



RAIL VISION

Cambridge Transit Committee

MARCH 6, 2019

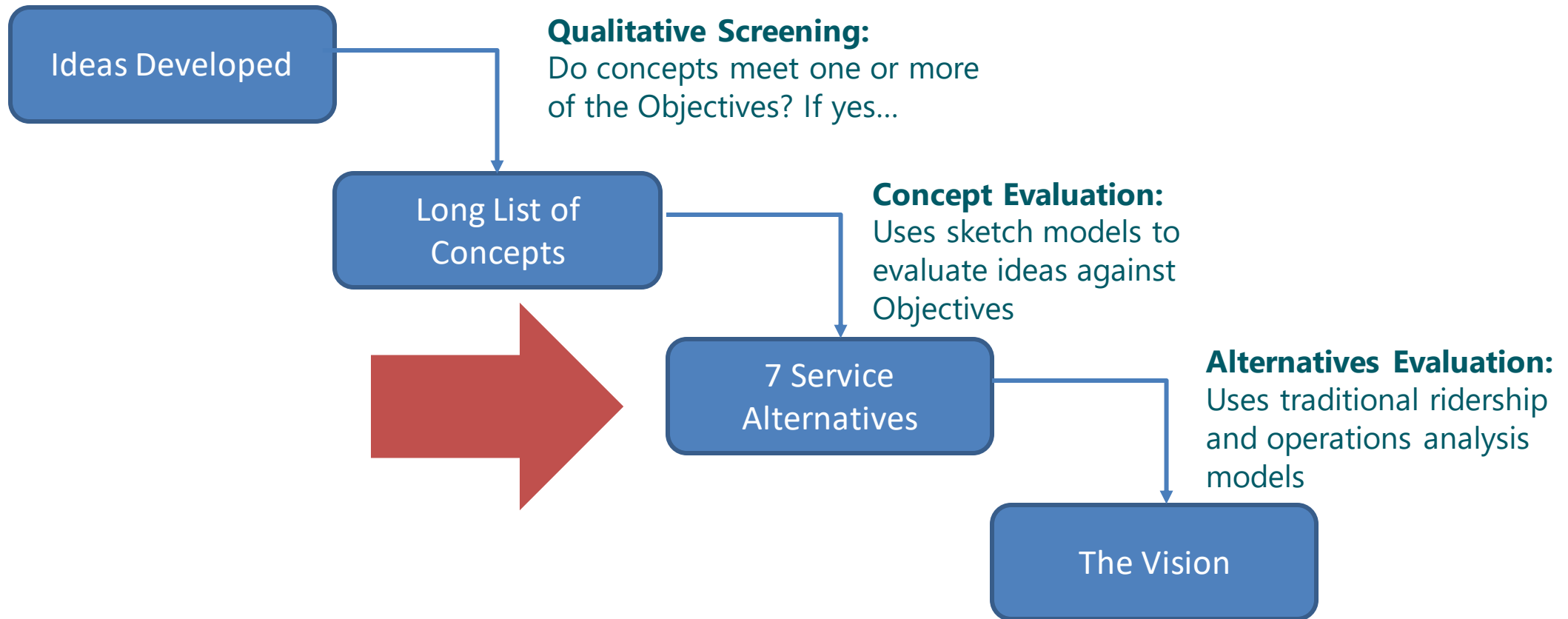
massDOT
Massachusetts Department of Transportation



Presentation Agenda

- Project Overview
- Seven Service Alternatives
- Next Steps

Where We Are Now



Advisory Committee

- 22 member Advisory Committee represents diverse MBTA service area perspectives and provides informed advice to agency leadership
 - Local, state and federal elected officials, transportation and business organizations, transit and advocacy groups
- Members review information and provide advice to MassDOT and MBTA at key milestones
- Members have attended five meetings and provided comments and concerns

What We've Heard – Riders and Non-Riders

Keolis surveys Commuter Rail riders annually – most recently in February 2018

- 4,000 individual comments on topics ranging from wi-fi to reliability to increasing seat capacity
- Results showed that most respondents are likely to continue to use Commuter Rail in the future
- Fare promotions and special ticket deals were well rated

Rail Vision developed a survey for non-riders to ask what factors affect their decision to drive versus switch to rail

- 2,500 non-riders completed the survey as of March 4
- Lack of convenience was a bigger barrier to using Commuter Rail than cost

Elements Covered in Rail Vision Service Alternatives

Alternatives aim to **reduce travel time, increase service frequency, and improve system connectivity** based on results from the first phase

Alternatives to consider mix of service and investment elements:





- New vehicle technology
- System electrification
- High level platforms
- Station typology and frequency
- Double and triple tracking
- Facility needs and expansions
- Station locations
- More express service
- Span of service
- Transfer hubs
- Operational feasibility
- Order of magnitude operating and capital costs

Station Typologies

Alternatives will consider a mix of service and investment elements to provide higher levels of service to:

- **Key stations**, due to their density, regional access, and transit connectivity
- **Inner core stations**, in and around Boston
- **Outer stations**, outside the Inner Core

Typical Characteristics of Key Stations

 <p>Density</p> <p>Stations in Gateway Cities, downtown areas, town centers, and high-density locations can support frequent service.</p>	 <p>Regional Access</p> <p>Proximity to the roadway network with sufficient parking allows stations to draw passengers from across the region.</p>
 <p>Ridership</p> <p>Currently one of the 5 highest ridership stations on the line or branch.</p>	 <p>Transit Connections</p> <p>Stations improve transfers to/from public transportation, increasing connectivity to and within the MBTA system.</p>

High Level Platforms / Accessibility Upgrades

- Existing system has a mixture of platform types:
 - **High-level**, with a level boarding surface
 - **Mini-high**, with a portion of the platform at a high-level to provide a level boarding surface
 - **Low-level**, requiring use of stairs or ramp
- High-level boarding and powered doors on trains could reduce dwell times at stations
- The project will assume different levels of platform upgrades across the alternatives to test a range of capital improvements.



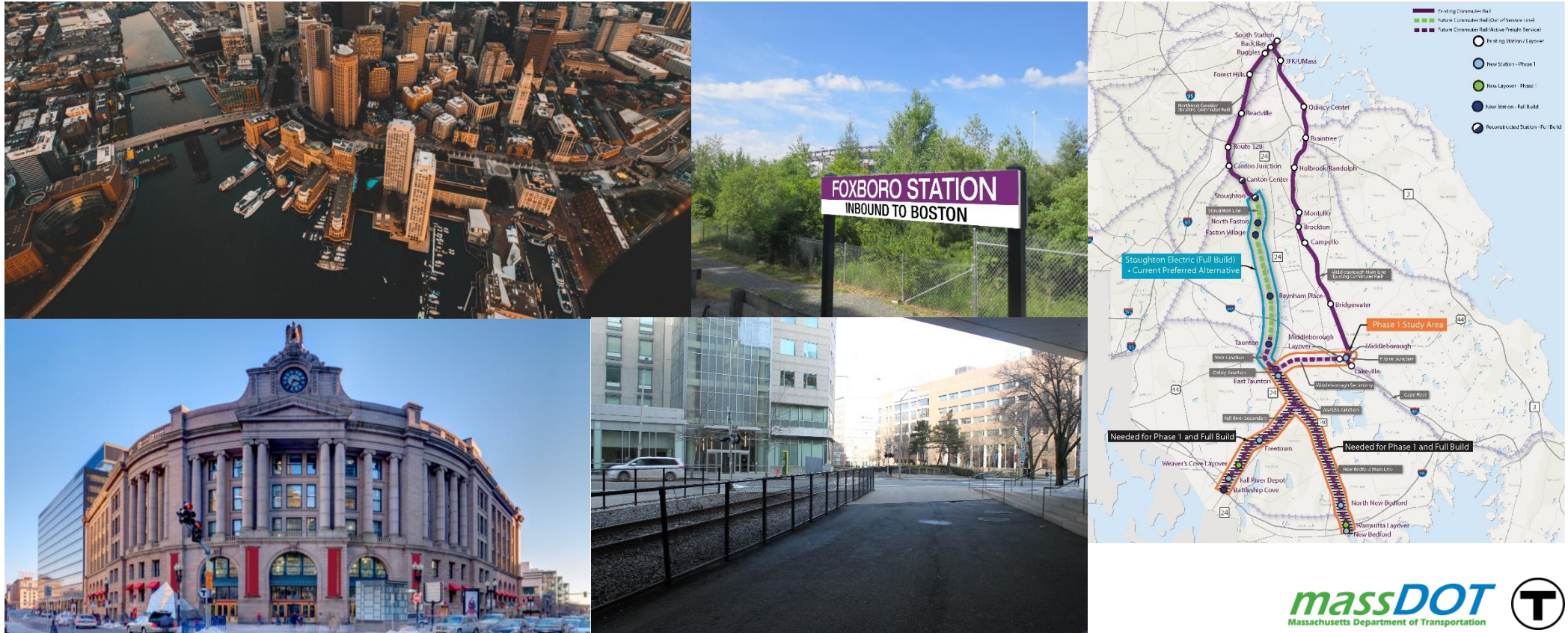
Electrification and Vehicle Technology

- Some alternatives will consider full or partial system electrification
- Vehicle options include locomotives paired with coaches or multiple units (multiple self-propelled vehicles) – either can be diesel, electric, or dual mode
- Vehicle powered by electricity produce lower emissions
- Multiple unit trains can provide travel time savings
- Procurement and O&M costs vary across the range of vehicle types



Terminal Capacity and System Expansions

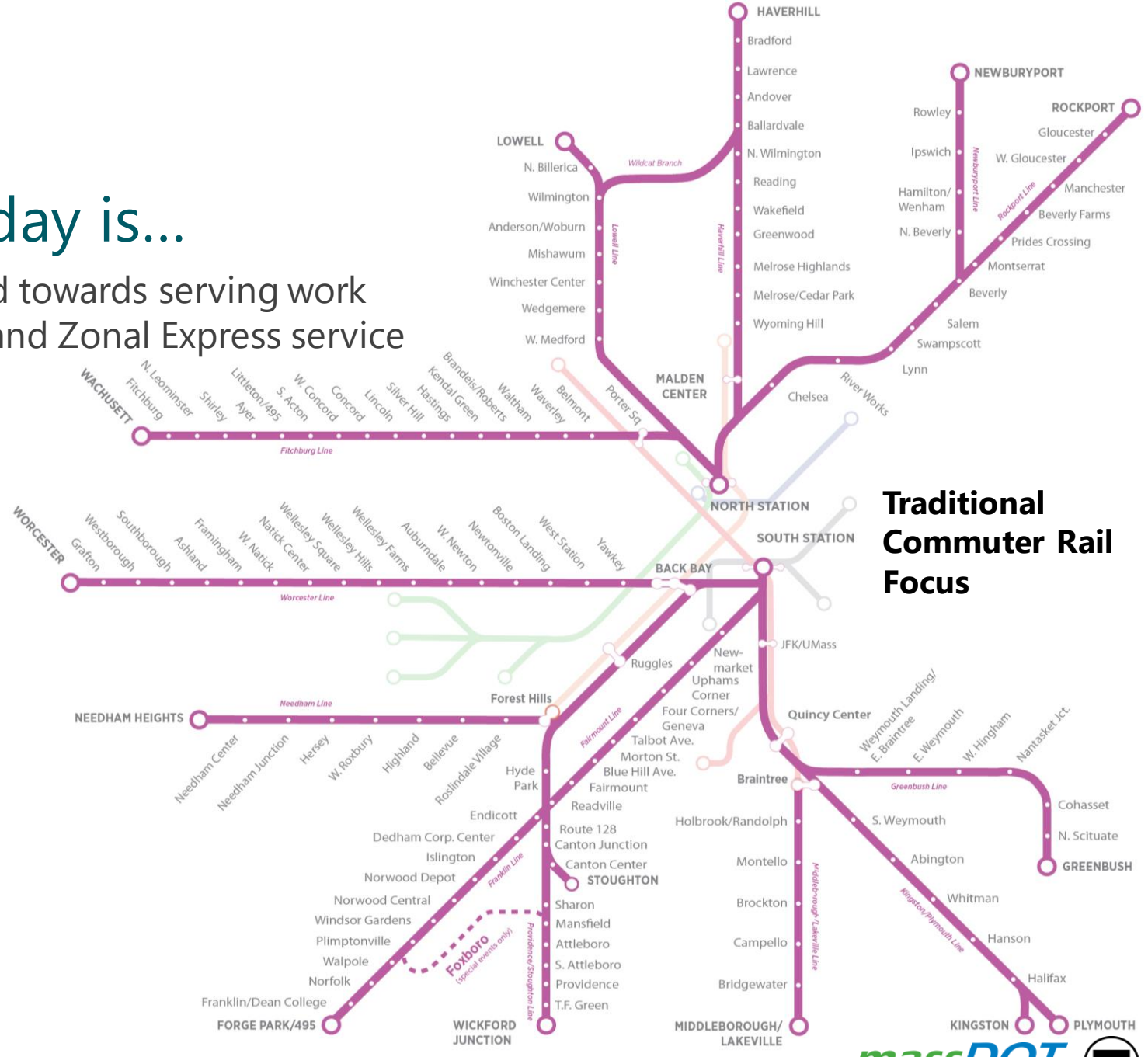
Examples include North South Rail Link, South Station Expansion, South Coast Rail (Phase 1 and Full Build), Foxborough, Grand Junction



The System of Today is...

Today's system is largely local service geared towards serving work trips into downtown Boston. Some Express and Zonal Express service operates on longer lines.

What Exists Today...or in the Very Near Future	
Typical Frequency	30/75 peak direction
Electrification	None (Amtrak only)
Rolling Stock	Diesel locomotives
Terminals	Existing (North Station, South Station), with North Station capacity upgrades
System Expansions	N/A
Committed New or Upgraded Stations	Blue Hill Ave. (Fairmount) Pawtucket (Providence) SCR Phase 1 stations Other station upgrades
Interlining	Haverhill/Lowell (2 trips/day)
Station Accessibility	Mixed



Traditional Commuter Rail Focus

Seven Rail Vision Service Alternatives

Handouts provide more detail on alternatives:

Alternative 1: Optimize Existing System

Alternative 2: Regional Rail to Key Stations (Diesel)

Alternative 3: Urban Rail (Diesel)

Alternative 4: Urban Rail (Electric)

Alternative 5: Regional Rail to Key Stations (Electric)

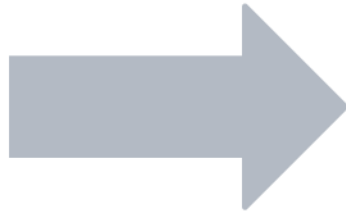
Alternative 6: Full Transformation

Alternative 7: Hybrid System

Next Steps: Alternatives Evaluation

- Develop robust ridership estimates for all 7 Alternatives using the CTPS Travel Demand Model
- Model operations, infrastructure and capital costs with Rail Traffic Controller (RTC) modeling tools
- Identify potential land-use and demographic effects of one or more Alternatives using the Regional Dynamic Model (RDM)
- Develop capital and operating cost estimates
- Share results with Advisory Committee and public

What the Alternatives Analysis Will Tell Us



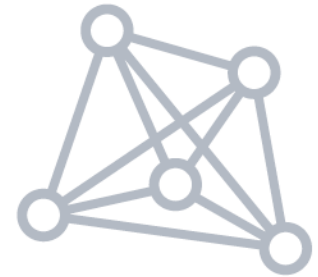
Ridership



Travel Time Savings



Frequency



Connectivity



Equity



Emissions



Capital Costs



Operating Costs

Integrating Parking and Fare Policy

Parking Constraints

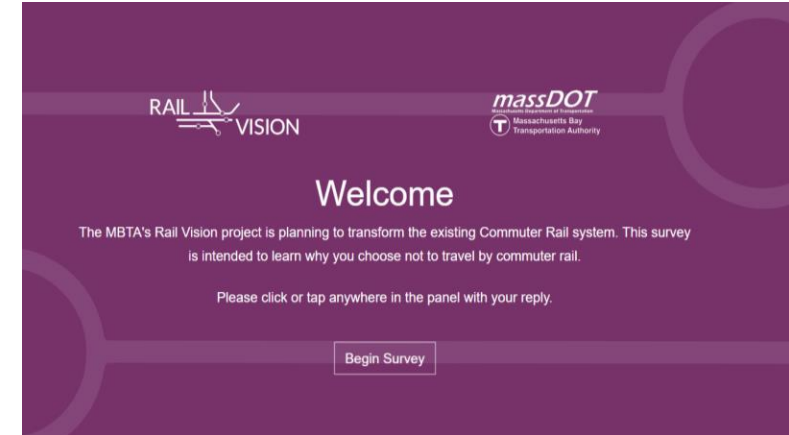
- Test the effects of un-constraining parking supply at some stations, in some alternatives

Fare Policy Analysis

- Work with the MBTA team conducting a network-wide analysis of fare policy, which will identify and evaluate potential alternative fare structures
- Test the effects of implementing a different fare structure in at least one alternative

How You Can Spread the Word

- Attend future meetings of the Advisory Committee and/or Open Houses
- Send comments to us on the Alternatives at <https://www.mbta.com/projects/rail-vision>
- Encourage non-rider family and friends to take the quick Rail Vision survey



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Project Website

www.MBTA.com/rail-vision