



Customer Services and Operations Committee

Board Information Item IV-C

October 14, 2010

Elevator/Escalator Assessment

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

<input type="radio"/> Action <input checked="" type="radio"/> Information	MEAD Number:	Resolution: <input type="radio"/> Yes <input checked="" type="radio"/> No
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TITLE:

Elevator/Escalator Assessment

PURPOSE:

Provide the Committee with an independent assessment of Metro`s elevator and escalator maintenance program, which focused on an audit of high visibility equipment, workforce utilization/procedures and maintenance management tracking system.

DESCRIPTION:

The equipment audit encompassed the review of 30 escalators and nine elevators at four stations (Woodley Park, Bethesda, Dupont Circle and Foggy Bottom). Findings included items in two primary areas adherence to maintenance standards and water intrusion.

The audit of the workforce utilization revealed:

- Unbalanced Preventative Maintenance Schedule.
- Excellent configuration of Elevator/Escalator Operation Control (EOC) with Maintenance Operation Control (MOC).
- Elevator/escalator issues transmitted to MOC instead of directly to EOC.
- Mechanics require training on necessary closeout information.
- Shortage of Supervisors.

The maintenance management system (Maximo) audit findings conveyed the need for additional software development and user training so the system can be fully utilized.

All safety findings were addressed immediately. Housekeeping was increased to remove debris and unrelated equipment from the work areas. An increased focus on Supervisor quality assurance reviews was implemented and departmental staff management development commenced.

Next steps include escalator replacements at Foggy Bottom/Dupont, interviewing for Supervisors, implementing refresher training, procuring escalator pit equipment cleaning contract, completing a water intrusion remediation and conducting a Phase II assessment to follow-up on recommendations.

FUNDING IMPACT:

RECOMMENDATION:

None



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Elevator/Escalator Assessment

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Purpose



- Independent assessment of Metro's elevator and escalator maintenance program included:
 - Audit of high visibility equipment
 - Review of workforce utilization and procedures
 - Audit of maintenance management tracking system





Equipment Audit Findings

- Review of 30 escalators and 9 elevators from four stations (Woodley Park, Bethesda, Dupont Circle and Foggy Bottom) revealed:
 - Lack of adherence to maintenance standards
 - Escalator switches require cleaning and adjustment
 - Insufficient lighting in the machine rooms
 - General housekeeping issues
 - Stopping distance adjustments
 - Water intrusion in machine rooms, hoistways and pit areas



Workforce Utilization Audit Findings

- Unbalanced Preventative Maintenance (PM) schedule
- Co-location of Elevator/Escalator Operation Control (EOC) and Maintenance Operation Control (MOC) is an excellent configuration that ensures accurate communication and improved response time
- Elevator/Escalator issues transmitted from the Station Manager to MOC, rather than EOC directly
- Mechanics require training on necessary closeout information that is needed by EOC to ensure efficiency
- Shortage of Supervisors



Maintenance Management System Audit Findings



- Elevator/Escalator equipment and work orders not easily filtered from rest of Metro equipment
- Additional software development for elevator/escalator usage is required
- Inability of maintaining unit serial number in maintenance tracking system (Maximo)
- User training to utilize Maximo to its full potential is required
- Workflow processing in Maximo that includes Supervisory approval is lacking



Actions Taken To Date

- Safety findings were addressed immediately
- Increased housekeeping to remove debris and unrelated equipment
- Increased focus on Supervisor Quality Assurance (QA) Audits
- Graduation of 11 Mechanics in September 2010
- Started Elevator/Escalator departmental management development
- Increased and redistributed response teams in alignment with ridership trends



Next Steps Underway

- Begin replacing Foggy Bottom escalator (November 2010)
- Start Dupont escalator replacement (1st quarter 2011)
- Complete stopping distance testing (November 2010)
- Interview for Supervisor positions (October 2010)
- Implement refresher training on maintenance standards and equipment familiarization (November 2010)
- Award contract for escalator pit equipment cleaning (1st quarter 2011)
- Complete water intrusion remediation plan (December 2010)
- Conduct survey lighting circuitry (1st quarter 2011)
- Conduct Phase II assessment to follow-up on recommendations (1st quarter 2011)
- Start training for QA Officers and Supervisors (December 2010)



Summary of Work

- Major Work Accomplished June through September 2010

	Completed	Currently In Progress
Escalator Modernizations	11	7
Escalator Repairs	36	6
Escalator PMs*	671	N/A
Elevator Modernizations	0	2
Elevator Repairs	7	1
Elevator PMs*	412	N/A

- Labor Day: 15 Escalator PMs* and 15 Elevator PMs*
- Columbus Day: 34 Escalator PMs* and 6 Elevator PMs*
- Scheduled modernizations through June 2011: 18 Escalators and 4 Elevators

*PM = Preventative Maintenance