

ACEC

December 10, 2019

Highway Administrator
Jonathan L. Gulliver

MassDOT Year in Review



- Completed Major Projects
 - Woods Memorial Bridge - \$12.1 million under budget and FBU 1 year ahead of schedule
 - Fore Rive Bridge
 - Casey Overpass
 - Commonwealth Avenue – Phase IIA

- Key Accomplishments:
 - Construction and Maintenance contracts:
 - 196 projects received NTP totaling over \$1.2 billion
 - 226 Advertised projects combined estimated value = \$822 million
 - 563 active jobs in 238 communities across the Commonwealth

- Municipal Programs
 - Complete Streets
 - Municipal Small Bridge

- Transportation Asset Management Plan

TAMP: Meeting Federal Requirements

- ✓ Define Highway Division asset management processes
 - ✓ Identify gaps between forecasted asset performance and targets
 - ✓ Propose alternative investment strategies through which progress can be made toward long term state of good repair targets
 - ✓ Identify mitigation strategies for risks to investment strategies
-
- The Massachusetts TAMP was found to be compliant and determined to be implemented by FHWA
 - The Highway Division will now maintain the plan as a living document to support Highway asset management process and inform reliability investments

TAMP: Bridges Gap Analysis

	Measure	Target	10 Year Forecast	Gap
Federal Measures	Percent of NHS Bridges by Deck Area in Good Condition	>18	14	-4
	Percent of NHS Bridges by Deck Area in Poor Condition	<10	11.9	-1.9
State Measure	Percentage of Statewide NBI Bridges Poor (by Count)	<10	12.2	-2.2

- Performance measures aligned with MassDOT Tracker
- Gap analysis performed on long term target currently identified by tracker for Federal Measures
- Plan identifies “Do No Harm Target” for state-wide poor count

Long term bridge targets remain challenging at current investment level

TAMP: Bridges Alternative Investment Strategy

- **Increase bridge maintenance budget with annual targets for cyclical maintenance activities**
 - Support proactive bridge life cycle measures
 - Maintain/preserve good and fair bridges before they become poor
- **Focused funding for NHS large structure and corridor bridge program**
 - Continue progress to replace or rehabilitate legacy highway infrastructure
 - Apply alternative delivery and accelerated construction techniques to minimize user disruption
- **Funds dedicated to non-NHS bridge population.**
 - Ensure investments extend across the Commonwealth to support mobility on all roadways

Fully funding this strategy would consist of an annual bridge program approximately \$200M larger than 2020-2024 average program size (\$600 vs 400M)

As envisioned, program size would gradually increase over five years to provide on-ramp for internal and industry resources

TAMP: Pavement Gap Analysis

	Measure	Target	10 Year Forecast	Gap
State Measures (PSI)	Percent of Interstate in Good/Excellent Condition	90	77	-13
	Percent of Interstate in Poor Condition	<4	1.2	2.8
	Percent of NHS non-Interstate in Good/Excellent Condition	>70	63	-7
	Percent of NHS non-Interstate in Poor Condition	<15	15	-1

- Plan forecasts progress in DOT non-interstate pavement over the next five years through increased investment (+ \$30 M/year) within 202-2024 CIP
- Need for equivalent focused investment in non-interstate municipal pavements
- Interstate condition will remain at target levels for next five years, condition and investment levels will be evaluated in planning cycles in light of forecasted decline post 2025

Next Steps for Highway Asset Management

- TAMP document to be made public following final internal, accessibility and creative review (late September)
- Bridge Maintenance work order system (Fall)
- Development of work plan to support Highway Bridge Data Management System (Calendar 2020)
- Implementation of pavement preservation policy (ongoing)
- Collaboration with Municipalities on best practices and data sharing (ongoing)

Data Sources

- ALPR – Automatic License Plate Readers
- Radar Speed Signs
- Toll Gantry's
- Cameras
- Sign Readers

- Smart Asset Instrumentation
- CORS – Continuously Operating Reference Station
- RWIS – Road Weather Information Systems

- Mass511 Traveler Information System
- INREX and RITIS
- Bluetooth and GPS
- Maintenance and Project Tracking
- Mapping Partnerships (Waze, Apple, Google, etc.)
- Social Media

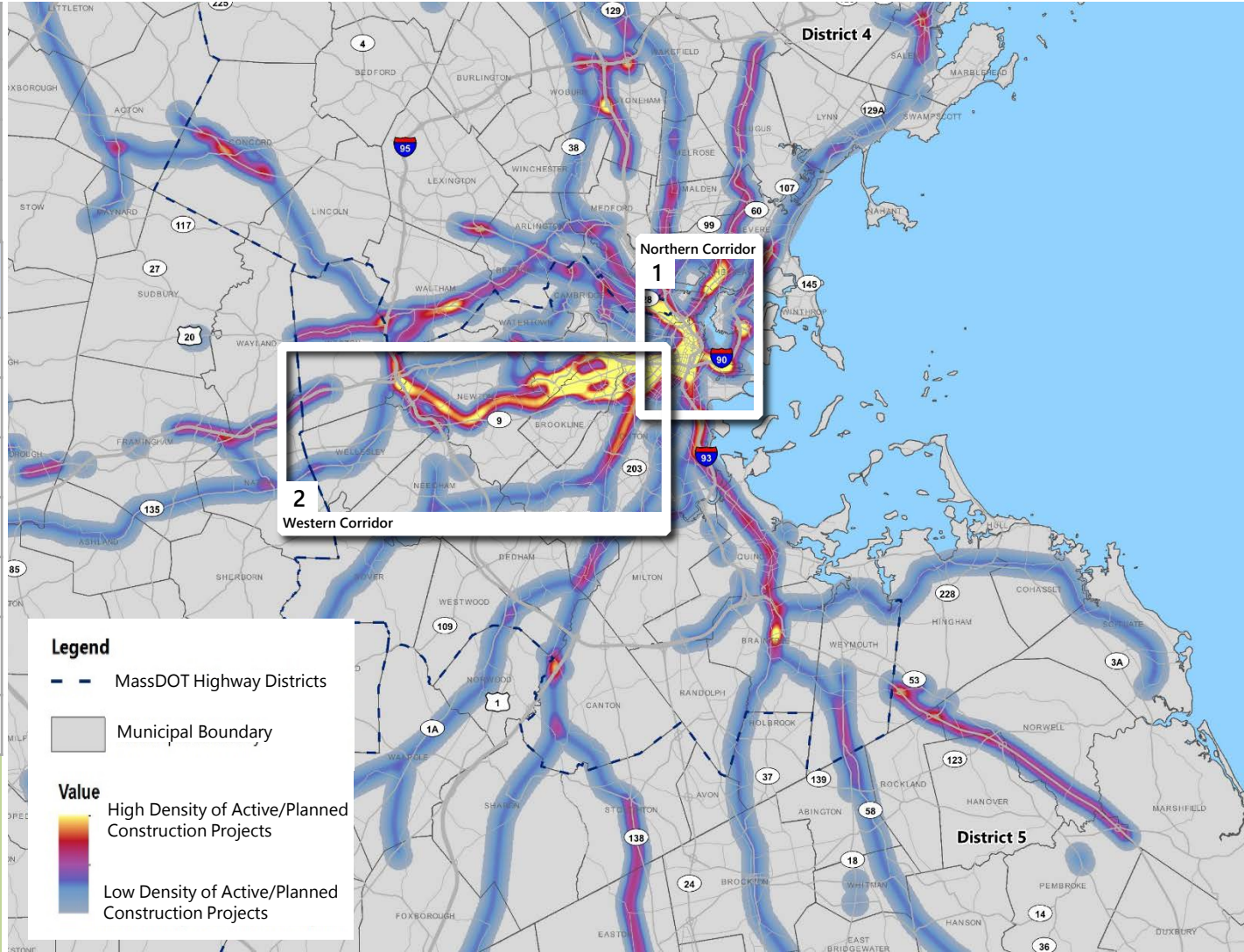


Data Use – Operations



TBB Data - Sequencing

Owner/Proponent	Number	Percent of Total
MassDOT Highway	87	70%
MBTA	32	25%
Other	6	5%
Project Type	Number	Percent of Total
Roadway	64	51%
Bridge	17	14%
Transit	32	26%
Ped/Bike	4	3%
Utilities	4	3%
Development	1	1%
Other	3	2%



Highway & transit projects with roadway lane closures, transit service disruptions/diversions, and/or parking impacts during all time periods.

Not all projects have fixed work zones.

TBB Overview



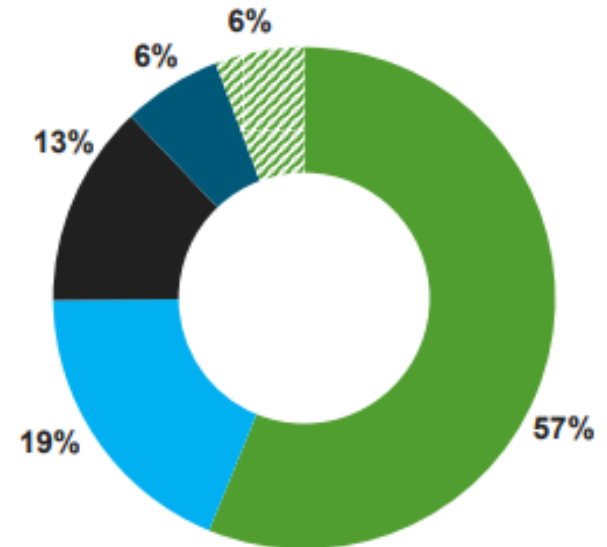
On July 25, 2019 Governor Baker and Lt Governor Polito filled a new five year transportation bond bill. This bill builds on a foundation laid in the past four years and accelerates investment in modernizing our transportation system in order to meet the needs of residents, businesses, and cities and towns statewide.

An Act to Authorize and Accelerate Transportation Investment

- **\$18.0 Billion authorization capital funding**
 - MassDOT & Local Roads and Bridges
 - Regional Transit Authorities
 - MBTA Capital Investment
 - Municipal Partnership Programs
 - And more ...
- Addresses legislative barriers to the efficient delivery of modern and reliable transportation infrastructure
- Proposes new tools for managing regional and local traffic congestion
- Authorizes the use of new resources to reduce Transportation Greenhouse Gas emissions

TBB Data - Programming

- Capital Program Development
- Asset Management
- Project Sequencing
- Project Delivery
- Traffic and Event Management
- Environmental Resiliency



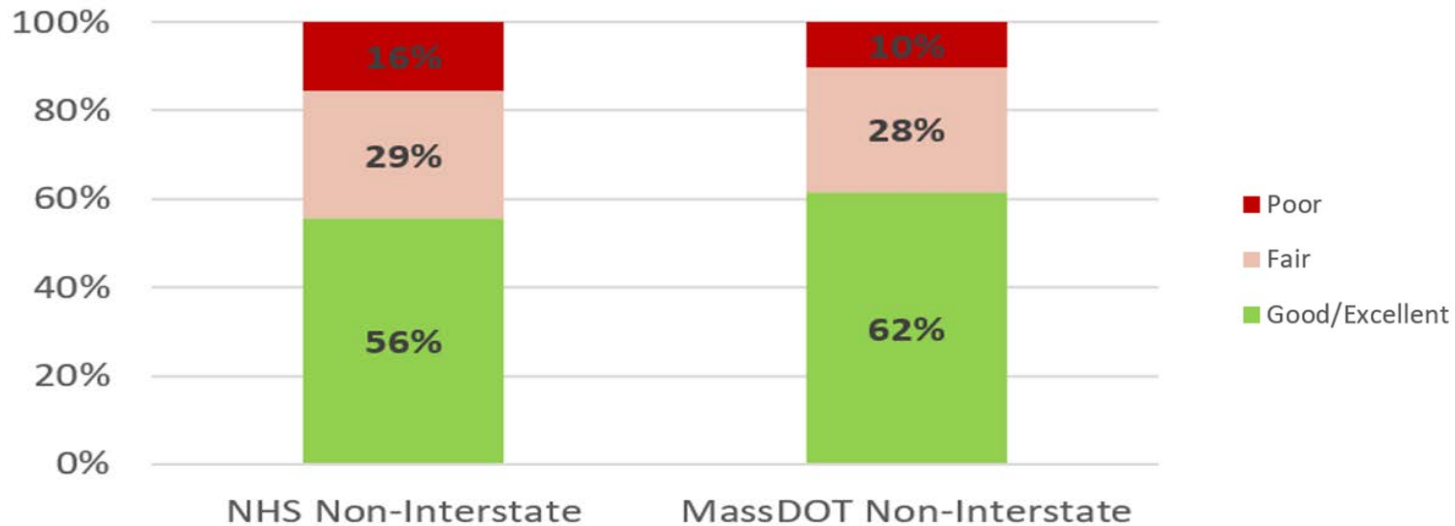
Overall spending by priority

Spending Priority	% of Total Spending
1 / Reliability	57%
2 / Modernization	19%
3 / Expansion	13%
Planning & Enterprise Services	6%
Chapter 90	6%

Using asset management to identify capital needs

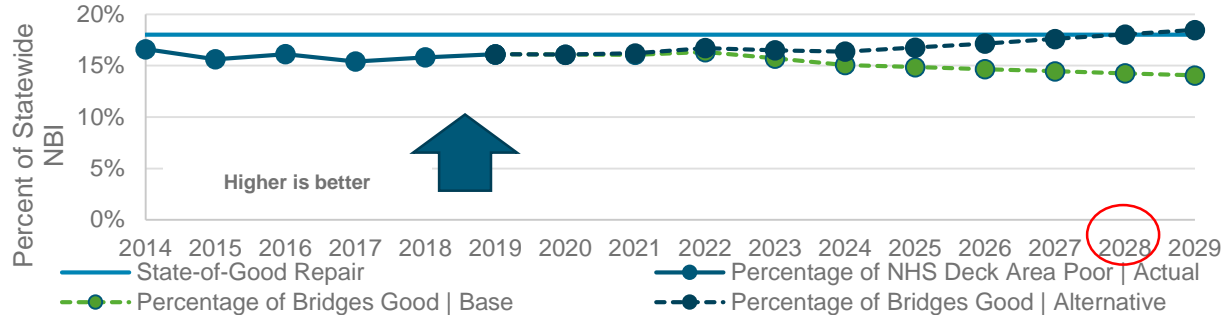


- Proposed additional investment in roads and bridges is based on asset management planning
 - Bridges: \$1.25 billion in additional authorization (Grant Anticipation Notes)
 - Non-interstate National Highway System pavement, municipally-owned
 - \$155 million increase for non-Interstate pavement
 - \$100 million Municipal Pavement program

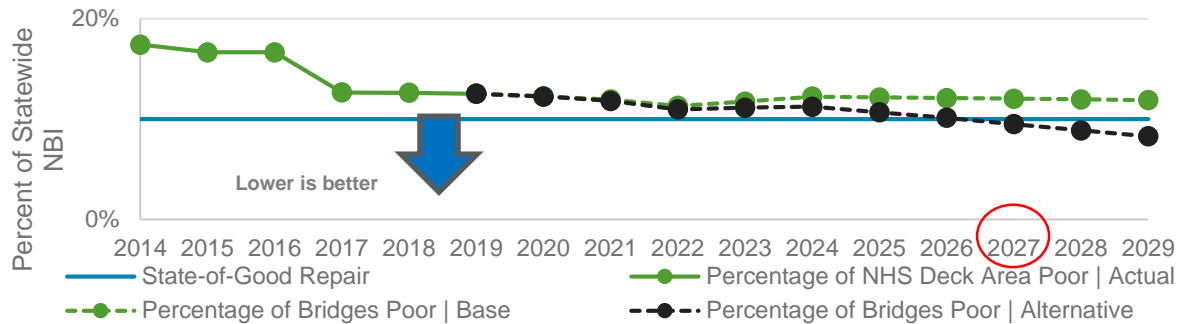


Improving Bridge Condition

NHS Bridge Deck Area in Good Condition



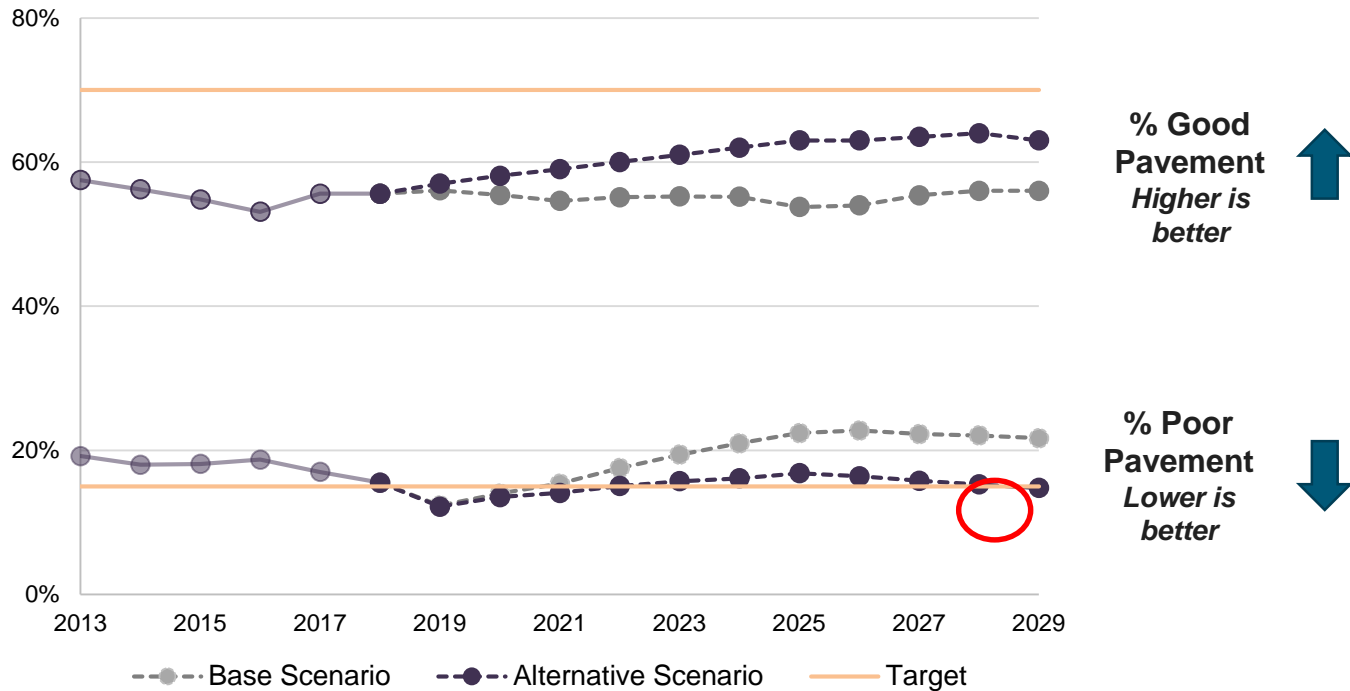
NHS Bridge Deck Area in Poor Condition




○ = target achieved

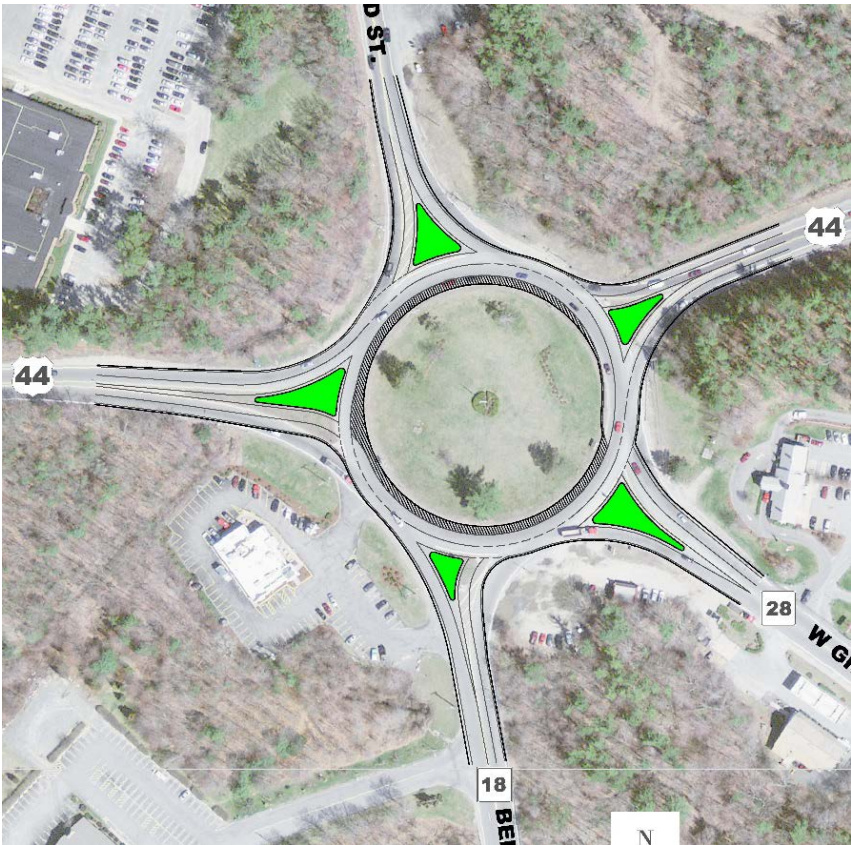
Improving Pavement Condition

NHS Non Interstate Pavement Condition

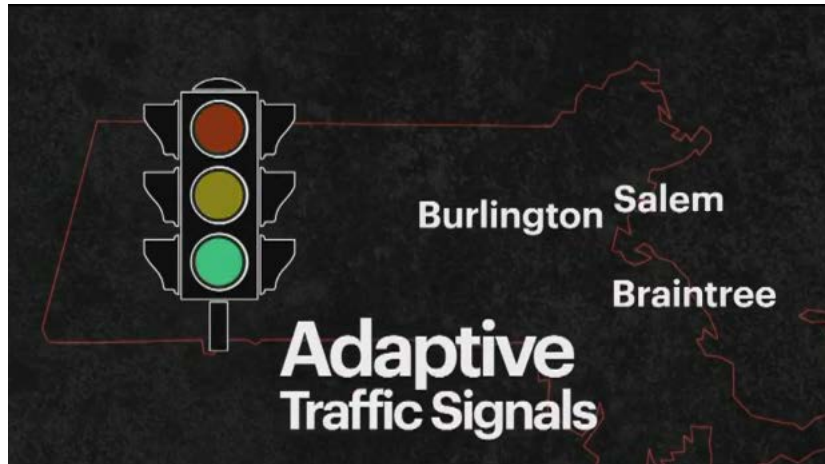


 = target achieved

Address local and regional bottlenecks where feasible



Increase management of state and local roadway operations



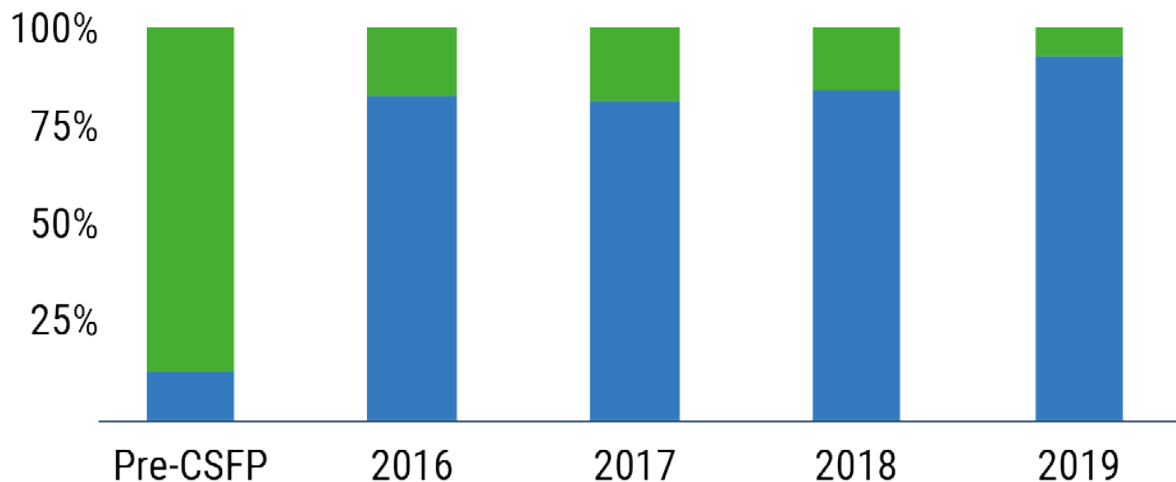
Municipal Partnerships

- Municipalities are facing increasing challenges in maintaining their transportation infrastructure and supporting a changing mobility world
- Bond bill recognizes and supports the increased transportation needs of our municipalities by providing:
 - \$70 million for the Municipal Small Bridge Program
 - \$100 million for a *new* Municipal Pavement Partnership Program
 - \$20 million in *new* authorization for the Complete Streets Program
 - \$200 million for FY2021 authorization of the Chapter 90 Program
 - \$50 million for a *new* Local Bottleneck Reduction Program
 - \$50 million for a *new* Transit Infrastructure Partnership Program

National Leadership

The efforts of Massachusetts cities and towns have been recognized by Smart Growth America on the annual “Best Complete Street Policies” list every year since 2013.

New Municipal Policies Nationwide



82%

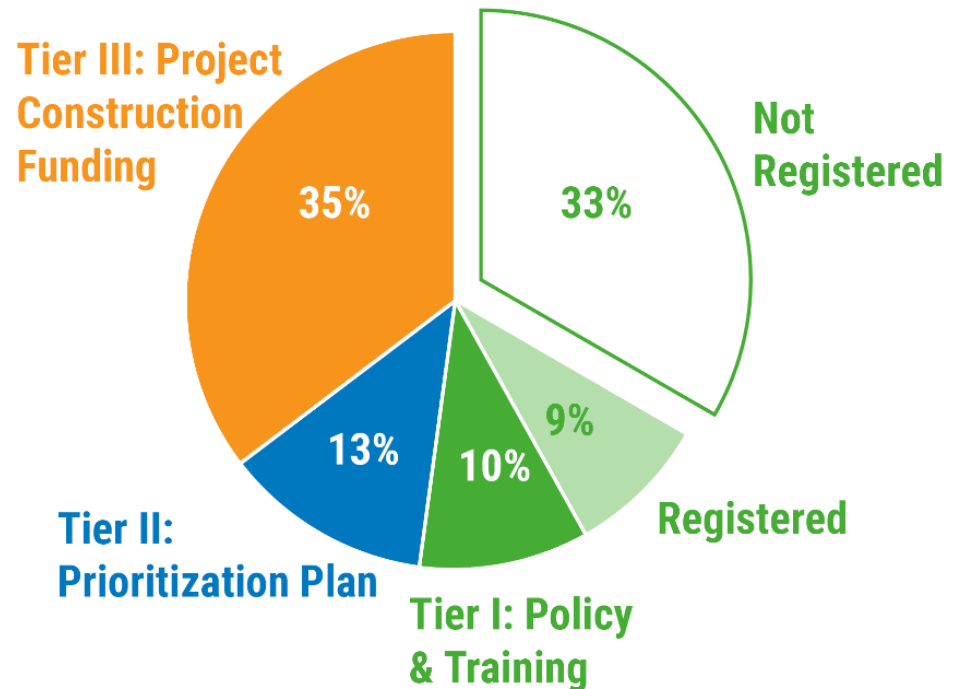
of the new city-level Complete Streets policies adopted in the United States since 2016 were for municipalities in Massachusetts

Statewide Program Participation

The Complete Streets Funding Program has shown success in both attracting participation and advancing participants through the program tiers.

67% of Massachusetts' 351 municipalities are at some stage of participation in the program

89% of Massachusetts municipalities have completed MassDOT Complete Streets training.



MassDOT Contract Opportunities



- Design Services to support CIP

- Specialty Services to support Highway Division activities
 - Environmental, Right of Way, Complete Streets, etc.

- Master Service Agreements (MSA)

- Right-of-Way
 - ROW Activities
 - ROW Plan Preparation and Review

- Salary Cap

Design Build – Upcoming Projects



- Charlton – Oxford - Route 20
 - \$60 million
- Fall River – Route 79/Davol Street
 - \$70 million

- Hopkinton - 495/90 Interchange
 - \$270 million
- Boston – Allston Intermodal
 - ~ \$1 billion
- Newton-Weston – Multiple Bridges
 - \$180 million



Thank You