

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

|   |                        |  |
|---|------------------------|--|
| <input checked="" type="radio"/> Action <input type="radio"/> Information | MEAD Number:<br>101100 | Resolution:<br><input type="radio"/> Yes <input checked="" type="radio"/> No |
|---|------------------------|--|

**TITLE:**

Infrastructure and Heavy Duty Track Equipment

**PURPOSE:**

To obtain Board approval to initiate and award multiple competitive contracts for infrastructure and heavy duty track equipment.

**DESCRIPTION:**

This request supports Metro's goals of delivering quality service and using every resource wisely, while enhancing our safety culture. These purchases will aid the ongoing state of good repair programs and will provide the most efficient process and capability for major track or third rail rehabilitation and preventive maintenance work.

To efficiently maintain infrastructure and facilitate track maintenance requirements in the most effective manner, it is necessary to purchase additional equipment: super prime movers, multi-purpose hi-rail handlers, flat cars, mobile maintenance unit, ballast removal equipment, tie crane, tie inserter, deicer flats, flash butt welding prime mover, and man lifts. The acquisition of this new equipment will enable Metro to increase the FY11 production up to 10% over scheduled production and enable staff to make greater use of short work windows.

Metro currently has a fleet of 26 prime movers with an average age of 15 years. Acquisition of three new prime movers will replace two that are 24 years old and one that is 16 years old. They are the main vehicle for track repair and replacement functions and are required for rail and insulator replacement, floating slab and other heavy work requiring equipment transportation and heavy lifting. The prime mover has towing capability for items such as, flatcars, rail carriers, ballast cars, and de-icer equipment.

Purchase of a flashbutt welding prime mover will increase the efficiency of the Joint Elimination Program that reduces track defects. Elimination of joints within the system will reduce a variety of track-related defects such as rail end-

flattening, cracks and misalignments that can result in delays and offloads. In addition to track defects, joints can also cause increased wear and flat spots on train wheels causing increased train maintenance and ride quality issues. This work is currently performed by a contractor with a hi-rail vehicle that has a 15 MPH speed limit and is more susceptible to derailments and lower efficiency rates. This new unit can travel up to 35 MPH, thus decreasing travel time to and from a job and increasing the actual time for welding. This unit will be the first of its type owned by Metro, increasing the fleet of prime movers to 27.

Purchase of two additional multi-purpose hi-rail handlers will increase Metro's fleet to four. These units will be primarily utilized in the capital running rail replacement program. They have the capability of turning 360 degrees allowing for easy access to the rail train and flat cars for the distribution of rail and other track-related materials. Due to the versatility of this type of equipment it will allow work to be performed in multiple locations by multiple work crews.

The purchase of an additional six flat cars will increase Metro's fleet to 47. These units are rail-bound with an open, flat deck designed to safely and efficiently transport materials, tools and equipment for track rehabilitation projects throughout the mainline and rail yards.

A mobile maintenance unit (MMU) and accompanying flatcar provides an enclosed area for workers on the Roadway. By housing all work activities within the MMU car, trains can operate more closely to normal headways adjacent to track work zones, using normal operating speeds. The MMU eliminates almost all set up and close down time of a traditional work zone and increases the actual work time, thus increasing production and improving maintenance efficiency. The purchase of this unit will be the first of its kind owned by Metro.

Purchase of a ballast removal excavation machine will allow the safe and efficient replacement of crossties in above-ground ballasted roadways within platform areas that have exceeded or are approaching end of life cycle. Tight clearances, tolerances and weight concerns within the platform areas have prevented normal crosstie replacement. The ballast removal excavation machine is rail-mounted and designed to travel at track speeds while towing up to fully-loaded ballast cars. The combination of a powerful digging arm with twin engines and vacuum pumps makes it capable of excavating compact ballast, clay, mud, water, sand, and soil.

Acquisition of one additional tie crane and tie inserter will increase Metro's fleet to four tie cranes and four tie inserters. Outfitting crews with this additional equipment will allow track maintenance to be performed on weekends and in

multiple locations, without renting the equipment or hiring a contractor who utilizes their own tie crane and/or tie inserter, as is the current practice. This will allow for an additional track maintenance crew and track production crews for the crosstie replacement program, thus increasing productivity.

Metro currently has a fleet of 12 deicer flat cars that range in age from 15 to 20 years. These units are equipped with scraper shoes that scrape off ice and direct a stream of de-icing fluid to melt and/or prevent ice buildup on the third rail. Acquisition of three new deicer flat cars will enable replacement of units that have reached the end of their anticipated life expectancy and require significant resources to keep them operational.

Metro currently has a fleet of 12 man lifts. Acquisition of two new man lifts would enable replacement of two units that are 15 years old and beyond their useful life expectancy. These units are self-propelled, heavy duty pieces of equipment that provide the ability to reach elevated structures for the purpose of repairing and preventing station leaks in joint seals, concrete structures, and dome reliefs vents that cause deterioration and significant leaks which, in turn, impact customers and quality service delivery.

**FUNDING IMPACT:**

| Fiscal Year 2012           |   |
|----------------------------|---|
| Program:                   | Capital Improvement Program-CIP023  |
| Project:                   | Third Rail Rehabilitation   |
| Project Manager:           | Clay Bunting  |
| Project Department/Office: | Department of Transit, Infrastructure, and Engineering Services/ Office of Track and Structures |
| Budget:                    | \$5,517,599   |
| This Action:               | 2,700,000   |
| Prior Approval:            | 0   |
| Remaining Budget:          | \$2,817,599   |

| Fiscal Year 2012           |   |
|----------------------------|---|
| Program:                   | Capital Improvement Program-CIP024  |
| Project:                   | Track Rehabilitation  |
| Project Manager:           | Clay Bunting  |
| Project Department/Office: | Department of Transit, Infrastructure, and Engineering Services/ Office of Track and Structures |
| Budget:                    | \$33,268,810  |
| This Action:               | 5,600,000   |
| Prior Approval:            | 7,614,500   |
| Remaining Budget:          | \$20,054,310  |

| Fiscal Year 2012           |   |
|----------------------------|---|
| Program:                   | Capital Improvement Program-CIP025  |
| Project:                   | Track Maintenance Equipment   |
| Project Manager:           | Clay Bunting  |
| Project Department/Office: | Department of Transit, Infrastructure, and Engineering Services/ Office of Track and Structures   |
| Budget:                    | \$20,708,189  |
| This Action:               | 18,517,500  |
| Prior Approval:            | 0   |
| Remaining Budget:          | \$ 2,190,689  |
| Remarks:                   | Funds in FY2012 and beyond are subject to approval by the Board. These are long lead time items that require significant contract work including proposal submittals, technical reviews, engineering review and clarifications. Once a Notice to Process is awarded some of these items take 1 to 1.5 years to fabricate. |

| FY2012                     |   |
|----------------------------|---|
| Program:                   | Capital Improvement Program-CIP026  |
| Project:                   | Station/Tunnel Leak Mitigation  |
| Project Manager:           | Larry Lee   |
| Project Department/Office: | Department of Transit, Infrastructure, and Engineering Services/ Office of Track and Structures |
| Budget:                    | \$3,298,241   |
| This Action:               | 298,613   |
| Prior Approval:            | 0   |
| Remaining Budget:          | \$2,999,628   |
| Remarks:                   | Funds in FY2012 are subject to approval by the Board.   |

**RECOMMENDATION:**

Approval to initiate and award multiple competitive contracts to purchase infrastructure and heavy duty track equipment. Funding and award for Fiscal 2012 is subject to Board approval of the budget and the availability of funds.