board of Directors:

**Customer Service, Operations & Safety
Committee**

February 14, 2008





WMATA Track Geometry Vehicle





Purpose

- Performs critical measurement and fault detection over the full range of operating parameters
- Permits establishment of targeted maintenance processes
- Rail service reliability and safety would be significantly enhanced



Value of Geometry Vehicle Services

Services	Annual Cost if contracted
Currently Contracted Services:	
Track ultrasonic inspection	\$.450M
Services needed to improve reliability and performance:	
Thermal imaging of track, insulators, stud bolts and third rail power	1.300M
Train signal control frequency monitoring	.350M
Dynamic measuring of track and infrastructure	.700M
Total Annual Value of Services	\$ 2.800M

Additional benefits associated with ownership of Geometry Vehicle are improved scheduling of inspections and forecasting of maintenance activities



Costs

- Estimated cost to purchase the Geometry Vehicle is \$8,100,000
- No additional staffing required
- Procurement of some track related capital equipment would be reprioritized for FY09 to fund this program