



**Massachusetts Bay  
Transportation Authority**

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***Elevators and Escalators***

**System Wide Maintenance Agreement**

**June 5, 2017**



## Overview

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**Essential to the functioning of many of the system's stations**

**only means of access for some MBTA customer**

**Recently the MBTA has achieved dramatic improvements in uptime**

**Though the MBTA will incur additional cost, staff is confident that the selected vendor will sustain the high level of performance and station access that MBTA customers are becoming accustomed to**

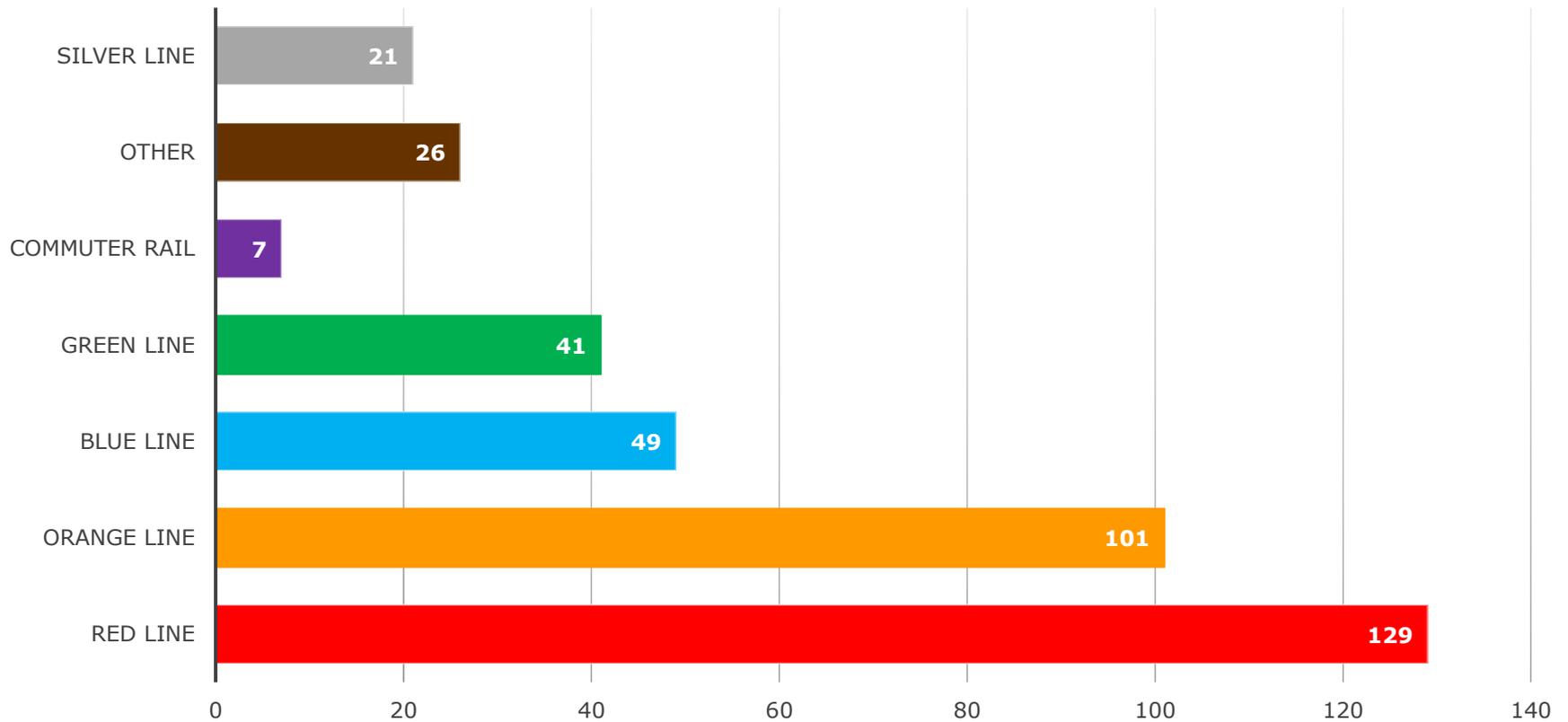
**The Board is requested to approve this agreement**

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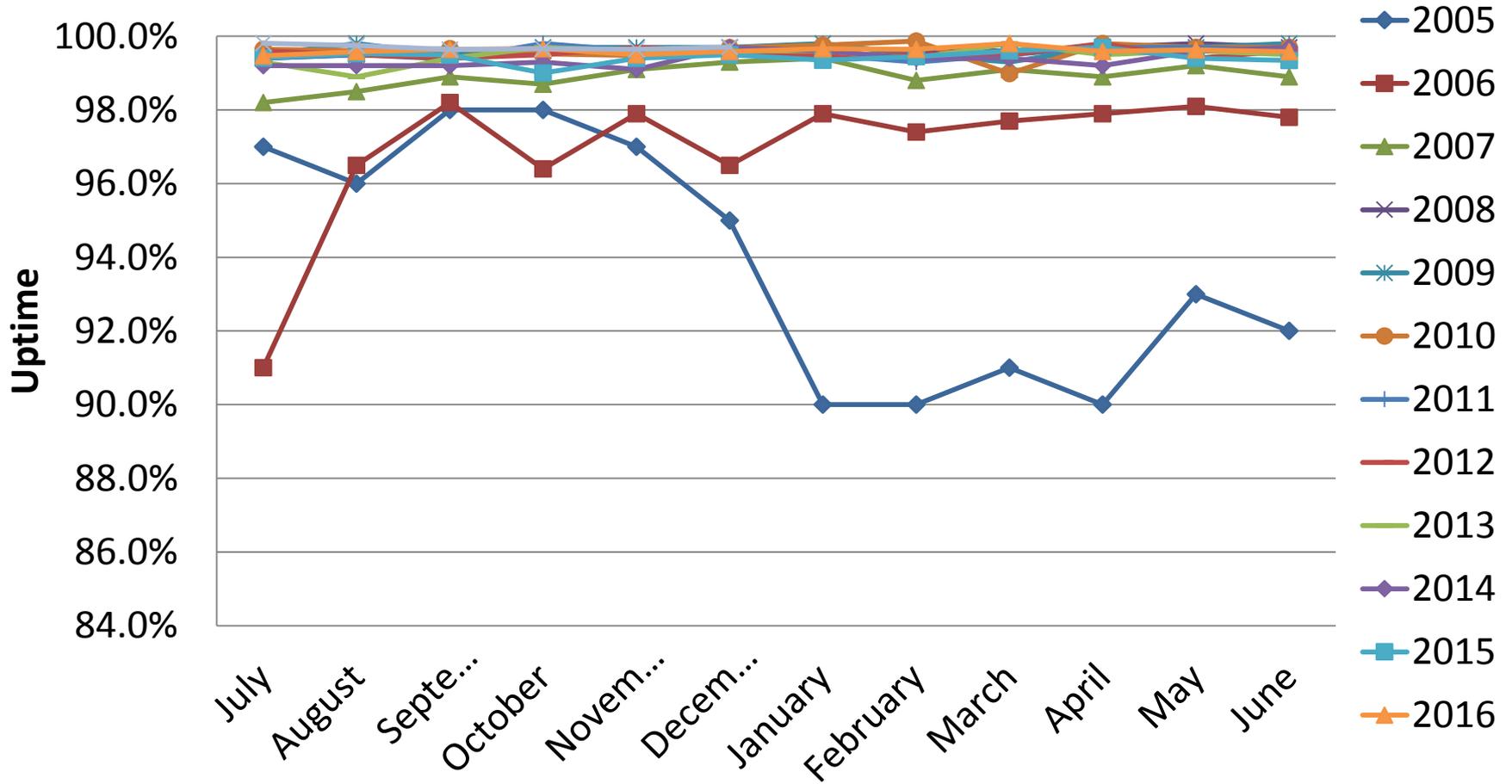
## Number of Elevators and Escalators by Line

### Number of Elevators and Escalators





# Year over Year Performance





## Proposal to Award the Elevator and Escalator Maintenance

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- **The MBTA** owns and oversees all the elevators and escalators on MBTA properties.
- The MBTA has **199** Elevators and **180** Escalators on MBTA properties.
- Two bidders responded to the RFR: KONE Inc. and Delta Beckwith. Each provided their best value proposals. KONE's 5-year bid price was \$42,445,627, while Delta Beckwith's bid price was \$44,568,312, which resulted in a differential of \$2,122,685 to be realized over the 5-year term of the contract.
- SPECIAL ATTENTION TO, and Contract Requirements as agreed upon:
  1. [Boston Center for Independent Living Agreement](#): to ensure the continued accessibility of the MBTA transit, The Authority will execute its Capital Improvement Program (CIP) to provide redundant and replacement vertical transportation equipment.
  2. ADA [Accessibility Guidelines/Compliance](#): to ensure safe and continued access to the transit system by people with mobility and other impairments.



## Total Contract Budget & Fiscal Year Spending Levels

### MBTA FINANCIAL IMPACT

KONE's Bid Price for the 5-year period is \$42,445,627.

The Fiscal Year spending levels for: Monthly Price

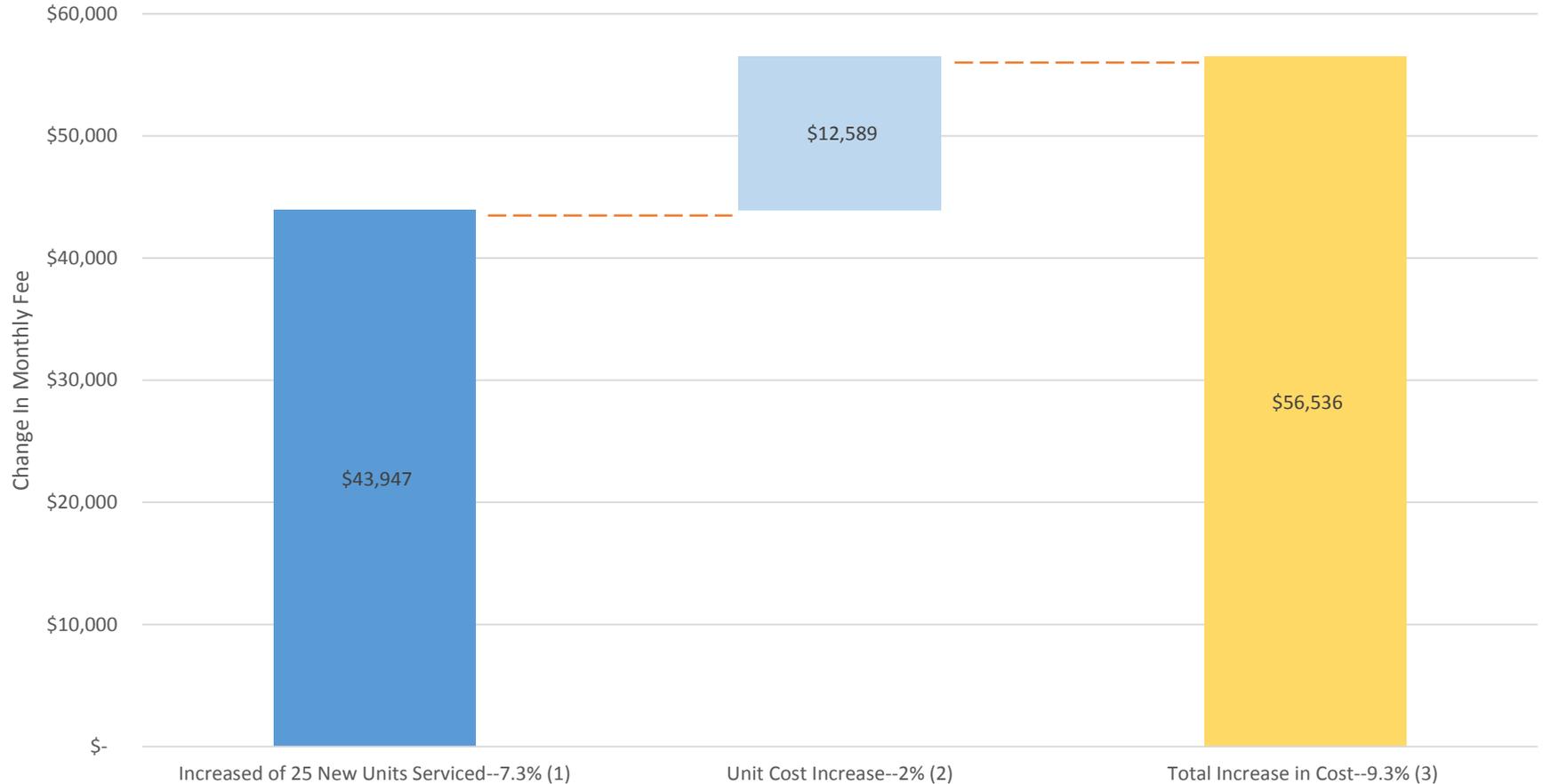
- FY' 2018 = \$ 7,994,828 \$666,236
- FY' 2019 = \$ 8,234,673 \$686,223
- FY' 2020 = \$ 8,481,713 \$706,809
- FY' 2021 = \$ 8,736,164 \$728,014
- FY' 2022 = \$ 8,998,249 \$749,854

**Total**    **\$42,445,627**



# Maintenance Cost Increase Breakdown

Monthly Maintenance Fee Increases - By Units Serviced & Unit Cost



(1) 25 New Vertical Transport Units Serviced X \$1,758 (New Unit-Cost for each unit) = \$ 43,946.97 or 7.3% of the 9.3% total cost increase  
 (2) 354 (Expiring Contract # of Vertical Transport Units Serviced) X \$36 of Unit-Cost Increase = \$ 12,589.03 or 2% of the 9.3% total cost increase  
 (3) Total percentage cost increase is monthly maintenance cost is 9.3% (\$56,536 / \$609,700)



## Customer Communications a Priority – Sample Online Notifications

**massachusetts Bay**  
**Transportation Authority**

**30** Anniversary  
May 2017

 GO

Schedules & Maps
Fares & Gifts
Rider Tools
Riding the T
About the MBTA
Customer Support
Safety
Transit Police

# Rider Tools

Rider Tools → Transit Updates

- Trip Planner
- Service Nearby
- Service Updates
- T-Alerts
- T-Alerts FAQ
- App Showcase
- Developers
- Realtime Info

### Service Alerts

MBTA Services are constantly updated through our operations center. Please check here regularly for up-to-the-minute updates on every transit service as well as elevators and escalators.

SUBWAY
BUS
COMMUTER RAIL
ELEVATORS, ESCALATORS, LIFTS
BOATS
THE RIDE

#### ⚠ Elevator, Escalator, and Lift Service Alerts

Elevator	Regular	4 Ongoing
<b>Ongoing:</b> Elev. 941 N Station - Lobby to the Commuter Rail & Boston Garden will remain closed until further notice due to construction of the Boston G <a href="#" style="float: right;">more&gt;</a>		
<b>Ongoing:</b> Elevator 804 PARK STREET - Tremont Street to the Lobby will be reconstructed and will be out of service through June 2017. <a href="#" style="float: right;">more&gt;</a>		
<b>Ongoing:</b> Elevator 922 CHINATOWN - Forest Hills Platform to Boylston & Washington Sts will remain out of service until further notice. <a href="#" style="float: right;">more&gt;</a>		
<b>Ongoing:</b> Elev. 940 COURTHOUSE - Lobby to North Headhouse on Seaport Blvd and Stillings unavailable from Tue May 23 through Tue Jun 6 <a href="#" style="float: right;">more&gt;</a>		
Escalator	3 Current	1 Ongoing
<b>Current:</b> Escalator 149 TUFTS MED. - Street to Outbound Platform (North end) unavailable due to maintenance <a href="#" style="float: right;">more&gt;</a>		
<b>Current:</b> Escalator 412 COURTHOUSE - Lobby to Mezzanine unavailable due to maintenance <a href="#" style="float: right;">more&gt;</a>		
<b>Current:</b> Escalator 310 WEL LINGTON - Northbound Platform to Paid Lobby <a href="#" style="float: right;">more&gt;</a>		

#### KEY

- Delay
- Cancellation
- Detour
- Snow Route
- Shuttle Bus
- Station/Stop Closure
- No Service
- Extra Service
- Schedule Change
- Access Issue
- Other

Get service alerts  
pushed to your



## Recommendation

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The Procurement & Logistics Department requests that the FMCB authorize the award of the 5-year contract to KONE, Inc. in the amount not to exceed \$42,445,627 for the purpose of maintaining the MBTA owned elevators and escalators at the various stations, and MBTA buildings in a safe, and secure manner. Further, as part of the affirmative vote, the Board authorizes the Acting General Manager to enter into a contract with KONE, Inc.



## Appendix

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## Service Level Agreement Under New Contract

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SLA's for the contract are the expectation of 100% reliability and availability, with the understanding this is a system that needs to be maintained and with all the passengers riding it daily there will be outages beyond KONE's control.

Penalties are as follows:

Section 7.0

Section 7.2.1 is elevator penalty of \$500 per day for OOS per day from negligence or non-maintenance.

Section 7.3.1 is escalator penalty of \$500 per day for OOS from negligence or non-maintenance.

Section 7.4.1 is non-performance of \$5000 per day, goal is 100% uptime with the understanding not always possible due to outages caused by the public, MBTA personnel, weather, or environmental damage.

Section 7.5.2 is entrapment penalty of \$500 per day for subsequent entrapments after the first day.

Section 7.6.1 is DPS penalty of \$1000 per day for units shut down by the DPS due to contractor negligence. Section 7.6.2 is an additional \$500 per day for units that continue to be kept out of service by the DPU.

Section 7.7.1 is an ADA penalty of \$100 per day for units not maintained or repaired in accordance with ADA 1990 requirements.

Section 7.8.1 is a penalty of \$500 per occurrence for employees failing to provide qualifications, state license.

Section 7.9.1 is a \$100 per day penalty relating to correct OOS signage on units.

Section 7.10.1 is a section on OOS credits on units authorized by the Authority and approved in advance.



## Monthly Average Elevator Availability/ Uptime - Historical

	July	August	September	October	November	December	January	February	March	April	May	June	Annual Average
FY2005	97.0%	96.0%	98.0%	98.0%	97.0%	95.0%	90.0%	90.0%	91.0%	90.0%	93.0%	92.0%	93.9%
FY2006	91.0%	96.5%	98.2%	96.4%	97.9%	96.5%	97.9%	97.4%	97.7%	97.9%	98.1%	97.8%	96.9%
FY2007	98.2%	98.5%	98.9%	98.7%	99.1%	99.3%	99.4%	98.8%	99.1%	98.9%	99.2%	98.9%	98.9%
FY2008	99.4%	99.5%	99.5%	99.6%	99.5%	99.7%	99.4%	99.6%	99.6%	99.7%	99.8%	99.7%	99.6%
FY2009	99.5%	99.8%	99.5%	99.7%	99.7%	99.7%	99.8%	99.5%	99.3%	99.7%	99.7%	99.8%	99.6%
FY2010	99.7%	99.6%	99.7%	99.5%	99.5%	99.7%	99.8%	99.9%	99.0%	99.8%	99.7%	99.7%	99.6%
FY2011	99.4%	99.5%	99.4%	99.8%	99.6%	99.5%	99.5%	99.3%	99.5%	99.7%	99.7%	99.6%	99.5%
FY2012	99.6%	99.5%	99.4%	99.5%	99.7%	99.6%	99.5%	99.5%	99.5%	99.8%	99.4%	99.6%	99.5%
FY2013	99.3%	98.9%	99.4%	99.7%	99.6%	99.6%	99.6%	99.4%	99.8%	99.5%	99.6%	99.5%	99.5%
FY2014	99.2%	99.2%	99.2%	99.3%	99.1%	99.7%	99.6%	99.4%	99.4%	99.2%	99.6%	99.7%	99.4%
FY2015	99.4%	99.5%	99.5%	99.0%	99.4%	99.5%	99.4%	99.5%	99.6%	99.7%	99.4%	99.3%	99.4%
FY2016	99.5%	99.6%	99.7%	99.7%	99.5%	99.6%	99.7%	99.7%	99.8%	99.6%	99.6%	99.6%	99.6%
FY2017	99.8%	99.8%	99.6%	99.7%	99.7%	99.7%	99.5%	99.7%	99.6%	99.1%			



## Monthly Average Escalator Availability/ Uptime - Historical

	July	August	September	October	November	December	January	February	March	April	May	June	Annual Average
FY2005	94.0%	93.0%	95.0%	97.0%	96.0%	93.0%	84.0%	88.0%	89.0%	88.0%	87.0%	86.0%	90.8%
FY2006	85.0%	91.3%	98.1%	93.4%	98.1%	95.2%	95.8%	96.3%	95.1%	95.9%	95.7%	93.8%	94.5%
FY2007	93.6%	94.6%	95.2%	95.4%	96.8%	97.4%	98.4%	98.2%	97.7%	98.1%	98.2%	97.2%	96.7%
FY2008	97.5%	97.9%	97.9%	97.9%	98.1%	98.7%	98.1%	97.9%	98.9%	99.1%	98.5%	98.5%	98.2%
FY2009	98.6%	98.1%	98.5%	99.1%	98.6%	98.9%	98.7%	98.7%	98.6%	98.8%	98.6%	98.8%	98.7%
FY2010	99.0%	98.9%	99.0%	98.9%	98.9%	98.7%	98.7%	98.5%	98.3%	98.6%	98.4%	98.5%	98.7%
FY2011	98.4%	98.9%	98.5%	98.3%	98.1%	96.8%	97.7%	99.0%	99.1%	98.7%	99.1%	98.3%	98.4%
FY2012	98.9%	98.1%	97.9%	98.3%	99.0%	99.5%	99.6%	99.3%	99.3%	99.3%	98.9%	98.9%	98.9%
FY2013	99.1%	99.1%	98.9%	99.1%	99.4%	99.1%	98.7%	99.2%	98.9%	99.1%	98.6%	98.3%	99.0%
FY2014	97.32%	98.20%	98.45%	98.1%	98.9%	99.2%	98.7%	98.5%	98.60%	98.4%	98.7%	98.4%	98.5%
FY2015	98.61%	98.47%	98.88%	98.7%	98.97%	99.2%	98.98%	98.3%	98.8%	98.7%	99.1%	99.02%	98.8%
FY2016	98.89%	99.02%	99.08%	98.8%	99.0%	99.22%	98.69%	99.2%	99.4%	99.34%	99.3%	99.3%	99.1%
FY2017	98.57%	99.22%	99.34%	99.24%	98.86%	99.18%	98.71%	98.5%	98.6%	98.83%			



## RFR's Purpose

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The Procurement & Logistics Department issued an RFR for Vertical Transportation Maintenance, a/k/a Elevators and Escalators owned and maintained by the MBTA. This RFR was intended to be a pro-active preventive maintenance, service, and repair agreement that includes, but is not limited to, repairs, callbacks, maintenance, inspections, and other services for the elevators and escalators covered by this agreement to facilitate the following:

- Consistently safe, code-compliant operation;
- Maximum operational performance;
- Maximum beneficial usage and maximize the life-cycle of equipment,
- Compliance with elevator and escalator requirements of Boston Center for Independent Living (BCIL) Agreement,
- Maximize equipment uptime, reliability, and availability.
- Establish a 60 month contract term: July 1, 2017 through June 30, 2022.



## ***24/7 Maintenance Will Continue Benefit Customers & Safety Over the Next 5 years***

- 24/7 coverage
- Dedicated shifts
- Supplier diversity goal: 8%
- Long term supplier since 2004
- Best value pricing
- Superior Uptime Performance -  
99.61% - elevators; 98.90% -  
escalators; FY 2017.

