

Agenda – Kendall Square - Nov. 10, 2011

- Transportation/Land Use Policy & Practice
- Kendall Square Overview
- Planning for Growth - Transportation
- Transportation Topics
 - Public Transportation
 - Pedestrian and Bicycle
 - Transportation Demand Management
 - Parking
 - Land Use



Agenda

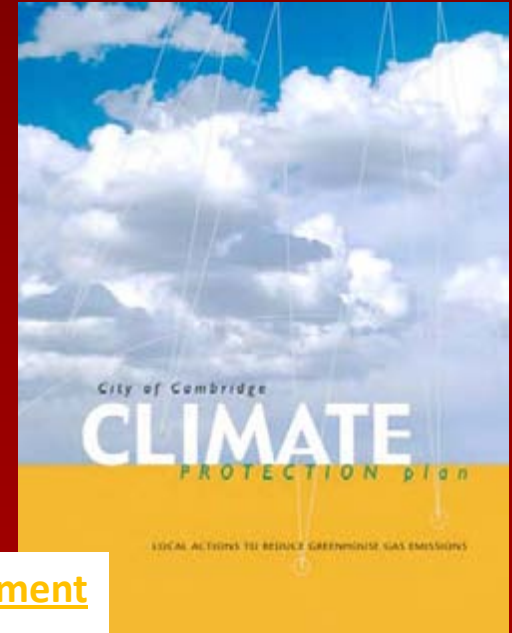
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Transportation/Land Use Policy & Practice

- Responsible growth
 - Vehicle Trip Reduction Ordinance, Growth Policy
 - PTDM Program
 - Climate Action Plan
- Multi-modal approach
 - Ped/Bike Plan
 - Public Transportation/EZ Ride



Policy # 22, Growth Policy Document

Undertake reasonable measures to improve the functioning of the city's street network, without increasing through capacity, to reduce congestion and noise and facilitate bus and other non-automobile circulation.

Policy # 23, Growth Policy Document

Encourage all reasonable forms of nonautomotive travel including, for example, making improvements to the city's infrastructure to support bicycling and walking.

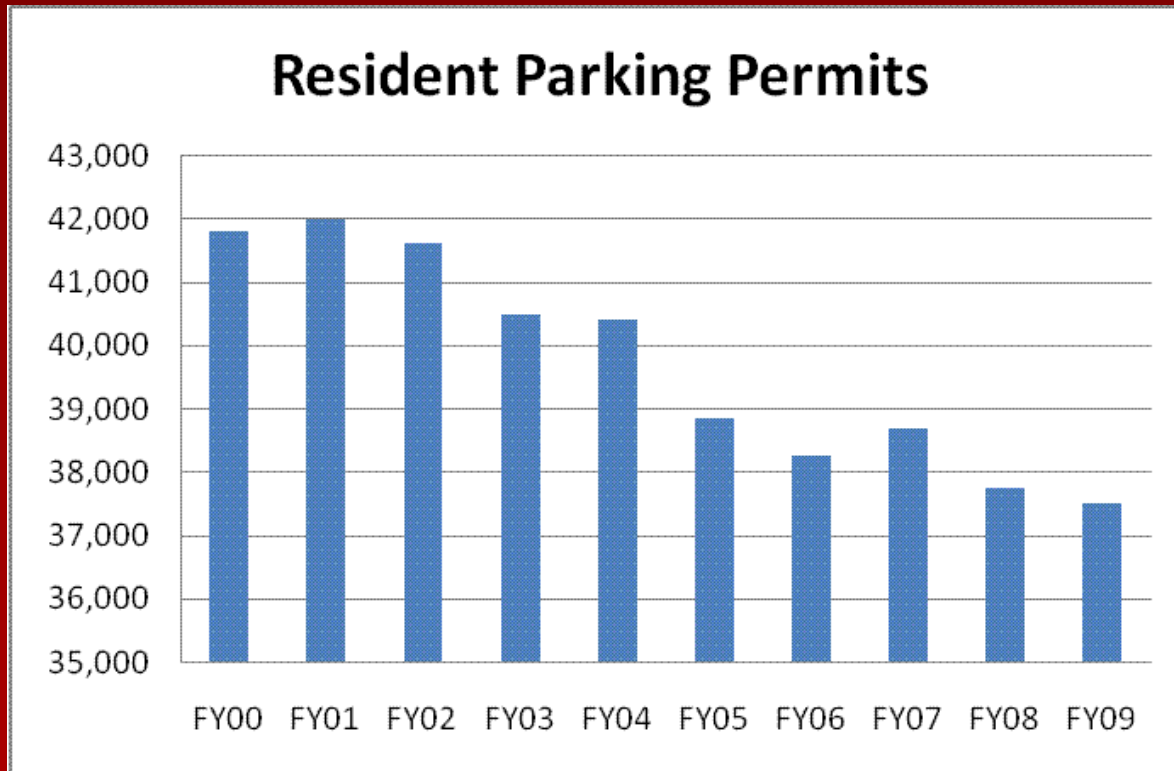


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Auto Ownership is declining

Cambridge households without a vehicle increased from 28% to 32% from 2000 -2008

Source, American Community Survey



50% of Cambridge households within ¼ mile of an MBTA station have no car

Source, City of Cambridge CDD and TPT Departments,

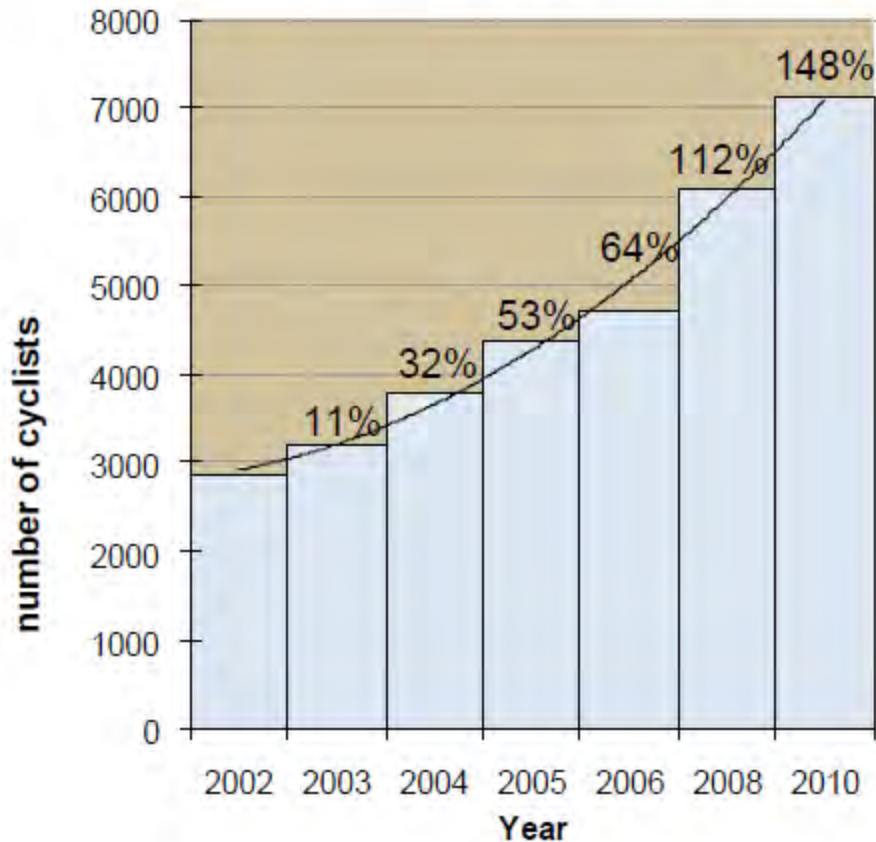
10% decrease in permits issued between 2000 and 2009.



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Bicycle growth is strong

Cambridge Bicycle Counts 2002-2010



Numbers represent combined AM and PM peak hour cyclist counts at 15 locations on a fall weekday under similar weather conditions.

Percent values represent the percent increase in cyclists compared to 2002



Cambridge Rates Highly

America's Most Walkable City

Source: *Prevention Magazine, 2008*

Percentages of Workers who Walk and Bike to Work in Select US Cities

■ Walk ■ Bike

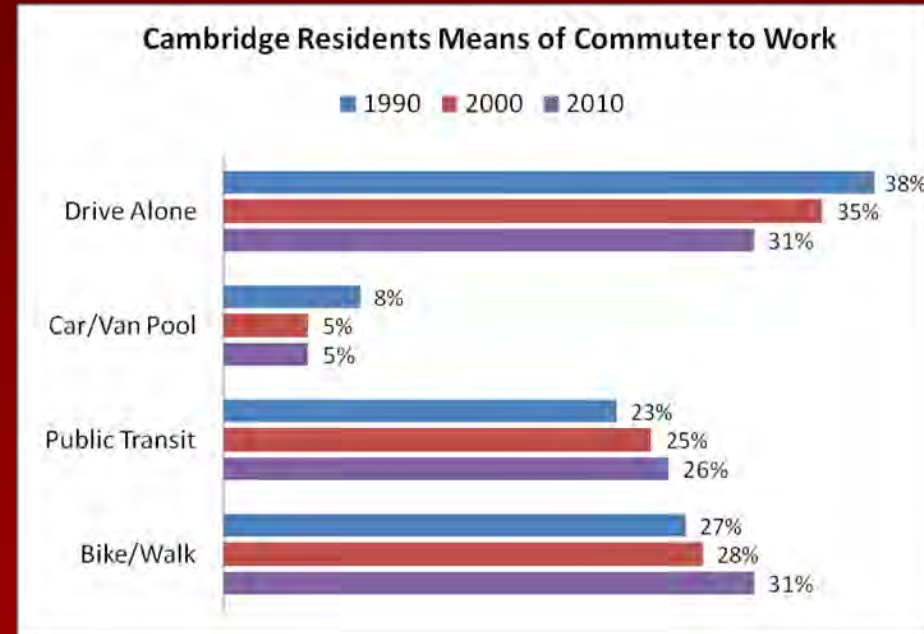
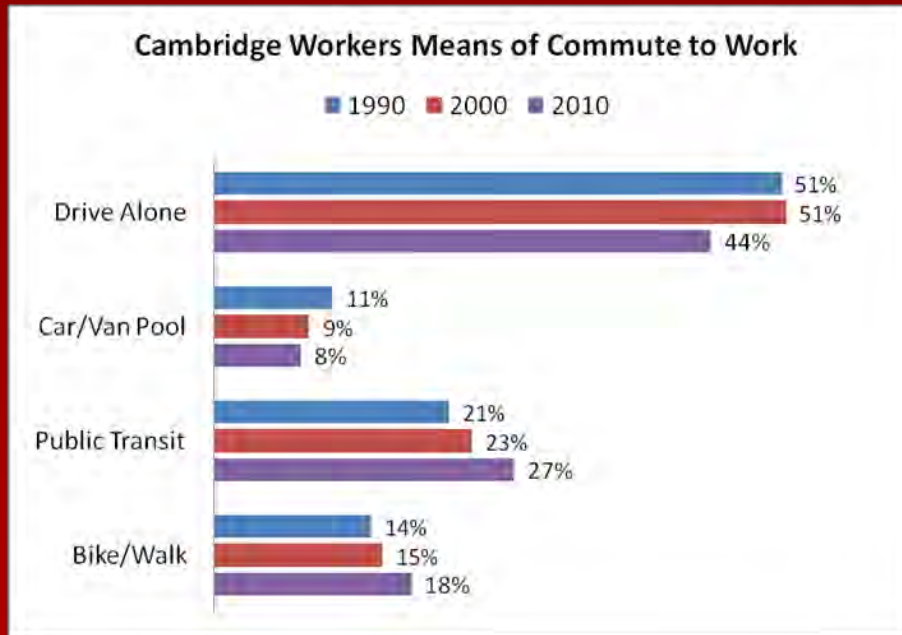


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Mode Shifts from Single Occupancy Vehicles Continues

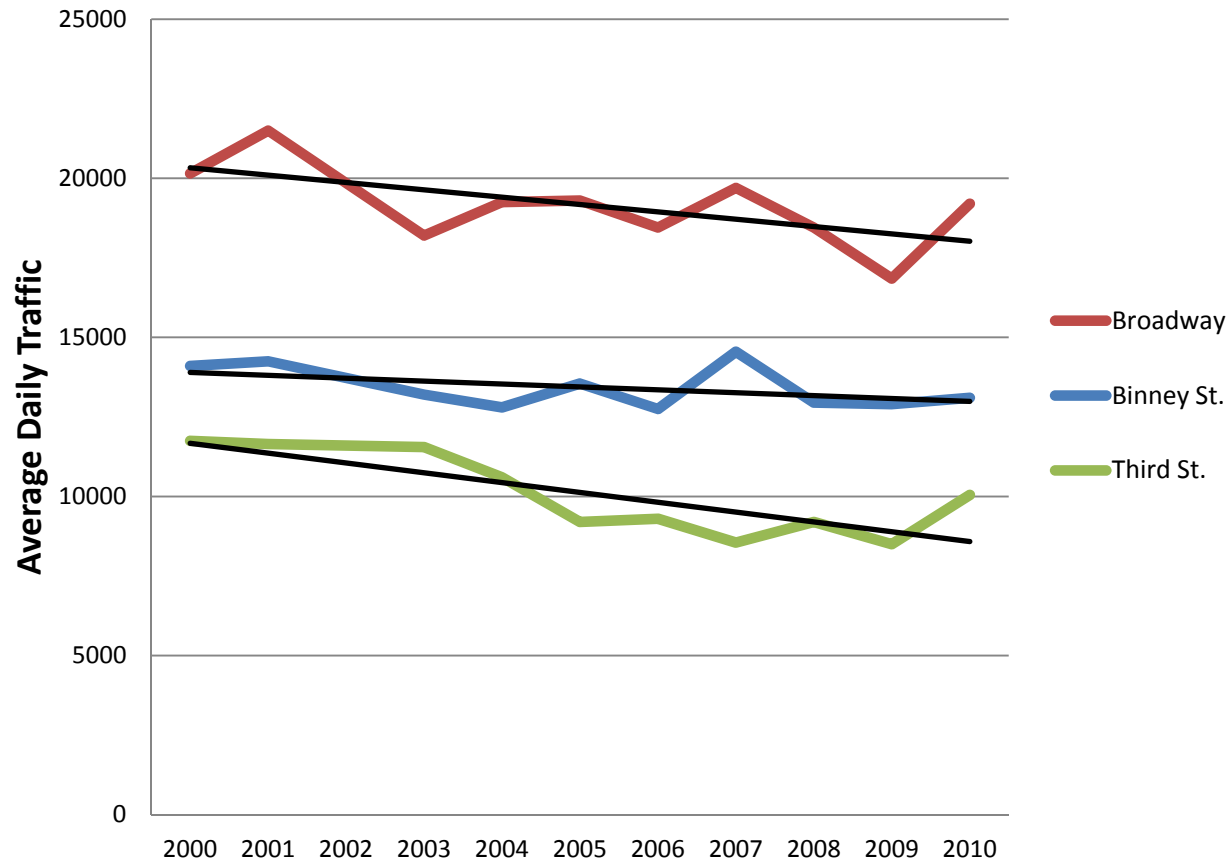
1990 - 2010

- Driving rates continue to decrease
- Bike/Walk share continues to increase
- Public transit use for Cambridge workers continues to increase



Development vs. Traffic Growth

Kendall Square Average Daily Traffic
with Trend Lines



- Added almost 4 million square feet in Greater Kendall from 2000-2010
- 37.6% growth in built square footage
- Daily Traffic Volumes remained consistent or been reduced



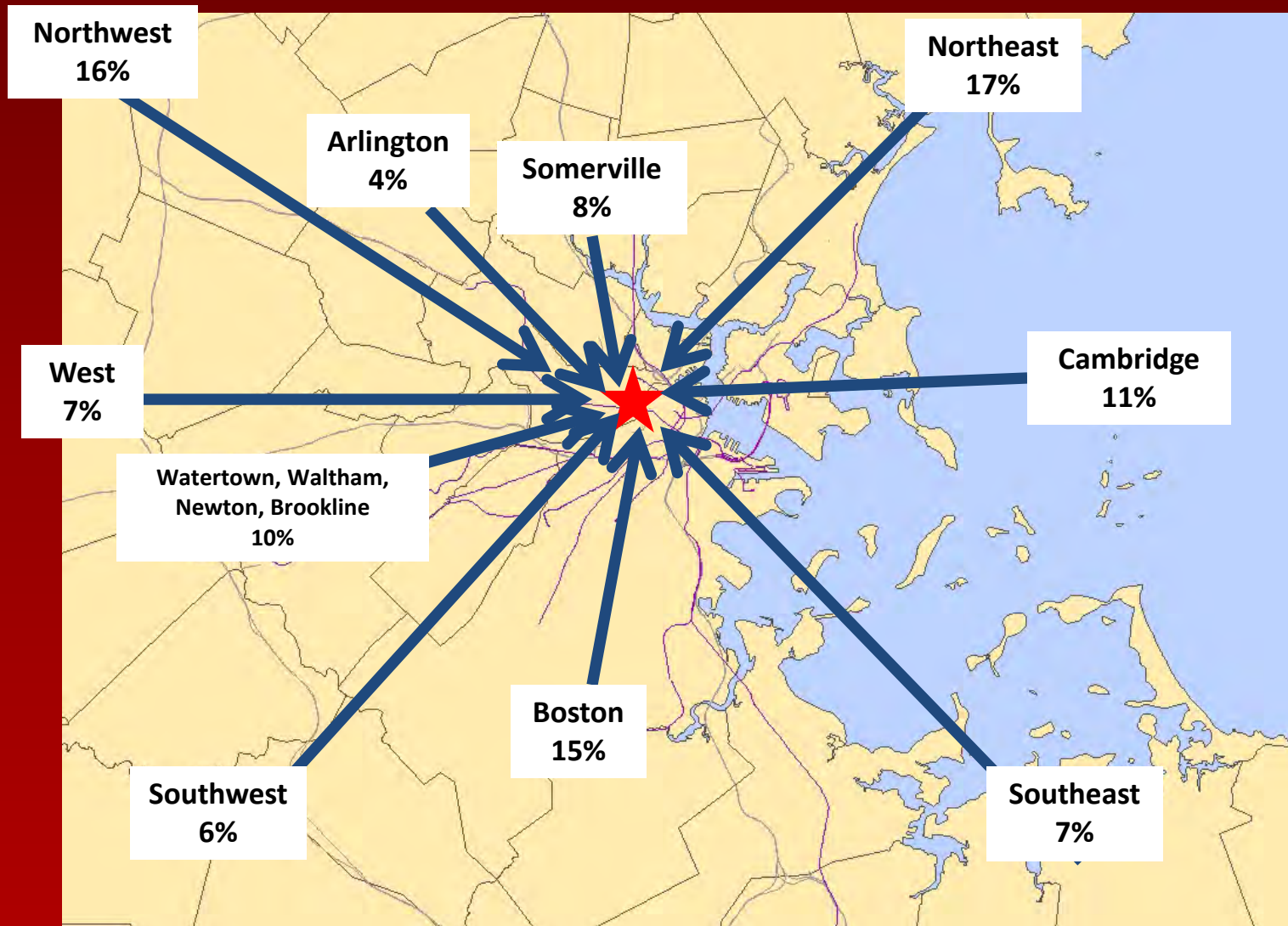
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Kendall Square Employee Origins

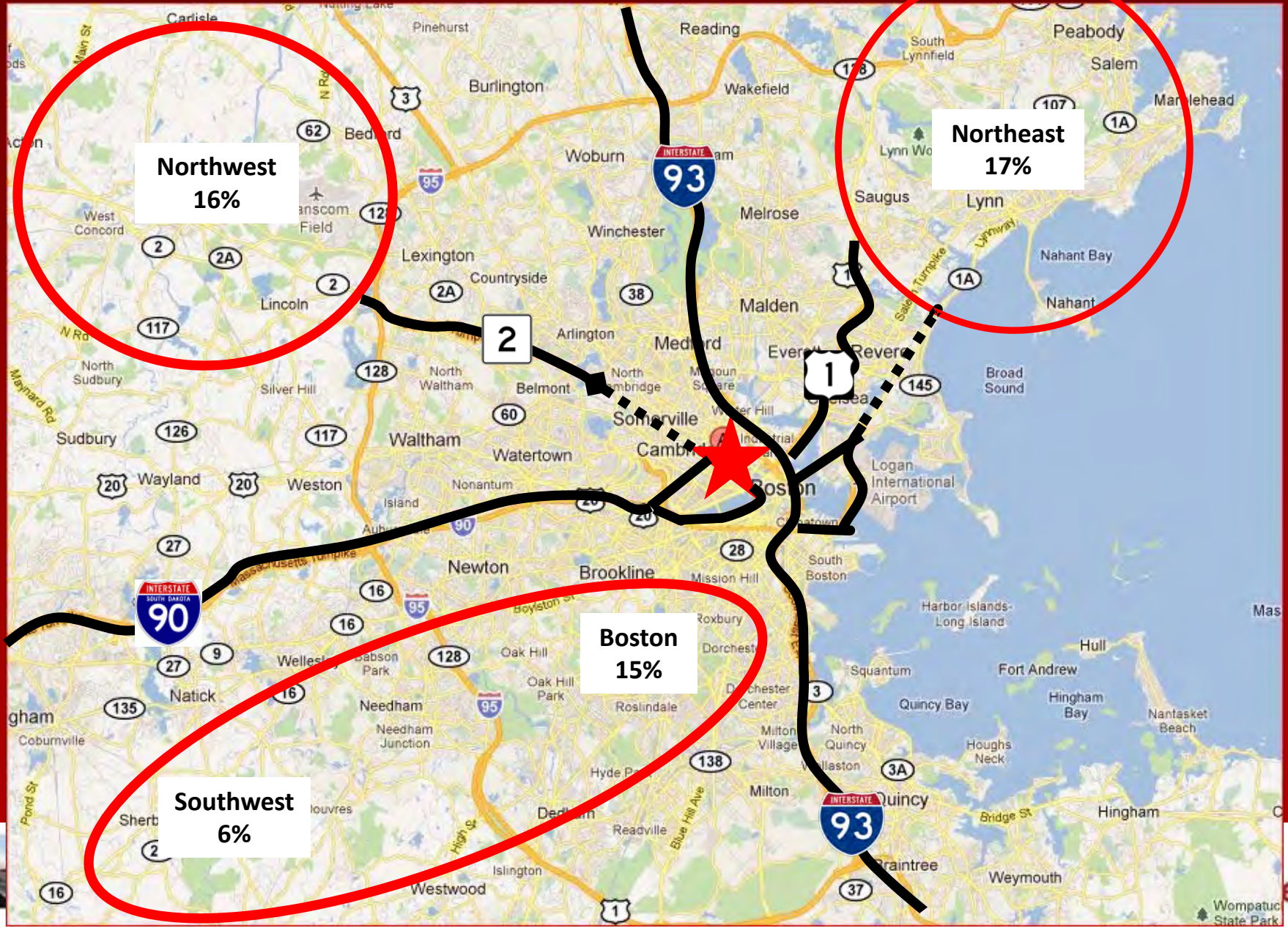


2010 PTDM

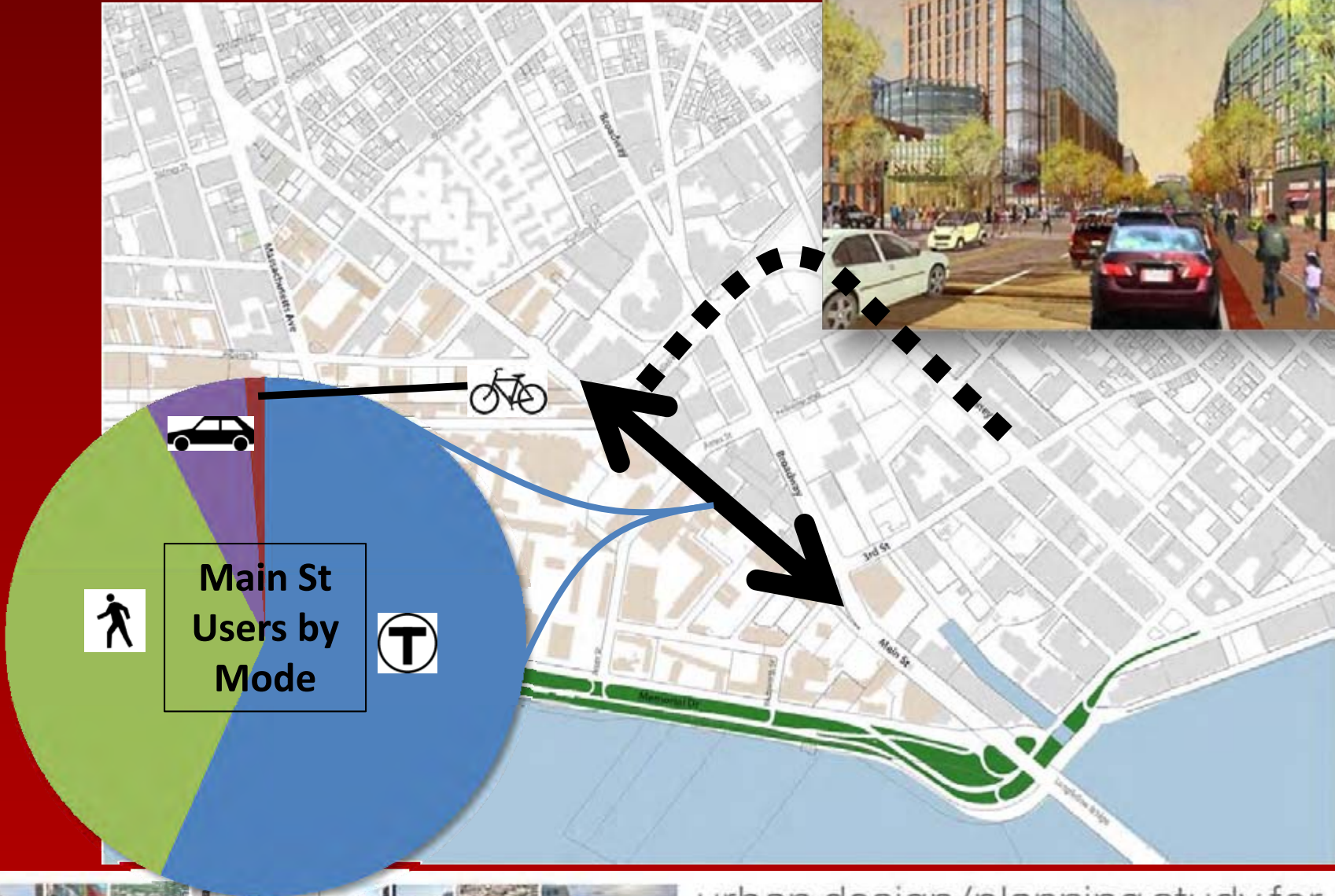


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Regional Connections



All Streets are Multimodal



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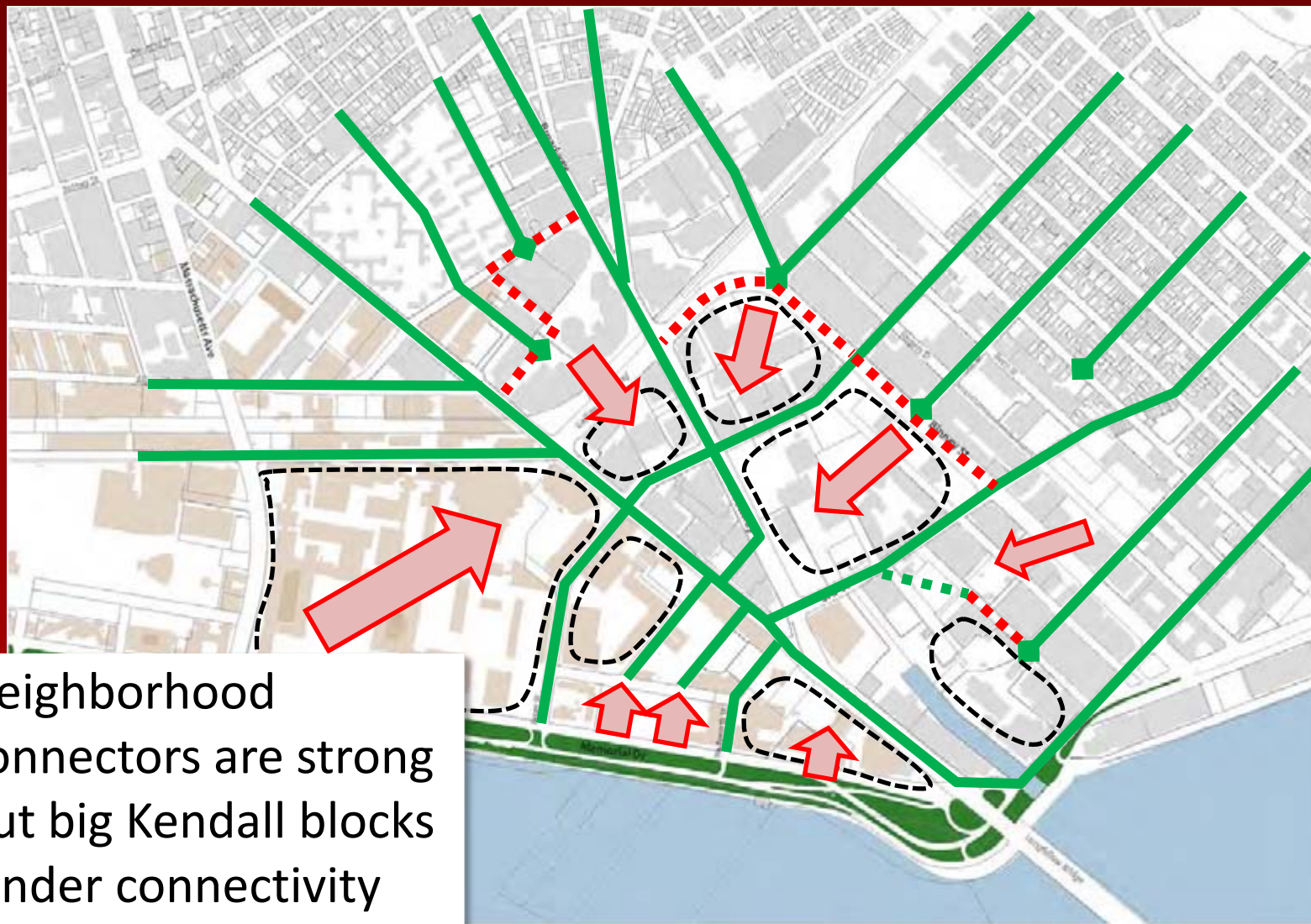
Local Ped/Bike Connections - Challenges



- Neighborhood connectors are strong



Local Ped/Bike Connections - Challenges



- Neighborhood connectors are strong
- But big Kendall blocks hinder connectivity



And should be part of overall Network Plans



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Planning for Growth - Transportation

- Continued application of Cambridge's sustainable, multi-modal, and vehicle reduction policies
- Review connectivity gaps
- Integrate activities through complimentary land uses
- Prioritize regional investments

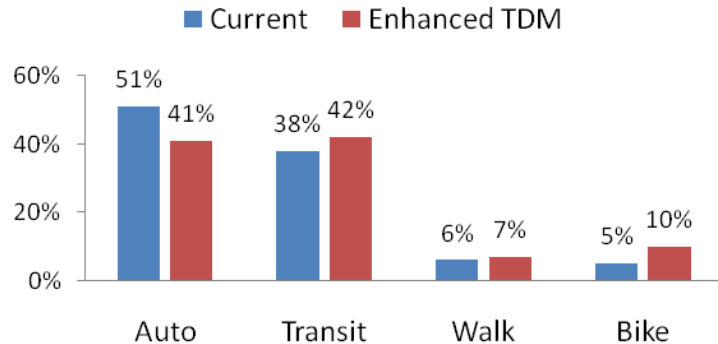
Plan framework: four perspectives

- Nurturing Kendall's innovation culture
- Demonstrating leadership in environmental sustainability for the world
- Creating places that foster community and vitality
- Integrating activities that support creative interaction

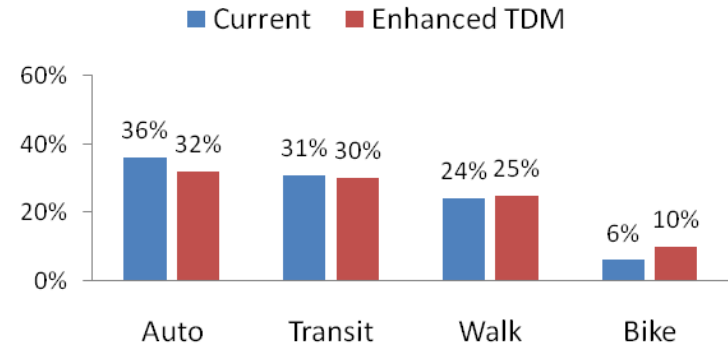


Kendall Square Mode Share(s) by Land Use

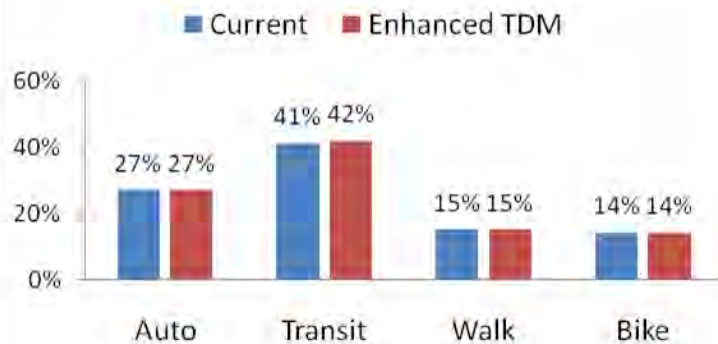
Office and R&D



Residential



Academic/Institutional



Retail

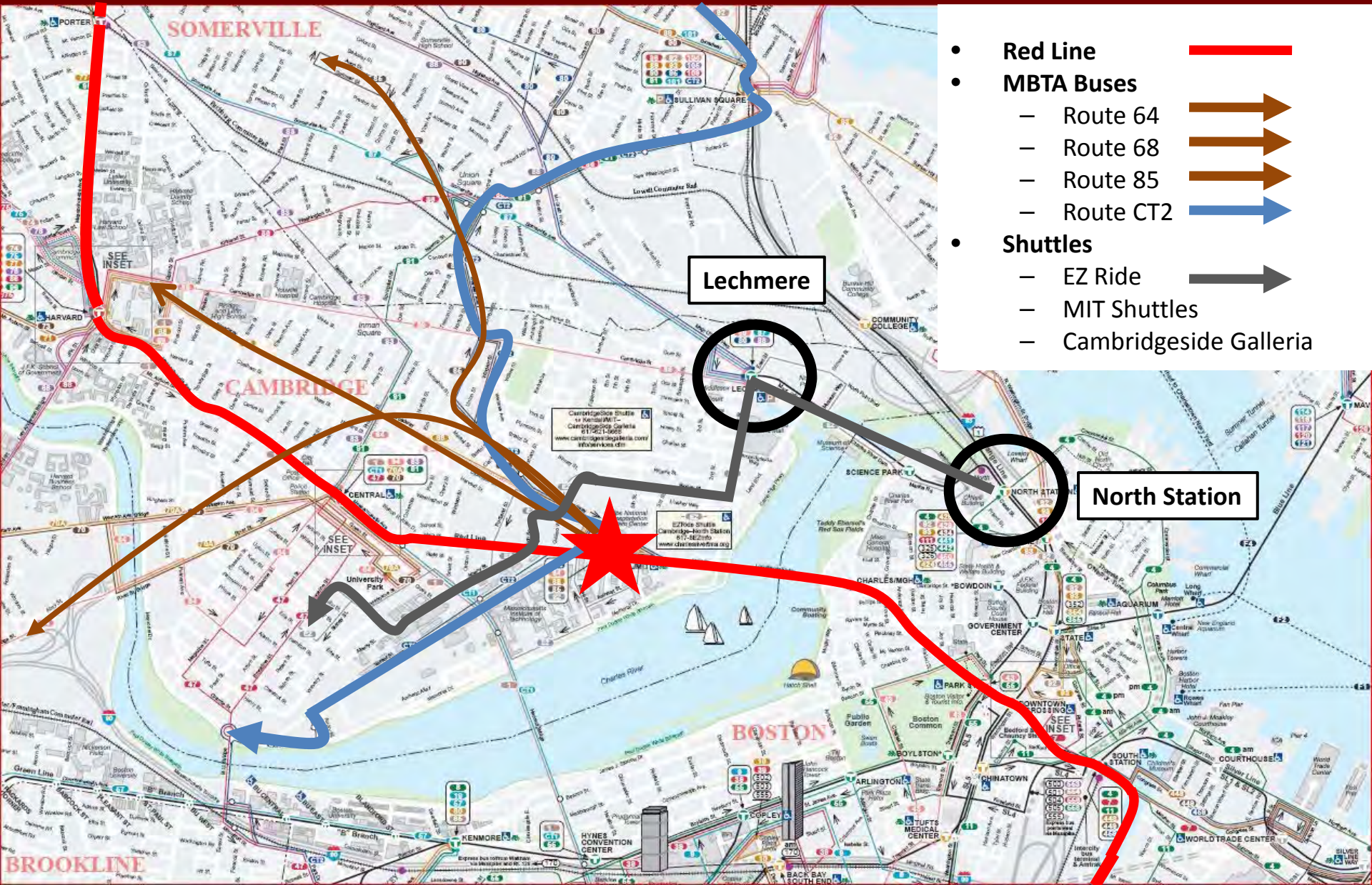








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Existing Conditions: Public Transportation



- **Red Line** 
- **MBTA Buses**
 - Route 64 
 - Route 68 
 - Route 85 
 - Route CT2 
- **Shuttles**
 - EZ Ride 
 - MIT Shuttles
 - Cambridgeside Galleria

Existing Conditions: Red Line

Overall Red Line Ridership: 192,513 daily

Daily Boardings at Kendall: 13,975 (7.3% of Red Line total)

Source: MBTA Ridership Statistics, 2010

Kendall is the 4th busiest station (boardings)
(Harvard, South Station, Central)

Frequency: 4.5 minutes Peak
6.5 minutes Mid-Day



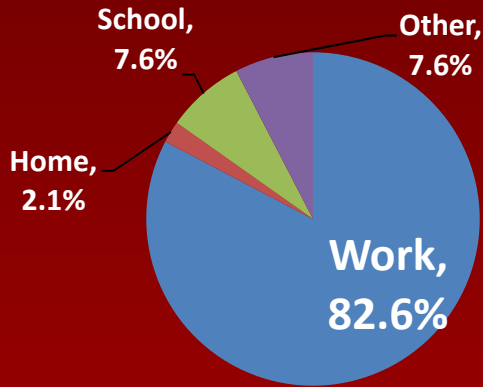
Source: CTPS MBTA Blue Book 2010 ed13



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Kendall - Rider Profile

Why are riders coming to Kendall?



What do riders do when they exit at Kendall?

- 97% of people walk
- 1.5% take a shuttle or van
- 1.2% get on an MBTA bus

Source: MBTA Systemwide Passenger Survey, Rapid Transit 2008-2009, Red Line

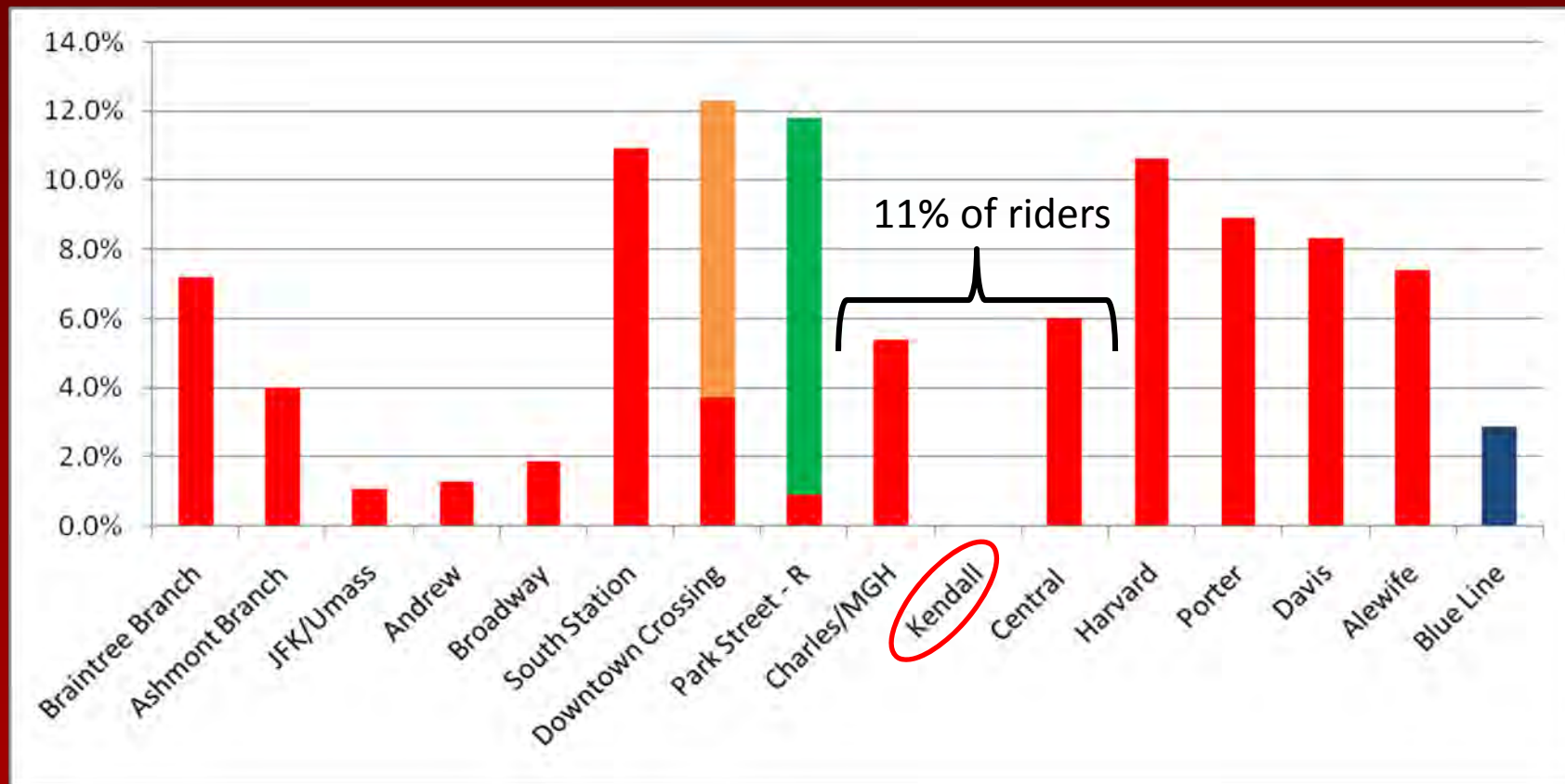
How far will people walk from Kendall?

0-5 min: 61%
6-10 min: 31%
11-15 min: 6%
16-20 min: 2%
Avg. walking time: 6.3 min



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Where are Kendall Riders Boarding the System?



- 77% taking the T to Kendall start their subway trip on the Red Line
- 41% of all Kendall riders board from Alewife direction

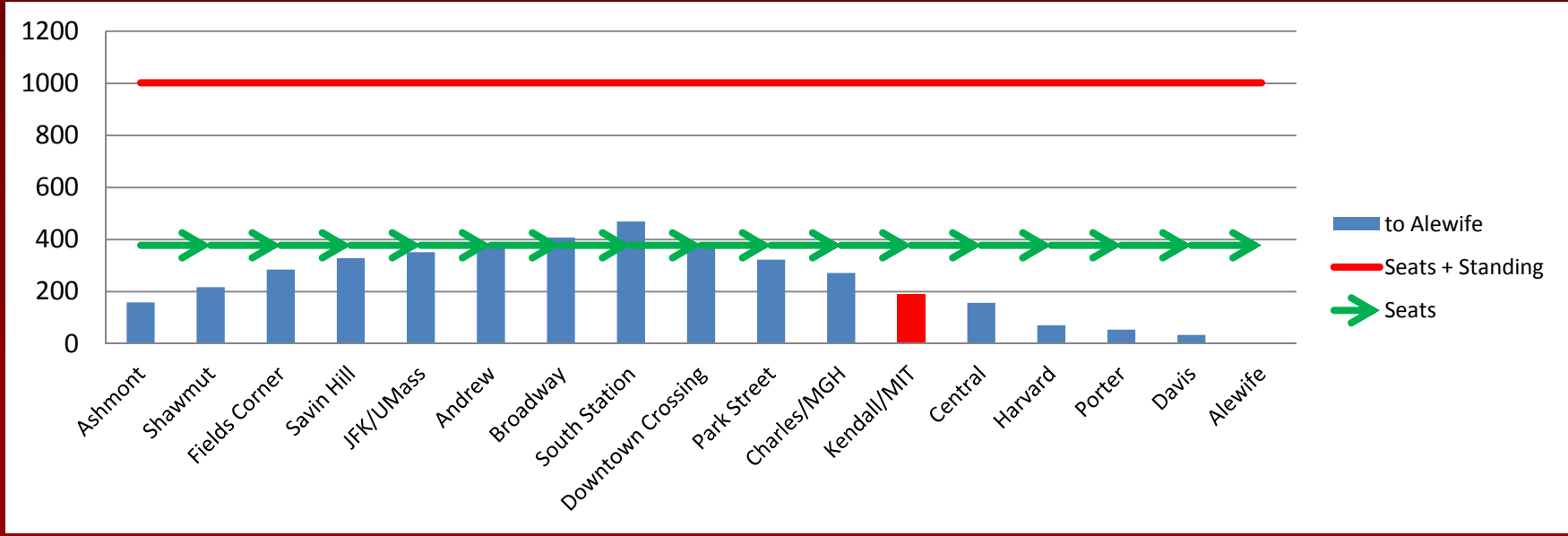
Source: CTPS 2008-2009 Red Line and Mattapan Trolley Passenger Survey



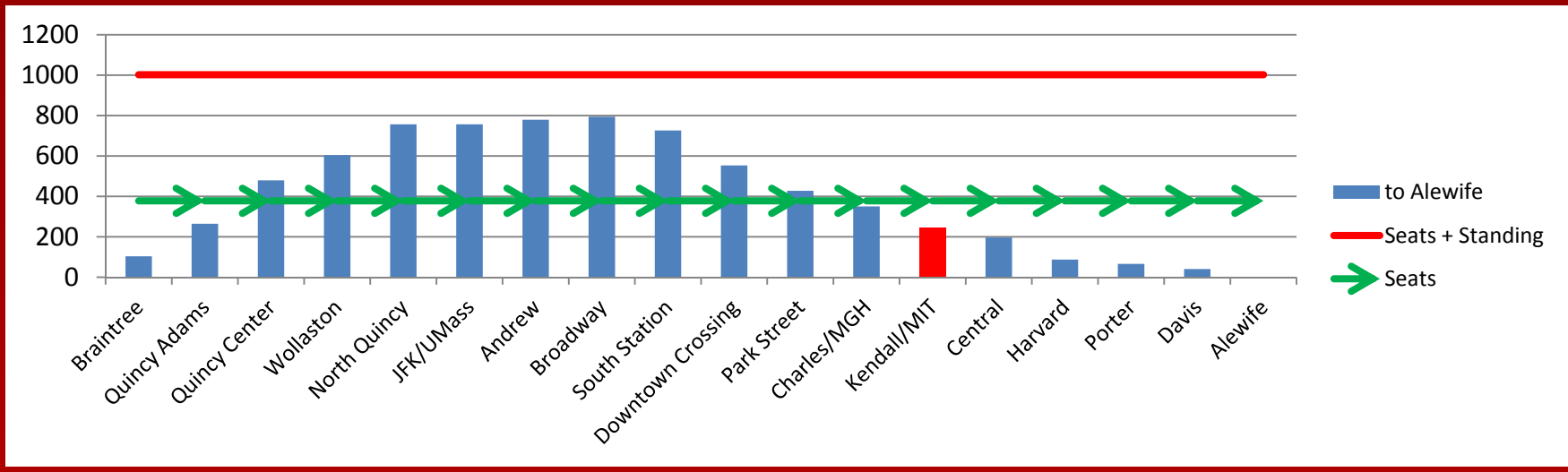
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Average Train Load – AM peak to Alewife

Ashmont



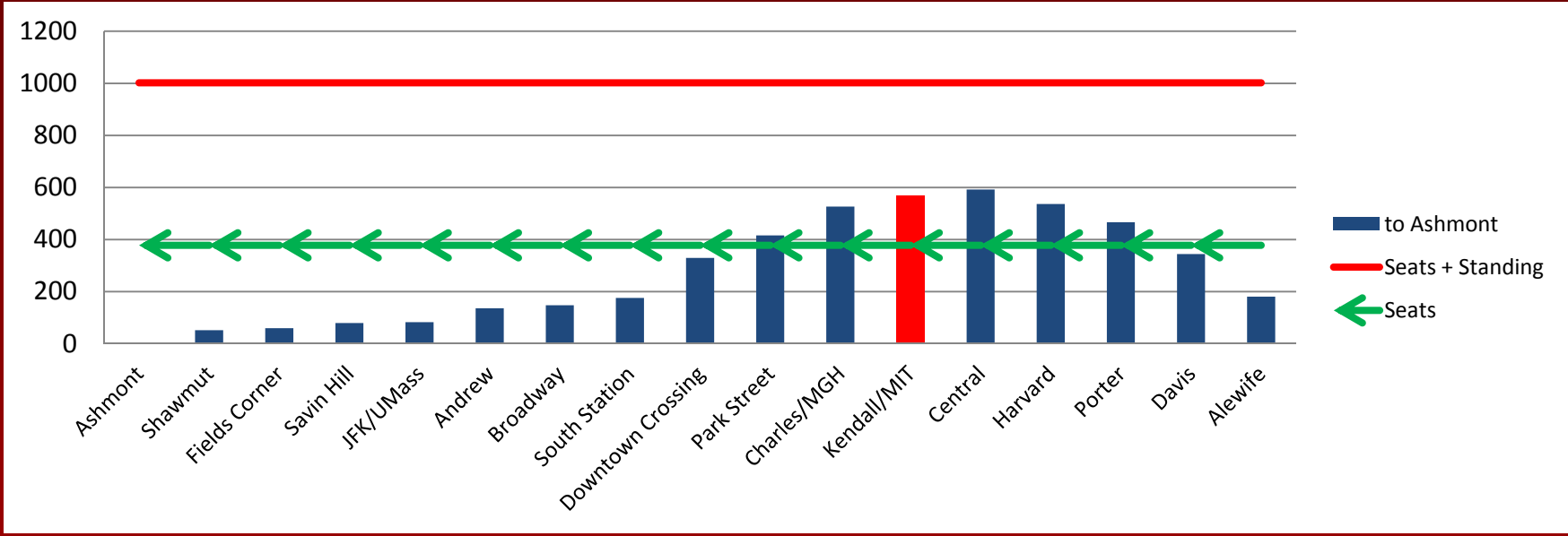
Braintree



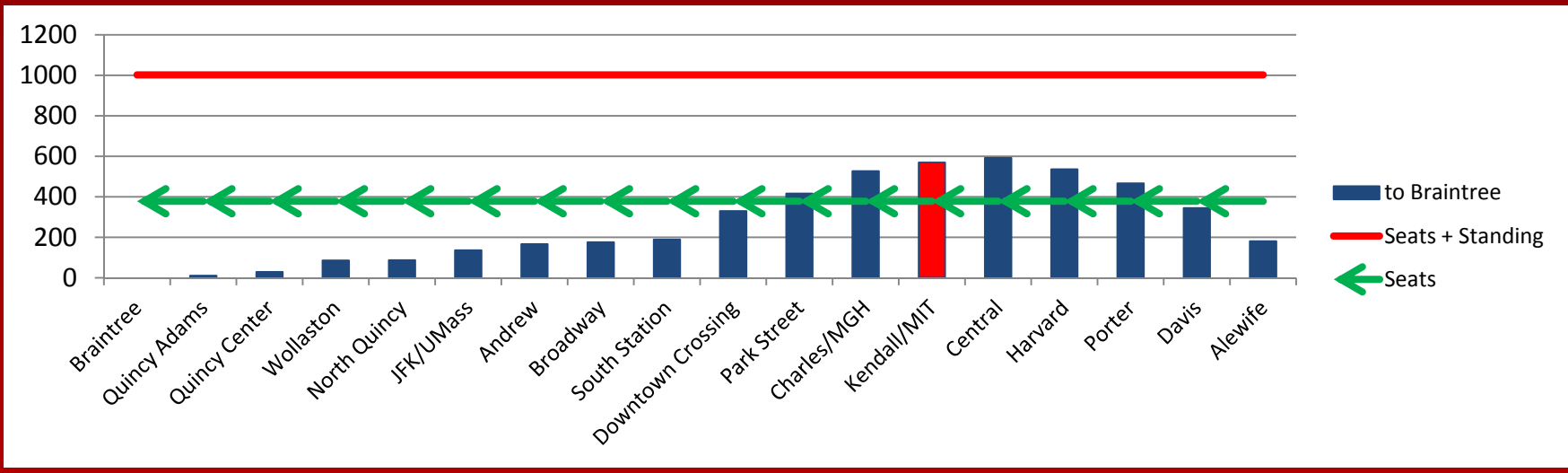
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Average Train Load - AM peak to Ashmont/Braintree

Ashmont



Braintree



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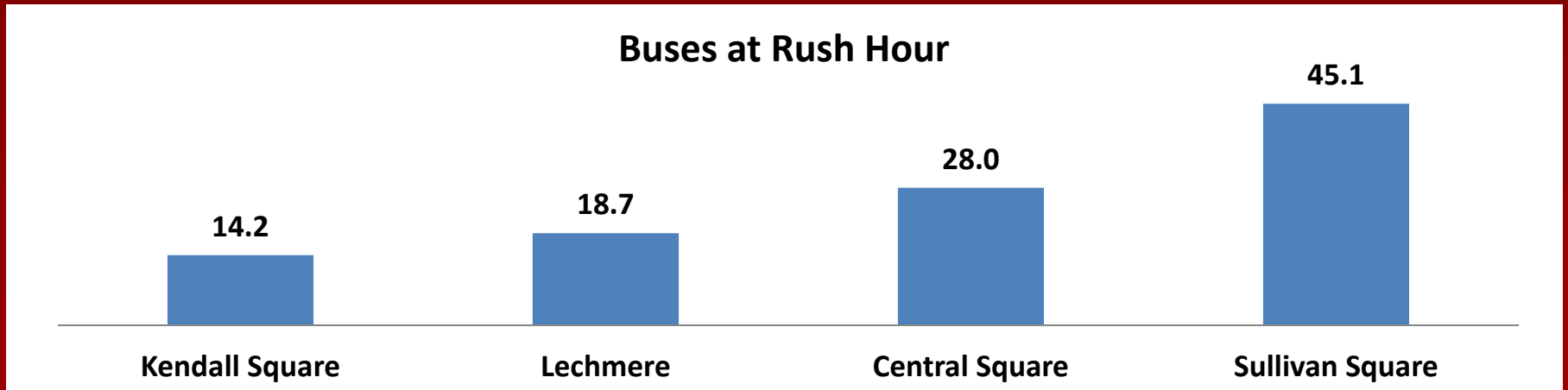
Red Line Capacity Notes

- Ashmont trains have substantially more available capacity than Braintree trains
 - In Cambridge, they are about the same
- PM peak has more available capacity than AM Peak
 - 400 spaces available (PM) per train (standing room)
 - 200 spaces available (AM) per train (standing room)
- Current Hourly Peak Capacity at Kendall:
 - 2,650 seated / 7,000 policy (seated and standing)
 - AM Peak: 1,450 additional capacity
 - PM Peak: 2,800 additional capacity



Existing Conditions: Bus

Kendall has comparably less service than nearby MBTA station transfer points



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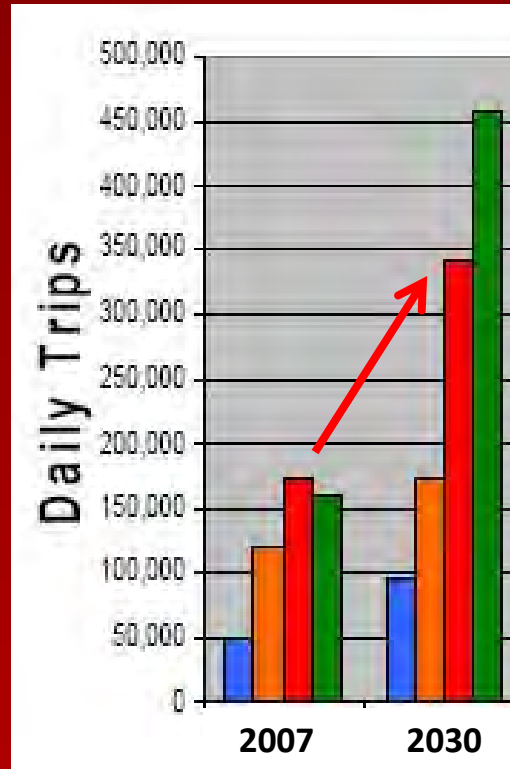
Transit Growth – Trends

MBTA Ridership hitting Record Highs

EZ Ride ridership has been growing 4% per year since 2002

Red Line Ridership forecasted to almost double by 2030

Source: Urban Ring RDEIR, 2008



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T ridership hits record high

More employment, high gas prices fuel a busy September

"I feel like there's just a lot more people in Boston," said Antonio Harris, who takes classes at the New England Institute of Art. "It's, like, overwhelming." (Kayana Szymczak for The Boston Globe)

By Eric Moskowitz
Globe Staff / November 2, 2011

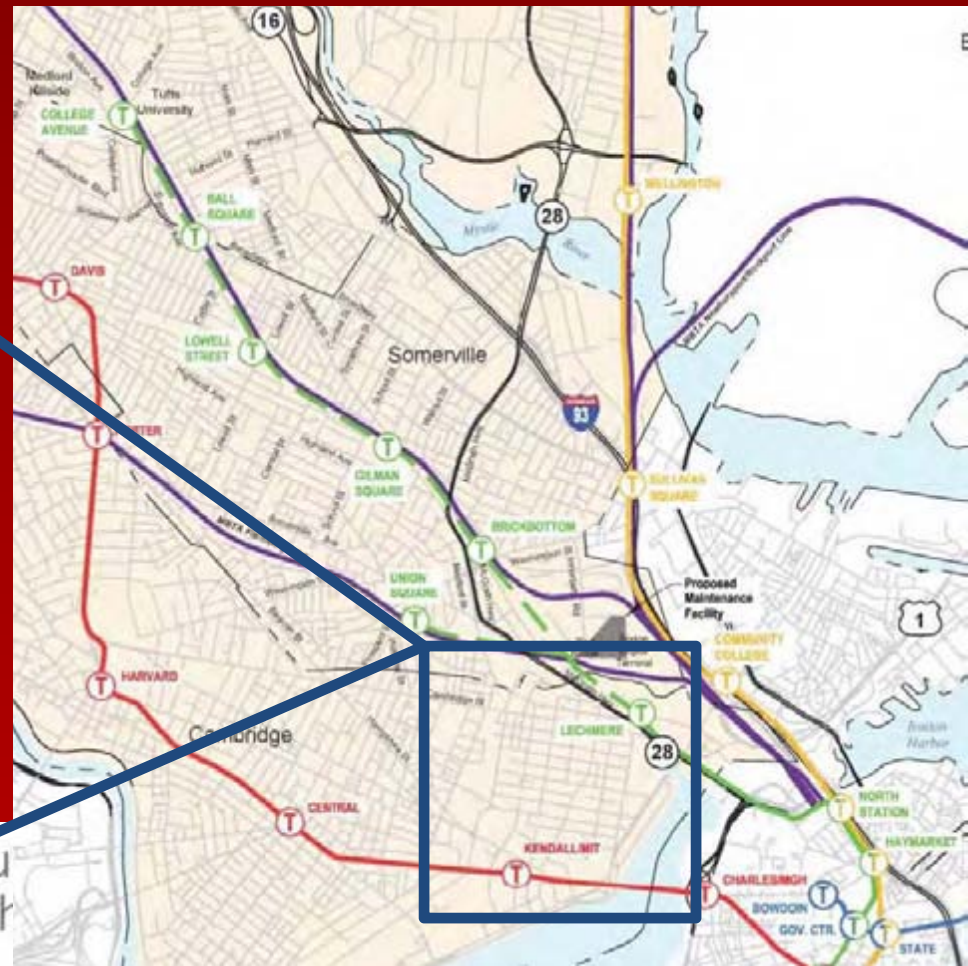
Boston.com, 11/02/11



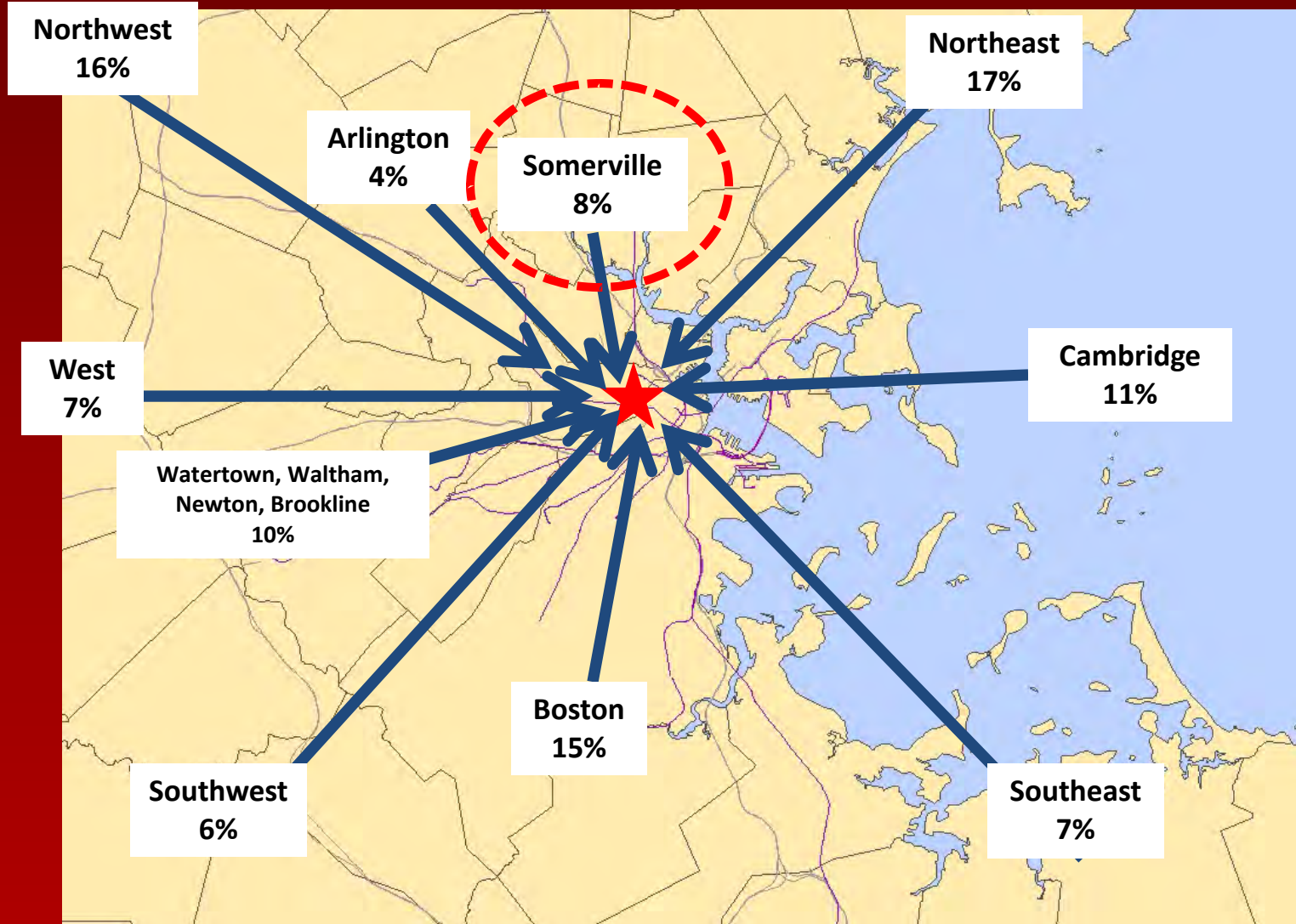
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Transit Expansion – Green Line Extension

- Operational 2020?
- Shifts some demand from Red Line
- To serve Kendall – May require added bus service from Lechmere
- Serves only 8% of Kendall trip origin market



Employee Origins – Green Line Extension



2010 PTDM



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Transit Expansion – Urban Ring

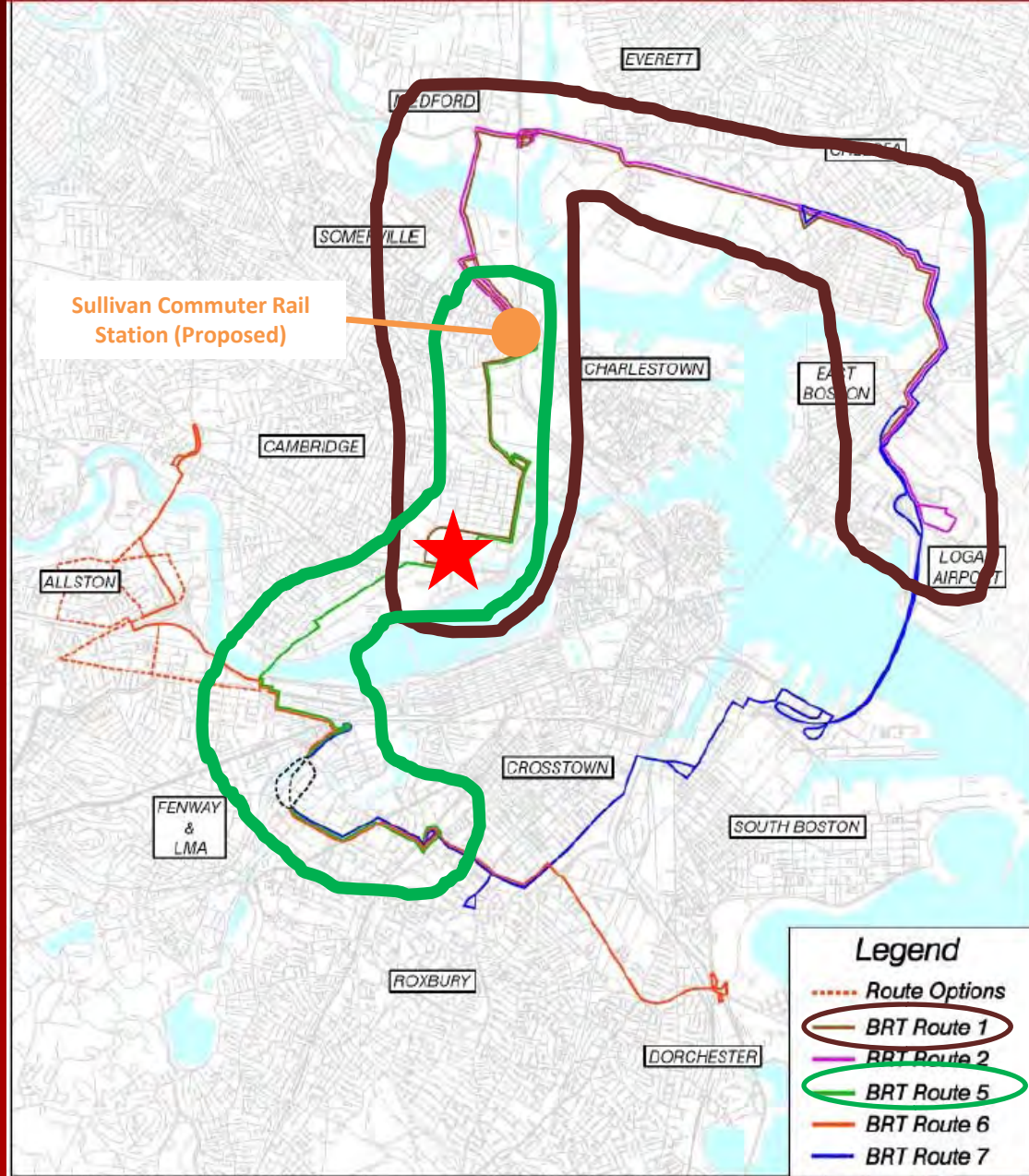
BRT1 – Blue Line/Airport – Kendall
Projected ridership - 26,000 daily

BRT5 – Sullivan-Ruggles, via LMA
Projected Ridership – 51,700

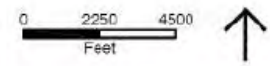
Kendall Station
Projected Boardings – 15,500
3rd busiest station projected

Sullivan Square Commuter Rail
Reduces Central Subway Trips
5% of projected Red Line Ridership

Source: Urban Ring RDEIR 2008



Base map data provided by MassGIS.



Urban Ring Phase 2 RDEIR/DEIS

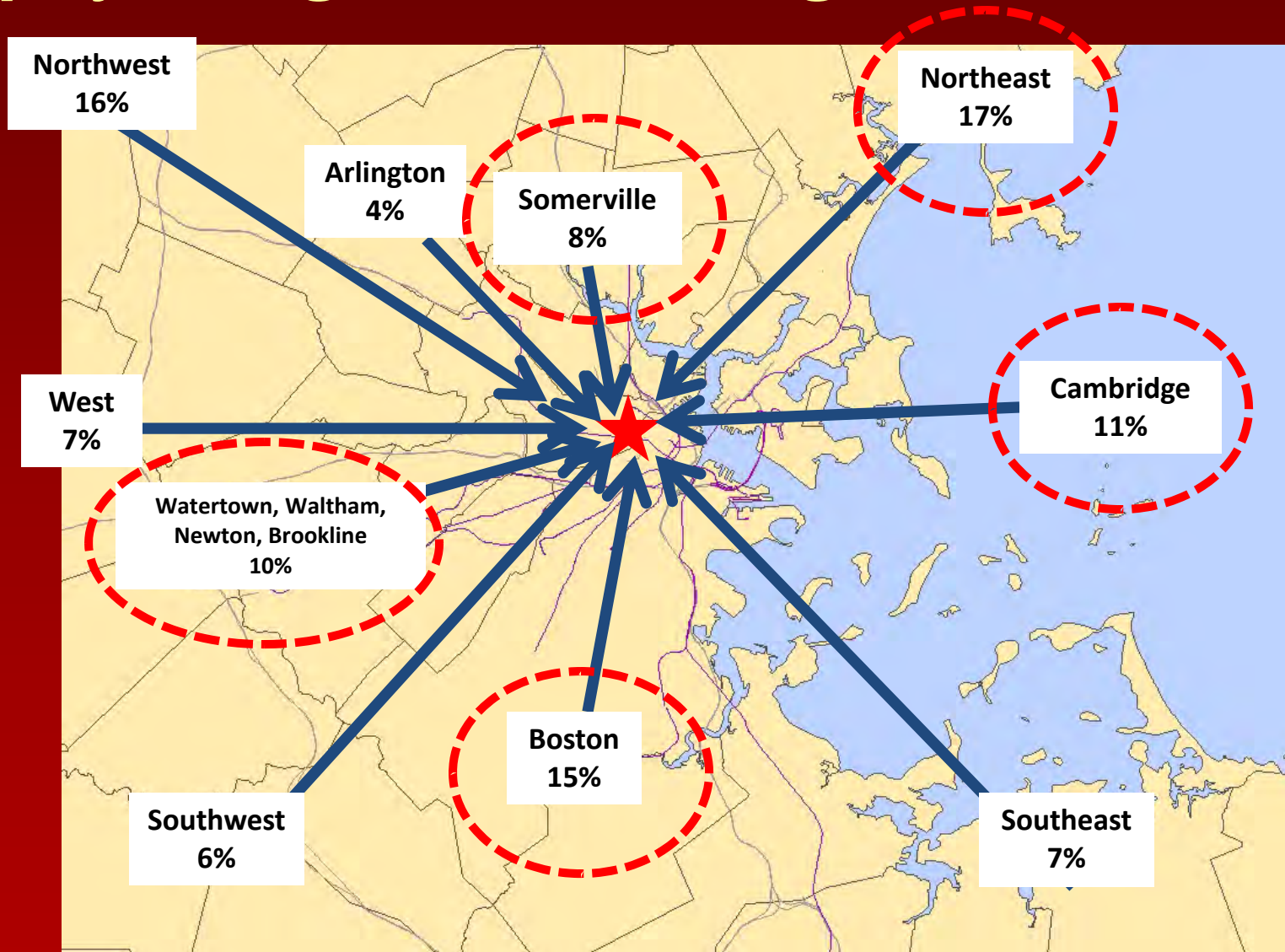
Locally Preferred
Alternative BRT Routes

Legend

- Route Options
- BRT Route 1
- BRT Route 2
- BRT Route 5
- BRT Route 6
- BRT Route 7



Employee Origins – Urban Ring



2010 PTDM



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Other Proposals – Worcester/Kendall Commuter Rail

- Only 5% of current Worcester Line riders (340) have a Kendall destination
- 2035 Regional Plan increases from 21 to 30 daily Round Trips
- Testing multiple scenarios (6-12 daily roundtrips)
 - with & w/out Kendall Station
- Time savings for direct riders
- Local service and circulation impacts

Worcester to Kendall	
Existing via Red Line	Grand Junction
1:44	1:18-1:20
	24 – 26 mins.

Future Build Service Plans

Variable	Service Plans	1	2	3	4	5	6	7	8
Speed	15 mph	✓	✓			✓	✓		
	30 mph			✓	✓			✓	✓
Frequency	6 trains/day	✓		✓		✓		✓	
	12 trains/day		✓		✓		✓		✓
Station	Yes	✓	✓	✓	✓				
	No					✓	✓	✓	✓



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Public Transportation - Issues

- Accommodating Continued Growth
 - Kendall
 - Overall transit ridership
- Improving Kendall Square Bus Coverage
 - Urban Ring
 - Adjacent transit hubs
- Connections to additional areas
 - Outer suburbs
 - Northwest (16%)
 - Northeast (17%)
 - South and Southeast (13% combined)
- Improved Connections
 - Longwood Medical Area
 - MBTA connection to North Station/Lechmere/Sullivan



Growth in Bicycling

Expanded Bicycle Use

- 148% growth since 2002

Proposed Connections

- Binney Street Cycle Track
- Grand Junction Multi-Use Path

Regional Hubway Expansion

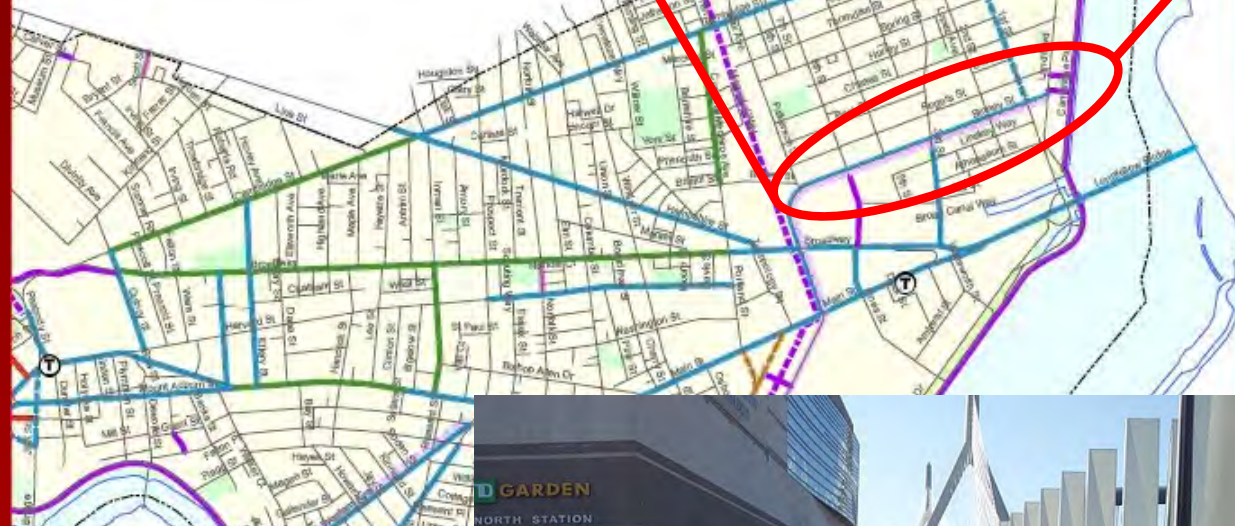
- Cambridge Service Starts Spring 2012

Bicycle Parking

- Onstreet
- Required per developments

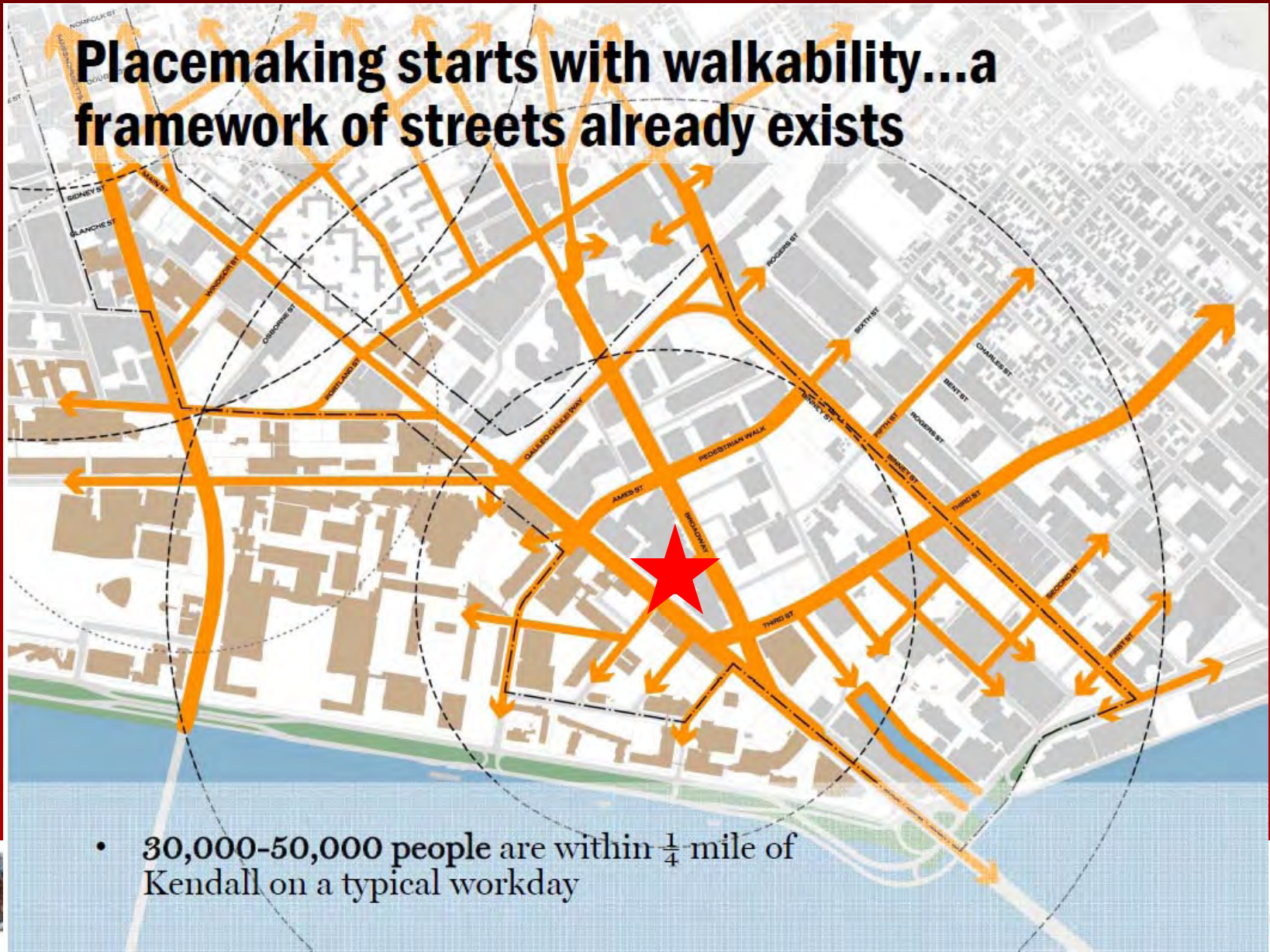
Bicycle Facilities Paths and Road Markings

Cambridge, Massachusetts
Community Development Department
December 2010



Enhanced Pedestrian Connections

Placemaking starts with walkability...a framework of streets already exists



- 30,000-50,000 people are within $\frac{1}{4}$ mile of Kendall on a typical workday

Enhanced Pedestrian Connections

...and can grow into a network that incorporates the riverfront



Current Kendall TDM Measures & Participation*

Measure	%
Rideshare matching	100%
Secure bike storage	100%
Transit Subsidy	100%
Free Shuttle	100%
Emergency Ride Home	100%
Lockers	100%
Charles River TMA Membership	100%
Showers	100%
MBTA passes sold on-site	100%
Trans info new employee packet/training	100%

Measure	%
HOV Parking Spaces	100%
Info on Website	100%
Newsletter	75%
Annual Trans Fair	75%
EZRIDE contribution	75%
Flexible Work Hours	75%
Employees Charged for Parking(#)	25%
Carpool incentive	25%
Allow telecommuting	25%
Bike incentives	25%

Measure	%
Parking Cash-out (#)	0%
Vanpool incentives	0%
Transit accessibility advertised in materials	0%
On-Site amenities	0%
Car-Share Vehicle	0%
Toll Free # for shuttle	0%
Commuter Check	0%

*Among Businesses/Office Building Owners with PTDM Plans or Special Permits

- ✓ Cambridge's PTDM program is a national best practice
- ✓ Cambridge businesses & residences participate in many TDM measures
- ✓ High participation rates in nearly half of all available programs
- ✗ Low participation rates in some of the most effective TDM measures (cost more to support)



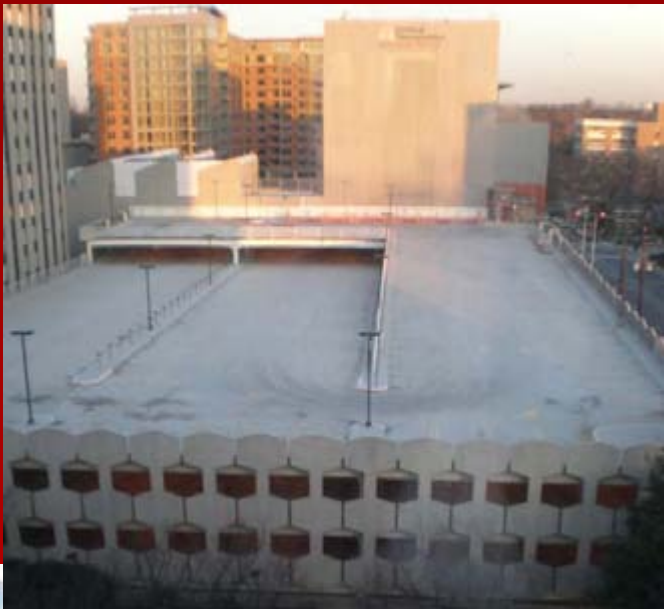
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Parking Management

- Limiting supply has been an effective tool in Cambridge
- Pricing can be significantly more effective
- Cambridge pricing policies have reduced demand

Silver Spring, MD:

- Parking severely *over*-supplied
- All public & private parking is priced
- *Result:* Low demand & high transit use



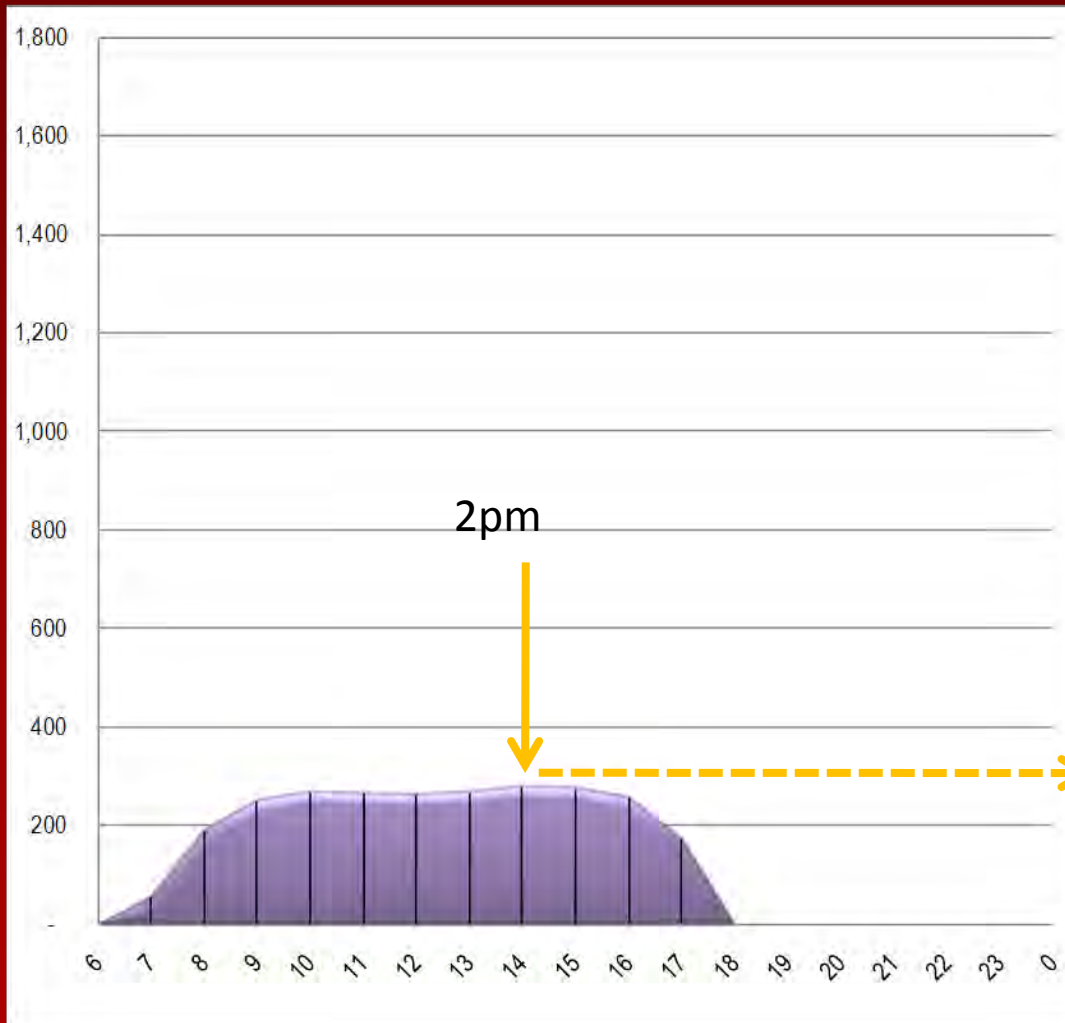
Nantucket, MA

- Parking severely *under*-supplied
- All parking is free
- *Result:* High demand & low non-auto use



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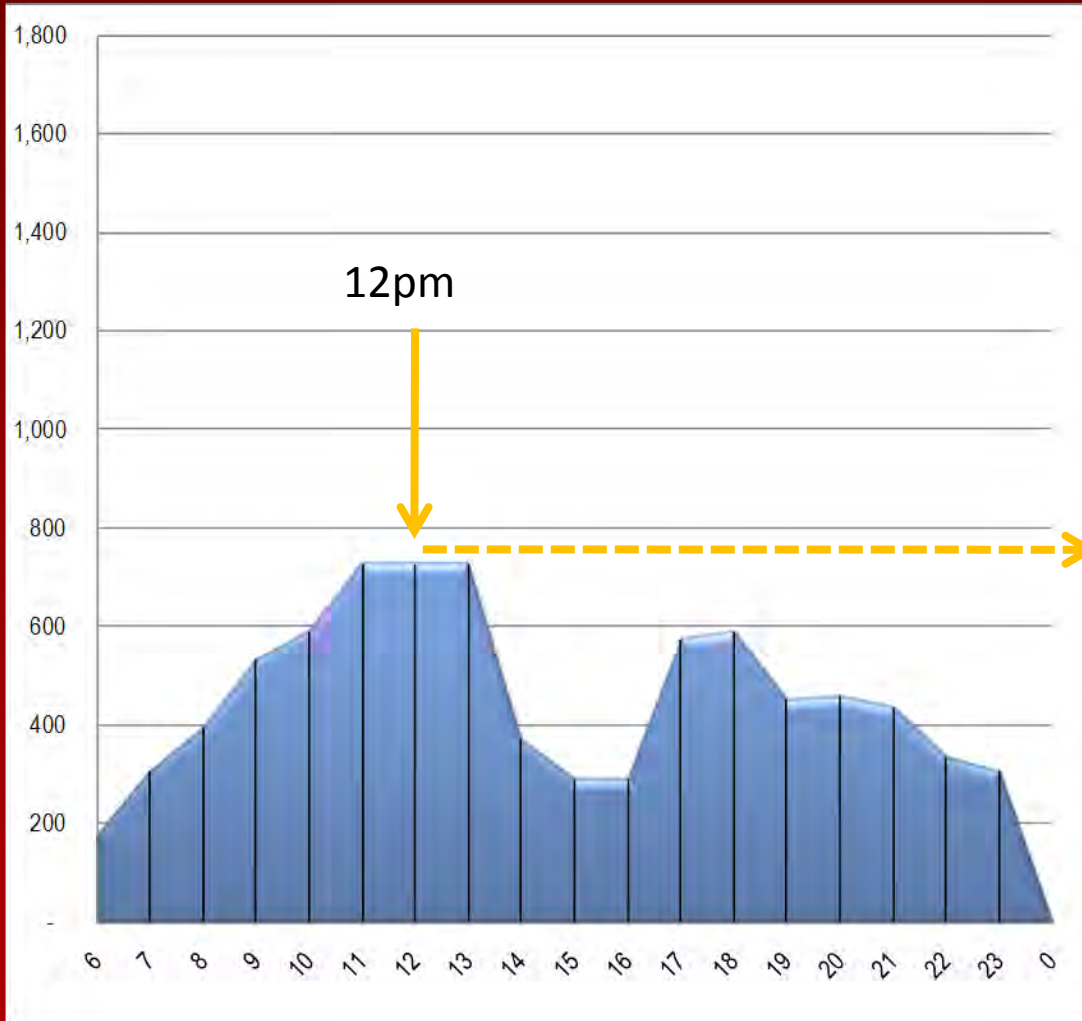
Office (150k SF): Real Demand



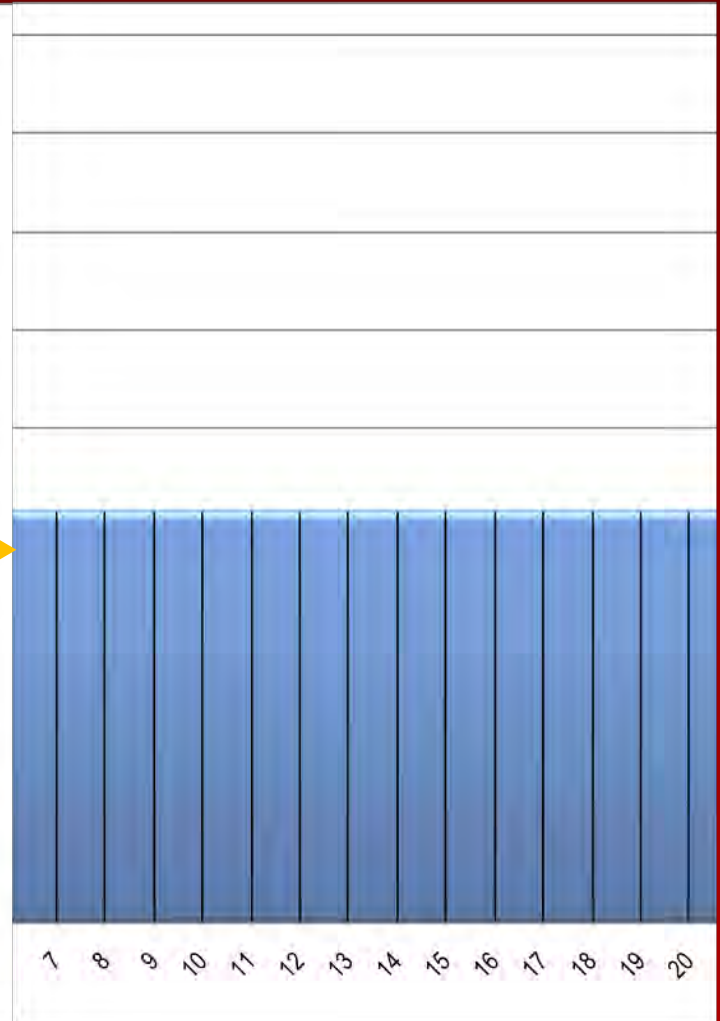
Unshared Supply



Restaurant (150k SF): Real Demand

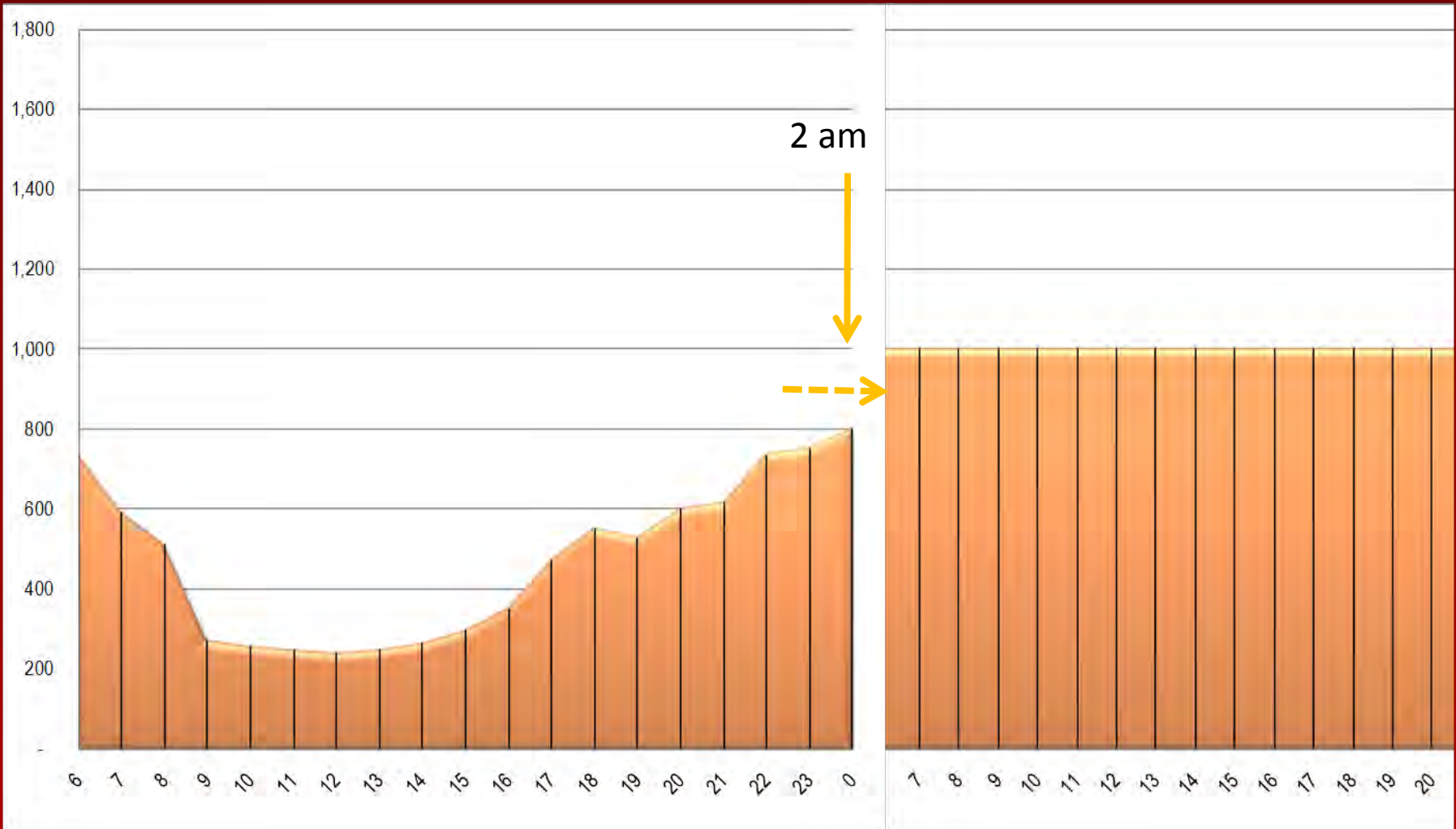


Unshared Supply

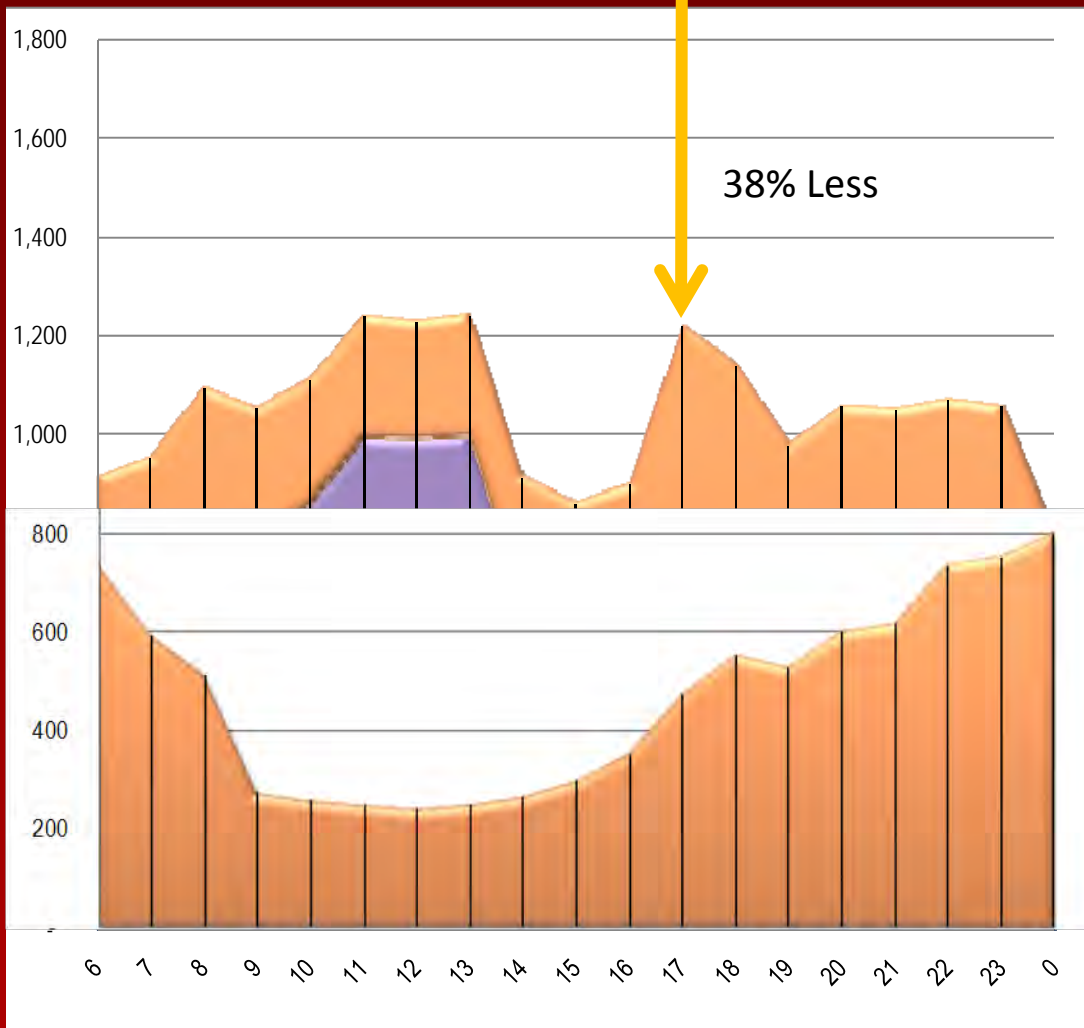


Residential (1000 units): Real Demand

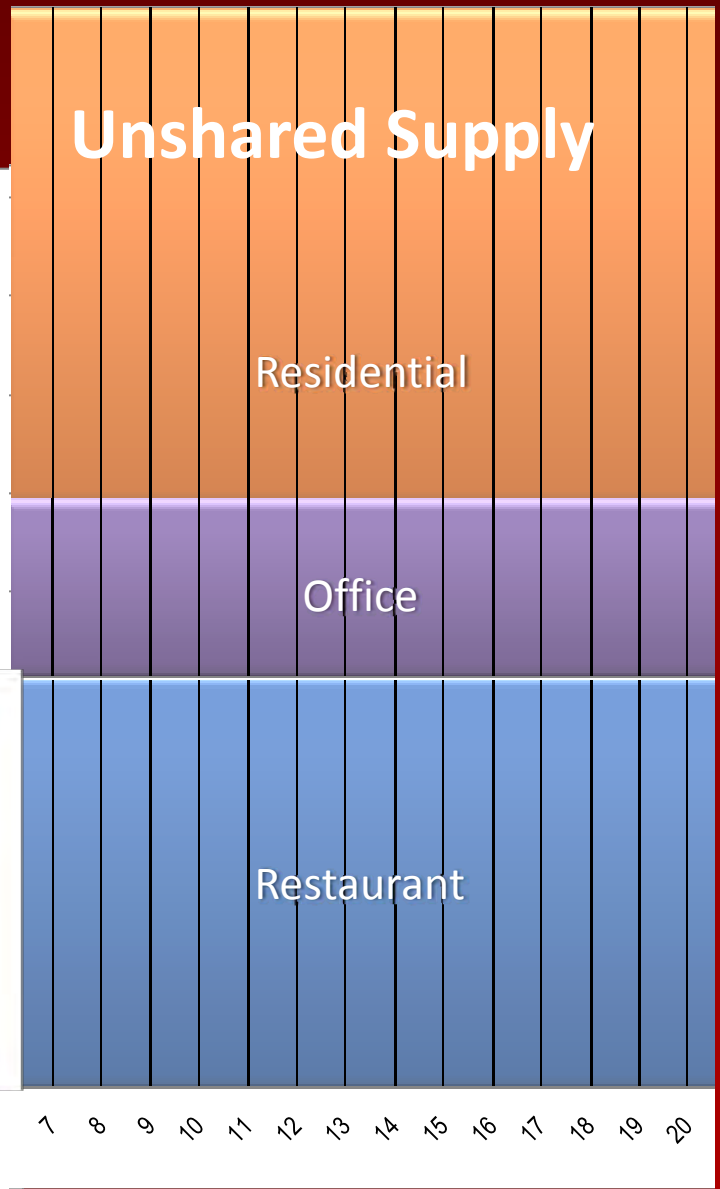
Unshared Supply



Shared Uses: Real Demand



Unshared Supply



Planning for Growth - Transportation

- Continued application of Cambridge's sustainable, multi-modal, and vehicle reduction policies
- Review connectivity gaps
- Integrate activities through complimentary land uses
- Prioritize regional investments

Plan framework: four perspectives

- Nurturing Kendall's innovation culture
- Demonstrating leadership in environmental sustainability for the world
- Creating places that foster community and vitality
- Integrating activities that support creative interaction

