



Performance and Accountability Report

Fiscal Year 2015
Quarter 3
January - March 2015

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Secretary & CEO

A photograph of a subway station platform. A digital display board at the top shows "Alewife" and "ARR 6 min" in yellow LED characters. Below the board, a sign reads "RED LINE INBOUND TO ALEWIFE". A train is visible on the tracks in the background.

Alewife ARR
Alewife 6 min

Inside This Issue

Highway Division	3
Aeronautics Division	5
Registry Division	6
Rail & Transit Division	9

Highlights

3
bridges

Three bridges removed from the list of structurally deficient bridges

Eighty-four percent of RMV customer calls conducted through the virtual hold call back program were successful

84%

28%

Twenty-eight percent of the aeronautics capital funds were disbursed

Eighty-six percent on-time performance for customers of the Blue Line

86%



Bridge Condition

Bridge condition is critical to the safety of the Commonwealth’s infrastructure. MassDOT vigilantly maintains over 5,000 bridges. There are a number of strategies that civil engineers and transportation departments use to measure the condition of bridges. OPM&I is working closely with the Highway Division and the MassDOT leadership to determine the most appropriate and useful metric (or metrics) to use going forward, based on factors related to public interest and federal reporting requirements. In the meantime, two measures for which data exist are being included in this report. A third measure, the Bridge Health Index, is in the process of being re-evaluated for data collection accuracy and methodology and is therefore not included in this report.

Structurally Deficient Bridges

Structural deficiency (SD) is a key indicator of bridge safety and capacity. A bridge is given a structurally deficient rating when inspections determine that the condition of one or more significant bridge element is deteriorated. A structurally deficient rating does not mean that it is unsafe, but that it will likely require significant repair to remain in service.

The number of structurally deficient bridges in the Commonwealth continued to decline this quarter, marking three consecutive quarters of decreases.

Since March 2011 (FY2011 Q3)¹, the number of structurally deficient bridges has been trending downward.

¹ Unless otherwise specified, Fiscal Year (FY) refers to the MA Fiscal Year:

FY 2015 Quarter 1: July 1 through September 30, 2014
 FY 2015 Quarter 2: October 1 through December 31, 2014
 FY 2015 Quarter 3: January 1 through March 31, 2015
 FY 2015 Quarter 4: April 1 through June 30, 2015

Figure 1: Number of Structurally Deficient Bridges by Quarter, FY2014 Q2 to FY2015 Q3

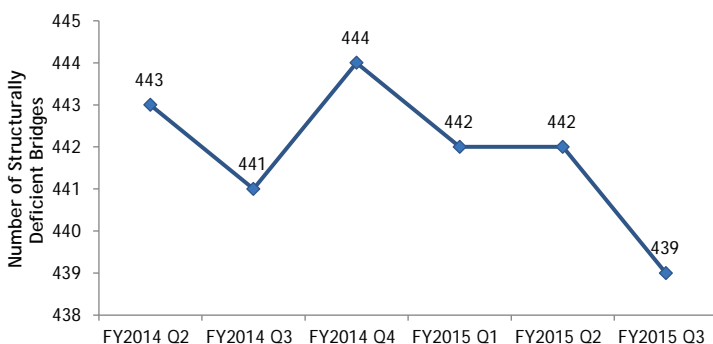
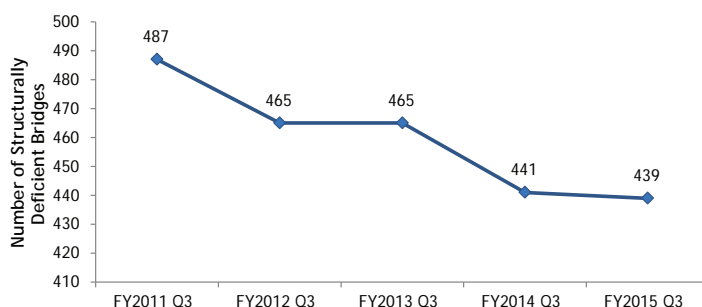


Figure 2: Number of Structurally Deficient Bridges by Year, FY2011 Q3 to FY2015 Q3



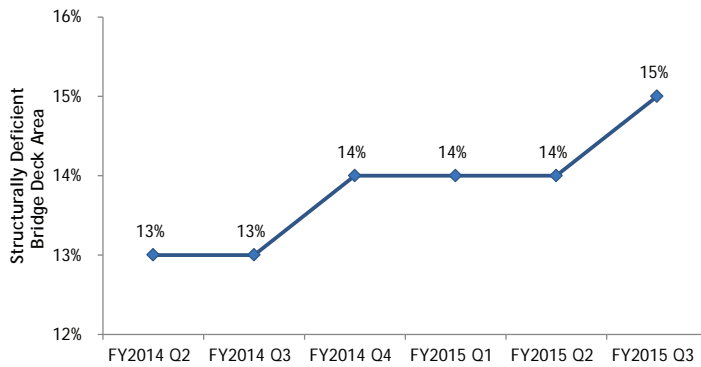
Percent of Bridge Deck Area that is Structurally Deficient

This metric is calculated by comparing the amount of bridge deck area that is structurally deficient to the total area of bridge deck in the Commonwealth. Reporting this measure will be required of all State DOTs, per the National Highway Performance Program outlined in the MAP-21 Federal transportation legislation. States reporting more than 10% of bridge deck area as structurally deficient on National Highway

System (NHS) bridges will be required to allocate a certain percentage to the Highway Bridge Program until the standard is met.

Percent of bridge deck area deemed to be structurally deficient increased by one percentage point in the most recent quarter, and has increased by two percentage points within the past year.

Figure 3: Percent of Bridge Deck Area that is Structurally Deficient by Quarter, FY2014 Q2 to FY2015 Q3



Pavement Condition

The quality of the pavement on roadways across the Commonwealth has a direct impact on many elements of the transportation system and MassDOT goals - from safety, to customer service, to fiscal responsibility. MassDOT measures the overall condition of highway pavement using two measures: Pavement Serviceability and Customer Ride Satisfaction.

Pavement Condition (PSI)

The Pavement Serviceability Index (PSI) is measured on a five-point scale, with 0 being impassable and 5 being perfectly smooth. Based on this scale, roadway conditions are classified as poor, fair, good, or excellent.

At the end of CY2014, the Highway Division was maintaining 66% of pavement in good or excellent condition.

Customer Ride Satisfaction (CRSI)

The Customer Ride Satisfaction Index (CRSI) is an indicator of pavement smoothness as measured by lasers and accelerometers. Thresholds classify roadway conditions as Excellent, Good, Fair, or Poor and most closely align with customer experiences on the road.

As of CY2014, 83% of MassDOT-owned pavement was in good or excellent condition according to this measure.

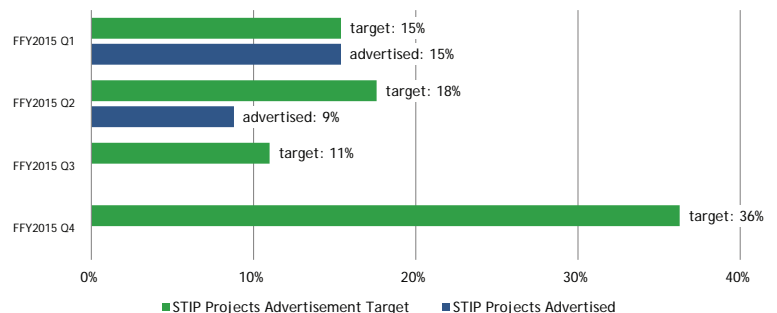
Highway Project Planning

The number of STIP highway projects advertised for bid during the second quarter fell short of the planned target.

Responsibly managing highway project planning is measured by using two metrics at different stages of project development. The first tracks the number of projects in the State Transportation Improvement Plan (STIP) advertised for bid during the current federal fiscal year. The number of projects advertised is compared to the total number of projects in the STIP as originally approved. The projects on the STIP are a summation of all the projects recommended by the 13 Metropolitan Planning Organizations. The STIP reflects the priorities for transportation investment and only lists projects for which the Commonwealth has the funds.

The MassDOT Highway Division's goal is to advertise 80 percent of their projects by September 30th, the close of the federal fiscal year. In addition, the Highway Division sets quarterly targets in order to meet the overall goal. The first quarter's target is to advertise 15% of projects on the STIP (or 14 of the 91 projects on the STIP). During the second quarter, the Highway Division strives to advertise 18% (or 16 of the 91 projects on the STIP). After meeting the stated goal during the first quarter of this year, the Highway Department advertised only 8 projects during the second quarter. As this measure is calculated on the federal fiscal year calendar, third quarter data is still unavailable.

Figure 4: STIP Projects Advertised per Quarter, FFY2015 Q1 to FFY2015 Q4





The Aeronautics Division regulates 36 of the 39 public use general aviation airports, private use landing areas and seaplane bases throughout the Commonwealth. The Aeronautics Division certifies airports and heliports, licenses airport managers, conducts annual airport inspections, and enforces safety and security regulations.

Airport Inspections

The Aeronautics Division performs all airport inspections by calendar year as directed in the FAA contract. A comprehensive airport inspection includes the following areas: paved and unpaved aprons, runways, taxiways, safety areas, markings and lighting, navigable airspace, navigational aids, traffic and weather indicators, fueling operations, construction safety, wildlife hazard management, airport operations, and compliance with MassDOT Aeronautics Regulations.

The Aeronautics Division did not conduct any airport inspections in the months of January through March 2015 due to weather conditions. The Division will begin airport inspections in the spring 2015 and complete all 36 by the end of the 2015 calendar year.

Figure 5: Airport Inspections Completed by FY2015 Q3



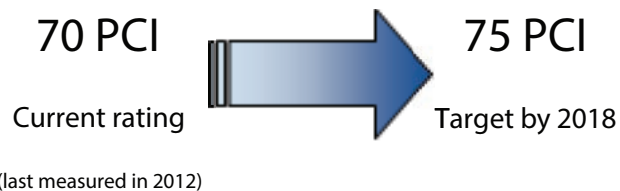
Airport Pavement Condition

Pavements represent one of the largest capital investments in the Massachusetts aviation system. The condition of these pavements is important from both cost-effectiveness and safety standpoints. Pavement rehabilitation costs increase as conditions deteriorate. Additionally, airport pavement weaknesses, such as cracks and loose debris, pose a significant safety risk to aircraft.

During evaluation, the types, severities, and amounts of distress present on runway pavements are quantified. This information is used to develop a composite index that represents the overall condition of the pavement, ranging from 0 (failed) to 100 (excellent). The average PCI for all airports is adjusted to account for the relative size of the pavement sections.

The current runway Pavement Condition Index (PCI) in the Commonwealth's airports is 70, within 5 points of the 2018 target.

Figure 6: Pavement Condition Index in FY2015 Q3



Capital Budget Disbursement

The Aeronautics Division is on track to disburse 90% of its capital budget by end of the State Fiscal Year.

The Aeronautics Division distributed 28% of its capital funds by the third quarter of 2015. The pace of disbursement will increase as the Spring 2015 construction season begins.

Call Center Efficiency

Call Center Wait Time

Call center customer wait times¹ have continued to increase over the first three quarters of FY 2015, while call volumes have simultaneously decreased.

Average call center wait times this quarter worsened despite a decrease in the number of customer calls received. Looking at the data monthly, the average wait times were quite variable this quarter: 14:02 in January; 21:05 in February; and 13:11 in March.

The substantial increase in wait times in February - which had a significant impact on the quarter's average wait time - was due to the extreme weather events throughout the Commonwealth. Due to office closures, the call center was open 16 days in February, compared to the normal 19 days. The offices also experienced four hours of system outages, which impacted productivity. Finally, on many days 20% to 30% of the staff was unable to get to work due to transportation challenges resulting from the storms. Summer interns and the hiring of new staff are expected to reduce the average wait time to under 10 minutes. OPM&I will continue to monitor these results, and look closely at what is driving the increase in wait time, especially given the decrease in call volume.

Virtual Hold Success Rate

The number and percentage of successful calls completed through the Registry's virtual hold program increased over the course of the quarter.

¹ Call center wait time is measured from the point at which the system receives the call to when it is routed to a customer service representative.

The number of call center customers selecting the virtual hold call back option through virtual hold more than doubled between February and March. The percentage of call backs that successfully connected with customers also increased. Call center staff can more efficiently process customer requests when managed through this system. OPM&I, in partnership with the RMV, will continue to monitor this metric monthly to identify the factors that will support this positive trend.

Figure 7: RMV Contact Center Performance by Quarter, FY2014 Q4 to FY2015 Q3

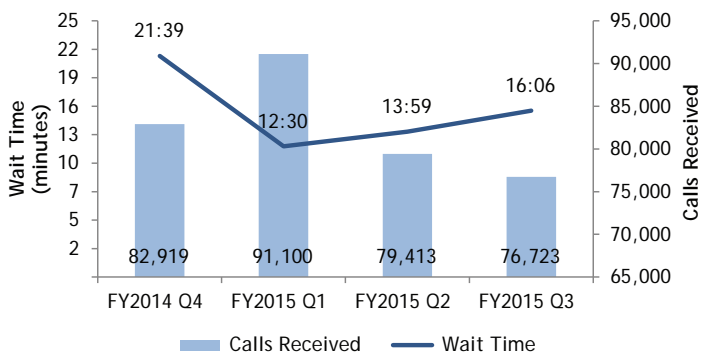
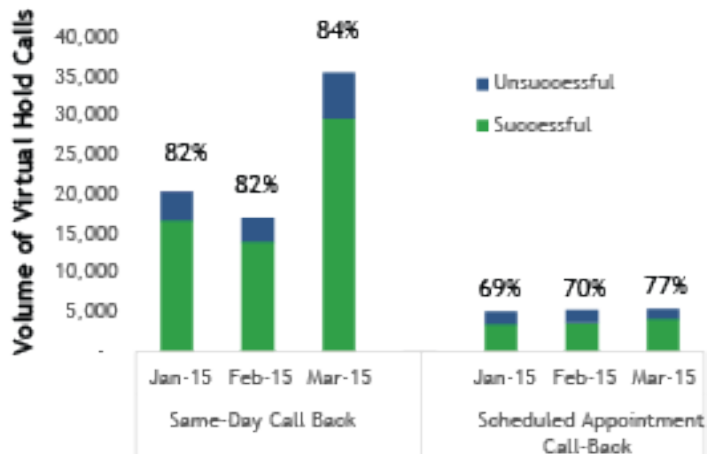


Figure 8: RMV Virtual Hold Success Rate by Month, FY2015 Q3



Branch Efficiency

The Registry's 30 branch locations vary significantly in staff size, customer volume, and in some cases, the types of transactions they can process. Historically, MassDOT has reported a statewide average customer wait time.

To provide a more context-based picture of the branch operations, the Registry and OPM&I developed a tiered system for analyzing the branch wait times. Each branch is assigned to one of three tiers, based on customer volume: Tier 1 branches serve more than 10,000 customers per month; Tier 2 branches serve more than 5,000 customers per month; and Tier 3 branches serve less than 5,000 customers per month. The following graphs show the wait times at individual branches, grouped by tier and with their individual target.

Applying tier-based wait time targets to the branches shows great variability among facilities of all sizes.

There are many additional variables that impact the amount of time a customer is required to wait to be served. These include: the types of transactions that customers are processing, employee availability, facility design and elements (e.g. number of counters, dual workstations available, etc.), and the presence of a Customer Advocate to triage and help customers with paperwork. OPM&I will be studying these factors closely, and determining how changes to these factors could reduce wait times and improve the customer experience.

Tier 1 Branches

Figure 9: Tier 1 Branch Average Wait Time by Quarter, FY2014 Q4 to FY2015 Q3

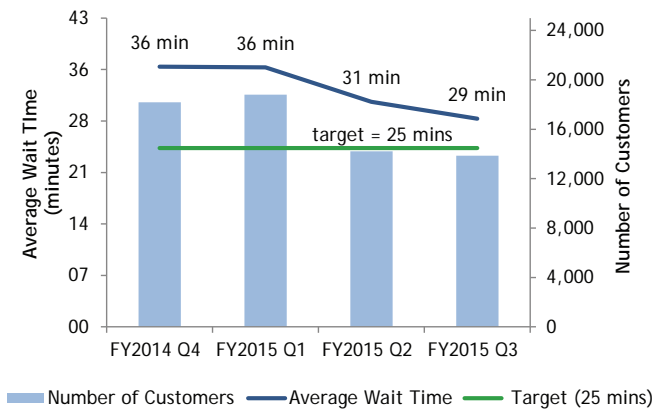


Figure 10: Tier 1 Average Wait Time by Branch, FY2015 Q3

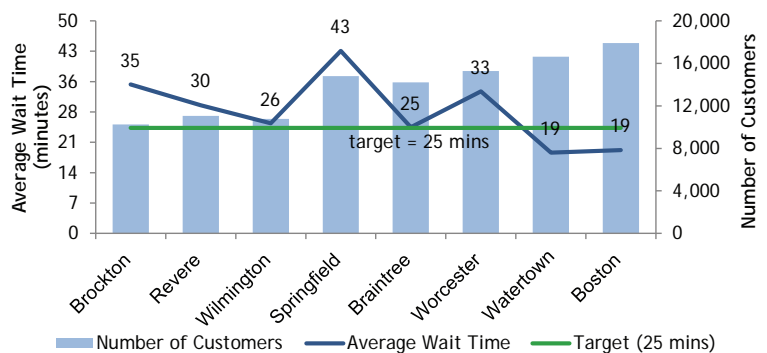


Figure 11: Tier 2 Branch Average Wait Time by Quarter, FY2014 Q4 to FY2015 Q3

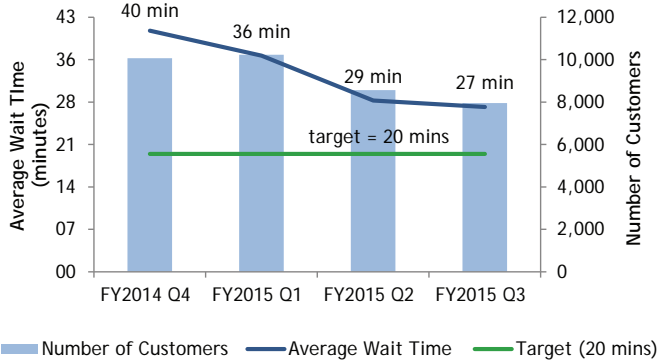


Figure 12: Tier 2 Average Wait Time by Branch, FY2015 Q3

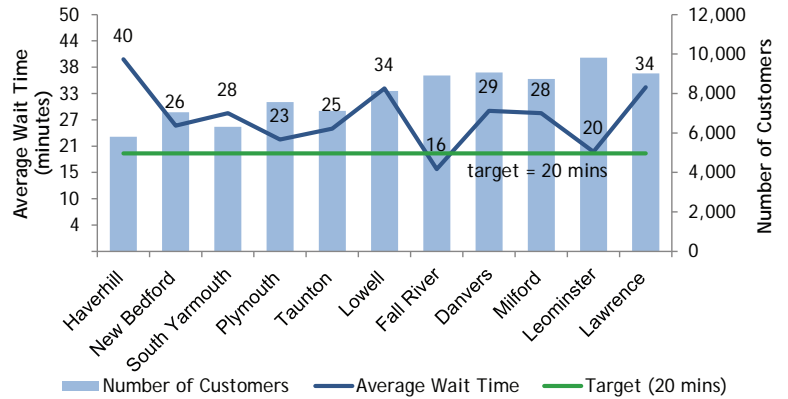


Figure 13: Tier 3 Branch Average Wait Time by Quarter, FY2014 Q4 to FY2015 Q3

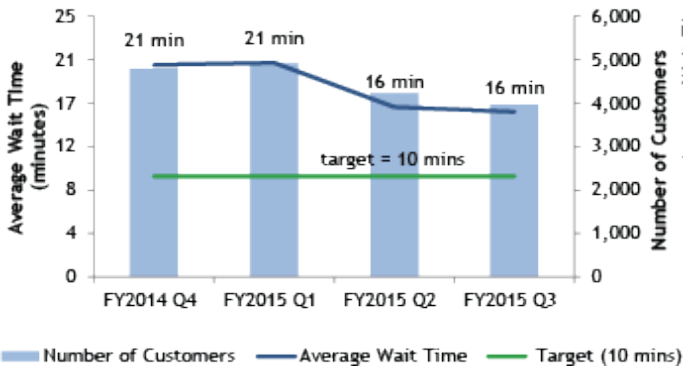
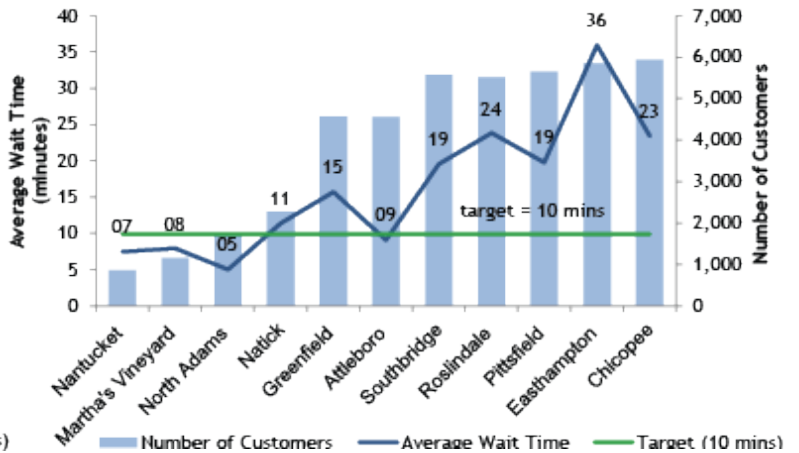


Figure 14: Tier 3 Average Wait Time by Branch, FY2015 Q3





Passenger Wait Time

The MBTA's passenger wait time performance¹ declined significantly in February because of the winter's severe storms. February's performance had a considerable impact on the average passenger wait time performance for the quarter.

Eighty percent of **Red Line** passenger trips in the third quarter of this year were completed with a wait time equal to, or less than, the scheduled headway (i.e. passenger wait time).

Despite the drop in February to a monthly average of 70%, March on time performance rebounded to 87%.

The **Orange Line's** passenger wait time performance dropped to 72% in the third quarter.

This drop was a function of performance in February, which dropped to a monthly average of 60%. January and March's performance were on par with previous quarters, at 78% and 79% respectively.

This quarter the **Blue Line's** passenger wait time performance dropped to an average of 86%.

Consistent with the other subway lines, February's performance of 75% heavily impacted the quarterly average. January and March averages were consistent with previous quarters, at 91% and 93% respectively.

¹ The passenger wait time performance measure correlates Automated Fare Collection data and track circuitry data to determine the percent of passengers trips that include a platform wait time within the expected arrival of the next train. Data presented in this document is the monthly amalgamation of daily reports. The MBTA is leading the nation in using customer wait times to track system performance.

Disruptions that cause delay in passenger wait times include but are not limited to, mechanical failures, medical emergencies, and customer injuries. Some waits are also caused by factors such as increased dwell time, slow operators, and early or late starts.

Figure 15: Trips with Passenger Wait Time within Scheduled Headway Time, by Quarter

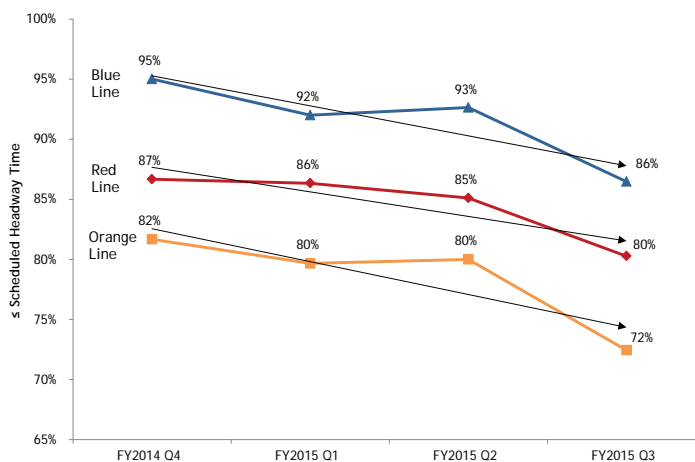
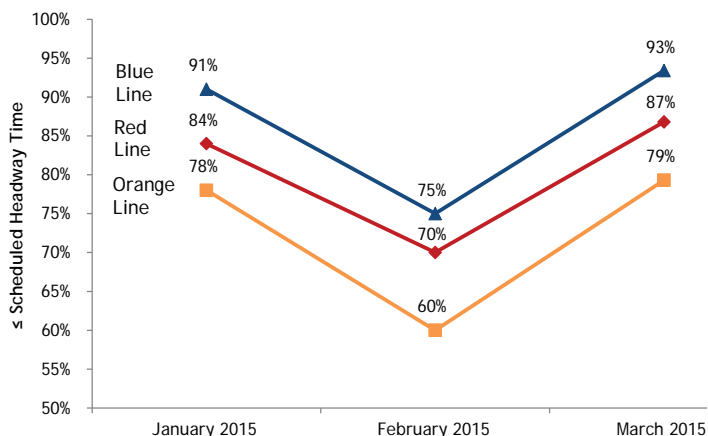


Figure 16: Trips with Passenger Wait Time within Scheduled Headway Time, FY2015 Q3



On-Time Performance

The commuter rail's on time performance² decreased significantly this quarter, driven by a severe disruption in service due to the February storms.

This quarter's on time performance averaged 65%.

During the month of February, only 33% of trains that ran were on time. In January and March, the on time performance rates were 83% and 80% respectively.

Figure 17: Percent of Trips Completed on Time, Commuter Rail by Quarter

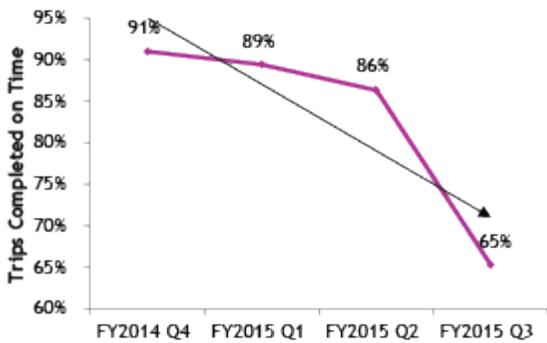
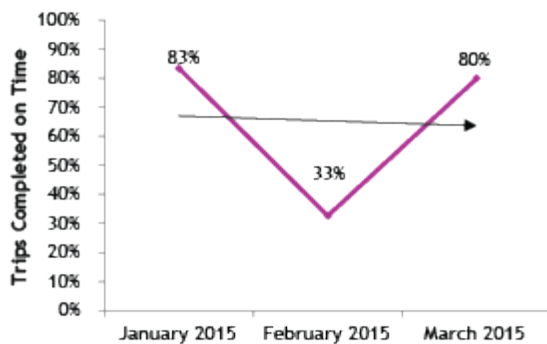


Figure 18: Percent of Trips Completed on Time, Commuter Rail FY2015 Q3



² On time performance for the commuter rail is measured by the difference between the scheduled arrival time, and the actual arrival time. Commuter rail trips are considered on time if they leave their origin and arrive at their terminal point no more than 04:59 minutes beyond their scheduled arrival time.

The Silver Line and key bus route on time performance³ dropped marginally this quarter.

The Silver Line and key bus routes had an average on time performance of 69% during the third quarter.

The February storms also impacted bus routes, although not as severely as they impacted the rail services. February's monthly average dipped to 62%.

Figure 19: Percent of Trips Completed on Time, Silver Line and Key Bus Routes by Quarter

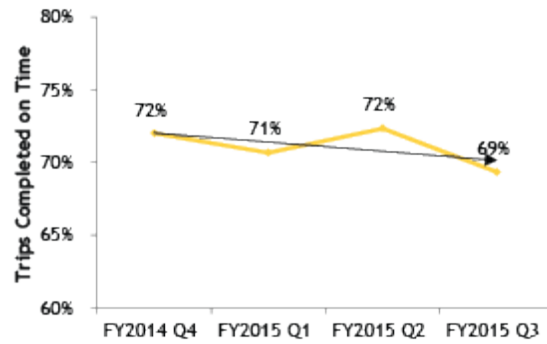
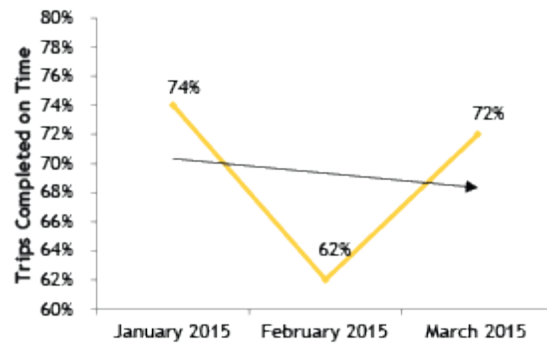


Figure 20: Percent of Trips Completed on Time, Silver Line and Key Bus Routes FY2015 Q3



³ Key bus and Silver Line trips are considered on time if: the trip leaves its origin between 0 minutes before and 3 minutes after its scheduled departure time; the trip leaves the mid-route timepoint(s) between 0 minutes before and 7 minutes after its scheduled departure time; and, the trip arrives at its destination timepoint between 3 minutes before and 5 minutes after its scheduled arrival time.

On-time performance of the RIDE⁴ decreased significantly due to weather-related issues.

On-time performance averaged 84% this quarter.

It was February's performance of 73% that brought this average down. January's and March's on time performance were in line with previous months: 92% and 87% respectively.

Figure 21: Percent of Trips Completed on Time, Paratransit by Quarter

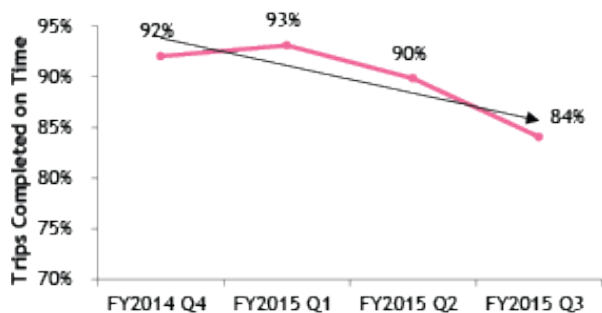
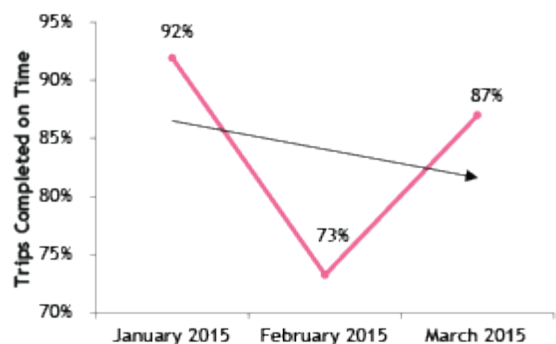


Figure 22: Percent of Trips Completed on Time, Paratransit FY2015 Q3



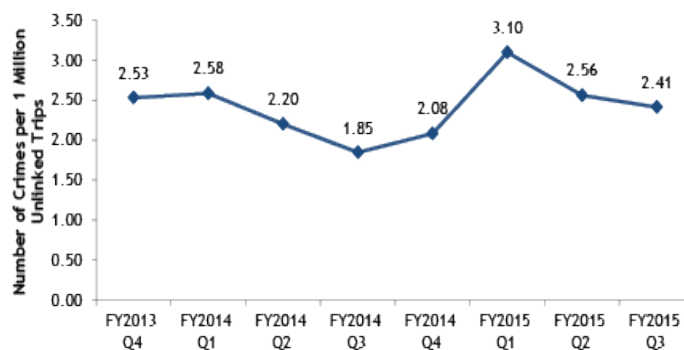
⁴ Paratransit on time performance is measured by how promptly vehicles arrive at the starting point of each scheduled trip. A trip is considered on time if it occurs within 15 minutes of the scheduled reservation start.

Safety

Incidents of crime⁵ on the MBTA's system decreased slightly this past quarter.

Incidents of crime decreased for the second quarter in a row, from 2.56 to 2.41 crimes per 1 million unlinked trips.

Figure 23: Number of Part I Crimes per 1 Million Unlinked Trips



⁵ The crime rate measures the number of Part 1 crimes, per 1 million unlinked trips. Part 1 crimes are defined by the FBI as: homicide, rape and attempted rape, robbery and attempted robbery, aggravated assault, burglary and attempted burglary, larceny and attempted larceny, vehicle theft and attempted vehicle theft, and arson.

Division/Performance Measure	SFY2014 Total	SFY2015 Q1	SFY2015 Q2	SFY2015 Q3 (Current)	Reporting Schedule
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Highway Division

Reliably maintain and improve bridges in the Commonwealth

<i>Number of structurally deficient bridges</i>	452	442	442	439	Quarterly
<i>Number of bridges posted for weight restriction</i>		418	418	422	Quarterly
<i>Number of bridges closed</i>		25	26	23	Quarterly
<i>Percent of bridge deck area on structurally deficient bridge (MAP-21 measure)</i>		14	14	15	Quarterly

Reliably maintain and improve all MassDOT-owned pavement

<i>PSI</i>	66%	66%			State FY
<i>CSRI</i>	82%	83%			State FY

Responsibly manage highway project planning

<i>Number of STIP projects advertised in the Federal Fiscal Year</i>		14	8	4 (to date)	Federal FY
<i>Average days from ad to Notice to Proceed</i>	163	205.4 (to date)			Calendar Year

Maintain and improve reliability of system for customers

<i>Increase the percentage of customers using EZ pass from the previous year</i>	76%	76%	76%	79%	State FY
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Maintain and improve safety of system for customers

<i>Number of fatalities per 100 million miles traveled (2012)</i>	0.62				Federal FY
<i>Road safety audits conducted each year (cumulative, based on calendar year)</i>	64	22	17	3	Quarterly

Aeronautics Division

Reliably monitor conditions of each general use airport

<i>Inspection of each general use airport</i>	36	22	36	0	Quarterly
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Reliably maintain and improve all airport pavement condition

<i>Runway pavement condition</i>	70%	70%	70%	70%	Other
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Responsibly manage airport project planning and implementation

<i>Number of projects under construction during year</i>	3	2	2	2	State FY
<i>Disbursement of capital budget by end of SFY</i>	92%	7%	22%	28%	Quarterly

Division/Performance Measure	SFY2014 Total	SFY2015 Q1	SFY2015 Q2	SFY2015 Q3 (Current)	Reporting Schedule
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Registry of Motor Vehicles Division

Improve the efficiency of the Branches and Call Center

<i>Branch Wait Time - Tier 1</i>		36:18	31:28	29:07	Quarterly
<i>Branch Wait Time - Tier 2</i>	29:01	36:42	29:05	27:59	Quarterly
<i>Branch Wait Time - Tier 3</i>	(average)	21:18	16:54	16:25	Quarterly
<i>Call Center Wait Time</i>	21:56	12:30	13:59	16:06	Quarterly

Maintain safety of the Commonwealth's school buses and inspection stations

<i>Conduct public school bus inspection</i>	26,816	8,845	4,108	5,095	State FY
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Rail & Transit Division

Reliably operate equipment on the transit system (MMBF: mean miles between failures)

<i>Red Line</i>	56,584	48,354	60,172	38,152	Quarterly
<i>Orange Line</i>	41,986	42,813	41,731	51,206	Quarterly
<i>Blue Line</i>	56,986	41,633	53,655	38,593	Quarterly
<i>Green Line</i>	5,491	4,565	5,606	2,952	Quarterly
<i>Bus</i>	13,359	13,109	12,194	14,508	Quarterly
<i>Commuter Rail</i>	5,773	5,750	3,396	2,227	Quarterly

Provide reliable on-time performance of the transit system

<i>Red Line Passenger Wait Time</i>	86%	86%	85%	80%	Quarterly
<i>Orange Line Passenger Wait Time</i>	82%	80%	80%	72%	Quarterly
<i>Blue Line Passenger Wait Time</i>	93%	92%	93%	86%	Quarterly
<i>Commuter Rail On Time Performance</i>	90%	89%	86%	65%	Quarterly
<i>Key Bus Routes & Silver Line On Time Performance</i>	73%	71%	72%	69%	Quarterly
<i>Paratransit On Time Performance</i>	93%	93%	90%	84%	Quarterly

Provide a safe and comfortable environment for customers of the transit system

<i>Average rate of crime in transit locations (per million unlinked passenger trips)</i>	2.1	3.1	2.6	2.4	Quarterly
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Operate an efficient and fiscally responsible transit system

<i>Ridership on all lines (in thousands)</i>	398,050	100,774	100,879	86,536	Quarterly
<i>Farebox recovery</i>	40%	45%	42%	38%	Quarterly

Maintain accessibility for all users

<i>Elevator availability</i>	99%	99%	99%	99%	Quarterly
<i>Escalator availability</i>	99%	99%	99%	99%	Quarterly

Maintain the efficiency of the customer service call center

<i>Commuter Rail Call Center Wait Time</i>		0:52	0:48	0:59	Quarterly
<i>MBTA customer inquiries closed within 5 days</i>	87%	89%	86%	84%	Quarterly