mass DOT TRACKER

MassDOT's Annual Performance Report
Fiscal Year 2015

Stephanie Pollack | Secretary and CEO
Prepared by the Office of Performance Management and Innovation
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The data in this report represents the state fiscal year (June 2014 - July 2015) unless otherwise noted.

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Members of the General Court:

We are pleased to file the enclosed report, in compliance with Section 6.0 of Chapter 25 of the Acts of 2009, which requires that the Massachusetts Department of Transportation (MassDOT) submit a yearly Performance Management Report to the members of the House and Senate Ways and Means Committees and the Joint Committee on Transportation.

MassDOT's sixth Annual Performance Management Report, which we have titled the MassDOT *Tracker*, summarizes the Department's performance for Fiscal Year 2015 (July 2014 through June 2015). Organized by modal division (Aeronautics, Highway, Rail and Transit, and Registry of Motor Vehicles), the report explains how the divisions' performance measures relate to MassDOT's goals. This yearly report has expanded since 2014 in its scope of measures and now responds to all measures specified by the Legislature, except for a few cases where those mandated measures are still under development, as discussed in the report.

This report is intended to serve as a baseline document. In the next year, MassDOT division administrators will be identifying targets for each of the measures presented in this report. This process will include revisiting previously established targets to determine whether and how those targets need to be adjusted. In some cases, these targets are being set in coordination with other MassDOT efforts, such as the MBTA's updated Service Delivery Plan and MassDOT's upcoming Capital Investment Plan. In other cases these targets will be set through an independent process involving subject matter experts, MassDOT division administrators, and the Department's Office of Performance Management and Innovation. Each division will establish both intermediate and aspirational goals for all performance measures. MBTA targets will be developed in coordination with the Fiscal and Management Control Board.

These ongoing efforts to significantly improve how MassDOT measures and assesses its performance, matter well beyond the requirements of an annual report. At MassDOT, we are working hard to expand performance measures every day, for every mode. We are aware that the statute lists performance measures beyond those presented in this report (see page 44). We recognize the importance of these measures and, where data is available to do so, we are developing ways to implement them. In all cases, we want the metrics we develop to directly reflect and respond to the customer experience, and we will be transparent to the Legislature, our users, and other stakeholders in reporting how well we meet these performance standards.

Some performance highlights in this report include:

- Improvement in MBTA passenger wait time and on-time performance after last winter's storms;
- The addition of aviation activity metrics in the Aeronautics Division;
- Continued improvement in the condition of MassDOT bridges;
- An increase in the number and proportion of customers using E-ZPass transponders for toll payments, which is especially important with upcoming All Electronic Tolling across the Commonwealth; and
- A new way to measure wait times at Registry of Motor Vehicles branches, that better communicates the actual experience of customers.

We look forward to building on these successes and continue to identify ways to improve how we serve our customers, how we monitor and report our performance, and how we develop internal and external strategies to turn this information into informed decisions.

Respectfully submitted,

Stephanie Pollack
Secretary & Chief Executive Officer of the Massachusetts Department of Transportation

Purpose of this report

This report responds to Chapter 25 of the Acts of 2009 requiring that "a report of the project information system and performance measurements shall be published annually and made available to the public."

The Massachusetts Department of Transportation's Office of Performance Management and Innovation (OPM&I) is charged with:

- Evaluating the goals and measures established by the Department and its divisions and monitoring reported results;
- Recommending changes to proposed goals and measures as are appropriate to align them with the strategic priorities of the secretary; and
- Reporting regularly to the public on the progress the Department and its divisions are making to achieve stated goals.

Since its inception, MassDOT has embraced performance management throughout the agency. The tools of performance monitoring and managing have been integrated into decision making practices throughout MassDOT as the agency seeks to improve the experience for customers traveling on the rails and highways, conducting transactions at the Registry of Motor Vehicles, and using MassDOT's general aviation airports.

Moving Ahead for Progress in the 21st Century (MAP-21), the federal transportation legislation enacted in 2012, embraces performance-based management and the reliance on performance measures as a core principle for recipients of federal transportation funding. MassDOT's commitment to performance management enables it to measure and report performance to its federal transportation partners, in accordance with the legislation.

This report, the MassDOT *Tracker,* provides an overview of performance across MassDOT for Fiscal Year 2015 (July 2014 through June 2015). It presents trends tracked through selected performance measures. This report is descriptive; it is not intended to solve problems, but instead, identify areas of both successes and weaknesses. Those problems are addressed through many other related processes and plans in place throughout the Department. The *Tracker* is organized by the four modal operational divisions (Highway, Aeronautics, the Registry of Motor Vehicles, and Rail and Transit), and by MassDOT's guiding principles.

MassDOT Guiding Principles

MassDOT has set four organizational goals. Placing performance measurement within the context of these goal areas highlights the ways in which the operational divisions are working collaboratively under one mission and connects individual activities to agency-wide efforts. This organizing framework also allows agency leaders to understand which goal-based areas need additional attention. This section of the report examines the measures by goal, across the operating divisions at MassDOT.

MassDOT goals

Serve our customers

Maintain & modernize our assets

Invest in the Commonwealth's transportation system

Plan & prioritize

Serve our customers

Who are our customers?

MassDOT serves everyone who lives in Massachusetts or who travels in the state by land, sea, or air. Anyone traveling on a state-owned road, riding an MBTA or Regional Transit Authority bus or train, applying for a license at the Registry of Motor Vehicles, or landing a plane at a general aviation, public-use airport is a MassDOT customer.

How does MassDOT serve its customers?

MassDOT's other goals are essentially the three critical elements that, together, support MassDOT in serving customers. They ensure that the infrastructure is strong and that the transportation network continues to support the mobility needs of residents and visitors.

Figure 1 presents the list of all measures that provide direct support to the customer service goal.

Highway Division

The Highway Division's customer service measures relate to safety and electronic tolling. Electronic tolling, or E-ZPass, is a program that elevates the level of service through additional convenience, and reduced traffic congestion and slow-downs on tolled highways in the Commonwealth.

Aeronautics

The Aeronautics Division's role within the Commonwealth of Massachusetts is to regulate 36 of the 39 public-use airports. These airports are used principally by pilots flying general aviation and business aircraft. Supporting the needs of the traveling public requires a commitment to a safe and integrated airport system.

Registry of Motor Vehicles

The RMV operates much like a retail operation, interfacing with individual customers to provide transaction-based services. These services are provided in person at branches, online, and through partners. All of the RMV measures reported in this report directly track the customer experience of completing their service requests.

Rail and Transit

The Rail and Transit Division's measures include passenger wait time, on-time performance, and the rate of crime. Ridership is linked to customer service, since it is assumed that more customers will utilize transit if the service is meeting their needs.

Customer service measures

Highway Division measures
Number of fatalities
E-ZPass transactions

Aeronautics Division measures
Number of aircraft based at airports

RMV measures
Branch wait time
Call center wait time
Road test wait time
Transactions completed by service mode

Rail and Transit measures
Ridership
Passenger Wait Time
On-time performance
Rate of crime
Fatalities due to transit accidents
Call Center wait time
Customer inquiry response time

Figure 1. Customer service measures by division

Maintain and modernize our assets

What are our assets?

MassDOT owns, operates and maintains an extensive and diverse set of assets. These include more than 3,000 miles of roadways, over 5,000 bridges, 17 maintenance facilities, more than 1,700 transit vehicles, 500 Commuter Rail vehicles, 134 Commuter Rail stations, 128 heavy and light rail stations and over 8,000 bus stops.

How do we maintain them?

Keeping these assets in good condition is critical to providing a safe and efficient transportation network for the Commonwealth. Each division manages its own set of assets, and utilizes strategies to inspect, analyze, and determine the best approach for allocating resources to the constant maintenance activities required. Figure 2 includes the list of the asset management measures for each division.

Highway Division

The Highway Division has responsibility for the majority of MassDOT's infrastructure assets. The Highway Division has an asset management strategy and plan that guides decisions related to how resources are allocated towards the established goals.

Aeronautics

Although the Aeronautics Division does not own assets at any of the Commonwealth's public-use airports, the Division acts as the program manager for airport projects. The Division ensures public safety by stewarding federal and state grants for maintenance and modernization of public-use airports. The Aeronautics Division inspects the condition of all airport pavements, including runways at the 36 airports that it oversees, to ensure that the pavement is in an acceptable condition.

Rail and Transit

The MBTA will continually update its state of good repair database, which greatly improves the agency's ability to understand needs and trade-offs, and allocate resources. The Regional Transit Authorities track fleet age as a measure of asset condition.

Maintenance measures

Highway Division measures
Bridge condition
Pavement condition
Tunnel outflow pumping rate

Aeronautics Division measures
Runway pavement condition

Rail and Transit measures
Elevator & escalator accessibility
Fleet age
Facility, track, and vehicle condition

Figure 2. Maintenance measures by division

Invest in the Commonwealth's transportation system

How do we invest in our system?

MassDOT's investment in the state's transportation system includes responsible oversight of construction projects, careful and planned allocation of funds, and fiscally responsible operation across all modes.

How do we track these activities?

The measures under this goal reflect both revenue and contract management. Efficiency in the contract management process translates into other benefits related to this goal.

Highway Division

The Highway Division measures focus on contract management.

Aeronautics

The Aeronautics Division tracks its rate of capital disbursement, another important management metric.

Rail and Transit

Beyond contract management, the measures of farebox recovery and revenue miles per vehicle provide an indication of the resource efficiency of the system.

Investment measures

Highway Division measures
Contracts trending on time and on budget
Contracts completed in year

Aeronautics Division measures
Capital budget disbursement

Rail and Transit measures
Projects completed on time and on budget
Projects currently under construction
Farebox recovery
Revenue miles per active vehicle

Figure 3. Investment measures by division

Plan and prioritize

How do we plan?

With so many competing needs for limited transportation dollars from federal and state sources, determining what gets modernized, built, replaced or maintained is an ongoing challenge. These decisions are made through a series of related planning efforts that involve multiple agencies, studies, project coordination, and funding mechanisms. The studies include long-range statewide capital investment plans and regional transportation plans that establish policy goals and annual statewide and regional transportation improvement programs that select specific projects that will work to help the Commonwealth achieve those goals.

How do we prioritize?

The Massachusetts Legislature created the Project Selection Advisory Council in 2013 to establish a data-driven project selection process to inform the priorities and projects included in the state transportation plan. This work has resulted in a set of criteria and goals that can be applied within the context of the Commonwealth's transportation planning processes. MassDOT has developed Planning for Performance (PfP), a data-driven tool that links the needs and conditions of the multi-modal transportation network to projected outcomes. This tool, which provides decision-makers with information about the implications of funding decisions in relationship to goals, was used in the weMove Massachusetts Long Range Transportation Plan for MassDOT released in 2014. It is now being implemented for the first time for capital budgeting purposes within the 2017-2021 Capital Improvement Plan. Once the PfP tool is refined and finalized, the performance measures within the tool will be linked or included to the measures tracked by OPM&I and included in subsequent *Trackers*. This will strengthen the link between the methods used to make decisions, and the tracking of the performance of those decisions.

Planning measures

Highway Division measures
Projects in the STIP
Projects planned for next year

Aeronautics Division measures
Projects planned for next year

Rail and Transit measures
Projects planned for next year

Figure 4. Planning measures by division

Figure 4 provides the measures by division that currently track planning and performance activities. These measures capture the scope of work that has been programmed and planned for the upcoming year, providing a trend view of the projects that MassDOT is managing.

MassDOT's performance targets

Performance targets are a critical element of any performance management practice. The operational divisions of MassDOT are revisiting previously established targets to determine whether and how those targets need to be adjusted. In some cases, these targets are being set through coordination with other MassDOT efforts such as the MBTA's updated Service Delivery Plan, and MassDOT's Capital Investment Plan. In other cases these targets will be set through an independent process involving division administrators, subject matter experts, and OPM&I. Each division will set both intermediate and aspirational goals for all performance measures. The following considerations will be incorporated into the process:

- Massachusetts legislative requirements related to performance measures goals and targets;
- Federal performance reporting requirements;
- Previously utilized performance targets;
- Trend performance data;
- Industry best practices; and
- MassDOT staff subject matter expertise.

MassDOT will finalize targets by June 2016 and begin reporting performance in relation to these metrics.

TRACKER numbers

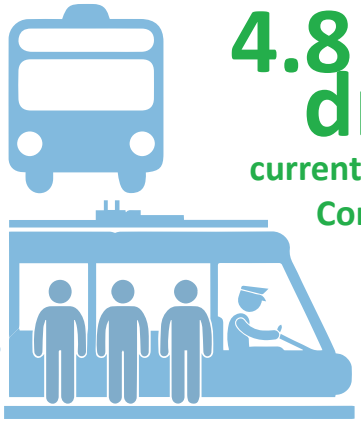
15 RTAs
providing public transportation across the Commonwealth

30 RMV branches
in Massachusetts serving 3.2 million customers in FY 2015

36 airports
public-use, general aviation

4.8 million drivers
currently licensed by the Commonwealth

991 buses, 651 trains,
operated by MBTA moving
> 390 million transit riders
in FY 2015



1,300 bikes and counting
Hubway bike-share bicycles, stations, and users continue to grow, contributing to sustainable public transportation

Over 5 million
registered vehicles in Massachusetts

> 5,000 bridges
maintained by MassDOT

> 2,800 miles
of state roadways maintained by MassDOT

massDOT Massachusetts Department of Transportation Highway Division

Overview

The Highway Division's 3,300 employees work to maintain a safe and durable highway network to both transport people and to support the Commonwealth's economy. Its core responsibilities are to:

- ***Ensure highway safety*** - The Highway Division ensures the highest standards of public and employee safety on the highway system and in Highway Division workplaces. Massachusetts has one of the lowest fatality rates in the nation. MassDOT's Highway Division, in conjunction with its partners in safety, implements safety improvements and initiatives to maintain this standing. Worker safety is also critically important and the Highway Division continues to implement best practices in safety equipment, training, and awareness.

- ***Design highway infrastructure*** - The Highway Division oversees the design of transportation improvement projects in a comprehensive and consistent manner, with a focus on safety, context-sensitive design, innovation, and multi-modal considerations. Projects are designed in accordance with the Massachusetts Project Development and Design Guide, as well as state and federal regulations. Permits and right of way acquisitions are secured in advance of construction. A comprehensive public outreach program exists to ensure that all road users and stakeholders have an opportunity or forum to vet concerns which are evaluated during the project development process. All projects are then aligned with state, local, and regional transportation plans.

- ***Construct and preserve highway infrastructure*** - The Highway Division oversees the annual road and bridge construction program, closely managing projects to ensure they are delivered safely, on time, on budget, and with high quality. The Division implements innovative construction techniques and effective traffic management strategies, to minimize the impact of MassDOT projects on roadway users and abutting communities. The Division provides sufficient oversight to guarantee cost effectiveness, high quality materials, and premium workmanship, ensuring capital investments result in long-term benefits for the Commonwealth.

- ***Maintain and operate highway infrastructure*** – The Highway Division operates and maintains the state highway system in a safe and effective manner that responds to customer needs. The Division minimizes clearance times associated with operator, weather, and maintenance-related incidents to improve safety and reduce congestion. The Division prioritizes maintenance projects to ensure a high performing, attractive highway system that is accessible to all.

For more information about the Highway Division, visit
http://www.massdot.state.ma.us/highway

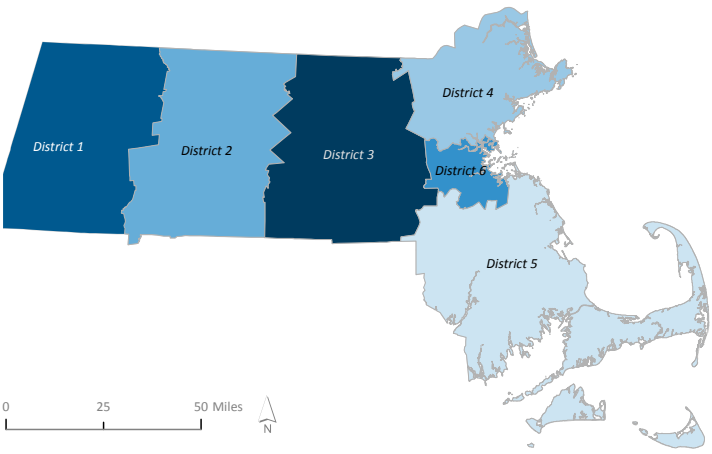


Figure 5. There are 6 highway districts across the state that manage operations and assets.

HIGHWAY DIVISION - 2015 SCORECARD

PURPOSE	PERFORMANCE MEASURE	CURRENT (FY 2015)	DESIRED TREND	CHANGE FROM FY 2014	MULTI-YEAR TREND[1]
	Number of fatalities per 100 million VMT (FFY)	0.79 (2014)	↓	↑ 0.21 (2013)	
	E-ZPass penetration rate	77.91%	↑	↑ 2.49%	
	E-ZPass transponders issued in year	274,260	↑	↑ 59,210	
	E-ZPass transponders in circulation	2,433,355	↑	↑ 274,260	
	Structurally deficient bridges	442	↓	↓ 10	
	Bridge Health Index	84.32	↑	↑ 1.61	
	Structurally deficient deck area	14%	↓	↑ 1%	data not available[2]
	Pavement Serviceability Index (PSI) (FFY)	66.0% (2014)	↑	0% (2013)	
	Customer Ride Satisfaction Index (CRSI) (FFY)	83.0% (2014)	↑	↑ 1% (2013)	
	Number of bridges posted for weight restriction	420	↓	↓ 3	
	Tunnel outflow pumping rate[3]	0.53 gallons per minute/1000 ft	↓	↑ 0.15 gallons per minute/1000 ft	
	Total tunnel outflow[3]	0.17 hundred million gallons	↓	↑ 0.01 hundred million gallons	
	Percent of contracts trending on or under budget	63%	↑	↓ 5%	
	Percent of contracts trending on time	58%	↑	↓ 9%	
	Number of contracts completed in year	179	n/a	↓ 32	
	% of projects advertised that are planned on STIP (FFY)[4]	81%	↑	↓ 8%	
	Number/value of projects planned for next year	172	n/a	n/a	n/a

[1]Data points reflect annual trends FY2011 - FY2015 (based on availability of data).

[2]Data for previous years not available

[3]Tunnel outflow pumping rate is a measurement of water entering the tunnels from a variety of sources, such as leaks, rain, snow, and tunnel washing.

[4]This metric has been updated to accurately reflect FFY 2015. In the original version of *Tracker,* the data only reflected the percentage of planned projects advertised through June 2015.

Serve our customers

Number of fatalities per 100 million VMT

The Highway Division measures safety mainly through the number of fatalities per 100 million vehicle miles traveled (VMT). Massachusetts has adopted the Federal Highway Administration's strategy, Toward Zero Deaths (TZD), as part of its overall highway safety initiative.

MassDOT reports the fatality number in five-year (federal fiscal) rolling averages, to account for outliers due to isolated incidents. The rolling five-year average of fatalities per 100 million vehicle miles traveled had been trending down between 2006 and 2013, but increased slightly in the most recent year reported. (The data for this measure lag due to the reporting and collection process and therefore more recent numbers are not available.)

Number of customers using E-ZPass and E-ZPass accounts

E-ZPass is MassDOT's electronic toll collection program. Established in 2008, it allows users to pay tolls via a transponder attached to the windshield. Currently, E-ZPass is accepted at all toll booth locations throughout the Commonwealth. The use of E-ZPass can be tracked by the E-ZPass penetration rate, which is the percentage of all toll transactions that are completed using a transponder. MassDOT seeks to increase this penetration rate number, since the use of transponders has positive impacts related to congestion, the environment, and safety. The penetration rate has been on a steady increase since 2011.

The E-ZPass penetration rate is a function of the number of transponders in the hands of customers, which the Highway Division tracks two ways: E-ZPass transponders in circulation, and E-ZPass transponders issued. The former is a measure of the size of the potential pool of users, and the latter measures the rate at which new customers are joining the program. MassDOT strives to increase both of these numbers, since the greater the pool of possible users, the higher the potential penetration rate. The number of transponders issued has increased annually since 2012, and the number in circulation has been on a steady climb since 2011. These metrics are especially critical as MassDOT prepares to launch the All Electronic Tolling System (AET). When AET is deployed a higher E-ZPass penetration rate will reduce AET operational costs for MassDOT. This program, expected to be operational by 2016, will completely automate toll collection statewide through either E-ZPass or Pay-by-Plate, with no cash payments expected by October 2016.

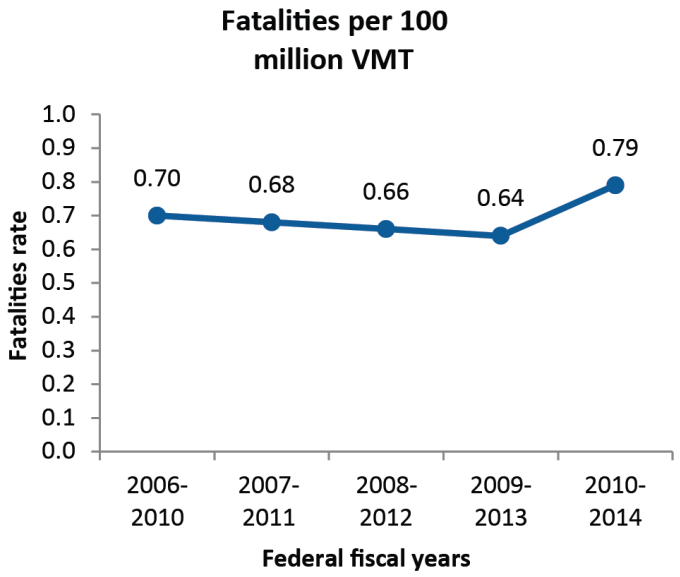


Figure 6. Rolling five (federal fiscal) year average of fatalities per 100 million VMTs

About the indicator

Fatalities per 100 million VMT

How it's measured:

Measured as the ratio of deaths on MassDOT roads compared to 100 million vehicle miles traveled.

Why it matters:

MassDOT has and will continue to remain vigilant in planning for safety and collision prevention, continues to reduce dangerous road conditions and promote safe habits in the Commonwealth's drivers.

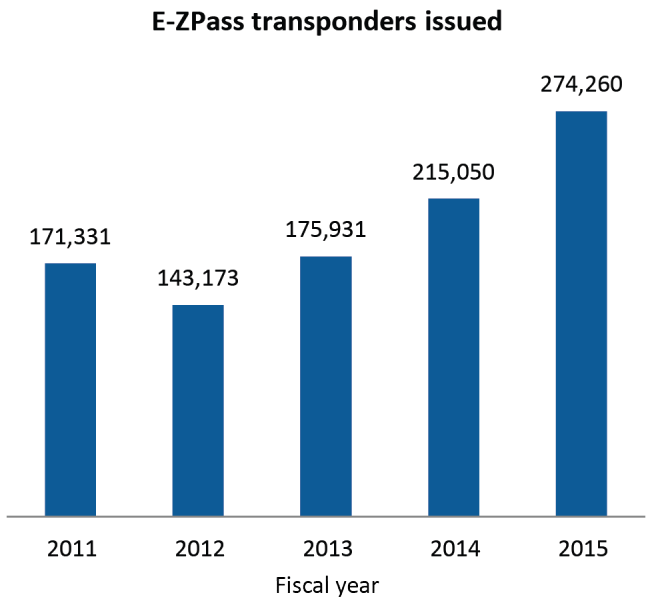


Figure 8. Number of E-ZPass transponders issued in each fiscal year since 2011

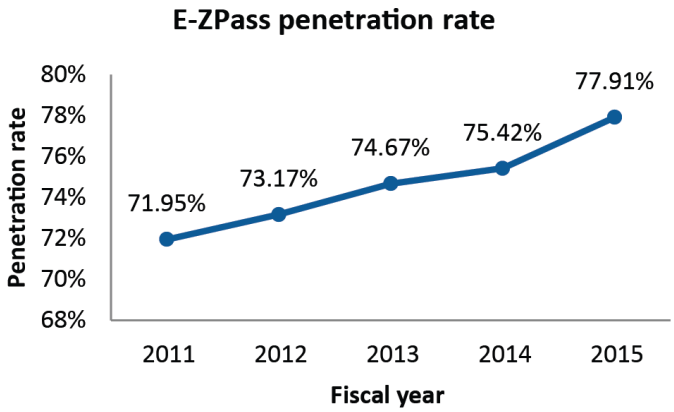


Figure 9. Five year trend of E-ZPass penetration rates

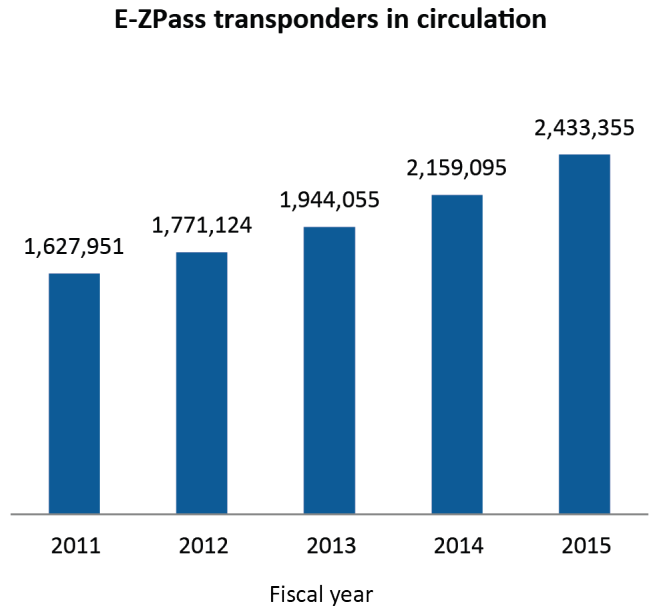


Figure 7. Number of E-ZPass transponders in circulation

About the indicator

E-ZPass penetration rate

How it's measured:

The percentage of customers paying tolls using a transponder. A transponder is a small electronic device that attaches to the inside of the vehicle windshield.

Why it matters:

Utilizing a transponder to complete toll payments provides benefits to MassDOT and all customers related to congestion, safety, and the environment.

Maintain and modernize

Bridge condition

MassDOT maintains over 5,000 bridges to ensure safe roadways throughout the Commonwealth. Many strategies utilized within the transportation industry measure and track bridge condition. OPM&I is currently reporting three measures.

Number of bridges posted for weight restrictions

When a bridge inspection results in the determination that a bridge is not suitable to carry a certain load, it is posted for a certain weight to restrict use by heavier vehicles. As depicted in the graph, the number of bridges posted for weight restriction has been declining since 2011.

Structurally deficient bridges

Structural deficiency (SD) is a key indicator of bridge safety and capacity. It is important to note that a structurally deficient rating does not mean that the bridge is unsafe, simply that it requires repair to one or more of its elements. There were 442 SD bridges by the end of FY 2015. MassDOT has consistently lowered this number since 2011. The Accelerated Bridge Program has been a major contributor to this decrease.

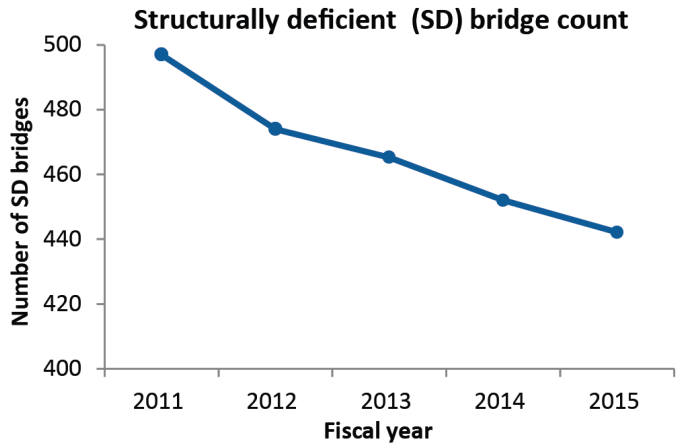


Figure 11. Structurally deficient bridges over the past five fiscal years

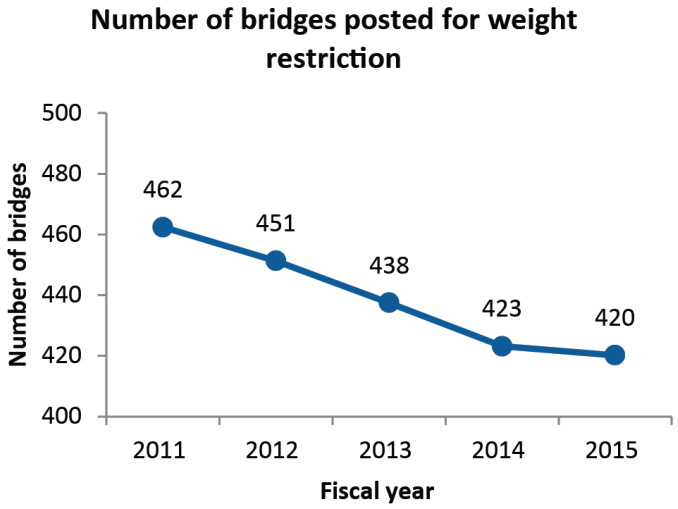


Figure 10. Number of bridges posted for weight restrictions over the past five fiscal years

About the indicators

Structurally deficient bridges and bridges posted for weight restriction

How they're measured:

Using regular inspection data, bridges are rated on a scale of 0 to 9. A bridge is rated as structurally deficient when the combination of its major components (deck, substructure and superstructure) have measurably deteriorated to the point at which action is needed or when any individual component is rated at four or below on the nine-point scale. When an inspection determines that a bridge is not structurally sufficient to carry a threshold vehicle weight, it is posted to restrict heavier vehicles until the structure can be updated.

Why they matter:

This measure is an indicator for the general condition and safety of the Commonwealth's bridges and demonstrates a backlog of maintenance and construction work.

Structurally deficient deck area

This provides a different SD bridge measure by taking into consideration the size of the bridge spans. This measure is calculated by comparing the amount of deck area that is structurally deficient to the total area of bridge deck in the Commonwealth. All state DOTs are required to report this measure, per the National Performance Program outlined in the MAP-21 federal transportation legislation. States reporting more than 10 percent of bridge deck area as structurally deficient on National Highway System bridges will be required to allocate a certain percentage of funds to the Highway Bridge Program until the standard is met. On the MassDOT system, the SD deck area has been hovering between 13 and 15 percent over the past few years.

Bridge Health Index

The Bridge Health Index (BHI), calculated as a weighted average of the health indices of its elements (e.g. trusses, decks, bridge rails), is another view of the condition of all bridges throughout the Commonwealth. Consistent with the decline in structurally deficient bridges, the BHI has been trending up since 2011. The significant increase in reported BHI between FY 2014 and FY 2015 is due to a change in bridge inspection methodologies. To be in compliance with MAP-21 requirements, MassDOT is in the process of recalculating the quantities and costs associated with bridge elements. Because this change is being implemented as inspections are performed, it will take a full two-year cycle for the results to stabilize.

About the indicator

Structurally deficient deck area

How it's measured:

This measure is calculated using the full extent of all structurally deficient bridge deck spans throughout the Commonwealth. This number is compared to the aggregate deck area of all bridges, to come to a percentage of structurally deficient deck area.

Why it matters:

This metric will be required for reporting as an additional bridge condition measure, per the National Highway Performance Program outlined in MAP-21 Federal transportation legislation.

Overall condition of the Commonwealth's bridges continue to improve annually.

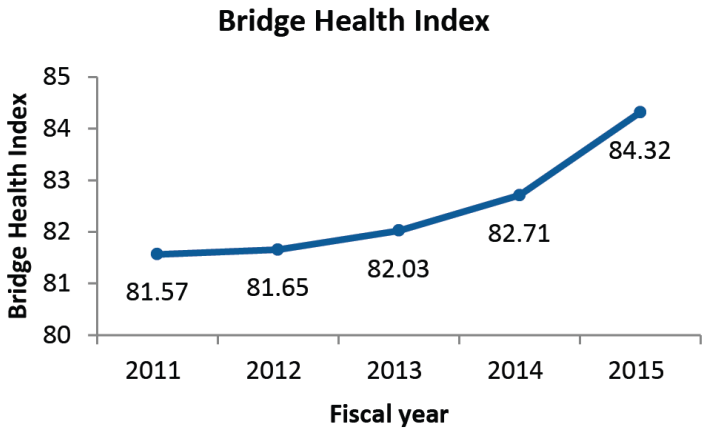


Figure 12. Bridge Health Index five year trend

About the indicator

Bridge Health Index

How it's measured:

This measure, reported on a scale of 0 to 100, reflects element inspection data in relation to the asset value of a bridge or network of bridges.

Why it matters:

This measure provides a comprehensive overview of the condition of all bridge elements across the network.

Pavement quality

MassDOT measures the overall condition of the pavement using two measures: Pavement Serviceability Index and Customer Ride Satisfaction Index.

Pavement Serviceability Index (PSI)

PSI measures the condition of the pavement from impassable to perfectly smooth. It is reported as the percentage of pavement in good or excellent condition. This measure is reported on the federal fiscal year, so therefore data for 2015 is not yet available. For FY 2013 and 2014, PSI held at 66%.

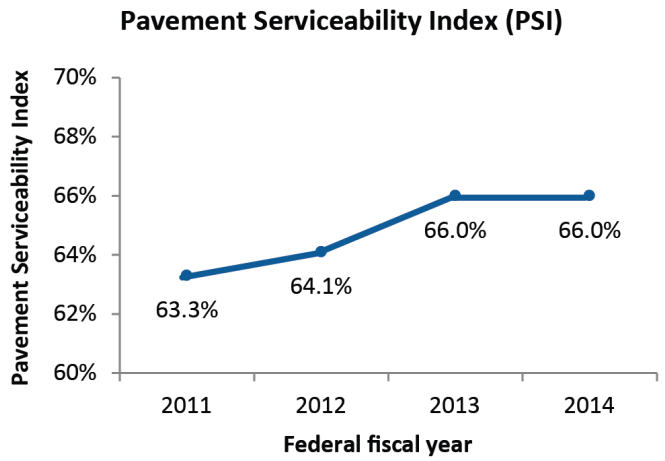


Figure 13. PSI four-year trend

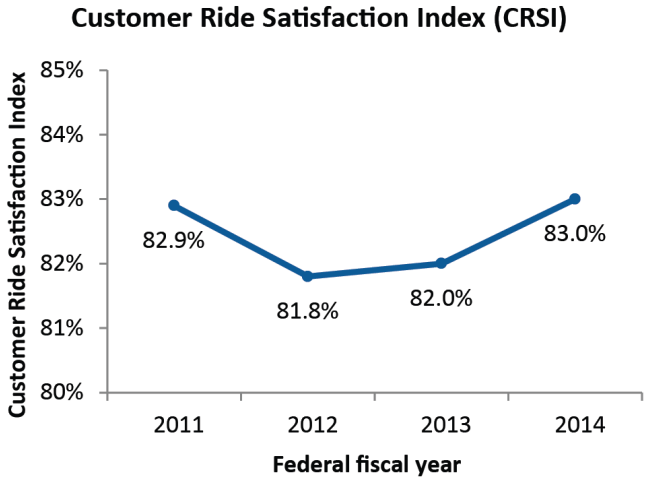


Figure 14. CRSI four-year trend

Customer Ride Satisfaction Index (CRSI)

The Customer Ride Satisfaction Index (CRSI) is calculated using a testing vehicle that simulates the experience of the customer on the roadway. This measure reached 83 percent of pavement in good or excellent condition in FFY 2014.

About the indicator

Pavement Serviceability Index (PSI)

How it's measured:

The 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.

Why it matters:

Roadways under the jurisdiction of MassDOT account for only 13% of the lane miles statewide, but carry 58% of the annual vehicle miles traveled in the Commonwealth. PSI helps the Highway Division plan and estimate pavement maintenance needs and ensure a level of service for roadway users.

About the indicator

Customer Ride Satisfaction Index (CRSI)

How it's measured:

A testing vehicle equipped with a measurement system that contains a combination of lasers and accelerometers determines the longitudinal pavement profile and ultimately the pavement smoothness.

Why it matters:

CRSI is an indicator of pavement smoothness as measured by the International Roughness Index (IRI) which has become the preferred method worldwide for reporting road roughness. Thresholds classify roadway conditions as Excellent, Good, Fair, or Poor and most closely align with the conditions a customer experiences on the road.

Tunnel outflow pumping rate

To help identify issues related to tunnel maintenance, the Highway Division tracks tunnel outflow pumping rates. This metric has been estimated using data from Central Artery pump stations. The graph below represents the outflow rate across all tunnels since 2007. These numbers take into account all potential sources of water (including rain, snow carried in from vehicles, tunnel washing operations, etc.) and do not represent outflow solely from leaks. Even after including these other significant contributors, the tunnel outflow rates are consistently below the industry standard cited by FHWA[1] of 1 gallon per minute (gpm) per 1000 feet of tunnel.

L = Q*1000-ft / [Ld * D * 24 hrs/day * 60 min/hr]

where:
Q = Total Outflow, gallons
Ld = Drainage Area Length or Tunnel Length
D = Days of data. 365 except 2015, which is only 280.
L = leakage rate, gpm/1000-ft

[1]Section 5.2.2 of FHWA Tunnel Leak Assessment Boston Central Artery, 2005. http://www.fhwa.dot.gov/reports/centralarterytunnel/

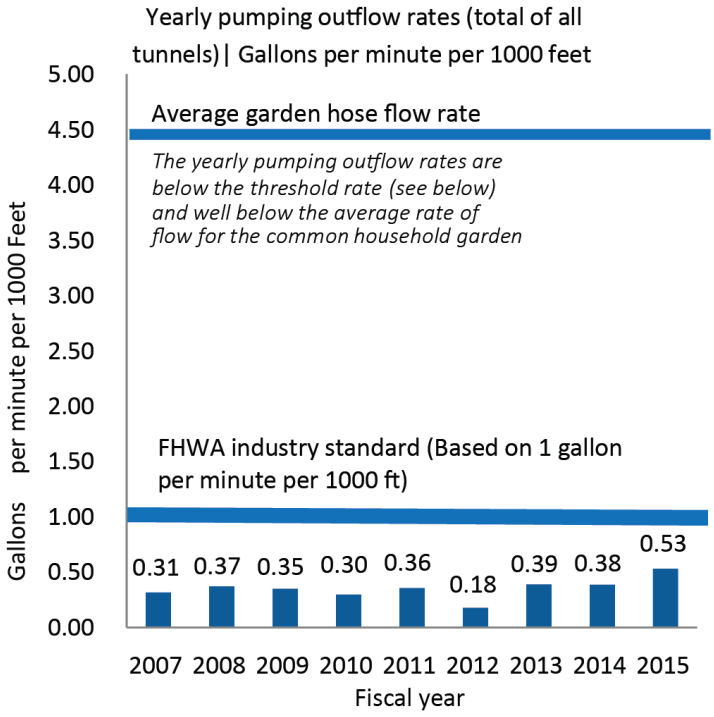


Figure 15. Yearly pumping outflow rates of all MassDOT tunnels since 2007, compared to the average garden hose flow rate

About the indicator

Tunnel pumping outflow rates

How it's measured:

Tunnel outflow pumping rate is a measurement of all water pumped out of the tunnels maintained by MassDOT, measured in two ways. First, the total outflow rate of Central Artery pump stations are measured in gallons. Second, this information is combined with other variables (such as the length of tunnels) to identify the estimated tunnel outflow rate in gallons per minute per 1000 feet. This estimate does include outflow caused by rainfall entering the tunnel (which is an estimated 70% of outflow during a rain event).

See equation to the left.

Why it matters:

This metric helps MassDOT identify where repairs or maintenance may be needed to maintain the safety and operation of tunnels in the Commonwealth.

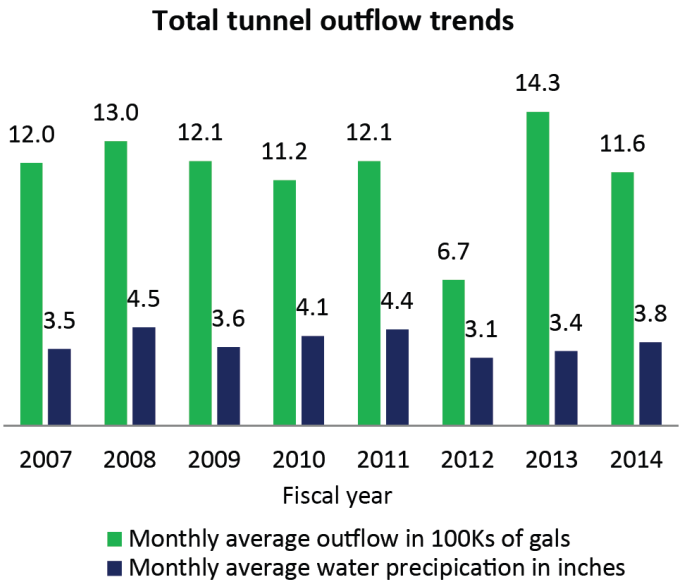


Figure 16. Monthly average outflow rates of all tunnels since 2007 compared to monthly average precipitation in inches

Invest

The measures in this section track how the Highway Division manages its contracts through construction to completion. They are presented as "trending" because lingering contract details often extend beyond when a contract is functionally complete. Because highway construction contracts are complex, variables can impact their ability to be completed on time and on budget.

Number of contracts trending[2] on or under budget

The percentage of contracts trending on or under budget has continued to decline since 2013. In FY 2015, 63 percent of contracts were trending on budget for completion.

Number of contracts trending[2] on time

The percentage of contracts trending on time has declined since 2011. In FY 2015, 58 percent of contracts were trending on time for completion.

Number of contracts completed in year

As shown in Figure 17 and Figure 18 the number of contracts completed has been trending down steadily since 2011.

About the indicators

Contracts trending on budget and on time

How they're measured:

These measures compare the number of contracts completed on or under budget and/or on time against all contracts.

Why they matter:

MassDOT manages contracts through extensive project and internal controls. These metrics, along with other factors, provide an indication of the effectiveness of those strategies.

2. The phrase "trending on time" or "trending on budget" is applied to projects that are functionally complete. Construction contracts may appear to be complete, but until a contract has been signed off by the District Highway Director as meeting the requirements of the contract, and the Fiscal Department has finalized the contract costs, dates and cost may change. As the finalizing of a contract could take up to two years after a contract appears to have been completed, the term "trending" is used when generating on-time and on-budget metrics.

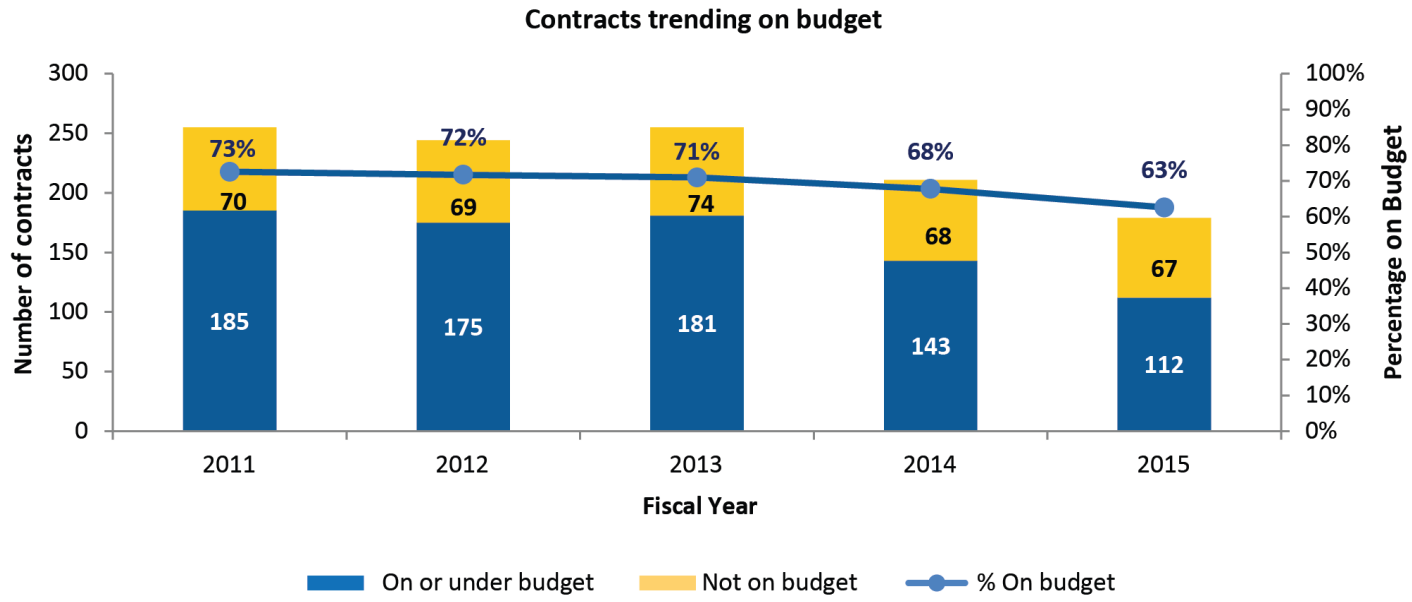


Figure 17. The percentage and number of contracts on or under budget, and the number of contracts over budget

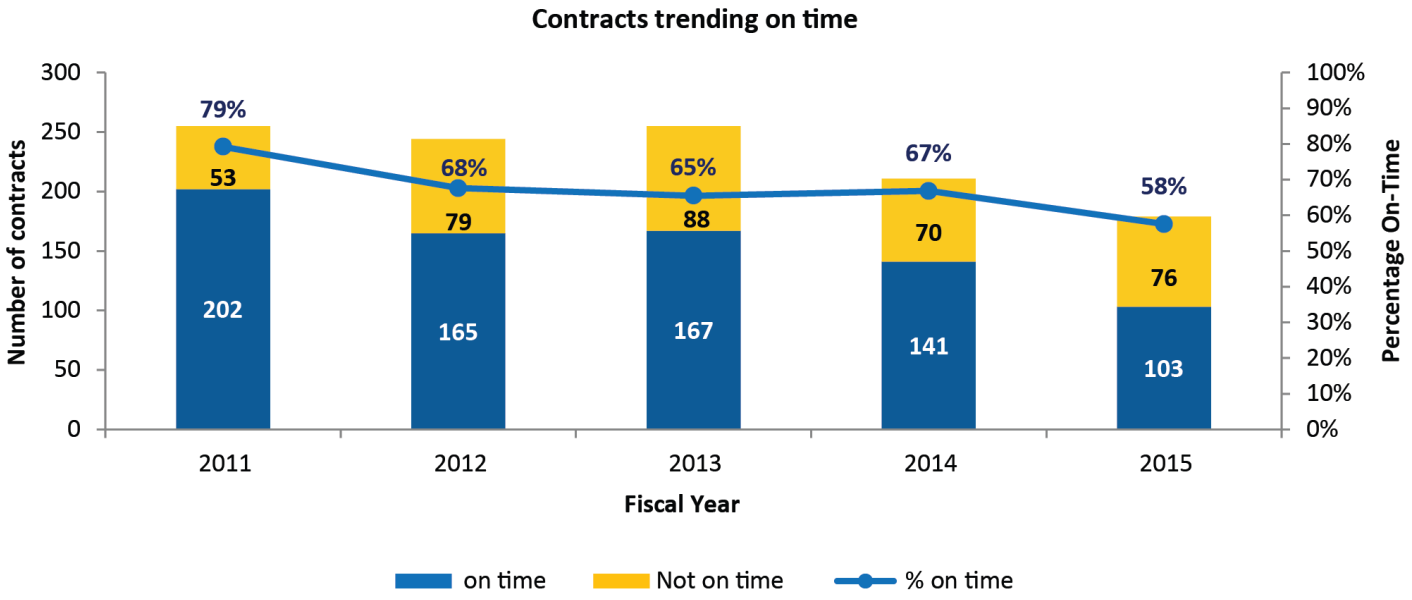


Figure 18. Number and percentage of contracts considered on-time and the number of contracts which are not on time

Plan and prioritize

The Office of Transportation Planning is working with the Highway Division (in addition to the other operational divisions) to create a performance-based, data-driven project selection process and tool for use in development of the Capital Improvement Plan. In future *Trackers*, the link between planning, prioritizing, and network performance will be tightened. In the meantime, performance in this area is measured by the extent of projects planned.

Projects advertised on the STIP

The State Transportation Improvement Program (STIP) outlines all projects funded with federal funds in a fiscal year. Tracking the percentage of projects listed on the STIP that were advertised is a useful lens into the execution of the work that was planned. The percentage of planned projects advertised dropped by 8% in FFY 2015 to 81% from the 89% in FFY 2014.[1]

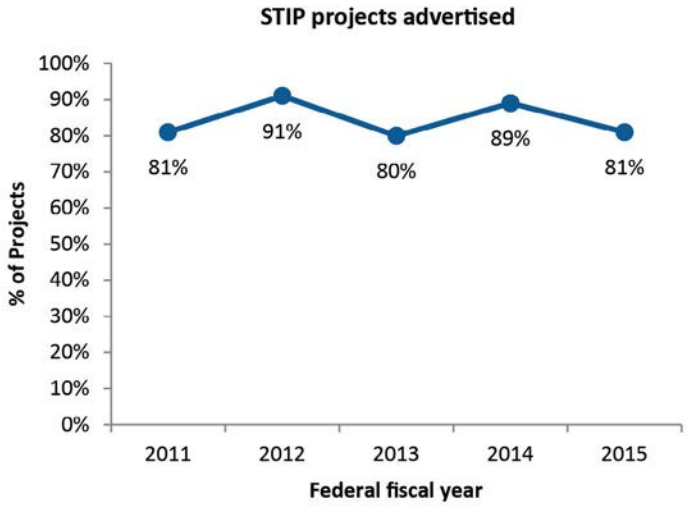


Figure 19. Percentage of planned STIP projects advertised

Number of projects planned for next year

Tracking the number and value of contracts planned for each year shows whether or not the amount of work to be completed is relatively consistent from one year to the next. For FY 2016, MassDOT is planning to launch 172 projects, which is just slightly fewer than what was completed in FY 2015 (179).

[1]This metric has been updated to accurately reflect FFY 2015. In the original version of *Tracker*, the data only reflected the percentage of planned projects advertised through June 2015.

About the indicator

Projects advertised on the STIP

How it's measured:

This measure tracks the number of projects, listed on the STIP, that are scheduled to begin in the upcoming year. The number of projects scheduled to begin in the following fiscal year is derived based on the number of projects expected to be given a Notice-to-Proceed in the fiscal year, using an average time of 220 days between advertisement and Notice-to-Proceed.

Why it matters:

This measure tracks the consistency of the number of projects that are planned from one year to the next.

About the indicator

Projects planned for next year

How it's measured:

This measure tracks the percentage of those projects listed on the State Transportation Improvement Plan that were advertised for bid.

Why it matters:

Advertising projects listed on the STIP is a process involving many steps and coordination among departments. This measure provides a view of the effectiveness of that process, and commits MassDOT to implementing the projects we have planned and prioritized.

Other measures

Chapter 46 of the Acts of 2013 set out specific goals and targets to be tracked and measured by OPM&I. This report presents almost all of those measures. Goals, guided by the legislation, will be included in upcoming versions of this report once MassDOT staff work to define and finalize these. In addition, measures defined through the MAP-21 legislation (once they are finalized) will be included in future *Trackers*. There are, however, two measures listed in the Massachusetts legislation that are not yet mature enough for presentation.

Administrative and maintenance disbursement rates per mile

These measures are listed in Massachusetts legislation, and are also a reporting requirement by the Federal Highway Administration (FHWA). The Highway Division is in the process of working with FHWA to resume regular reporting of these measures. OPM&I will include them in future performance reports.

Projects currently under construction, number of serious injuries, and accident rate

These measures are all identified in Massachusetts legislation, and are all related to others currently reported (e.g. projects completed in year, fatality rate, etc.). For reasons related to measure definition and data collection, they are not currently available to report. OPM&I will work with the Highway Division to determine whether and how they will be represented in future performance reports.

Number of incidents that have caused delays or closures

The MassDOT Highway Operations Center (HOC) is the Commonwealth's 24/7/365 traffic management center. It is responsible for detecting and receiving reports about roadway incidents, responding to facility alarms, managing security systems, and coordinating traffic operations, maintenance and emergency response activities. Currently, the HOC incident data are not linked to the reporting of delays and closures; therefore, this measure is not available. The Highway Division is currently implementing an Integrated Traffic Management System, which will coordinate these data, improve service, and allow this measure to be tracked.

Commute time and congestion

In addition to measuring commute times, MassDOT is mandated to provide a system congestion measure to the federal government, per MAP-21. The federal measure is not yet finalized (and is expected in 2016), but OPM&I and the Highway Division staff have been working to explore the available data and possible methodologies.

Through its GoTime Bluetooth system, MassDOT has been collecting travel and speed data along roadways in the Commonwealth since 2012. The system infrastructure is still being implemented to span the entire state, but is currently operational on key travel corridors (see Figure 20 and Figure 21). Real-time travel time estimates are provided to drivers on message boards along roadways to provide actual information on roadway conditions and congestion. In addition to this application, the data can be utilized in the context of performance management.

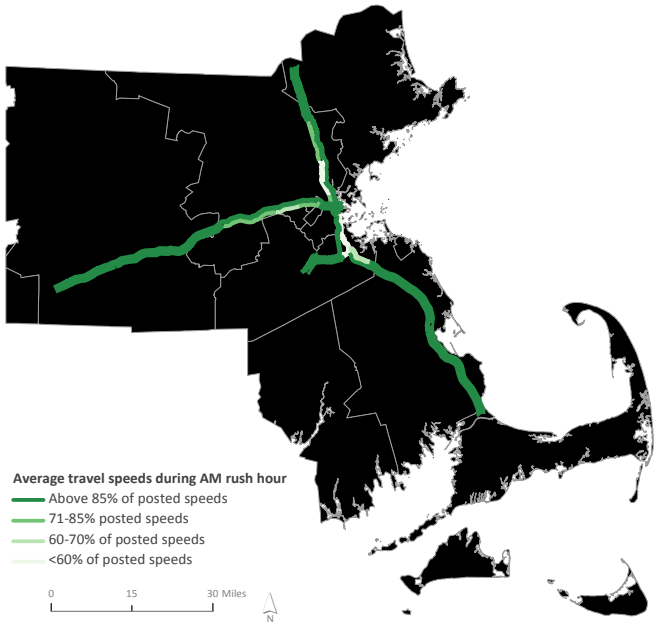


Figure 20. Map of morning rush hour (6am - 10am) travel speeds on major highways, as a percentage of posted speed limits

Measuring commute times and congestion on a statewide or regional scale is challenging, and should be done comprehensively with consideration of all modes. MassDOT will continue to work on determining the best measurement and reporting methodology. As a first step, OPM&I staff has been analyzing the GoTime data to see what can be learned. These are not mature measures of congestion, but are presented here as an illustration of some initial thinking and analysis in this process. The maps (Figure 20 and Figure 21) depict average travel speeds during the peak commute hours[3] along most of the GoTime routes in the state, in relation to the posted speed limit. They describe the extent of congested roadways and highlight the areas that experience the slowest sustained speeds.

To explore the trends that are emerging on the maps, OPM&I selected some road segments (Figure 22) to further analyze the connections between our roadway capacity and regional travel behavior. As a sample of possible presentations, the following three graphs illustrate some basic insights, and suggest further avenues for analysis.

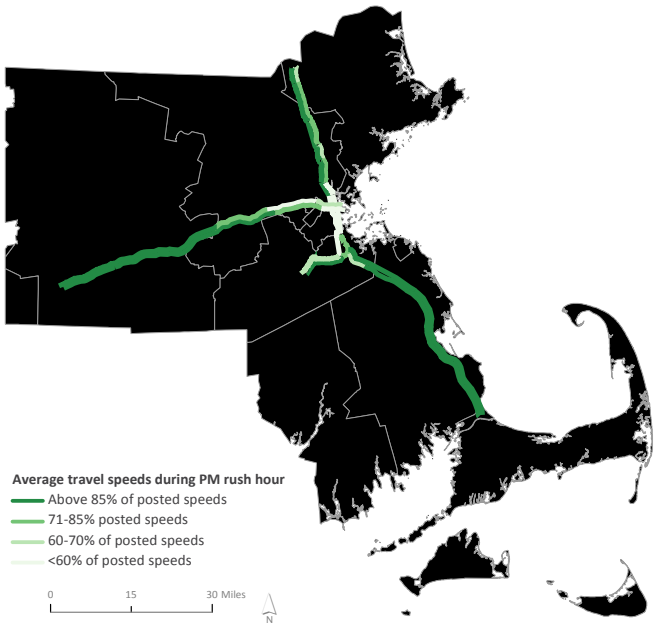


Figure 21. Map of evening rush hour (4pm -7pm) travel speeds on major highways, as a percentage of posted speed limits

Figure 22. Approximate location of road segments analyzed by OPM&I. (Roadways not to scale - for visualization purposes only.)

[3] AM and PM Peak Period definitions were taken from the definition in the "FHWA Urban Congestion Report" <http://www.ops.fhwa.dot.gov/perf_measurement/ucr/documentation.htm>, "How Are the Measures Developed" section.

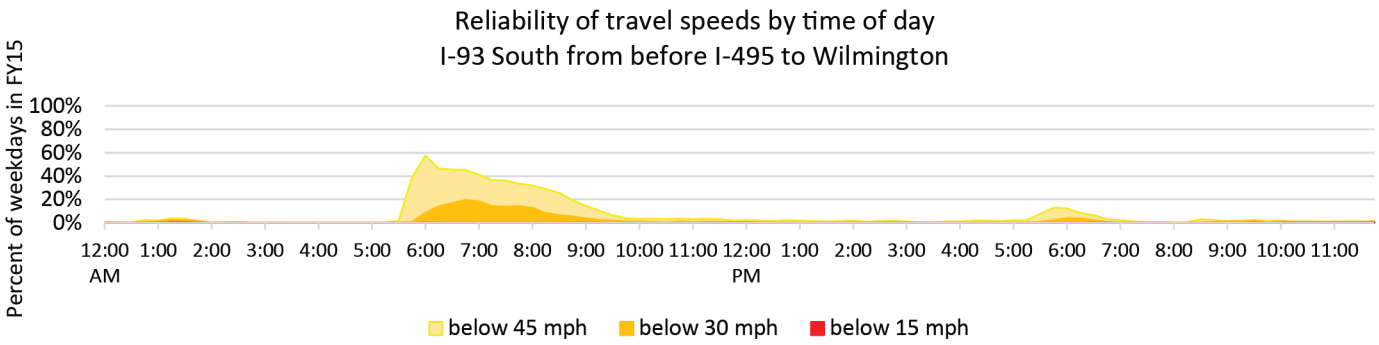


Figure 23. This segment (Segment A) follows I-93 southbound from before the I-495 interchange most of the way to I-95/128. AM peak speeds frequently stay above 45 mph, but not reliably. Between 6:00 AM and 8:00 AM, travelers have a good chance of being slowed below 45 mph, and a moderate chance of being slowed below 30 mph. The timing of the AM peak is much earlier than other segments, reflecting additional travel times towards workplaces further away.

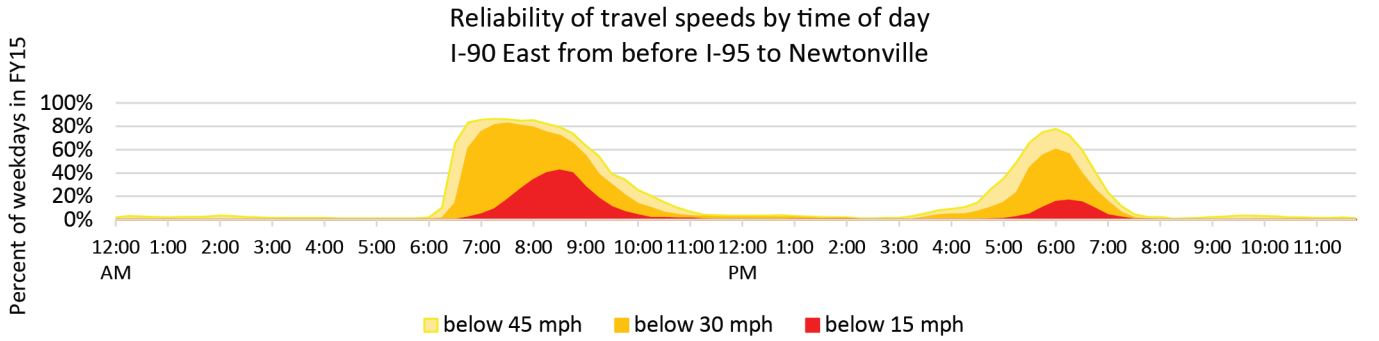


Figure 24. This segment (Segment B) follows the Mass Turnpike eastbound from slightly before the Weston Tolls to slightly before Exit 17 Newton/ Watertown. Traffic speeds are predictably slowed to below 30 mph in the AM peak, with speeds below 15 mph occurring somewhat irregularly. Traffic speeds also slow less severely in the PM peak, possibly reflecting a high volume of reverse commutes.

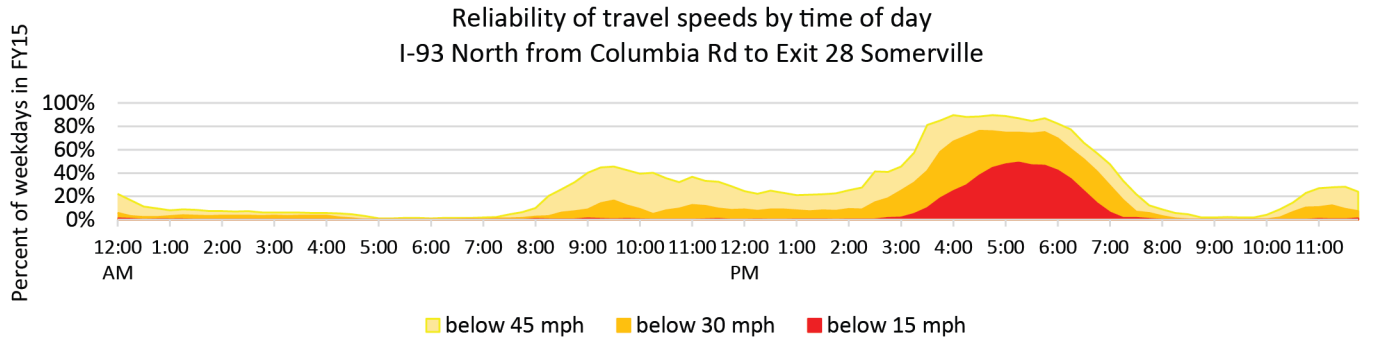


Figure 25. This segment (Segment C) follows I-93 northbound, into and through downtown Boston. Traffic speeds are slowed somewhat throughout the day, from at least 8:30 AM to 7:30 PM. Traffic speeds are slowed the most during the PM rush, with a moderate degree of unpredictability. Between 5:00 and 6:00 PM, travelers can plan on traveling below 45 mph, which will occur 85% of the time, but have less certainty about whether they will travel much more slowly, with about 45% chance of speeds below 15 mph.

massDOT
Massachusetts Department of Transportation
Aeronautics Division

Overview

The goal of the Aeronautics Division is to promote aviation throughout the Commonwealth while establishing an efficient integrated airport system that will enhance airport safety, economic development, and environmental stewardship. The Aeronautics Division regulates 36 of the 39 public-use general aviation airports, private restricted landing areas (PRLAs) and seaplane bases throughout the Commonwealth. The three remaining airports (Worcester, Hanscom, and Logan) are under the jurisdiction of the Massachusetts Port Authority (Massport). The Aeronautics Division certifies airports and heliports, licenses airport managers, conducts annual airport inspections, and enforces safety and security regulations. In addition, its responsibilities include:

- Overseeing the statewide Airport Capital Projects Program;
- Developing statewide aviation safety programs;
- Overseeing state-owned navigational aids;
- Conducting statewide aviation planning studies;
- Implementing statewide airport security initiatives ; and
- Promoting statewide aviation education.

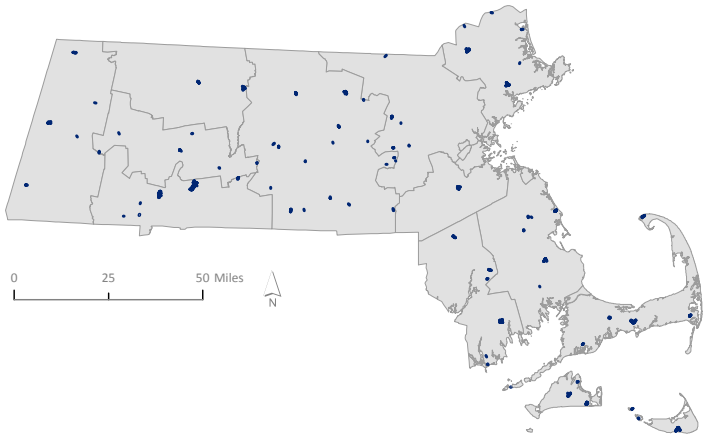


Figure 26. Approximate locations of aviation-related facilities under the oversight of MassDOT Aeronautics

AERONAUTICS DIVISION - 2015 SCORECARD

PURPOSE	PERFORMANCE MEASURE	CURRENT[1]	DESIRED TREND	CHANGE FROM PREVIOUS	MULTI - YEAR TREND[2]
	Number of aircraft based at airports	2,598	n/a	↓ 16	
	Change in total takeoffs and landings at the towered airports	498,731 (2014)	n/a	↓ 39,555 (2013)	
	Capital budget disbursement	83.4%	↑	↓ 8.8%	
	Pavement Condition Index (PCI)[3]	70 (2012)	↑	data not available[3]	data not available[4]

[1]Data in this scorecard is reported in Calendar Year, unless otherwise noted.
[2]Data points reflect annual trends FY2011 - FY2015 (based on availability of data).
[3]Pavement Management Study is conducted every five years. Last study was in 2012 and the next study will be in 2017. While empirical data across multiple years is not available, inspections indicate improvement.
[4]Data for previous years not available; FY2012 data will be used to create a baseline for future comparison

Serve our customers

Change in number of aircraft based at Massachusetts airports

The collective number of aircraft based at airports throughout the Commonwealth is one indicator of both aviation activity and the economic development airports provide since, for example, aircrafts based at airports can lead to additional dollars spent at the airport on fuel, hangar leases, tie-down rentals, aircraft maintenance, and flight school fees. Additionally, the local economy is buoyed by employee salaries and through other direct and indirect positive impacts. Since 2011 the number of aircraft based at all towered airports has remained relatively steady, between 2,574 and 2,629. As of now, MassDOT has not established a target for this measure. OPM&I will work with the Aeronautics Division to determine whether this measure should be linked to a target and, if so, what that number should be.

Change in total takeoffs and landings at Massachusetts airports

The number of takeoffs and landings is another measure of aviation activity. While a function of the number of aircraft based at these airports, this measure also captures the activity of aircraft landing from other locations, both nationally and internationally, and thus offers some indication about the experience of local and visiting customers of that airport. Overall, this activity has been trending down since 2012.

As a new measure tied to performance, the Aeronautics Division has not fully analyzed how this activity relates to capacity, what targets may be appropriate to establish, or the actions it could take to increase this activity (if that would be desirable). In the coming year, OPM&I will work with the Division to further determine what can be learned from these data.

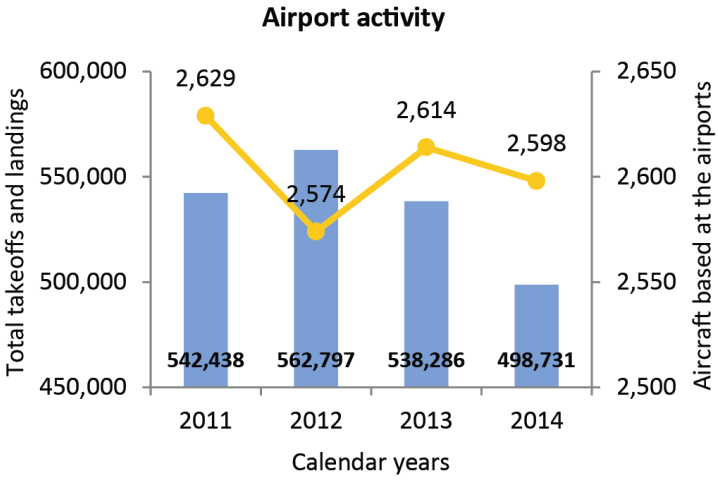


Figure 27. Number of takeoffs and landings at MassDOT-towered airports over the past four years and number of aircraft based at MassDOT airports

About the indicators

Takeoffs, landings, and aircrafts

How they're measured:

This number is reported by the air traffic control tower managers at each of the towered airports regulated by the Aeronautics Division.

Why they matter:

These three metrics, together, provide a picture of activity level at the airports. An increase in, or consistent level of, activity may indicate customer satisfaction. It also provides insight into the economic impact that the airports are having on the surrounding communities.

Invest

Capital budget disbursement

The Aeronautics Division sets a goal to spend 90% of the funds budgeted for airport capital improvements each year. In FY 2015, the Aeronautics Division disbursed just over 83% of its capital budget. The Division's budget was reduced, mid-year, from an original amount of $23 million to a final budget of $12 million. This budget adjustment and the unspent capital budget was in response to the Secretary's request to delay any infrastructure projects in FY 2015 that would not have severe implications for the airports.

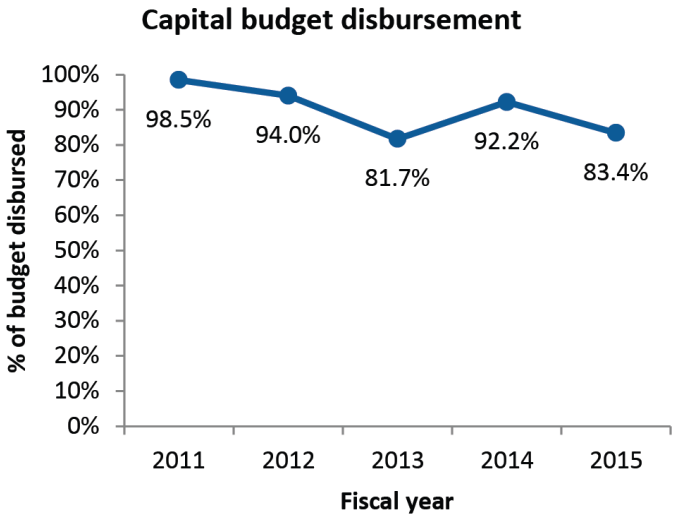


Figure 28. Percentage of aeronautics capital budget disbursed each fiscal year

About the indicator

Capital budget disbursement

How it's measured:

Percentage of total allocated capital budget that is dispersed to contractors, vendors, etc. by the end of the year.

Why it matters:

This measure is an indicator of how well the Aeronautics Division is executing its planned expenditures.

Maintain & modernize

Percent of system airports with a runway classification "good"

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. Airport pavement weaknesses, such as cracks and loose debris, pose a significant safety risk. Pavement rehabilitation costs increase as conditions deteriorate.

Runway pavement condition is monitored using a statewide airport pavement management system. The Aeronautics Division established this in 2012 to monitor the condition of the Massachusetts airport pavement. This tool is useful to the airports, MassDOT Aeronautics, and the FAA as they identify pavement-related needs, optimize the selection of projects and treatments over a multi-year period, and evaluate the long-term impact of project priorities. In 2012 the average Pavement Condition Index (PCI) was measured at 70, meaning 70% of airport pavements have a PCI of 65 or higher, which is considered "good." This measurement will be taken again in 2017, at which point the new condition index rating will be reported.

Other measures

Number of projects trending on time and on or under budget

The Aeronautics Division is currently developing an Airport Information Resource Portal (AIR-PORT), software which will provide staff with a tool to measure and track activities related to the plan and prioritize goal area and are required by Massachusetts legislation. These measures will be included in future performance reporting documents:

- Number of projects completed on or under budget in year
- Value of projects completed on time in year
- Value of projects completed and the number and/or value of projects currently under construction
- Number and value of projects planned for upcoming year

massDOT
Massachusetts Department of Transportation
Registry of Motor Vehicles

Overview

The mission of the Registry of Motor Vehicles (RMV) is to develop and support policies and procedures that enhance and ensure the safety of its customers by licensing only qualified individuals, registering and titling vehicles appropriately, and inspecting vehicles and buses to keep drivers and passengers safe.

The RMV, which was responsible for collecting more than $581 million in revenue in FY2015, has a staff of approximately 730 employees who regulate the Commonwealth's motor vehicles, identification cards, driver's licenses, motor vehicle registrations and titles, vehicle and bus inspections, and the Merit Rating Board (MRB). Among its many functions, the RMV:

- Licensed 67,651 drivers in FY2015 (not including renewed licenses), to ensure that only qualified individuals operate motor vehicles in the Commonwealth. An estimated 4.8 million drivers are currently licensed by the Commonwealth;
- Registered and titled over 1.3 million vehicles in FY2015, protecting drivers and providing a database of motor vehicle assets;
- Issued 194,424 license suspension notices in FY2015, helping to keep the Commonwealth's roadways safe;
- Inspects 9,000 school buses three times per year, to protect the safety of student riders;
- Oversees more than 1,600 commercial and non-commercial inspection stations;
- Oversees annual safety and emission checks on over 4.4 million vehicles to ensure the safety of vehicles traveling on Massachusetts roadways and to protect air quality and the environment for the public's benefit;
- Maintains, through the MRB, operator driving records consisting of traffic law violations, at-fault and comprehensive insurance claim records, and out-of-state driving records;
- Certifies more than 400 driving schools and nearly 1,800 driving instructors to ensure that Massachusetts motorists receive proper education and training;
- And maintains and operates 30 branch locations throughout the Commonwealth to provide these services.

The following indicators of RMV performance help to inform leaders and staff of the RMV branches so that processes are effective, efficient, and secure and to continuously improve the RMV customers' experience. For example, in FY2015 the RMV launched a data-driven effort to reduce the customer wait times at branches around the Commonwealth. This effort has already shown promising results, which will be fully realized and documented in FY2016.

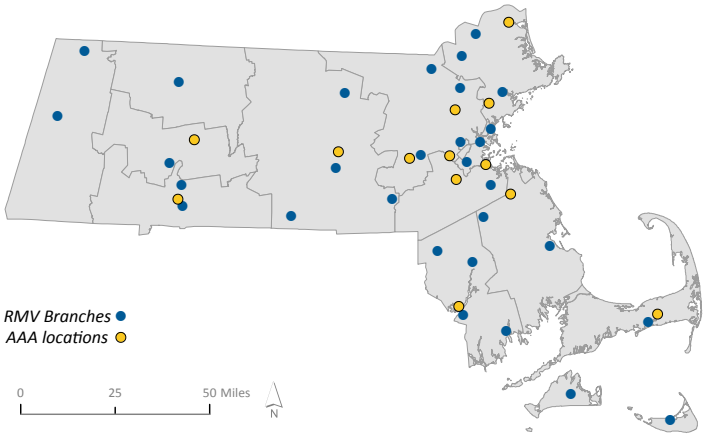


Figure 29. RMV branch locations and American Automobile Association (AAA) partner locations

RMV DIVISION - 2015 SCORECARD

PURPOSE	PERFORMANCE MEASURE	CURRENT (FY 2015)	DESIRED TREND	CHANGE FROM FY 2014	MULTI - YEAR TREND[1]
	Branch wait time (systemwide): Percent of total customers waiting less than 30 minutes	59.92%	↑	↑ 3.6%	data not available[2]
	Branch wait time (systemwide): Percent of total customers waiting between 30 and 59 minutes	26.45%	↓	↑ 0.8%	data not available[2]
	Branch wait time (systemwide): Percent of total customers waiting one hour or more	16.63%	↓	↓ 1.62%	data not available[2]
	Call center average wait time	13:08	↓	↓ 13:48	
	Road test average wait time	39 days	↓	↑ 2 days	

[1]Data points reflect annual trends FY2011 - FY2015 (based on availability of data).
[2]Data for previous years not available; FY2015 data will be used to create a baseline for future comparison

Serve our customers

Service channels

Each day customers utilize the services of the RMV for a range of reasons: new and renewed licenses and vehicle registrations, ID card issuance, change of address records, and others. Some of these service requests must occur in person at a branch location (for example, if a new photo is required for an ID or license), but many can be conducted online, by phone, at a partnering agency location or at an RMV kiosk. Not only are these out-of-branch services more convenient and less time-consuming for the customers, but by reducing in-person wait times, they translate into shorter wait times for the customers who must complete certain service requests in the branches. The RMV is committed to increasing the percentage of customers utilizing online and other out-of-branch service channels.

Out-of-branch service channels, include among others, AAA branches, dealerships, online services, the RMV call center, and mail-in or drop-off requests.

Total volume of work in branches has decreased over the past five years, while out-of-branch channel utilization has increased, showing a positive trend towards the overall goal of increasing out-of-branch channel utilization. Although out-of-branch service requests continue to increase, in-branch channels remain the most utilized channel of service.

Even when in-person presence is required, some work items can be completed with the use of self-service kiosks now located in some branches. A self-service kiosk can, for example, take a new photo for an ID, allowing the customer to skip the wait to see a customer service representative. Boston has the highest use of self-service kiosks with approximately 2,310 service requests completed in FY2015 (the branch has two kiosks available for use). Watertown and Worcester also show high usage of kiosks (Worcester also has two kiosks available for use) with 1,901 and 1,620 service requests completed in FY 2015 respectively. While these are self-service, customer service representatives located in the branches are available to assist customers.

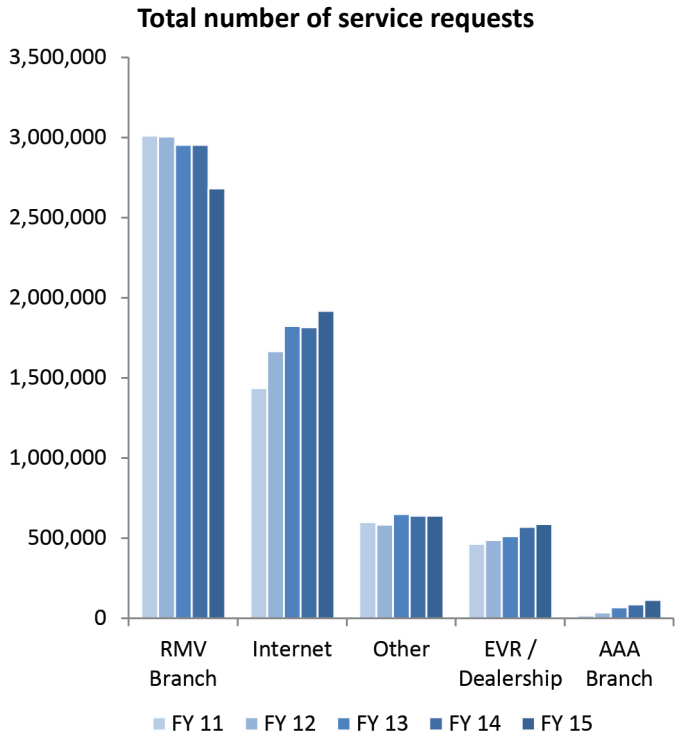


Figure 30. Total number of service requests through each channel, annually (FY 2011- FY 2015). "Other" in this chart includes out-of-branch channels such as the call center, mail-in or drop-offs, and kiosk transactions.

The RMV is currently improving its data collection and analysis, including reviewing methods of defining and counting service requests, in order to provide the most useful data for forming a strategy to continue to increase out-of-branch channel utilization. In order to create a baseline to inform these strategies and to set targets for future years' performance, the RMV is considering the percentage of service requests that are eligible for out-of-branch channels, which are currently being handled in-branch.

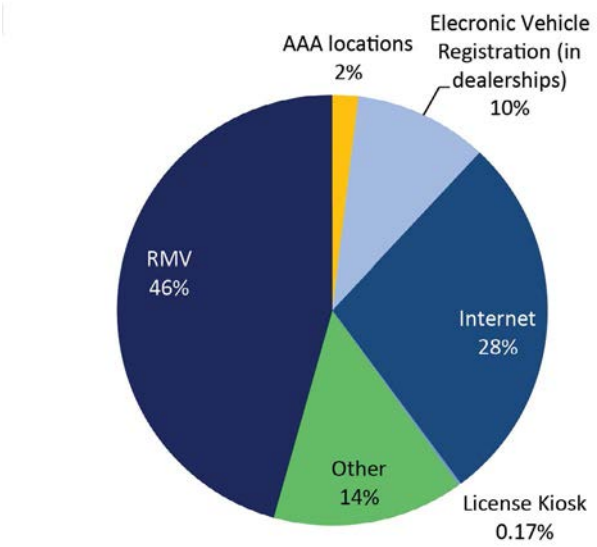


Figure 31. Percentage of service requests handled by each channel (FY2015). These include service requests that are not out-of-branch eligible. "Other" includes service requests through the call center, mail-ins and drop-offs, among other service channels.

About the indicator

Out-of-branch service requests

How it's measured:

The percentage of the number of individual service requests that are completed online, through an industry partner, or through another out-of-branch channel.

Why it matters:

Service requests that occur out-of-branch reduce the in-branch customer volume, which translates into improved customer wait times as well as reduced need for ongoing staffing and resources. In addition, out-of-branch service channels are often more convenient for our customers.

Customer wait times

The customer experience at the RMV is measured through several indicators, three of which measure wait times.

Branch wait time

Customer wait times at RMV branches are measured through a ticketing system installed at each of the branch locations. When customers enter a branch, they are greeted by an employee and given a ticket. Their ticket number is called when a customer service representative is available to help them. Customer wait times are calculated as the time between when a ticket is pulled from the ticketing system until the moment when the transaction begins (transaction times are calculated and reported separately). Often customers experience waiting before they receive a ticket, which is referred to as a "hidden wait time." This means the customers' total time at the RMV branch is longer than that reflected by the customer wait times metric. The RMV, which seeks to reduce customer wait times in branches, including "hidden wait times," considers it a positive trend when the percentage of customers waiting less than 30 minutes increases.

Number of customers served in branches FY2015:

3.2 million

Percent of customers waiting less than 30 minutes in FY2015:

60%

Percent of customers waiting one hour or more in FY2015:

17%

Several factors impact customer wait times:

- The number of customers visiting the branch on any day, the day of the year (customer volume is seasonal at the RMV), and the time of day (customer volume);
- The number of customer service representatives available to help customers at each branch and on each day (staffing level and skill set);
- The preparedness of each customer (did the customer bring the right documentation with them, did the customer bring the right amount and form of payment, etc.);
- Transaction times for each customer (customer service and internal process efficiencies);
- Transaction complexity (some transactions take more time to complete);
- Branch location, size and configuration (facility design, number of counters, etc.);
- And available technology (for example, dual workstations available, etc.).

In FY 2015, 60 percent of total customers waited less than 30 minutes (in all branches), a slight improvement from the 56 percent in 2014. Additionally, the percentage of customers waiting one hour or more fell slightly from 18 percent in 2014 to 17 percent in 2015. However, the volume of customers in 2015 (3.16 million customers) was slightly lower than in 2014 (3.32 million customers). As shown in Figure 32, the monthly customer volume is related to wait times: as the volume decreases, the percentage of customers that wait under 30 minutes to start their transaction tends to increase. In addition to RMV efforts (for example, out-of-branch channel utilization, initiation of kiosks, among other efforts) and other factors previously mentioned, this may have contributed to lower wait times in FY2015.

Overall, the RMV manages 30 branch locations throughout the Commonwealth. They differ in the range of transaction types they offer (Attleboro and Natick provide a limited set of services), staff size, and the number of customers that they serve. To provide a more context-based picture of the branch operations, the RMV and OPM&I developed a tiered system for analyzing 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 between 5,000 and 10,000 customers per month; and Tier 3 branches serve fewer than 5,000 customers per month.

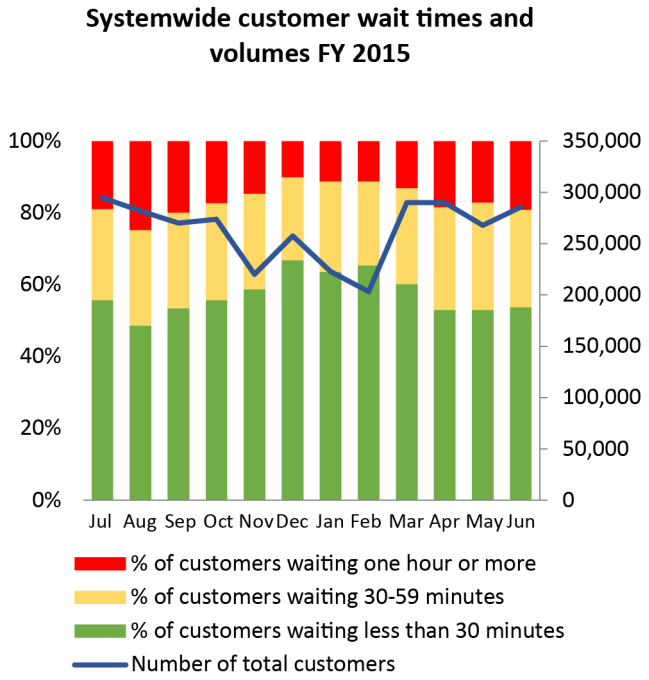


Figure 32. Customer wait times and customer volumes across all branches, FY2015

About the indicator

Branch customer wait time

How it's measured:

The ticketing system records the time a customer waits to be served after checking in at an RMV branch, along with other anonymous information (broad category of transaction, for example). The number of customers waiting less than 30 minutes, between 30 and 59 minutes, and 60 or more minutes is recorded across the RMV branches. The percentage of customers waiting in each time frame is calculated by dividing by the total number of customers served. This measure does not include time spent waiting to get a ticket.

Why it matters:

This measure provides the RMV with an indicator of customer experience, and of how well existing staff levels and branch operations are aligning with customer needs.

Through FY 2015, approximately 54% of Tier 1 branch customers waited less than 30 minutes (compared to 55% in FY2014), and 18% of Tier 1 branch customers waited one hour or longer (compared to 19% in FY2014). Similarly, 54% of Tier 2 branch customers waited less than 30 minutes (compared to 50% in FY2014), and 18% of Tier 2 branch customers waited more than an hour (compared to 22% in FY2014). Tier 3 branches have a smaller customer volume, and overall performed slightly better. 70% of Tier 3 customers waited less than 30 minutes in FY2015 (compared to 71% in FY2014) , and only 9% of its customers waited one hour or longer (compared to 10% in FY2014). Although Tier 3 branches performed slightly better than Tier 1 and 2 branches in FY2015, Tier 2 branches saw the greatest improvement in customer wait times since FY2014.

These indicators, as well as daily wait time data for each branch, will be used in FY2016 as a baseline for improving branch operations, and as a result, the customer experience moving forward.

	PERCENT OF CUSTOMERS WAITING LESS THAN 30 MINUTES	PERCENT OF CUSTOMERS WAITING 30-59 MINUTES	PERCENT OF CUSTOMERS WAITING 1 HOUR OR MORE
Tier 1 branches	54%	28%	18%
Tier 2 branches	54%	28%	18%
Tier 3 branches	70%	21%	9%

Figure 33. Customer wait times FY2015 by tier

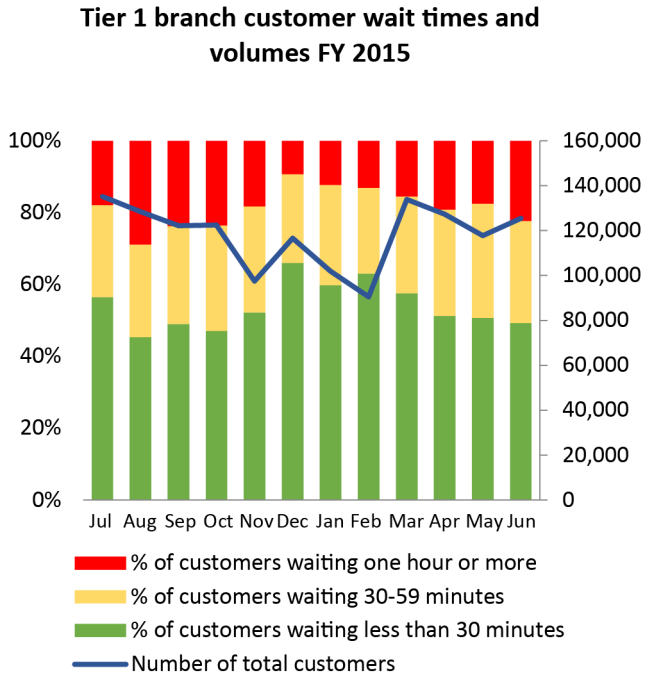


Figure 34. Customer wait times across all Tier 1 branches in FY 2015

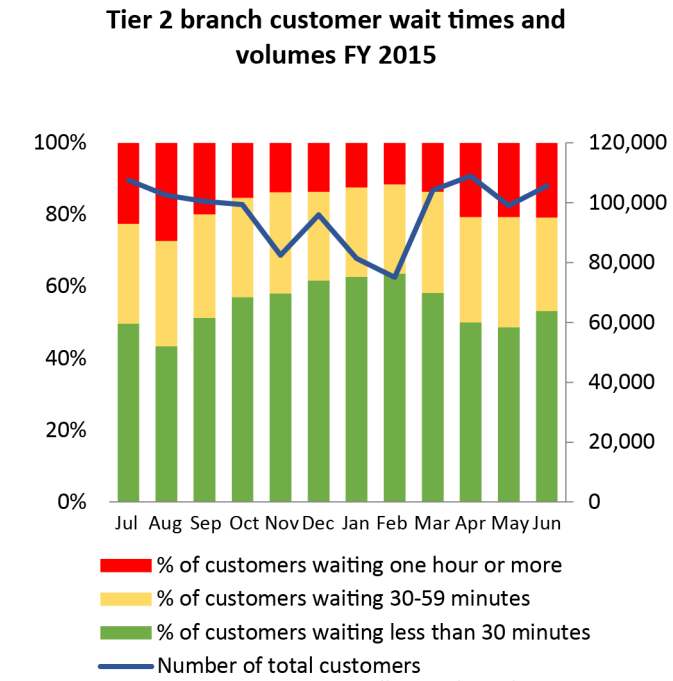


Figure 35. Customer wait times across all Tier 2 branches in FY 2015

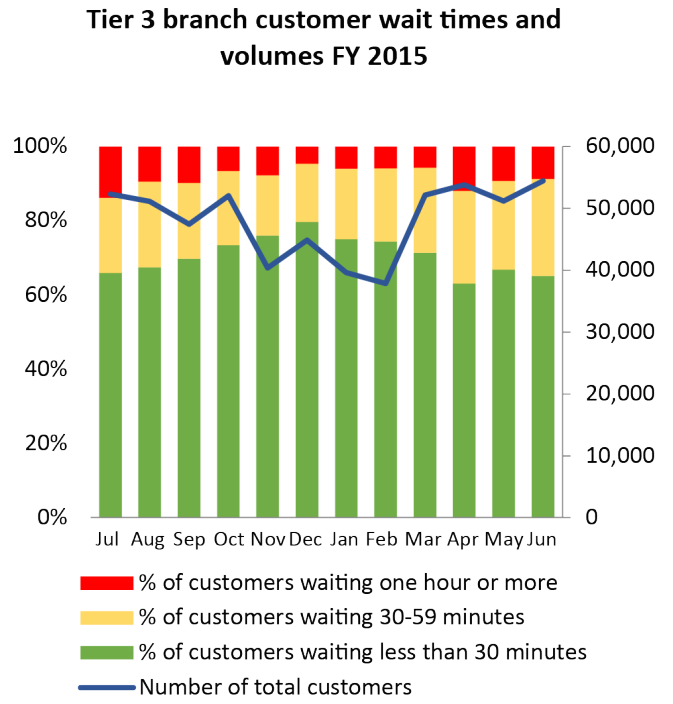


Figure 36. Customer wait times across all Tier 3 branches in FY 2015

Road test wait time

Road test wait times are a measure of the number of days a customer has to wait to take a road test. The number of days has remained relatively stable over the last four years. The RMV is investigating the cause(s) of these wait times as part of an overall effort to improve the road testing process.

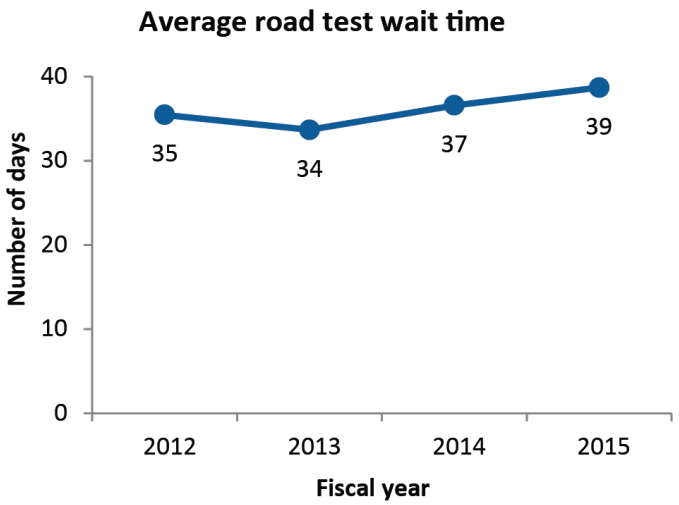


Figure 37. Average number of days customers wait for a road test appointment

Call center wait time

Call center wait times measure on average how long customers wait on the phone to speak to a customer service representative. After a four-year trend of increasing wait times for the RMV call center, the Virtual Hold/callback technology was deployed in January 2014, to improve customer service in this area. As a result, the volume of incoming calls being handled by customer service representatives at the call center, at any given time, was reduced, which effectively reduced average call center wait times in FY2015 to 13 minutes and 8 seconds, a 50 percent decrease.

The Virtual Hold system provides a same day call back option and an appointment option which allows the customer to schedule a call back within five days. The system allows the customers to choose one of the options or places customers in the Virtual Hold queue when customer service representatives are unavailable within an acceptable waiting time (during high call volumes or longer wait times). Virtual Hold has also contributed to lower call abandonment rates and reduced repeat calls (which increase call volume and lead to higher wait times). Average wait times for the year could have been even lower, but the winter storms occurring in the third quarter of FY2015 increased the average wait time for the year, due to system outages, closed call centers, and employee absences.

22 million minutes

waiting were avoided as a result of Virtual Hold in FY2015

80.9% calls

(300,000 calls) successfully reconnected through Virtual Hold call backs and appointments

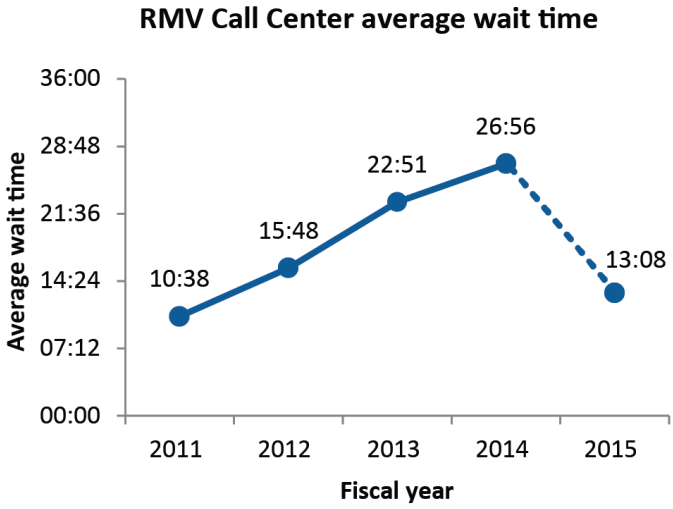


Figure 38. Average time customers waited to speak to a customer service representative at the RMV call center

About the indicator

Call center wait time

How it's measured:

The average length of time a customer waits before his/her call is answered by an RMV employee after the phone has connected.

Why it matters:

This measure provides the RMV with an indicator of customer experience, and of how existing staff levels are aligning with customer needs.

massDOT
Massachusetts Department of Transportation
Rail & Transit Division

Overview

The Rail and Transit Division is responsible for all transit initiatives including oversight and management of all Regional Transit Authorities (RTAs) in the Commonwealth and of the Massachusetts Bay Transportation Authority (MBTA). The MBTA is one of the oldest and largest public transportation agencies, transporting more than 1.3 million passengers daily. The MBTA's main services include:

- ***Bus*** - The MBTA operates 183 bus routes, including 49 local routes, 15 key routes (i.e. serving corridors with higher ridership), 8 commuter or express routes, and 11 community routes;
- ***Light rail*** - The MBTA's primary light rail system, the Green Line, provides on-road service to outlying areas and subway service through the center of the city. The MBTA also operates the Mattapan High Speed Line, which serves as an extension of the Red Line from Ashmont to Mattapan;
- ***Heavy rail*** - The MBTA operates three heavy rail lines, the Red Line, Blue Line, and Orange Line. Collectively, these lines provide core subway service;
- ***Commuter Rail*** - The MBTA's Commuter Rail routes link cities and towns around the state with downtown Boston. As of July 2015, the Commuter Rail is operated by Keolis. The previous operator was the Massachusetts Bay Commuter Railroad Company;
- ***Boat*** - The MBTA provides ferry service between downtown Boston, the South Shore, and Logan Airport; and
- ***Paratransit*** - The MBTA provides parallel paratransit service via THE RIDE to eligible customers in 60 cities and towns in eastern Massachusetts.

In response to failures uncovered last winter and the Governor's Special Panel Report, the Fiscal and Management Control Board (FMCB) was convened in July 2015 to provide new oversight and management to the MBTA. Among other efforts, the FMCB is working with MBTA staff to utilize performance metrics to improve operational practices and to expand transparency and accountability for the riding public. More detail about these efforts is available in the FMCB's reports, which can be found at MBTA.com.

In addition to the MBTA, the Commonwealth is served by fifteen Regional Transit Authorities. Ranging in fleet size and service area, these transit operators provide key bus service to cities and more rural areas in Massachusetts.

Figure 39. MBTA rapid transit map

View the Governor's Special Panel Report here:
http://www.mass.gov/governor/docs/news/mbta-panel-report-04-08-2015.pdf

MBTA - 2015 SCORECARD

PURPOSE	PERFORMANCE MEASURE	CURRENT (FY 2015)	DESIRED TREND	CHANGE FROM FY 2014	MULTI - YEAR TREND[1]
	Ridership on all MBTA lines	390,835,073	↑	↓7,215,180	
	Red Line passenger wait time	84.8%	↑	↓1.26%	data not available[4]
	Orange Line passenger wait time	78.1%	↑	↓3.58%	data not available[4]
	Blue Line passenger wait time	91.0%	↑	↓2.54%	data not available[4]
	Commuter Rail on-time performance	81.6%	↑	↓8.1%	
	Key bus routes and Silver Line on-time performance	71.1%	↑	↓1.67%	
	Paratransit on-time performance	88.8%	↑	↓3.75%	
	Average rate of crime in transit locations per million passenger trips	12.94	↓	↓4.28	data not available[4]
	Commuter Rail call center wait time	0:56	↓	n/a	data not available[4]
	MBTA customer inquiries closed within five days	85.7%	↑	↓1.08%	data not available[4]
	Fatalities as a result of transit accidents	9	↓	↑2	data not available[4]
	Elevator availability	99.4%	↑	0%	
	Escalator availability	98.8%	↑	↑0.3%	
	MBTA fleet age (average of bus, rapid transit, and Commuter Rail fleet)	21 years	n/a	data not available[4]	data not available[4]
	Track condition[2]	2.51	↑	data not available[4]	data not available[4]
	Revenue vehicle condition[2]	2.84	↑	data not available[4]	data not available[4]
	Facility condition[2]	3.11	↑	data not available[4]	data not available[4]
	Percentage of MBTA contracts completed on time	57%	↑	↓3%	
	Number of projects completed in year	7	n/a	↓3	
	Percentage of MBTA contracts completed on or under budget	57%	↑	↓23%	
	Farebox recovery	39.9%	↑	↓0.4%	
	Revenue miles per active vehicle (average between modes) [3]	29,907 (preliminary data)	↑	↓1,575	
	Number of projects planned for next year per year	15	n/a	n/a	data not available[4]

[1]Data points reflect annual trends FY2011 - FY2015 (based on availability of data).
[2]State of good repair (SGR) is measured on a scale of 0 to 5 where a score of greater than 2.5 indicates a state of good repair
[3]Data obtained from the National Transit Database (NTD), and reflects data from 2013.
[4] Data for previous years not available; FY2015 data will be used to create a baseline for future comparison

REGIONAL TRANSIT AUTHORITIES - 2015 SCORECARD

RTA	RIDERSHIP (UNLINKED PASSENGER TRIPS)	FLEET AGE (AVERAGE OF BUSES AND VANS)[1]	REVENUE MILES PER ACTIVE VEHICLE PER YEAR[2]
Brockton RTA (BAT)	3,034,967	6.90 years	20,774
Berkshire RTA (BRTA)	603,988	4.13 years	26,950
Cape Ann Transit Authority (CATA)	217,718	8.00 years	12,769
Cape Cod RTA (CCRTA)	1,043,481	6.19 years	56,097
Franklin RTA (FRTA)	180,207	5.00 years	data not available
Greater Attleboro Taunton Transit Authority (GATRA)	1,104,298	6.25 years	25,641
Lowell RTA (LRTA)	1,628,473	5.52 years	20,710
Montachusetts RTA (MART)	1,209,002	6.30 years	15,774
Merrimack Valley Transit Authority (MVRTA)	2,244,543	5.60 years	23,331
MetroWest RTA (MWRTA)	644,901	4.46 years	29,865
Nantucket RTA (NRTA)	292,462	5.79 years	data not available
Pioneer Valley RTA (PVTA)	12,384,415	6.58 years	23,058
Southeastern RTA (SRTA)	2,659,374	7.35 years	21,324
Martha's Vineyard Transit Authority (VTA)	1,306,974	6.10 years	data not available
Worcester RTA (WRTA)	4,043,405	4.68 years	22,537

[1] The average useful life of a transit van is 7 years. The average useful life of a transit bus is 10-12 years.
[2] Data obtained from the National Transit Database (NTD), and reflects data from 2013.

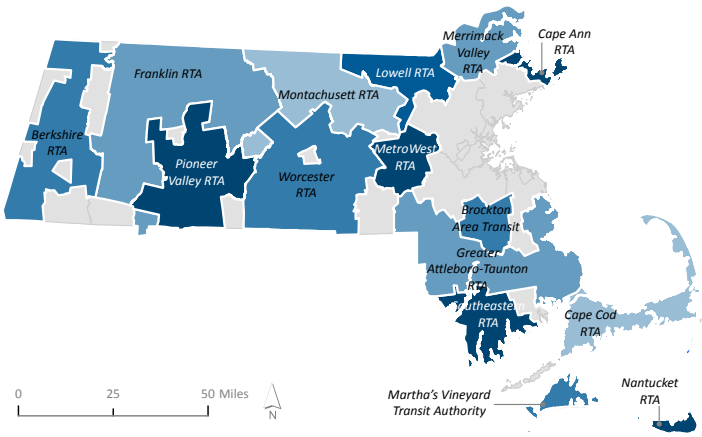


Figure 40. Regional Transit Authorities (RTAs)

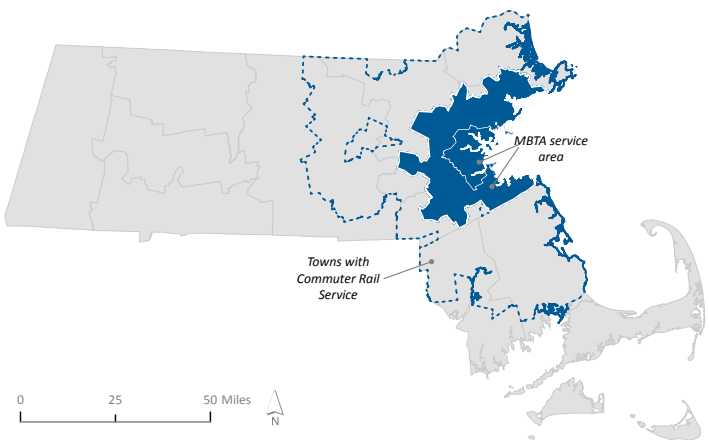


Figure 41. MBTA service area

Serve our customers

The MBTA currently measures its service to customers through ridership, passenger wait times and on-time performance, responses to inquiries, and safety. The FMCB is refining these measures, which will be reflected in future issues of the *Tracker*.

Ridership numbers on the RTAs show the customer base and use of these critical services throughout the state (see page 34).

Ridership on all MBTA lines

There were 390,835,000 passenger trips during FY2015. This is a 1.8% decrease from the previous fiscal year but continues an overall upward trend from FY2011-FY2015.

423 million passenger trips

occurred in the Commonwealth in Fiscal Year 2015 (including ridership on all MBTA lines and ridership on all RTAs)

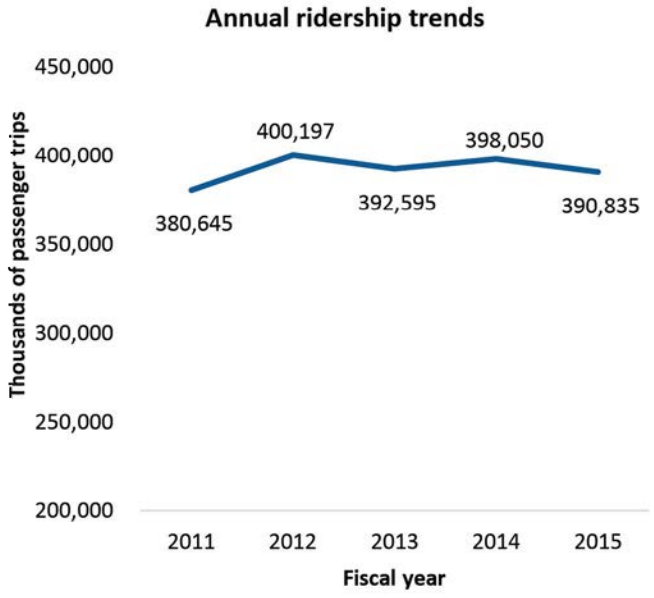


Figure 42. Ridership (in thousands) on all MBTA lines, five year trend

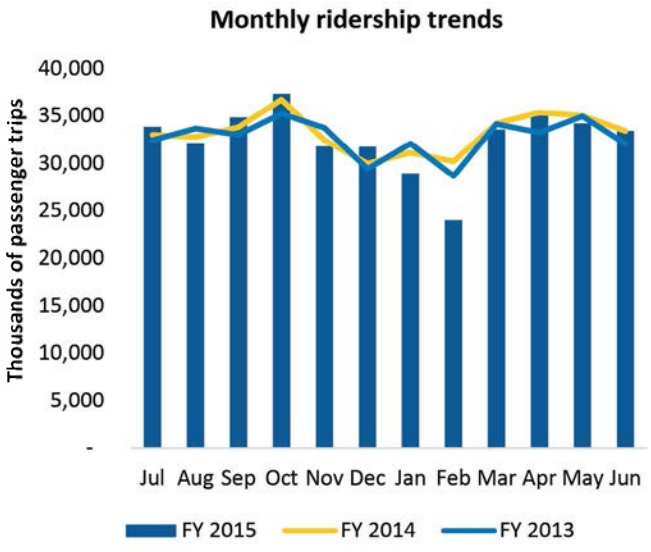


Figure 43. Monthly ridership (in thousands), FY 2013-2015

Passenger wait times and on-time performance

Annual average monthly passenger wait times (which measures the percent of people who waited no longer than the scheduled times between trains) on the Red, Orange, and Blue Lines were 84.8%, 78.1%, and 91.0%, respectively. This represents decreases of 1.5%, 4.4%, and 2.7% on the Red, Orange, and Blue Lines, respectively, from the previous fiscal year. Across the system, wait times increased significantly in February 2015, which had a notable impact on the annual average. This was due to the impacts of multiple snow storms.

As depicted in the graph, passenger wait time performance in FY 2014 was similar for all subway lines, without the drop in February.

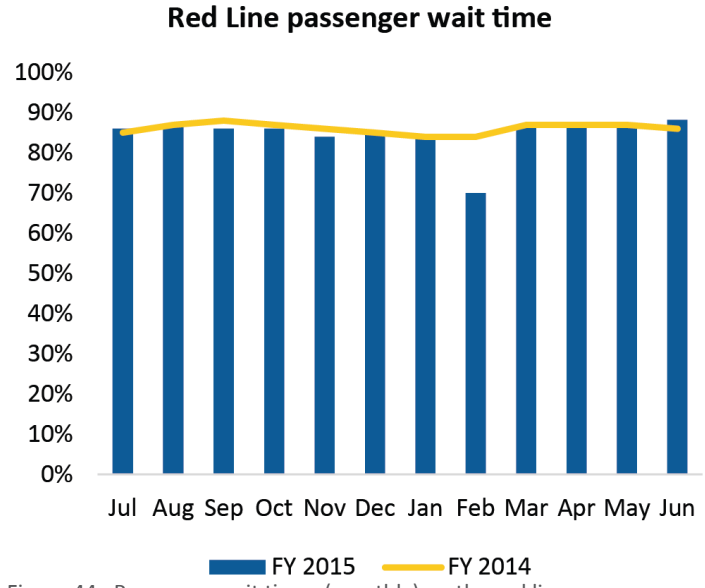


Figure 44. Passenger wait times (monthly) on the red line

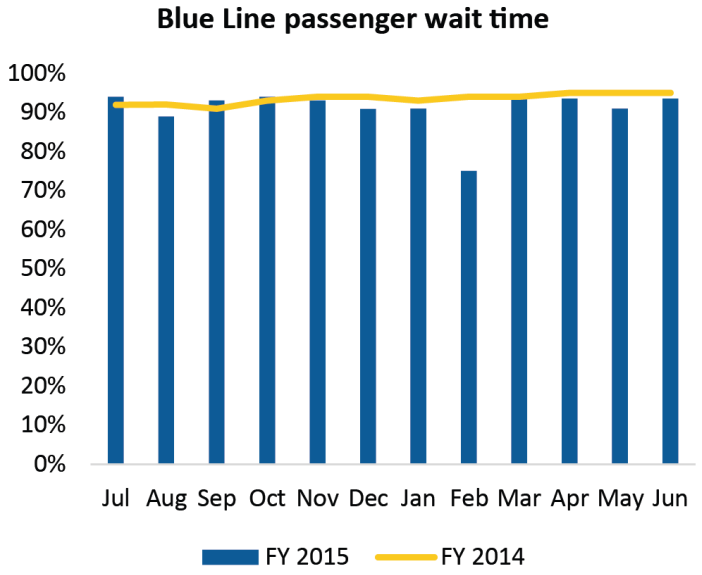


Figure 47. Passenger wait times (monthly) on the blue line

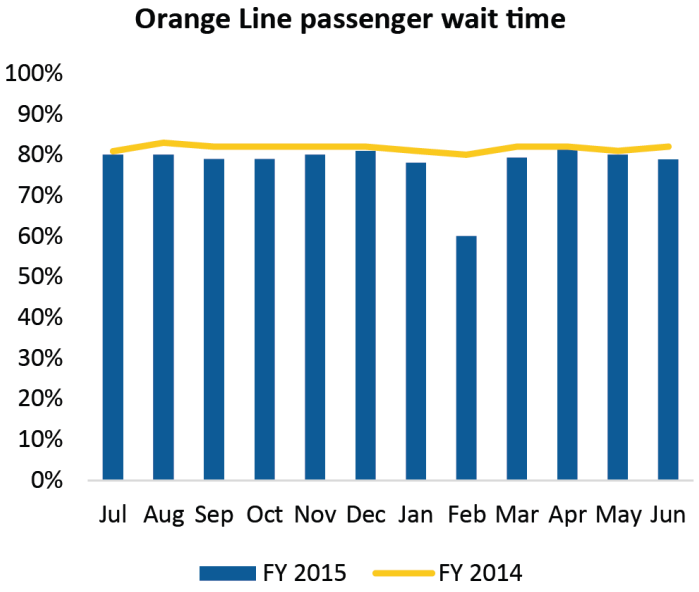


Figure 48. Passenger wait times (monthly) on the orange line

About the indicator

Passenger wait times

How it's measured:

The passenger wait time metric correlates passenger volume and train position data to estimate the percent of passengers whose wait time was less than or equal to the scheduled interval between trains (i.e. how many people waited an acceptable time between trains).

Why it matters:

This measure provides the MBTA with the picture of how the operations of each line is performing, from a customer experience perspective.

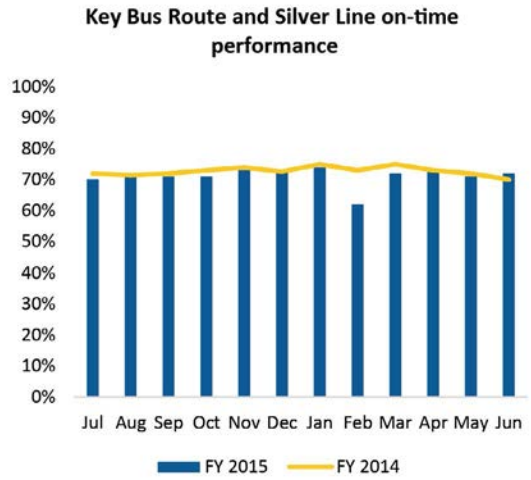


Figure 49. Monthly on-time performance on key bus routes and Silver Line

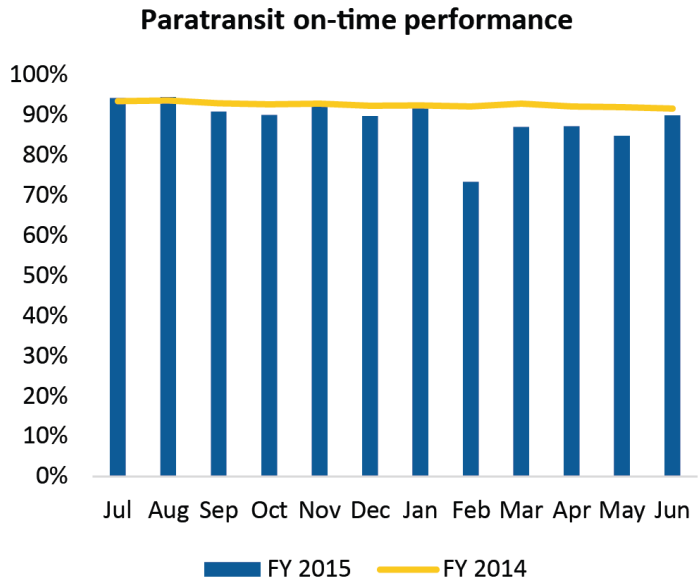


Figure 46. Monthly on-time performance for THE RIDE

About the indicator

On-time performance (OTP)

How it's measured:

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 between 3 minutes before and 5 minutes after its scheduled arrival time.

OTP for THE RIDE is measured by how promptly vehicles arrive at the starting point of each scheduled trip. A RIDE trip is considered "completed" when the vehicle collects the patron from the starting point and begins its journey towards the scheduled destination. Such a trip is considered on time if this occurs within 15 minutes of the scheduled reservation start.

OTP 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 arrive at their terminal point no more than 4:59 minutes beyond their scheduled arrival.

Why it matters:

This measure provides the MBTA with the picture of how the operations of each service is performing and with an indication of customer experience.

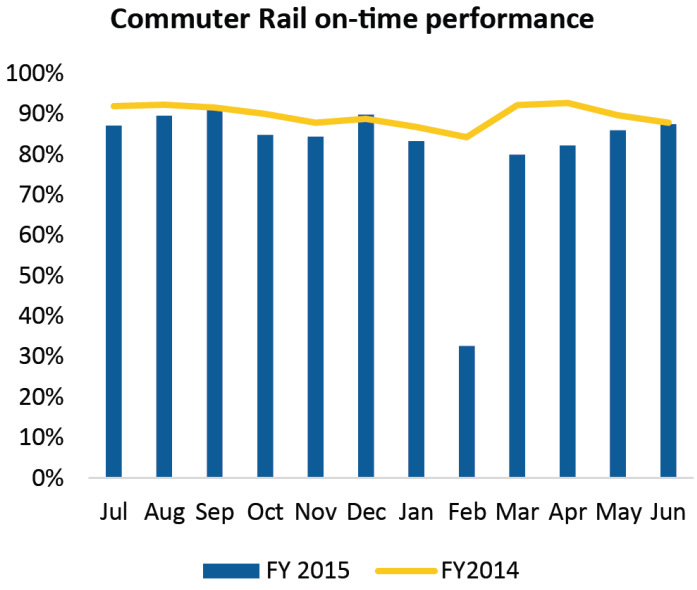


Figure 45. Monthly on-time performance on the Commuter Rail

Commuter Rail call center wait time

The annual average Commuter Rail call center wait time was 56 seconds. This data is only available for FY2015.

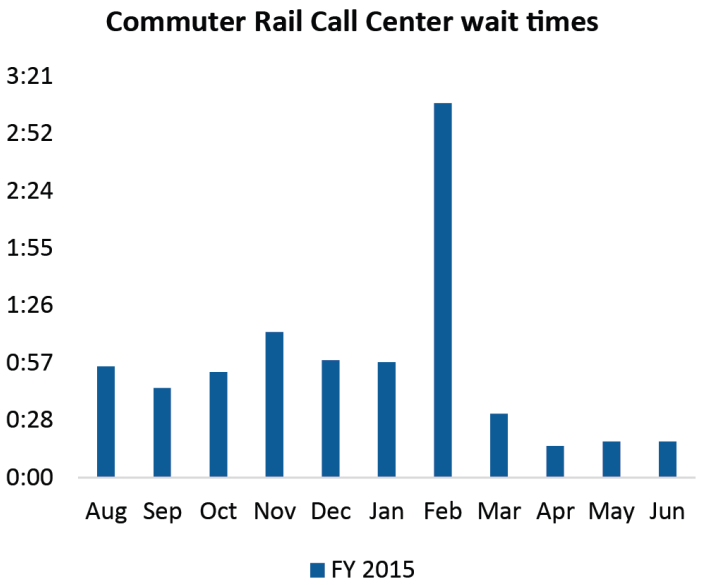


Figure 50. Monthly Commuter Rail call center wait times

MBTA customer inquiries closed within five days

The average monthly percentage of customer inquiries closed within five days was 85.7% in FY2015, a slight decrease from the previous fiscal year. The overall trend has been downward from FY2011 – FY2015.

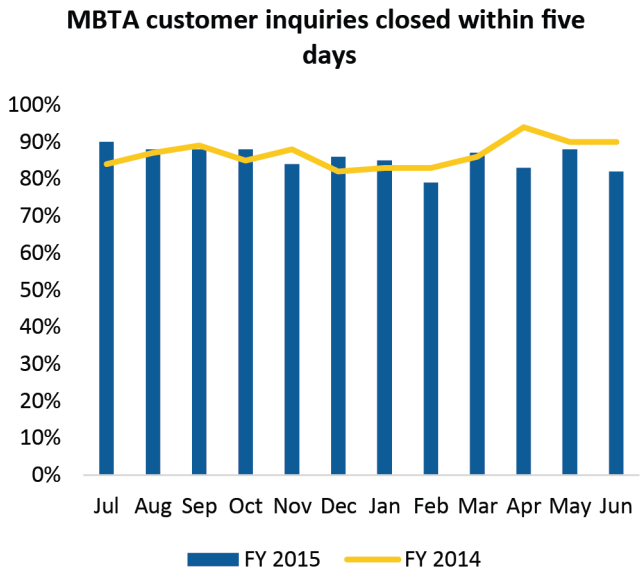


Figure 51. Percentage of monthly MBTA customer inquiries closed within 5 days

About the indicator

Commuter Rail call center wait time

How it's measured:

The call center wait time is calculated as the amount of time between when the caller is finished listening to the broadcast message, and when a call center staff member answers the call.

Why it matters:

This measure provides another customer-oriented experience measure, specific to the Commuter Rail. This service is particularly critical during service interruptions (such as during the severe weather events of February 2015).

About the indicator

Customer inquiries closed within 5 days

How it's measured:

The MBTA customer inquiries closed within 5 days is measured as the percentage of customer inquiries received through the customer call center that are closed within 5 days.

Why it matters:

This measure provides the MBTA with a measurement of their customer service performance.

Crime rate and fatalities as a result of transit accidents

There were an average of 16.2 crimes per million passenger trips in fiscal year 2015. This represents a 16.5% decrease from the monthly average in the previous fiscal year. This measure steadily declined between FY 2011 and FY 2015.

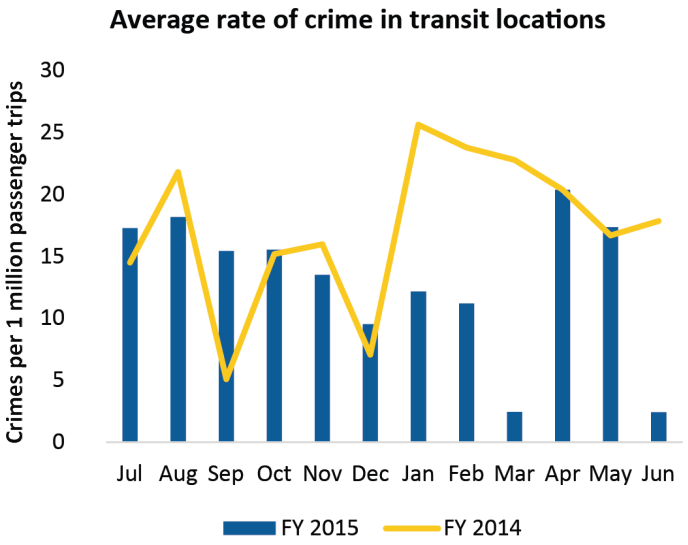


Figure 52. Average monthly rate of crime in transit locations

About the indicator

Rate of crime in transit locations

How it's measured:

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

Why it matters:

This measure provides the MBTA with the relative level of safety that users can assume to experience while using the system. It also allows the MBTA to determine whether policing levels are sufficient.

Maintain & modernize

The MBTA maintains a current inventory of capital assets in its State of Good Repair (SGR) database. The MBTA has done extensive work to define the condition of its major assets, and will continue to update the SGR database each year. The MBTA is beginning to collect data for the Maintenance Management System, a more granular asset management tool that will help the agency track asset condition on additional assets. The measures used in this report will continue to be refined as this work is completed. More detail on the MBTA's current asset condition and needs is available in the Focus40 State of the System Reports.

The RTAs track revenue vehicle fleet age as a measure of condition.

Accessibility

Elevator availability

Elevators were available an average of 99.4% of the time each month, the same as the previous fiscal year. The overall trend has been downward from FY 2011 to FY 2015.

Escalator availability

On average each month, escalators were available 98.8% of the time. This is 0.3% greater than the previous fiscal year and represents an overall positive trend from FY 2011 to FY 2015.

About the indicators

Elevator and escalator availability

How they're measured:

This measure is calculated as the percentage of service hours per month that an elevator or escalator is operational for public use. The monthly measure is aggregated and averaged for each lift system.

Why they matter:

The MBTA is committed (and required by the ADA) to provide a service that is accessible to all customers. When an elevator or escalator is not functioning, that facility (e.g. a subway station) is not accessible.

Fleet Age

Fleet age is commonly used in the transit industry as a proxy measure for vehicle condition. Within the MBTA fleet, the average fleet age across vehicle types spans from 7 to 69 years.

The RTAs operate buses and vans; the average fleet age of each agency reflects these vehicles' lower typical useful life (see page 34).

Track condition

Track condition is measured on the SGR scale of 1 to 5 (where greater than 2.5 is considered being in a state of good repair). Rapid transit track is currently rated at 2.32; the Commuter Rail track is currently at a 2.7 SGR rating.

Transit vehicle condition

Transit vehicle condition is measured as a composite number from inspecting the key elements of a vehicle. In alignment with fleet age, vehicle conditions range from very high (the Blue Line), to very low (the Mattapan Line).

Facility condition

Facility condition, which is measured and reported for stations, maintenance, and storage facilities, is also reported on the 1 to 5 SGR scale. All facility condition ratings across the transit modes are currently at a state of good repair (greater than 2.5).

MBTA FLEET AGE	
Bus	8.13 years
Rapid Transit	32 years
Blue line	7 years
Green line	17.09 years
Orange line	35 years
Red line	31.08 years
Mattapan line	69 years
Commuter Rail	23 years

MBTA VEHICLE CONDITION	
Bus	2.83
Rapid Transit	2.84
Blue line	4.9
Green line	3.9
Orange line	1.19
Red line	2.11
Mattapan line	1
Commuter Rail	2.86
Non-revenue	1.46

MBTA TRACK CONDITION	
Rapid Transit	2.32
Commuter Rail	2.7

MBTA FACILITY CONDITION	
Bus	3.42
Rapid Transit	2.78
Commuter Rail	3.12

About the indicator

Fleet age

How it's measured:

The average of all transit revenue vehicles.

Why it matters:

All vehicles have a typical useful life. As they approach this age, their reliability decreases, and their maintenance needs increase. A general fleet age metric is an important metric for capital planning and maintenance budget allocation.

About the indicator

Condition of assets (track, vehicle, and facility)

How it's measured:

The MBTA's State of Good Repair (SGR) Database contains a current inventory of capital assets. Using condition, and performance data, the database generates scores for each asset. The score ranges from 1 (low) to 5 (high). A score of 2.5 or higher is considered to be a state of good repair.

Why it matters:

The condition of transit system assets impacts service, maintenance needs today, and maintenance and capital needs in the future. The MBTA utilizes the SGR ratings to prioritize projects and plan investments.

Invest

Number of projects completed in year

Since 2011, the MBTA has completed between 7 and 10 projects in a given year. This measure does not consider the budget or scope of these projects, which impact the number of projects that can be ongoing simultaneously.

MBTA projects completed on time

MBTA projects are complex, and typically span many years, with unexpected obstacles often making it difficult to adhere to a schedule. In FY 2015, four projects were completed on time and three were not.

MBTA projects completed on budget

This measure is also greatly impacted by the number of unexpected factors and conditions that tend to arise during construction of a major infrastructure project, and is only intended to display a general trend. It does not provide detail about the amount that a project exceeded its initial planned budget. Since 2011, between 4 (57%) and 8 (80%) projects have been completed on budget.

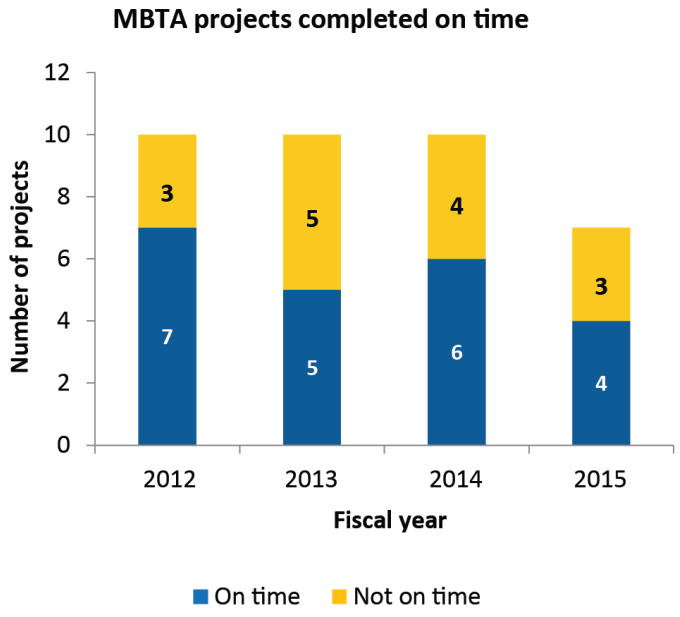


Figure 53. Number of MBTA contracts completed on time

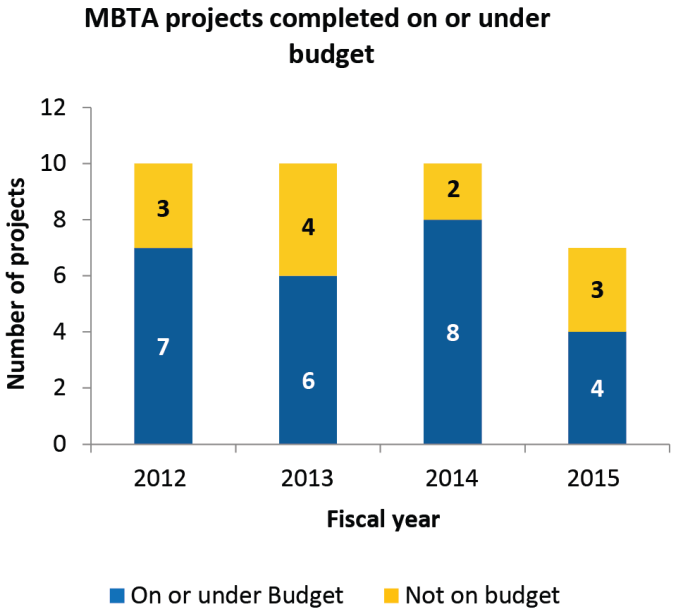


Figure 54. Number of MBTA contracts completed on or under budget

About the indicators

Projects completed on time and on budget, projects advertised, and projects under construction

How they're measured:

The MBTA organizes its maintenance and capacity work into projects, many of which include more than one contract (e.g. professional services contract, construction contract). Projects are considered to be complete when they are ready for use, or have reached substantial completion. They are measured in relation to on time/on budget in the year they are completed.

Why they matter:

These measures, together, provide a summary of the current work going on, and the way that the MBTA is managing that work. These measures must always be considered in context, since there are frequently unexpected factors that arise during the course of a project and can impact both budget and timeliness.

Number of projects under construction

The MBTA anticipates completing 15 projects in FY 2016. This number is up significantly from FY 2015.

Farebox recovery

Farebox recovery increased in FY 2013 in conjunction with a fare increase, and has dropped by a few percentage points to 40 percent in subsequent years.

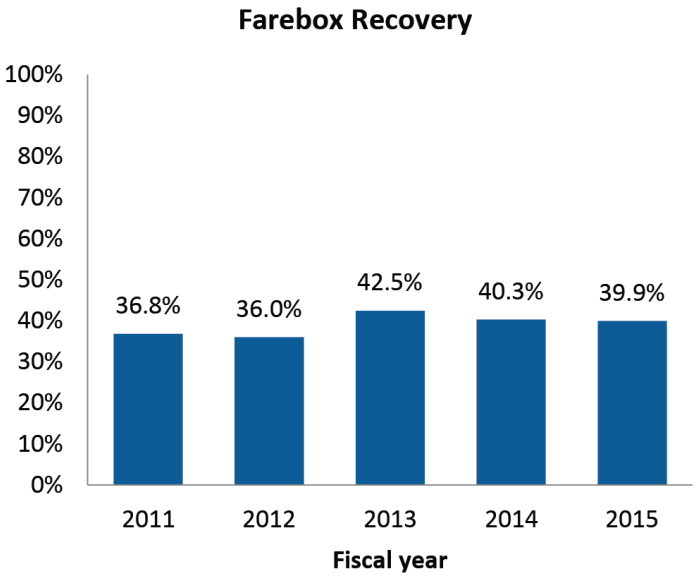


Figure 55. Annual farebox recovery

Revenue miles per active vehicle

This measure is mode-specific, due to the differences among vehicles and the services that they provide. The heavy rail vehicles provide the most revenue miles per vehicle in a given year (over 50,000), and the buses provide the least (in the range of 20,000). The addition or subtraction of new service routes or hours, and a change in fleet size all impact this measure. RTA revenue miles per active vehicle vary by agency (see page 34).

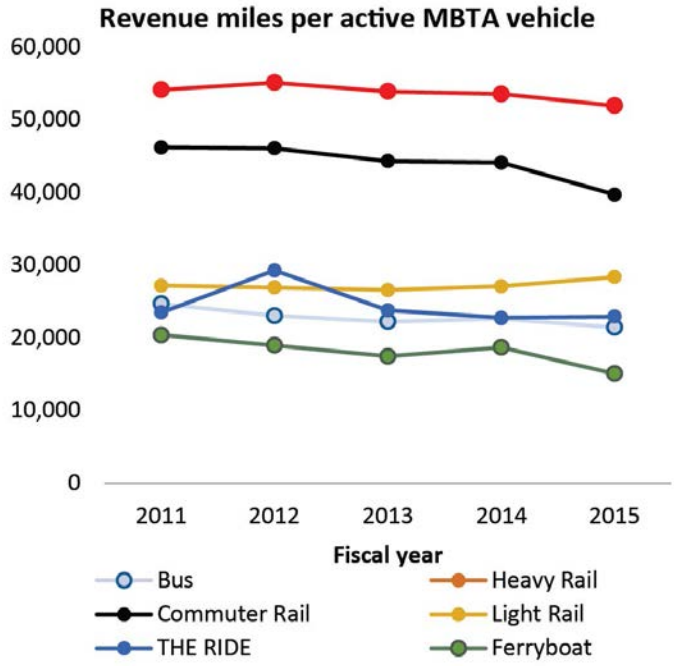


Figure 56. Annual revenue miles per active MBTA vehicle by mode. 2015 data represents preliminary data.

About the indicator

Farebox recovery

How it's measured:

Farebox recovery is a ratio of the revenue received through fareboxes to the total amount of operational expenses.

Why it matters:

This measure is one way of looking at the cost effectiveness of the services that are being provided.

About the indicator

Revenue miles per active vehicle

How it's measured:

The average number of miles driven, per revenue vehicle, while in service. "In service" is defined as the time when a vehicle is available to the general public and there is an expectation of carrying passengers.

Why it matters:

This measure, mostly applicable to bus, provides an indication of the efficiency of the transit system from the perspective of routing and the utilization of fleet vehicles.

Plan and prioritize

Number of projects planned for next year

The MBTA expects to complete 15 projects in FY 2016.

About the indicator

Projects planned

How it's measured:

The number of projects that the MBTA expects to complete in the upcoming fiscal year.

Why it matters:

This measures provides a view of the extent of work that is expected in the coming year. It does not, however, provide any indication of the size or scale of these projects. This number can vary greatly from one year to the next, based on factors of timing and planning.

Other measures

Number of incidents that have caused delays

In addition to many of the measures included in this report, the Legislature requires that MassDOT report on the number of MBTA incidents that cause delays. Currently the transit agency's systems track incidents separately from delays, and has no effective way of correlating the two. MBTA staff are implementing a more sophisticated incident reporting process that would allow this measure to be tracked for bus.

Projects advertised on time

This measure is listed in the Massachusetts legislation. The Rail and Transit Division will work with OPM&I on the definition of "on time" for project advertisement, and how to present this measure in future performance reports.

Performance Ahead

MassDOT is continually striving to improve both how it measures and achieves performance across all modes. The measures we track include those that are legislatively mandated by the Commonwealth of Massachusetts and measures that will soon be federally mandated. MassDOT is also selecting measures to provide a clearer picture of agency activities as they relate to our goals.

The tables on the following pages list all measures in this report, including some that are legislatively mandated but are still under development. MassDOT is actively working on data collection and methodologies to report these measures and plans to incorporate these additional measures into the 2016 *Tracker*. In addition, OPM&I will continue to work with MassDOT division administrators to identify other measures that could align with related planning, programming, or maintenance activities. These measures will also be included in future reports. More importantly, all of these measures will be used to track and improve MassDOT performance every day.

INVENTORY OF PERFORMANCE MEASURES | HIGHWAY DIVISION

GOAL	MEASURE	STATUS	FIND IT HERE	LEGISLATION
	Number of fatalities per 100 million VMT	Reporting	page 10	MA (2013); MAP-21
	E-ZPass penetration rate	Reporting	page 10	
	E-ZPass transponders issued in year	Reporting	page 10	
	E-ZPass transponders in circulation	Reporting	page 10	
	Number of serious injuries	Under development	page 19	MAP-21
	Accident rate	Under development	page 19	MA (2013); MAP-21
	Average commute time	Under development	page 19	MA (2013)
	Congestion	Under development	page 19	MAP-21
	Number of incidents that have caused delays or closures	Exploring data collection	page 19	MA (2009)
	Structurally deficient bridges	Reporting	page 12	MA (2009); MAP-21
	Bridge Health Index	Reporting	page 13	
	Structurally deficient deck area	Reporting	page 13	MAP-21
	Pavement Serviceability Index (PSI)	Reporting	page 14	MA (2009); MAP-21
	Customer Ride Satisfaction index (CRSI)	Reporting	page 14	MA (2009); MAP-21
	Number of bridges posted for weight restriction	Reporting	page 12	
	Tunnel outflow pumping rate	Reporting	page 15	
	Total tunnel outflow	Reporting	page 15	
	Administrative disbursement rate per mile	Under development	page 19	MA (2013)
	Maintenance disbursement rate per mile	Under development	page 19	MA (2013)
	Contracts on or under budget	Reporting	page 16	MA (2009)
	Contracts on time	Reporting	page 16	MA (2009)
	Contracts completed in year	Reporting	page 16	MA (2009)
	Projects currently under construction	Under development	page 19	MA (2009)
	Projects advertised that are planned on STIP	Reporting	page 18	MA (2009)
	Projects planned for next year	Reporting	page 18	MA (2009)

INVENTORY OF PERFORMANCE MEASURES| AERONAUTICS

GOAL	MEASURE	STATUS	FIND IT HERE	LEGISLATION
	Number of aircraft based at airports	Reporting	page 23	
	Change in total takeoffs and landings at airports	Reporting	page 23	
	Runway pavement condition (PCI)	Reporting	page 24	MA (2009)
	Projects on or under budget	Under development	page 24	MA (2009)
	Projects on time	Under development	page 24	MA (2009)
	Projects completed in year	Under development	page 24	MA (2009)
	Projects currently under construction	Under development	page 24	MA (2009)
	Capital budget disbursement	Reporting	page 24	MA (2009)
	Projects planned for next year	Under development	page 24	MA (2009)
	Projects advertised that are planned on the STIP	Under development	page 24	MA (2009)

INVENTORY OF PERFORMANCE MEASURES | REGISTRY OF MOTOR VEHICLES

GOAL	MEASURE	STATUS	FIND IT HERE	LEGISLATION
	Branch wait time	Reporting	page 28	
	Call center average wait time	Reporting	page 31	
	Road test average wait time	Reporting	page 31	

INVENTORY OF PERFORMANCE MEASURES | RAIL AND TRANSIT DIVISION

GOAL	MEASURE	STATUS	FIND IT HERE	LEGISLATION
	Number of incidents that have caused delays or closures	Exploring data collection	page 19	MA (2009)
	Ridership on all MBTA lines	Reporting	page 35	MA (2009)
	Subway on-time performance (measured as passenger wait times)	Reporting	page 36	MA (2009)
	Commuter Rail on-time performance	Reporting	page 36	MA (2009)
	Key bus routes and Silver Line on-time performance	Reporting	page 36	MA (2009)
	Paratransit on-time performance	Reporting	page 36	MA (2009)
	Average rate of crime in transit locations per million passenger trips	Reporting	page 39	
	Commuter Rail call center wait time	Reporting	page 38	
	MBTA customer inquiries closed within five days	Reporting	page 38	
	Fatalities as a result of transit accidents	Reporting	page 39	MA (2013); MAP-21
	Elevator availability	Reporting	page 39	
	Escalator availability	Reporting	page 39	
	Fleet age	Reporting	page 34, page 40	MA (2013); MAP-21
	Track condition	Reporting	page 40	MA (2009); MAP-21
	Revenue vehicle condition	Reporting	page 34, page 40	MA (2009); MAP-21
	Facility condition	Reporting	page 40	MA (2009); MAP-21
	Projects on or under budget	Reporting	page 41	MA (2009)
	Projects on time	Reporting	page 41	MA (2009)
	Projects completed in year	Reporting	page 41	MA (2009)
	Projects advertised on time	Under development	page 43	MA (2009)
	Projects under construction	Reporting	page 42	MA (2009)
	Farebox recovery	Reporting	page 42	MA (2013)
	Revenue miles per active vehicle	Reporting	page 42	MA (2013)
	Projects planned for next year	Reporting	page 43	MA (2009)