MBTA Ridership Goal Policy Considerations

Office of Performance Management and Innovation

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Ridership in a three part series

10/23/17: Current Context

    Overview of FY15-FY17 ridership trends

Today: Input for a ridership goal

    Policy considerations and changing role of competition

Part III: Turning a ridership goal into a capacity target

    Inform capital investment and service plans

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Agenda

- Background

- Trends

- Peaks Times and Places

- Competition

- Policy considerations and questions

  - Does the FMCB want a target or a projection?

  - Should the MBTA maintain or increase its market share?

  - How should the MBTA address different trends in peak and off-peak?

BACKGROUND

MBTA Strategic Plan

Capacity

"Modernize and increase the capacity of the system to accommodate increased ridership driven by population and job growth"

Ridership target

"By the end of 2017, establish a target for the necessary capacity on the core system to meet increased ridership due to economic growth"

Key points from FY15-FY17 analysis

- MBTA trends in line with national trends

- Peak ridership is not decreasing on subway

- Ridership declines off-peak and on bus

- Ridership changes not uniform by bus route

  - Reliability and proportion of riders paying reduced fare significant

- Approximately 30% of passengers report use of ride-hailing services reduce their use of the MBTA

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Why public transit?

- Economic
  - Measured by congestion levels and travel times

- Environmental
  - Measured by reducing emissions (car ownership and VMT as proxies)

- Equity
  - Measured by access to the service area for everyone
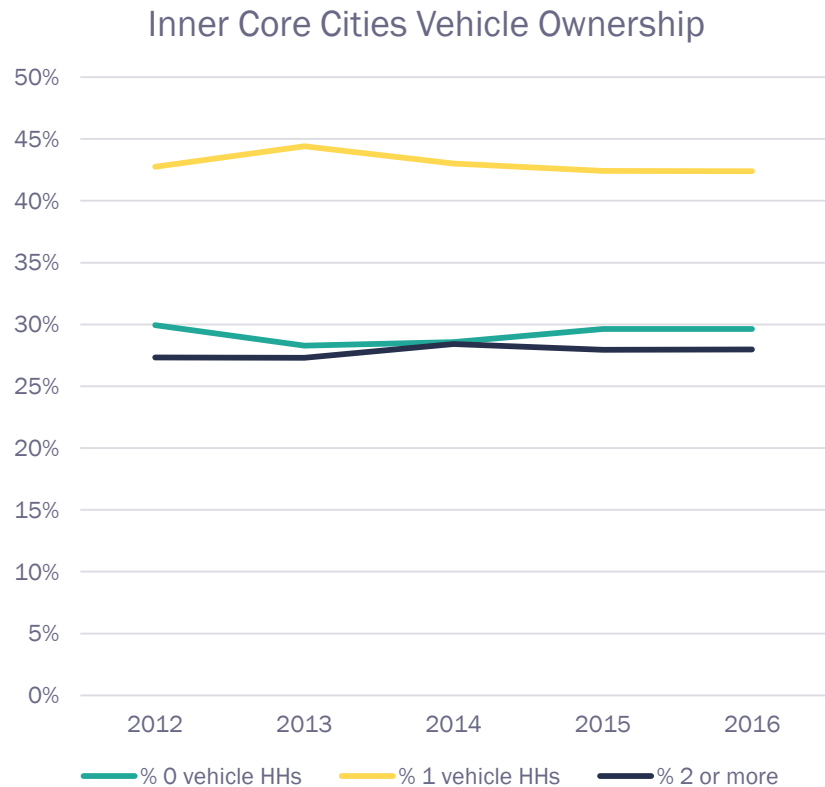
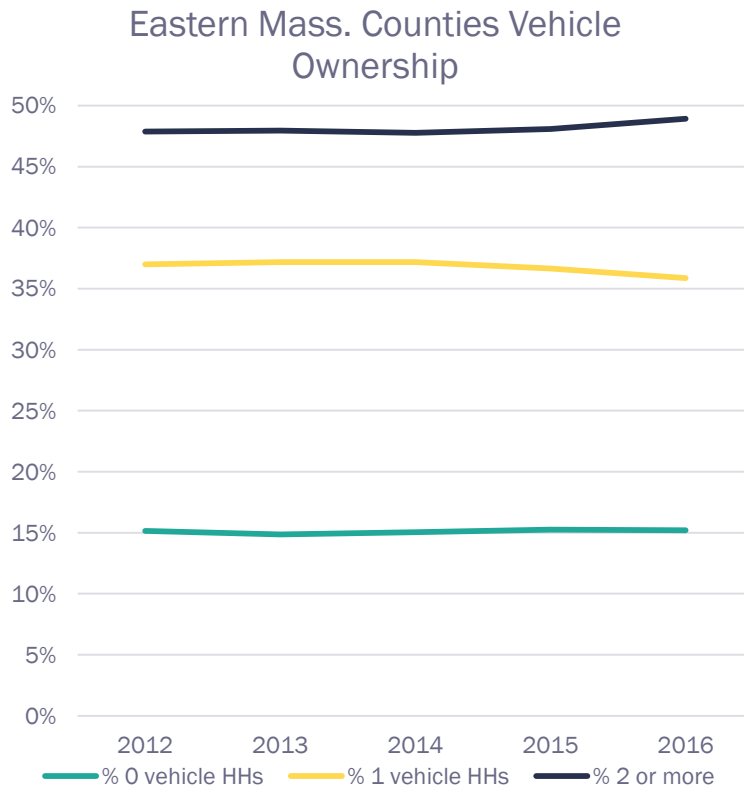# Increase options while increasing mobility overall

- Role for public transit to optimize mobility
- Research suggests ride-hailing services are increasing VMT and congestion
  - Social cost of congestion higher than individual cost
  - Decreases bus reliability and increases bus operating costs
- Some riders still rely on our off-peak services
  - To maintain productivity our services need to be an attractive choice

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TRENDS

Future ridership projections based on both population growth and usage rates

Focus on core bus and rapid transit service area (14 cities and towns: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Milton, Newton, Revere, Somerville, and Watertown)

Vehicle ownership by household has shown little change over the short term

Eastern Mass. Counties Vehicle Ownership

Inner Core Cities Vehicle Ownership

Legend: % 0 vehicle HHs, % 1 vehicle HHs, % 2 or more

Counties: Suffolk, Essex, Norfolk, Middlesex
Cities: Boston, Cambridge, Lynn, Newton, Quincy, Somerville
All data ACS 1-year estimates (high MOE)

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Vehicles Miles Traveled in Massachusetts is increasing
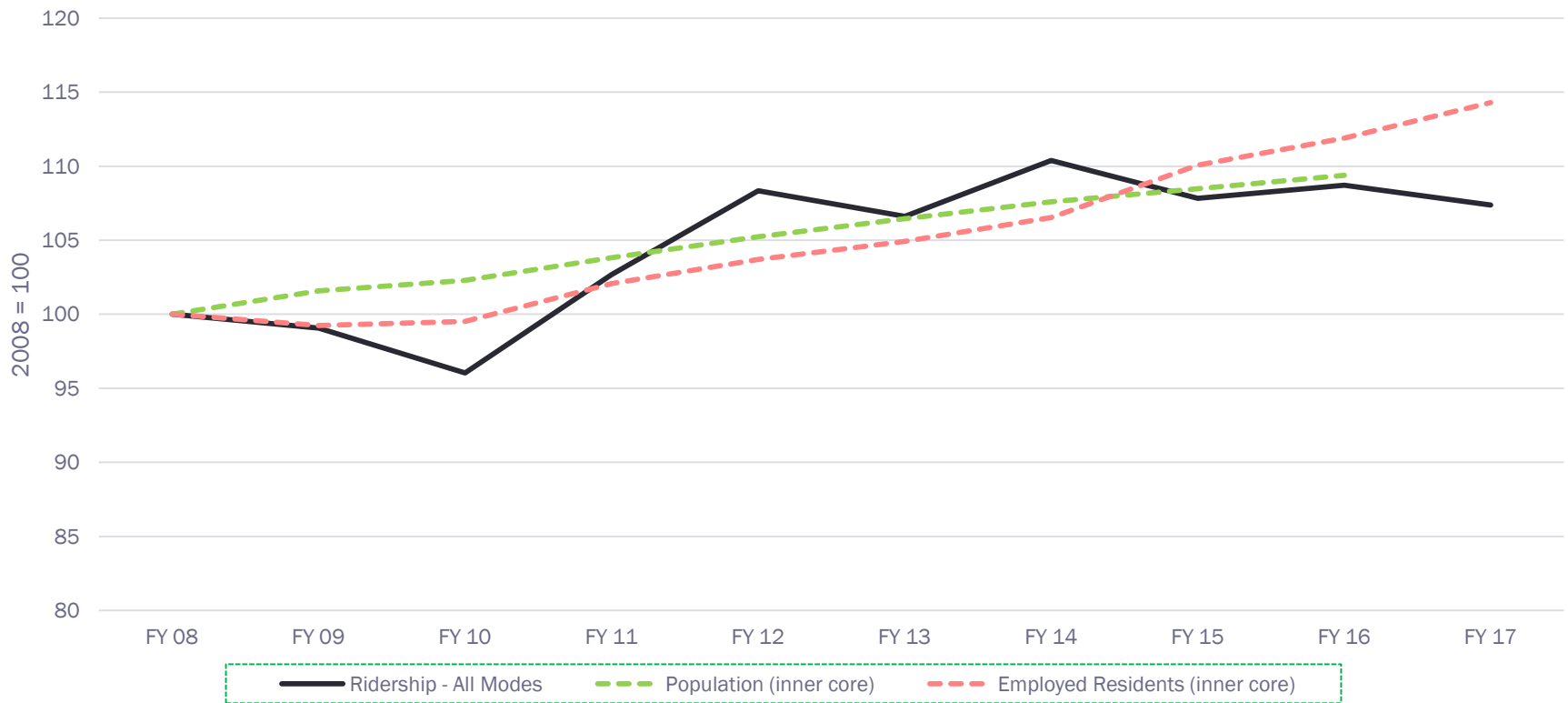

Massachusetts Daily VMT per Capita
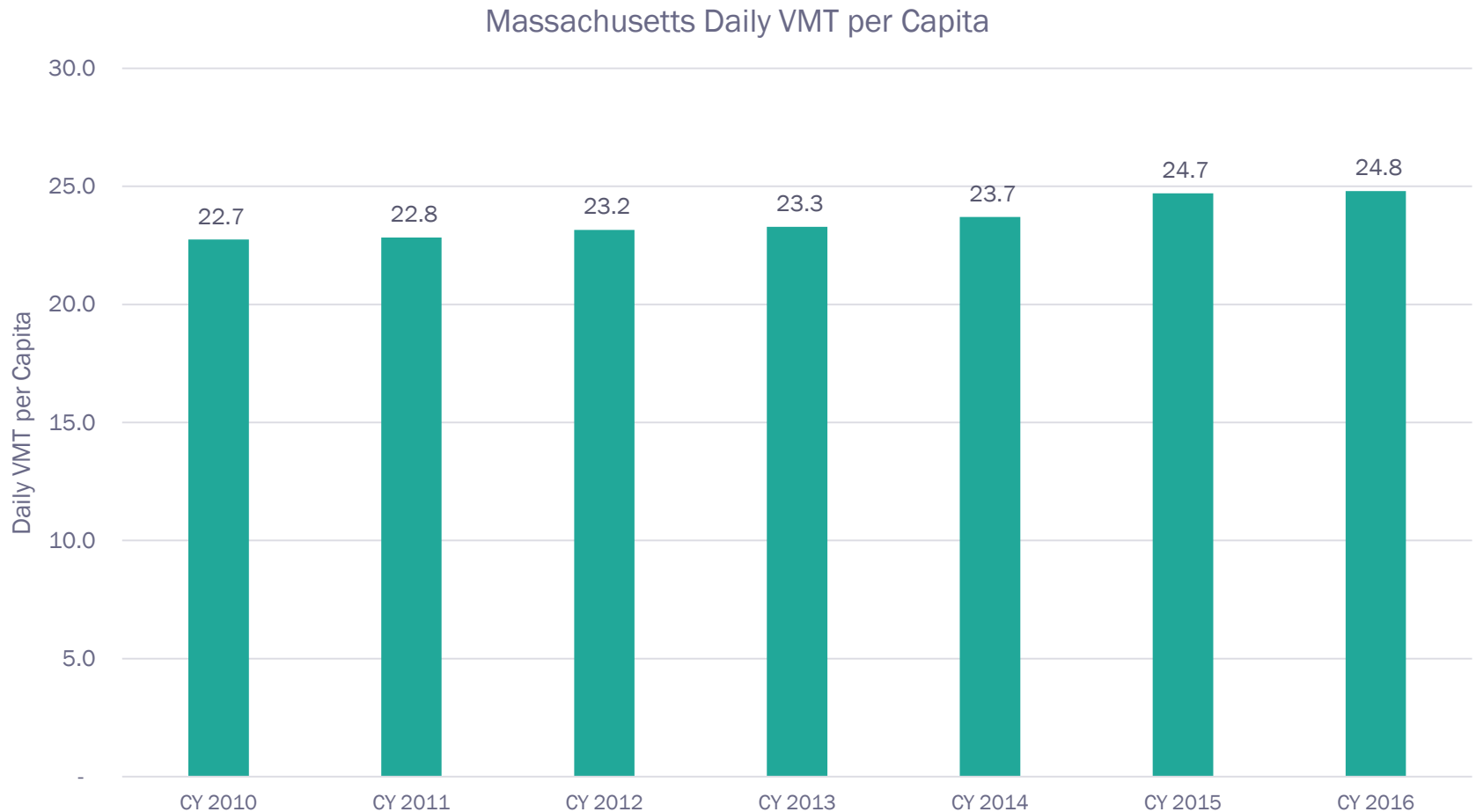
MassDOT Office of Transportation Planning

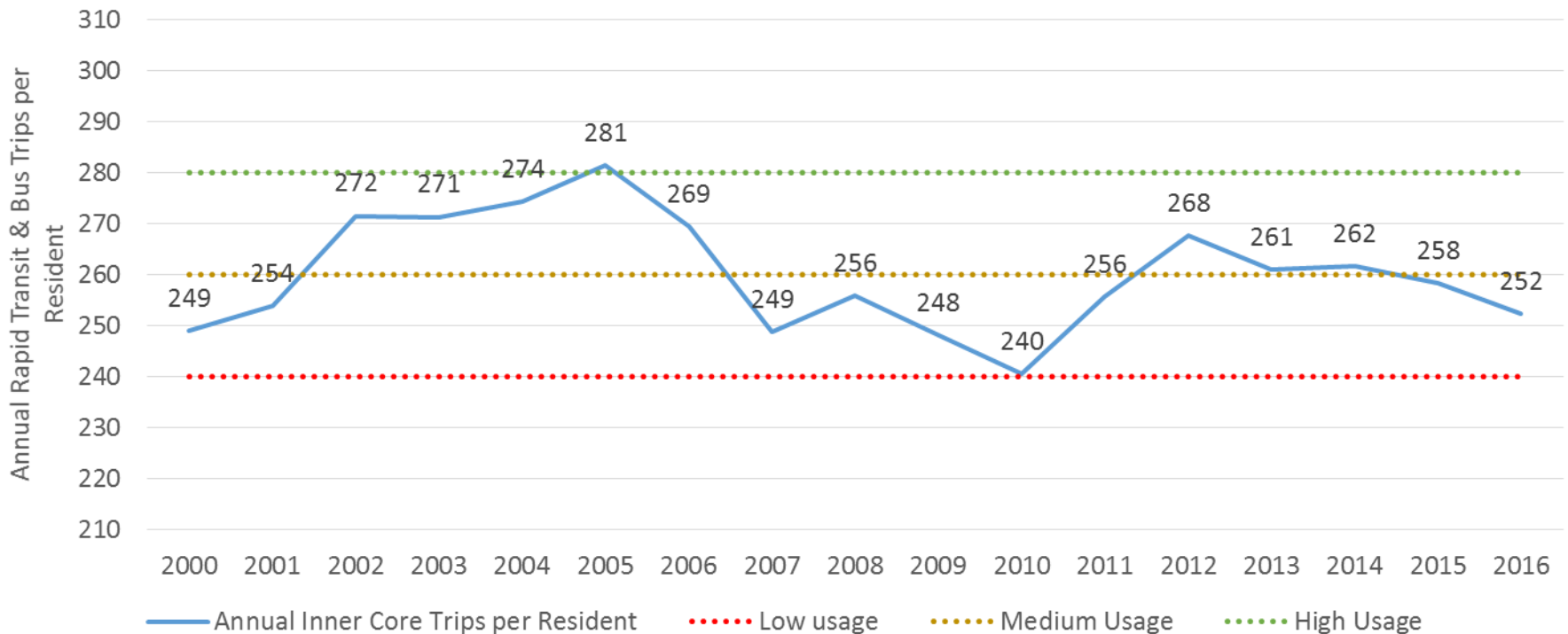# Are we tracking with population growth?

Historically ridership has tracked with population growth; is this trend changing?

Employment, Population and Ridership Indexed to 2008

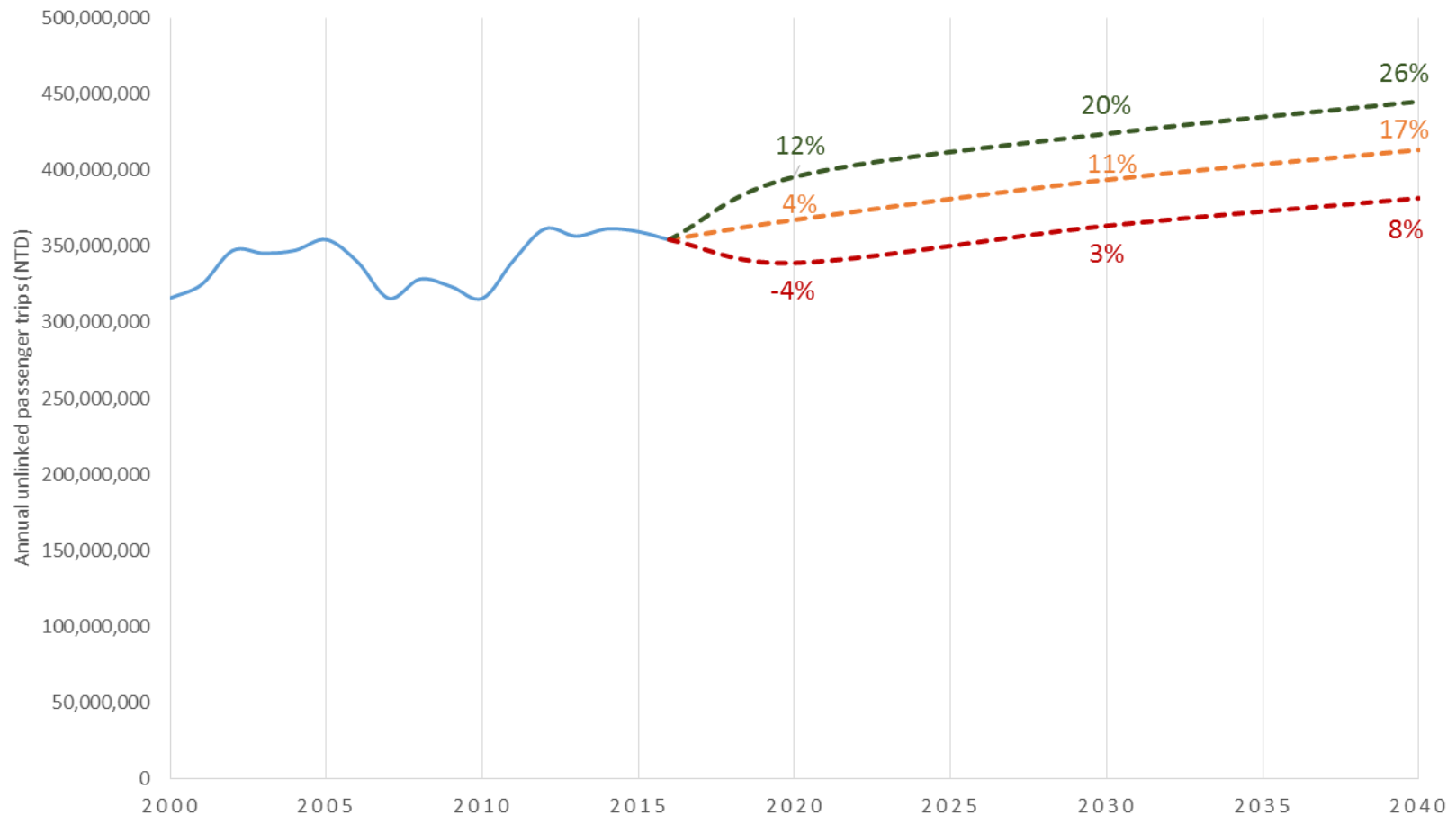Sources: NTD, ACS, BLS. Inner Core = 14 core MBTA cities and towns

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Trips per resident is down in core 14 communities

Usage rate down to recession levels while unemployment is lower

Projecting ridership based on population projections in core 14 communities
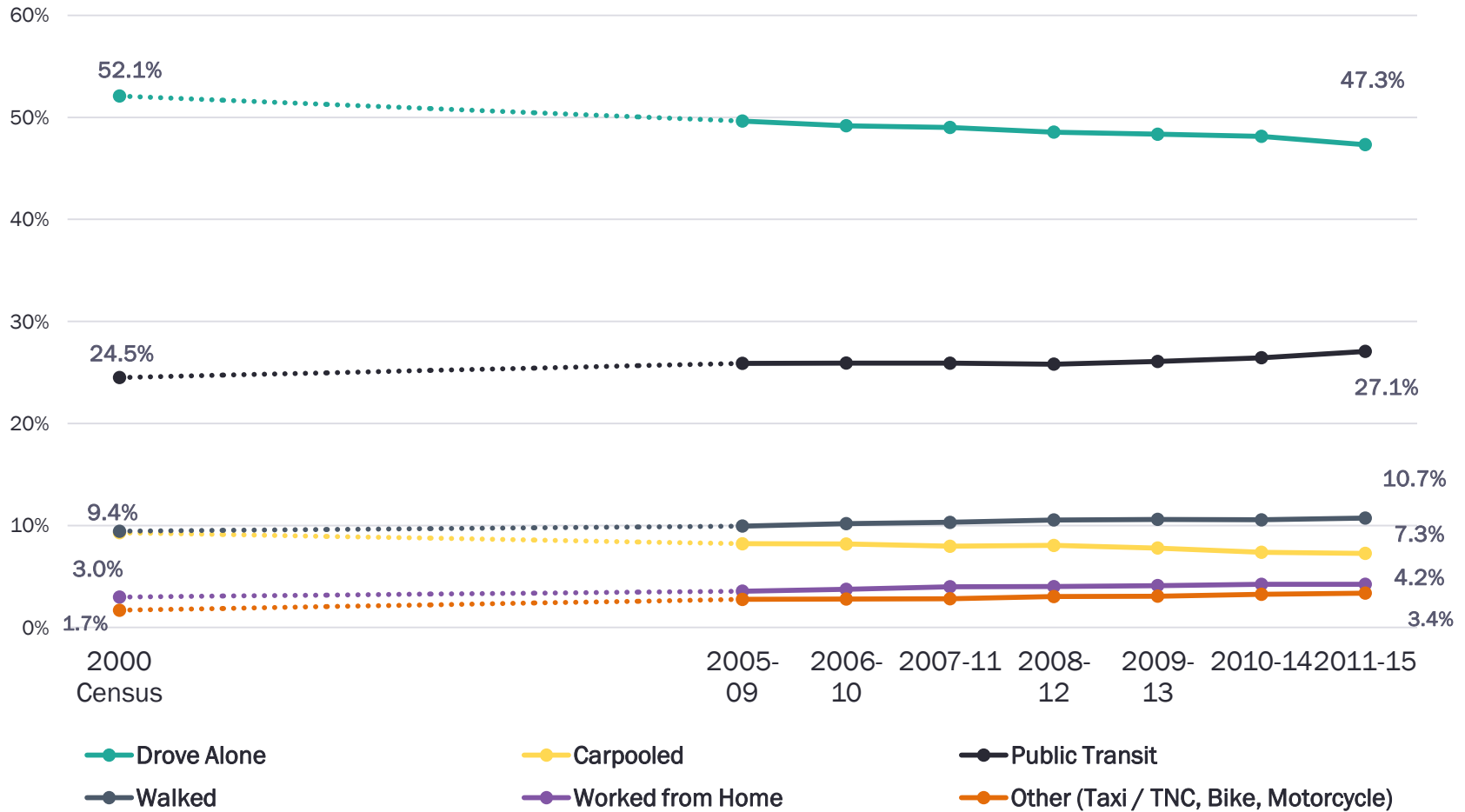

MBTA RAPID TRANSIT & BUS RIDERSHIP PROJECTIONS

Medium usage projection was used as an input to Focus40 and Integrated Fleet and Facilities Plan.
    Assumes stronger population growth

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Commute to Work Transit Share is Increasing

Source: US Census and American Community Survey, 17 inner core communities

Market share

- Transit market share is the proportion of trips on transit of trips made on all modes
  - We don't have accurate data on number of trips by all modes
- The Annual Trips per Resident is a proxy for market share
- By this measure our market share is decreasing
  - If all trip-making is decreasing, then transit share might not be decreasing
- Transit commute to work is a proxy for peak market share
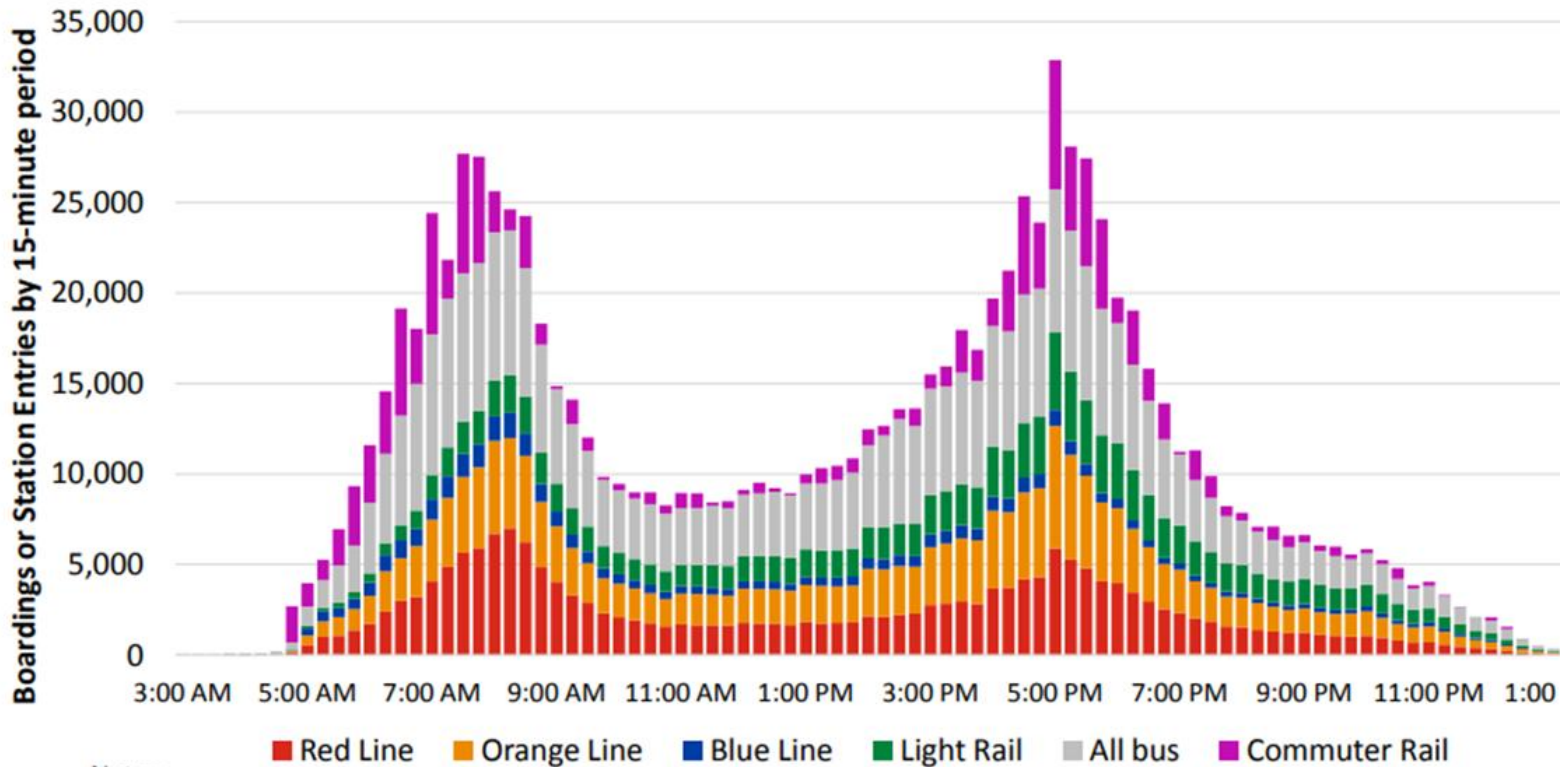
Should the MBTA have a goal to maintain or increase its market share?

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PEAK TIMES AND PLACES

How should the MBTA address different trends in peak and off-peak?

Peak times

Average weekday FY16

Notes:
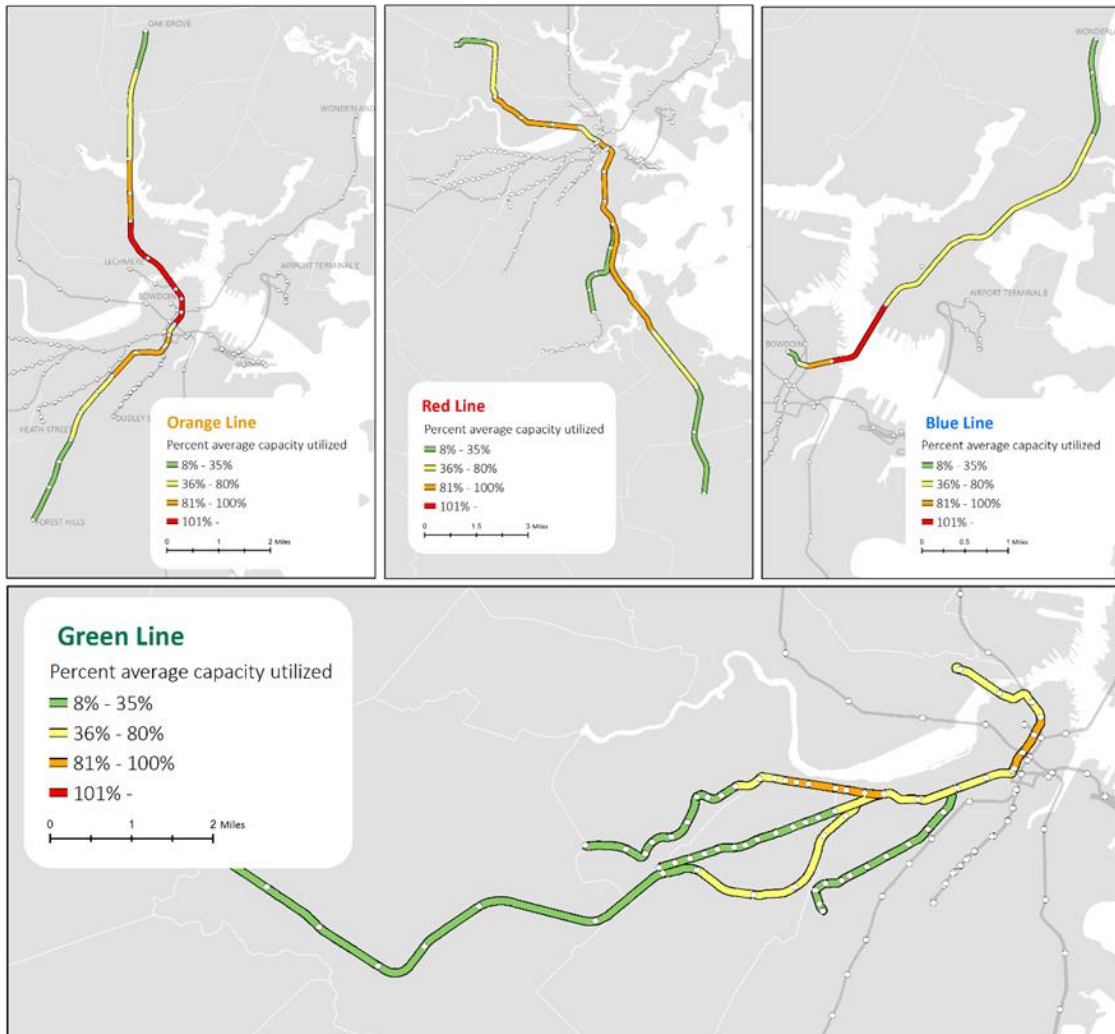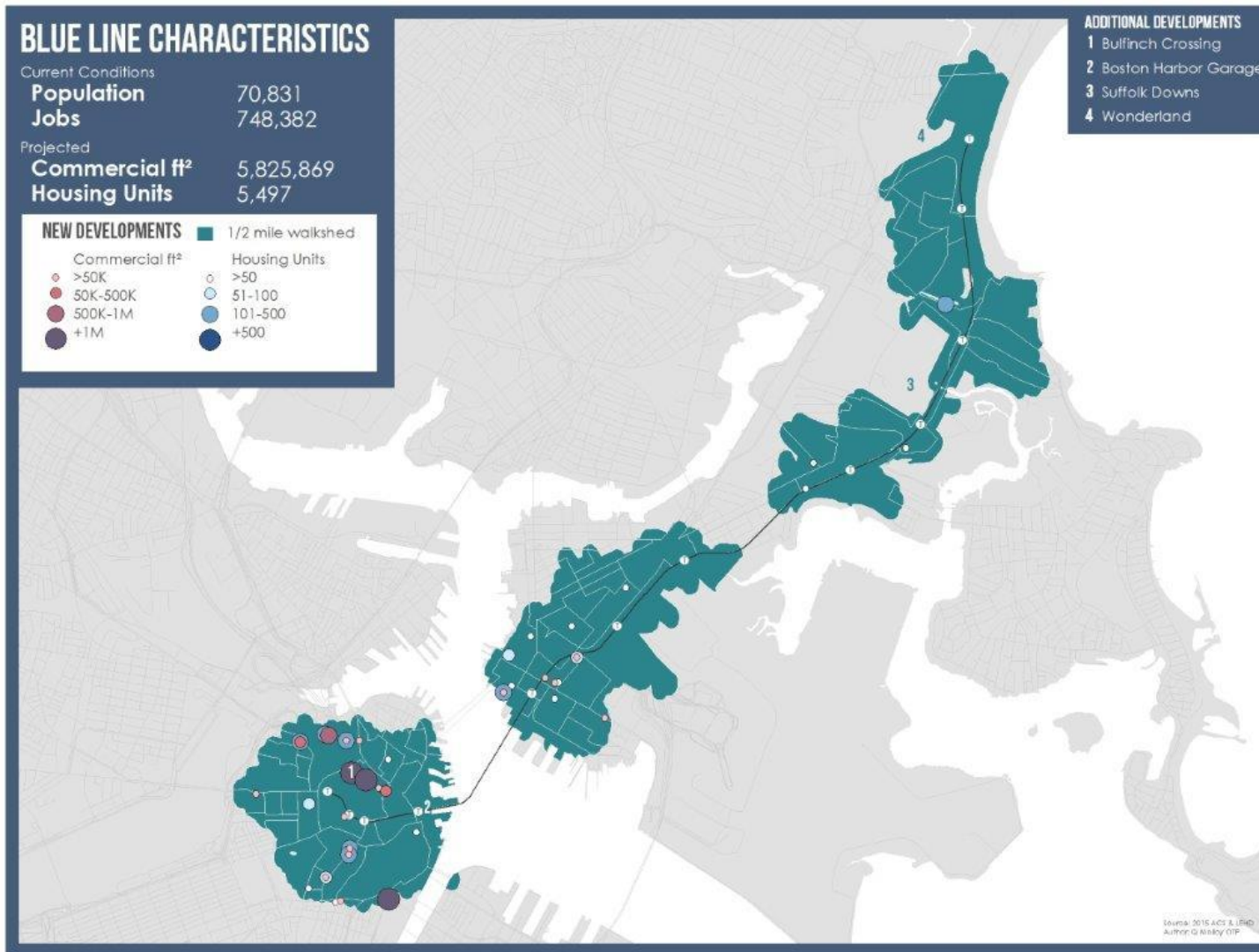- Commuter Rail boardings based on departure time of train from its origin, not actual passenger boarding time
- Commuter Rail counts average of October 3-7, 2016
- Other boardings are average weekday in FY16
- Counts are unadjusted for behind-gate transfers or non-interaction boardings, undercounts morning peak on Light Rail

Source: MBTA AFC system, Keolis conductor counts and train schedule

Existing peak places on rail

Projecting peak places

BLUE LINE CHARACTERISTICS

Current Conditions
Population 70,831
Jobs 748,382

Projected
Commercial ft² 5,825,869
Housing Units 5,497

NEW DEVELOPMENTS ■ 1/2 mile walkshed

Commercial ft²   Housing Units
○ >50K   ○ >50
● 50K-500K   ○ 51-100
● 500K-1M   ● 101-500
● +1M   ● +500

ADDITIONAL DEVELOPMENTS
1 Bulfinch Crossing
2 Boston Harbor Garage
3 Suffolk Downs
4 Wonderland

Current peak bus corridors
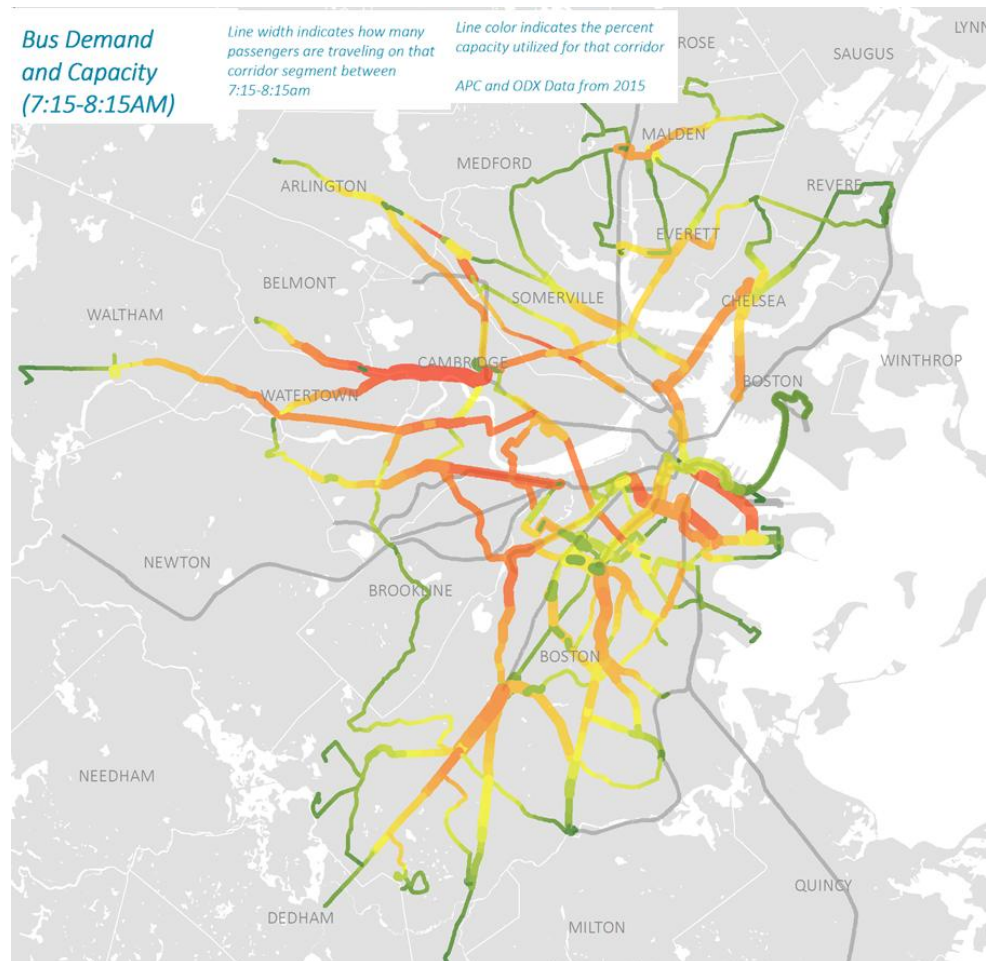
Factors that impact demand

Within MBTA's Control
- Service Delivery/ Performance
- Fare policy
- Service Design
- Capital Investments
- Customer Amenities and Branding

Outside of MBTA's Control
- Population Growth
- Shifting Demographics
- Land Use
- Local Policies for Streets
- Cost of / Competition from Other Modes

Some factors impact specific times and places and some impact ridership over all

COMPETITION

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What has technology actually changed?

- Provides a new method of competition for transportation services
  - Addresses some safety concerns of on-the-street competition, doesn't address congestion caused by many point to point services
  - Can solve the 'perfect information' problem for consumers to compare prices and arrival/travel times
- Allows for better matching in real-time to create shared trips
- Encourages shared vehicle usage
- Changing value of time for transportation by providing more opportunities to do other things while on transit

Continuum of Competitiveness

Competition based on cost in money and time of different options

Transit time includes:
  travel time (traffic/speed, dwell time)
  wait time (frequency, reliability)

Dedicated Right of Way (ROW) improves both

Off-Peak
Bus service

Off-peak
Rail or BRT

Peak
Key bus service

Peak
Rail or BRT

No dedicated ROW
Low congestion
Low frequency

Dedicated ROW
Low congestion
Medium frequency

No dedicated ROW
High congestion
High frequency

Dedicated ROW
High congestion
High frequency

Multiple ways to make our services more competitive

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POLICY CONSIDERATIONS AND QUESTIONS

Policy levers to be more competitive

Peak driven by capital needs

- Subway is competitive, need more capacity *(capital investments)*
- Bus needs dedicated ROW in peak places *(partnerships)*

Off-peak driven by operating and fare policy

- Frequency and reliability *(service plan)*
- Off-peak fares *(fare policy)*
- More flexible service models

Ridership goal informs

Capital Planning: Focus40, Fleet and Facilities Plan

Service Planning: Bus Service Plan, Commuter Rail Vision

Fare Policy: Fare structure changes possible with AFC2

Discussion Questions

- Does the FMCB want a target or a projection?

  - Projections based on population and usage assumptions

- Should the MBTA have a goal to maintain or increase its market share?

- How should the MBTA address different trends in peak and off-peak?

  - Plan for peak capacity
  - Use policy levers to increase off-peak ridership

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Next steps

Part III: Turning a ridership goal into a capacity target (Dec 4)

Inform capital investment, includes future growth by corridor analysis

Continue analysis on ridership changes

Consider Commuter Rail as part of the Commuter Rail Vision process

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