

Employing Scenario Planning to Inform Internal Target Setting

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A new approach to investment planning

- ▶ One CIP for MassDOT and the MBTA
- ▶ CIP built on the idea of priorities, programs, and then projects
- ▶ Focus on investments that restore reliability
- ▶ First use of evaluation criteria and the Planning for Performance tool to inform decision-making
- ▶ New approach to CIP outreach and the use of innovative tools to expand participation
- ▶ Stronger emphasis on analyzing regional and social equity of set of investments

How the Capital Investment Plan is different

Identifies capital priorities:

- ▶ Articulate strategic priorities for the maintenance and improvement of the transportation system, with an emphasis on reliability
- ▶ Set and size funding programs to contain projects with similar purposes or focus
- ▶ Populate these funding programs with high-priority projects that have been scored using established evaluation systems

Working together, the MassDOT Divisions and the MBTA prioritized the agency's strategic goals, creating a decision-making framework reflected in the CIP:

1 Reliability

Maintain and improve the overall condition and reliability of the transportation system

- ▶ Necessary routine and capital maintenance
- ▶ State of Good Repair projects designed primarily to bring asset condition up to an acceptable level
- ▶ Asset management and system preservation projects

2 Modernization

Modernize the transportation system to make it safer and more accessible and to accommodate growth

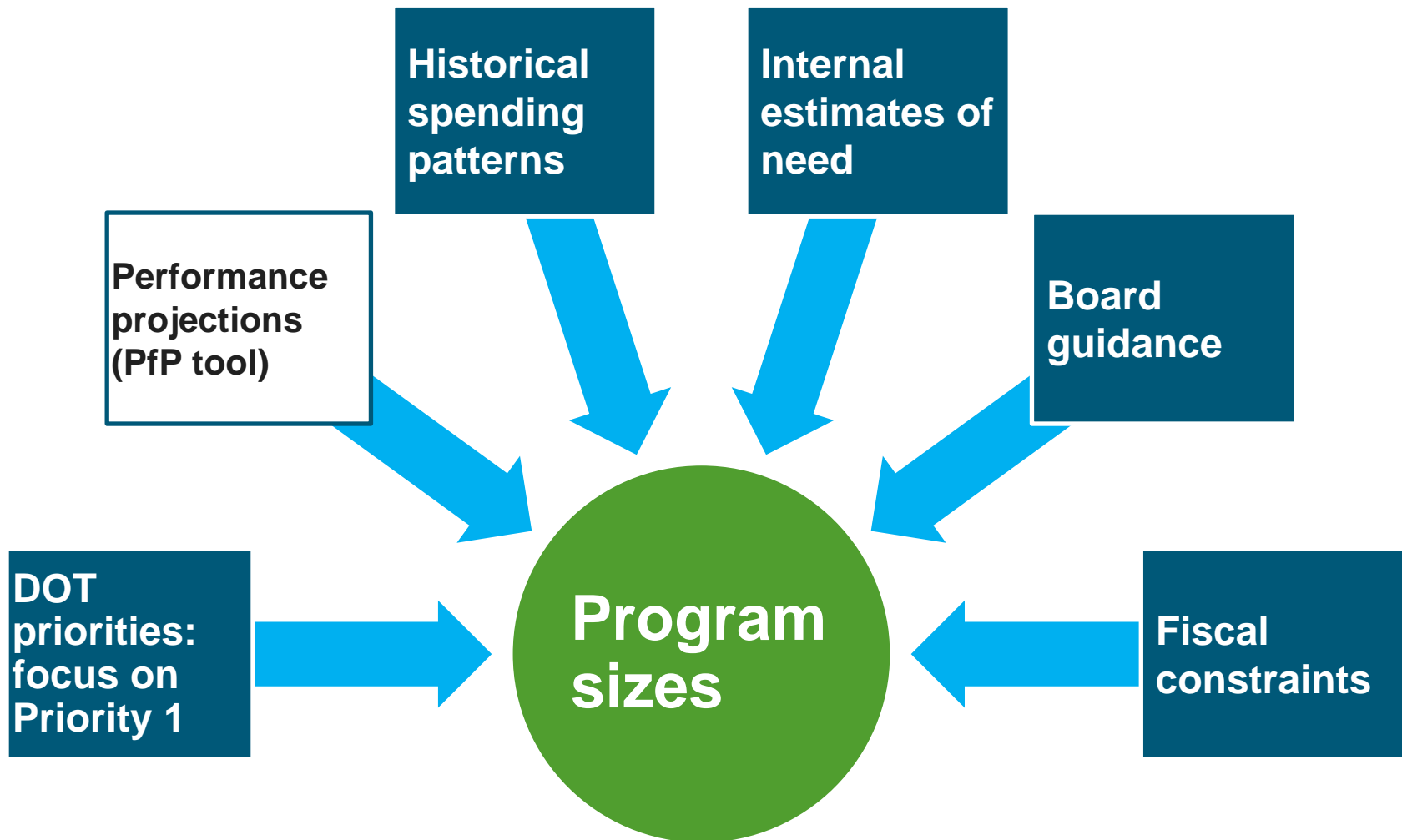
- ▶ Compliance with federal mandates or other statutory requirements for safety and/or accessibility improvements
- ▶ Projects that go beyond State of Good Repair and substantially modernize existing assets
- ▶ Projects that provide expanded capacity to accommodate current or anticipated demand on existing transportation systems

3 Expansion

Expand diverse transportation options for communities throughout the Commonwealth

- ▶ Projects that expand highway, transit and rail networks and/or services
- ▶ Projects that expand bicycle and pedestrian networks to provide more transportation options and address health and sustainability objectives

Program sizing



Planning for Performance Tool

Select a Plan Year: **2025** ▲ ▼ Your Scenario *massDOT* Massachusetts Department of Transportation

Baseline Scenario Today's Funding Million/Year Today's Performance 2025 Performance

Your Budget SPENDING DESIRED AMOUNT REMAINING THEORETICAL MAX POTENTIAL SPEND

Over by: **\$199M Overall**

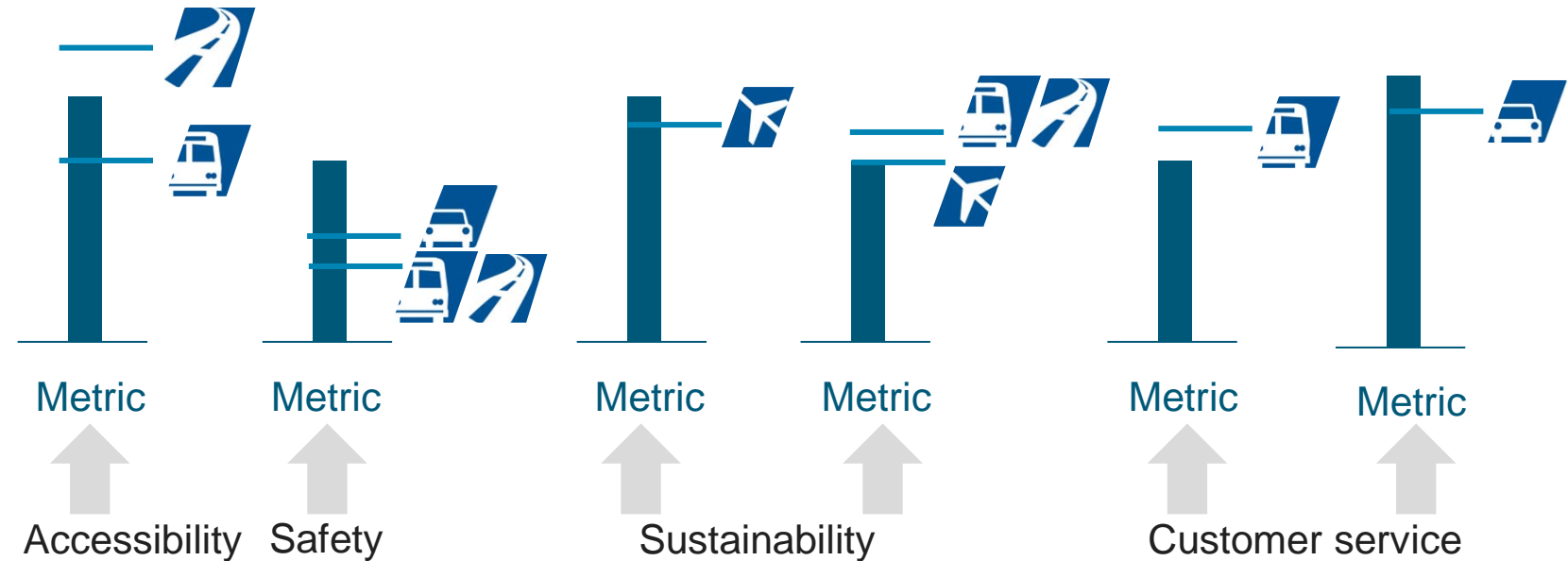
Rail and Transit Division				CIP		Over by: \$84M on Rail and Transit	
MBTA BRIDGES % SGR	\$300	78%		\$41	65%	44%	
MBTA ELEVATORS/ESCALATORS % SGR	\$18	95%		\$13	60%	67%	
MBTA ACCESSIBILITY % of Stations ADA Compliant	\$36	92%		\$22	74%	85%	
OVERALL MBTA ROLLING STOCK Derived from lines 15-17	\$180	58%		\$209	60%	58%	
MBTA ROLLING STOCK - BUS % SGR	\$45	71%		\$28	N/A	39%	
MBTA ROLLING STOCK - COMMUTER RAIL % SGR	\$90	45%		\$113	N/A	45%	
MBTA ROLLING STOCK - RAPID TRANSIT % SGR	\$45	71%		\$68	N/A	86%	
MBTA TRACK Daily Hours of Delay	\$100	13		\$18	18	25	
MBTA SIGNAL Signal Failures	\$100	962		\$22	1,900	2,504	
MBTA GENERAL FACILITIES (Includes power, stations, commuter rail accessibility etc.)	\$166	N/A		\$166	N/A	N/A	
MBTA SUBTOTAL	\$900			\$491			
RTA ROLLING STOCK SPENDING Determines SGR and Expansion	\$16			\$17			
RTA ROLLING STOCK SGR % within Design Life	\$16	80%		\$17	94%	80%	
RTA ROLLING STOCK EXPANSION New Buses Purchased	\$16	144		\$17	0	211	
RTA FACILITIES AND SYSTEMS	\$5	N/A		\$5	N/A	N/A	



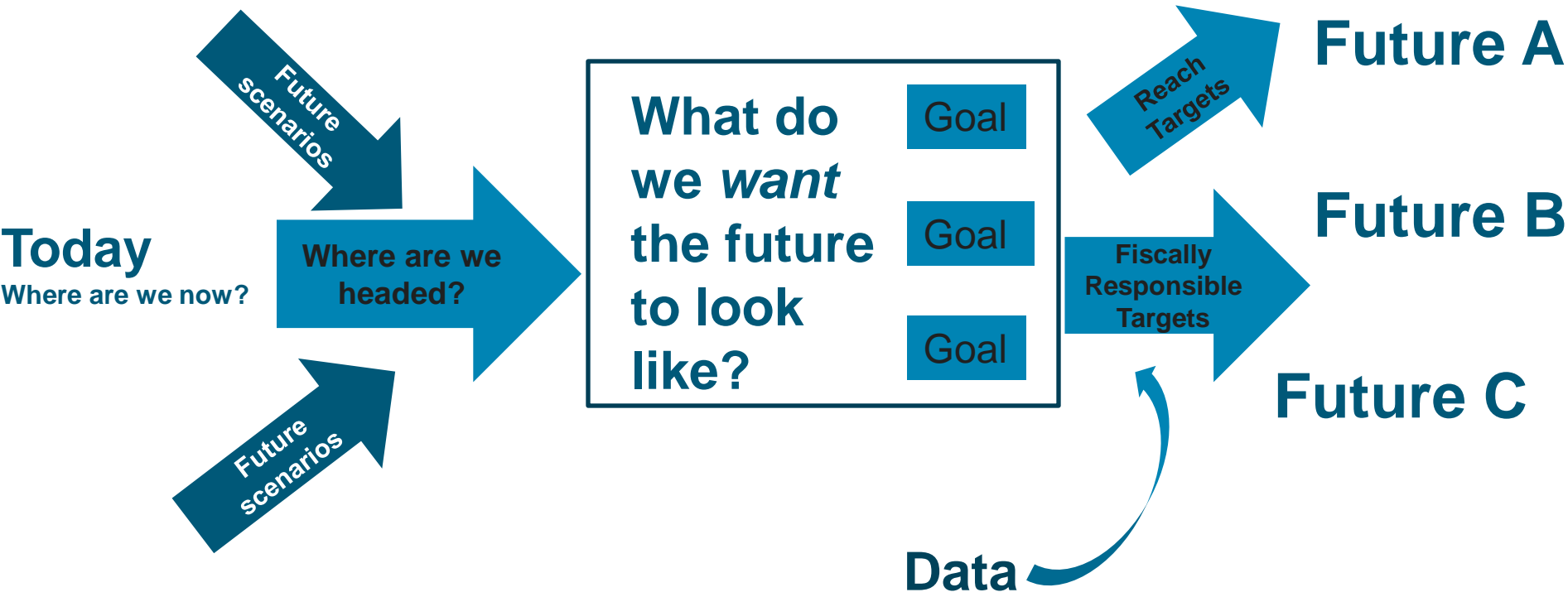
Improvements Going Forward

- ▶ Although we used PfP, we currently do not have identified targets of performance across MassDOT
- ▶ Several existing initiatives will allow MassDOT to incorporate target setting into the next iteration of the Capital Investment Plan
 - Ongoing planning work across modes.
 - Target setting process underway by the Office of Performance Management and Innovation (OPMI)

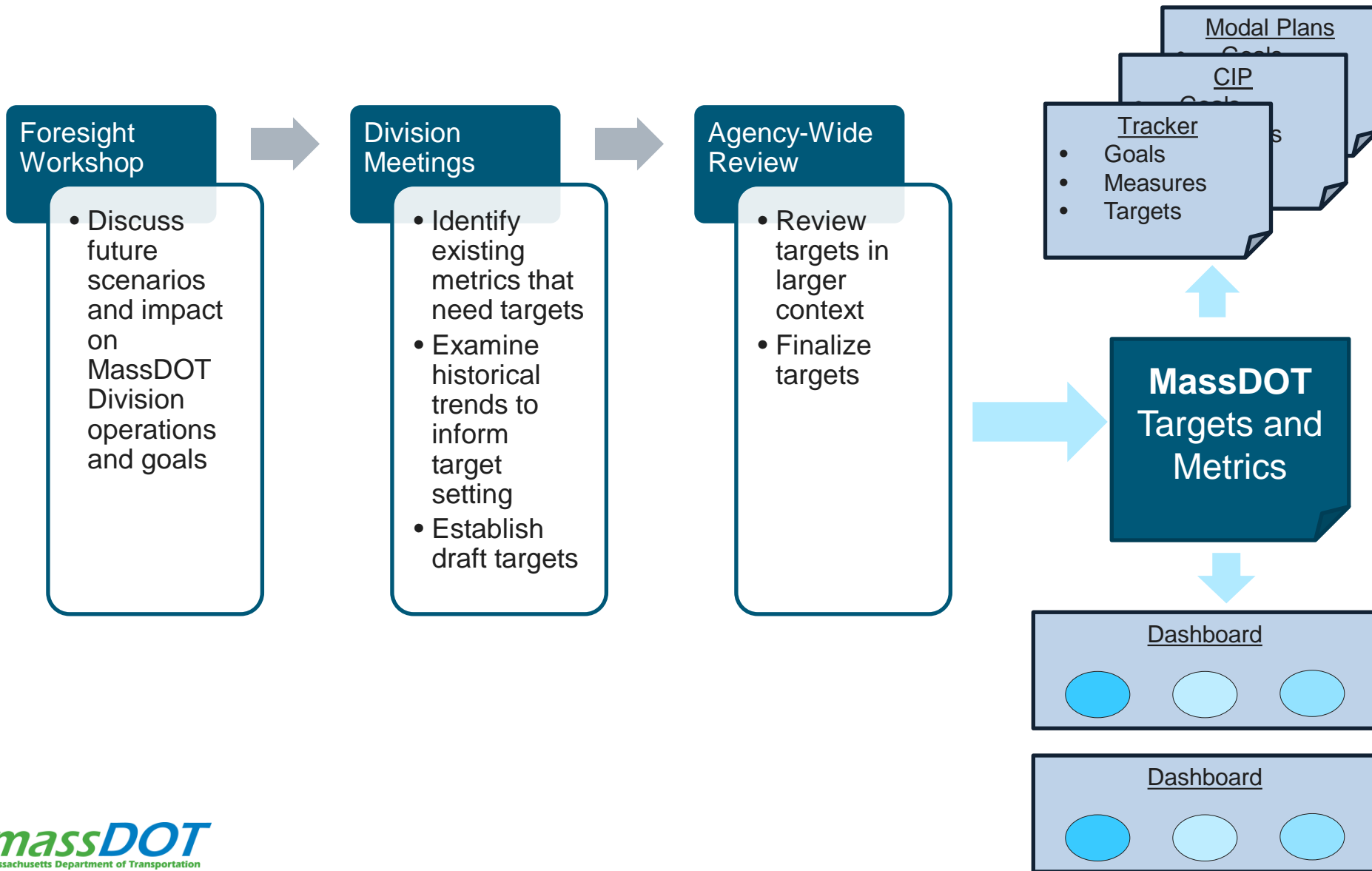
Our metrics and targets will be related – but may vary – across Divisions and programs



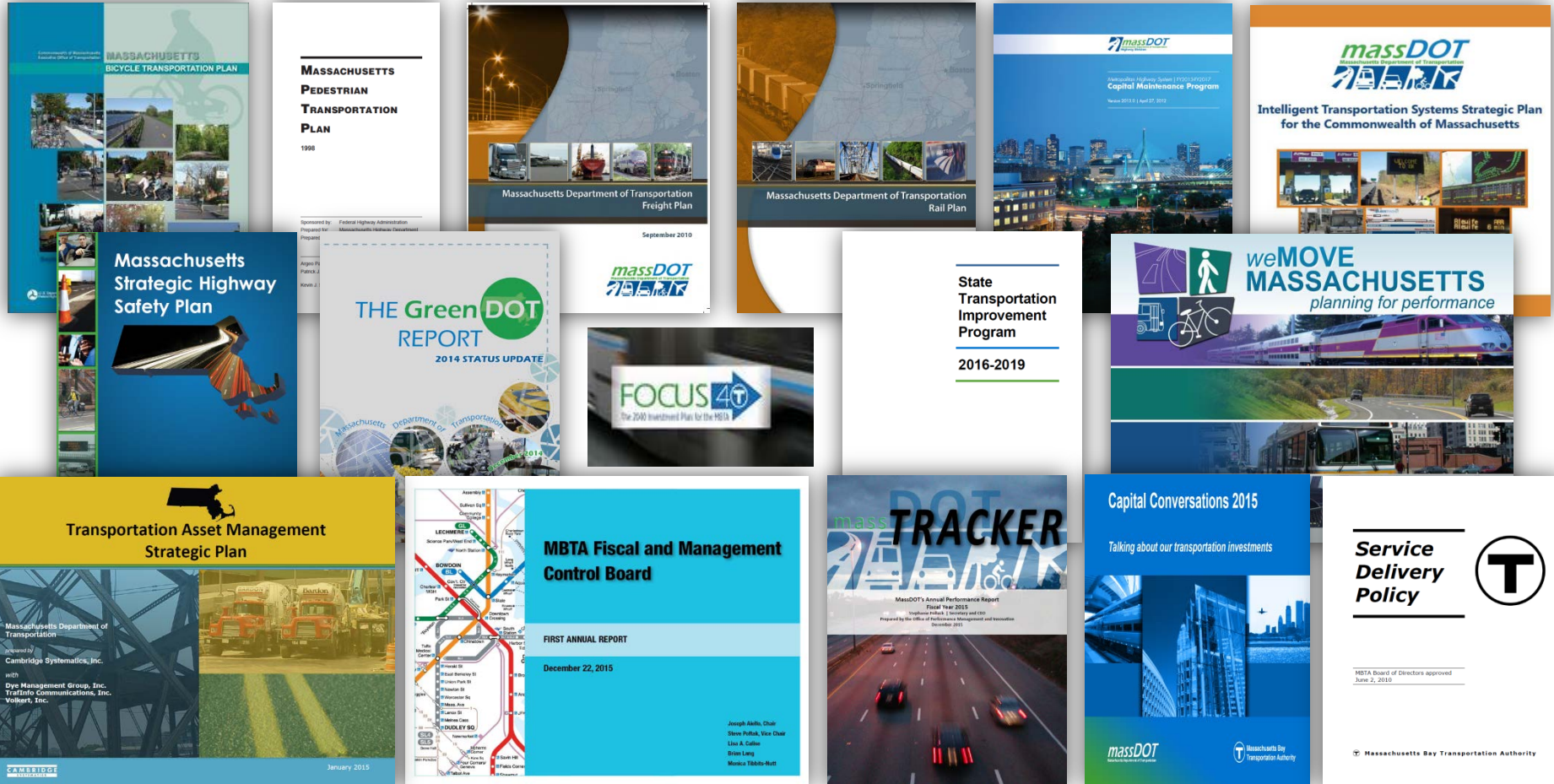
Targets help us plan for different futures, and guide us in the desired direction



Target Setting Process



Current planning efforts



Planning Efforts Underway

Plan	Planning Horizon	Financial Constraint?	Statutorily Required	Status
MassDOT/MBT A CIP	5 years	Yes	Yes	Complete
PMT (Focus40)	25 years	Fiscally responsible	Yes	Underway
Intermodal Plan	25 years	TBD	No	Conceptual
Rail Plan	25 years	No	Yes	Underway
Bike Plan	25 years	No	No	Underway
Pedestrian Plan	25 years	No	No	Underway
Freight Plan	35 years	No	Yes	Underway
Economic impact study	n/a	No	No	Proposed



FOCUS 4T
The 2040 Investment Plan for the MBTA

Q: What is Focus40?

A: A financially responsible, long-term investment strategy that positions the MBTA to better serve the region of today, as well as the Greater Boston of 2040.

- Thorough public **engagement** process
- Long-term **roadmap** for **state of good repair** and **capacity** investments
- **Clean slate** of new investment ideas
- Call for **municipal partnerships** to provide better transit opportunities



SCENARIOS OVERVIEW

FUTURE STATE A

URBAN COLLECTIVE

A radical increase in residents in the Boston core, with a preference for smaller economic and environmental footprints. Most people live within 5 miles of their primary destinations.

FUTURE STATE B

DISPERSED SELF- SUFFICIENCY

Suburban communities of Boston increasingly mimic cities (dense development, mixed use, bikeable/walkable) in their town centers or around transit stations. The suburbs maintain their share of the region's population.

FUTURE STATE C

MULTI- CORE MEGA REGION

Expanded connections between Boston and the gateway cities, promoting regional resiliency. Most people live beyond 5 miles from their primary destination.

An aerial photograph of Boston, Massachusetts, showing the downtown area and the waterfront. The image is tilted at an angle. The city is densely packed with buildings, streets, and green spaces. The waterfront is visible on the right side, with several large industrial or commercial buildings along the water's edge. The water is dark, and there are some boats visible. The overall scene is a detailed view of an urban environment.

FUTURE STATES

Sea levels have risen, and storm surges frequently flood areas of Boston's downtown and low-lying inland regions. Weather is increasingly chaotic (hot, cold, and stormy).

Which means: New infrastructure will be needed to mitigate flooding. Demand for water transport will increase. Storms, extreme heat and cold, and other significant weather events will necessitate a variety of transit options to provide travelers with alternatives to disrupted systems.

FUTURE STATE A: URBAN COLLECTIVE

A radical increase in residents in the Boston core, with a preference for smaller economic and environmental footprints. Most people live within 5 miles of their primary destination.

Booming Coastlines

Communities along the coast and low-lying inland areas are fortified against flooding and continue to grow, effectively managing disruptions from storms and extreme temperatures



Great Sea Retreat

Unpredictable weather and high costs to redevelop flooded coastlines and inland regions result in a decline in population in today's city centers

Biking as New Normal

30% of non-walking trips shorter than 2 miles will be made by bicycle



Biking as Backup

Biking in Boston does not increase as a primary means of transit for short trips

Downtown Dwellers

40% more people live in Boston's urban core and the downtown areas of its gateway cities such as Worcester and Lowell



Dispersed Dwellers

The region's growth is distributed across dense urban centers and lower-density suburbs in proportion to today's population.

Population Boom

Metro Boston's overall population will increase by more than 12%, with corresponding increases in the workforce and demand for housing and municipal services



Population Stagnation

Metro Boston's population growth will plateau, leading to a reduced workforce and falling demands for housing and municipal services

Shared Transit

The use of ride-share services or carpooling will double as individual car ownership decline and households seek shared resources



Single Occupancy

Auto ownership rates remain steady, and there is little growth in relying on shared resources

Urban Affordability

As need for affordable housing increases, new units are created within the urban core, increasing low-income households' access to jobs and resources in the city



Suburban Growth

As need for affordable housing increases, movement of households to suburbs outside of the city increases demand for reliable, inexpensive transit options to the city center

Discussion