Metro Boston Projections Update

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Presentation Outline

• Regional Growth since 2010
• Regional Population Projections
• Regional Household Projections
• Land Use Model
• Q & A
Population Growth Rates

Annual Population Growth Rates by Community Type, Metro Boston
1970 - 2015

Average Annual Growth Rate

Source: U.S. Census, Decennial Census and Population Estimates
Region has grown faster than projected, especially in suburban community types.
Domestic Outmigration is a Drag on Growth

Components of Population Change, 2011-2016
Metro Boston (5 County)

- Total Population Change
- Net international Migration
- Natural Increase
- Net Domestic Migration

New multifamily units meeting only 64% of estimated demand.
Nearly two-thirds of recent job growth is in urban communities.
Regional Population Projections
MassDOT Projections Committee

Participants:
• MassDOT
• 13 Regional Planning Agencies / MPOs
• EOEEA, EOHED

Technical Consultant:
• Umass Donahue Institute – Population Estimates Program

Methods:
• Traditional Cohort Component: Births – Deaths + Migration
• Migration rates based on 2005 – 2011 period
• Calibrated to match 2015 population estimates
• “Benchmark” region ➔ municipalities ➔ RPAs
• Preliminary projections released November 10
• Future work: labor force estimates, employment by RPA
UMDI projections: An even Stronger Region?

Historical Population and Projections, MAPC Region
2010 - 2040

UMDI - PROVISIONAL 17.5%
MAPC Stronger Region 14.9%
UMDI Projections: An Aging Region

MAPC Region Population by Age
2010 - 2040, UMDI - PROVISIONAL

Population 2010
Population 2015
Population 2020
Population 2025
Population 2030
Population 2035
Population 2040
Census 2010
Household Projections
Labor Force and Household projections (MAPC)

Refine existing regional population and household model

Population detail:
• Race & Ethnicity
• Education*
• Labor force participation*
• Wage*
• Headship rate*

Household detail
• Age of household
• Families with children
• Household size
• Income ($)
• Workers
• Tenure *

* These variables may be adjusted to test a range of assumptions and create multiple scenarios
Household Agents
Categorized by householder age, household size, household structure, income

NON-FAMILY

FAMILY
MAPC’s Land Use Allocation Model

- Allocates growth to Traffic Analysis Zones (TAZs) using Cube Land modeling software.
- Real estate market equilibrium between suppliers (developers) and consumers (households and firms)
- Accessibility to jobs & labor is explicit factor in where firms/households locate
- Economic model assuming rational behavior
  - Real estate properties are occupied by the household or firm willing to pay the most
  - Developers maximize profits when deciding what type of buildings to provide
Integrated Land Use / Transportation Modeling

Accessibility & Congestion

Household and Employer Location Preferences

Travel Demand

Land Use Regulation

Future Land Use

Transportation Projects & Programs
Land Use Allocation Model - Specifications

Model components
- 18 household agent types
- 11 employer/firm types (NAICS codes)
- 8 real estate types
- 2700+ TAZs

Key factors
- Peak period travel times to every other zone, by auto and transit
- Transit station proximity
- Neighborhood demographics
- Current rents and commercial lease prices, by zone

Land use inputs
- Development capacity, by real estate type
- Subsidies for certain households or firms
- Development pipeline / Real estate supply

Products
- Households classified by size, workers, income, auto availability
- Employment by sector
- New real estate square footage
Massbuilds – A key input

4,000 developments statewide
Zonal Allocation, 2015 LRTP projections (households)

Regional household totals (by agent type).

MAPC

Municipal Household Totals based on 2014 population and household projections

Boston
- TAZ 1
- TAZ 2
- etc

Cambridge

Somerville
- TAZ 2456

Wrentham
- TAZ 2457
NEW Land Use Allocation Model

Regional household totals (by agent type).

Inputs: development pipeline, zoning capacity, transportation accessibility, etc

MAPC

TAZ 1

TAZ 2

etc

TAZ 2456

TAZ 2457

Boston

No predetermined municipal projections!
Creating Regional Scenarios

Modify assumptions regarding:

- Migration rates
- Headship rates and family formation
- Education levels and income
- Development pipeline
- Zoning capacity
- Public subsidies
- Household location preferences

Use scenarios for LRTP modeling, MAPC Regional Plan Update
Thank you

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