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
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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.
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.
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

<table>
<thead>
<tr>
<th>City</th>
<th>Walk</th>
<th>Bike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minneapolis, Minnesota</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>San Francisco, California</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Boston, Massachusetts</td>
<td>9%</td>
<td>1%</td>
</tr>
<tr>
<td>New York, New York</td>
<td>9%</td>
<td>1%</td>
</tr>
<tr>
<td>Berkeley, California</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>Cambridge, Massachusetts</td>
<td>13%</td>
<td>4%</td>
</tr>
</tbody>
</table>

urban design/planning study for the central and kendall square area
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

- 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
Agenda

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• **Kendall Square Overview**
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  • Public Transportation
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  • Transportation Demand Management
• Parking
• Land Use
Kendall Square Employee Origins

- **Northwest**: 16%
- **Arlington**: 4%
- **Somerville**: 8%
- **West**: 7%
- **Watertown, Waltham, Newton, Brookline**: 10%
- **Boston**: 15%
- **Northeast**: 17%
- **Cambridge**: 11%
- **Southwest**: 6%
- **Southeast**: 7%
Regional Connections

Northwest 16%

Northeast 17%

Southwest 6%

Boston 15%
All Streets are Multimodal

Proposed Binney Street
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

...and can grow into a network that incorporates the riverfront
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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 Advisory Committee Presentation, July 21st
Kendall Square Mode Share(s) by Land Use

Office and R&D

- Current: 51% Auto, 38% Transit, 6% Walk, 5% Bike
- Enhanced TDM: 41% Auto, 42% Transit, 7% Walk, 10% Bike

Residential

- Current: 36% Auto, 31% Transit, 6% Walk, 6% Bike
- Enhanced TDM: 32% Auto, 30% Transit, 10% Walk, 10% Bike

Academic/Institutional

- Current: 41% Auto, 15% Transit, 15% Walk, 14% Bike
- Enhanced TDM: 42% Auto, 15% Transit, 15% Walk, 14% Bike

Retail

- Current: 35% Auto, 29% Transit, 28% Walk, 6% Bike
- Enhanced TDM: 31% Auto, 30% Transit, 29% Walk, 8% Bike

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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

Locations:
- Lechmere
- North Station
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
Kendall - Rider Profile

Why are riders coming to Kendall?

- Work, 82.6%
- Home, 2.1%
- School, 7.6%
- Other, 7.6%


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

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

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
Average Train Load – AM peak to Alewife

Ashmont
- Ashmont
- Shawmut
- Fields Corner
- Savin Hill
- JFK/UMass
- Andrew
- Broadway
- South Station Crossing
- Downtown Crossing
- Park Street
- Charles/MGH
- Kendall/MIT
- Central
- Harvard
- Porter
- Davis
- Alewife

Braintree
- Braintree
- Quincy Adams
- Quincy Center
- Wollaston
- North Quincy
- JFK/UMass
- Andrew
- Broadway
- South Station Crossing
- Downtown Crossing
- Park Street
- Charles/MGH
- Kendall/MIT
- Central
- Harvard
- Porter
- Davis
- Alewife

Legend:
- Blue: to Alewife
- Red: Seats + Standing
- Green: Seats
### Average Train Load – AM peak to Ashmont/Braintree

#### Ashmont

![Bar chart showing train load from Ashmont to Kent-avatar1.](image)

#### Braintree

![Bar chart showing train load from Kent-avatar2 to Ashmont.](image)
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.
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

Boston.com, 11/02/11
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

Somerville 8%
Cambridge 11%
Watertown, Waltham, Newton, Brookline 10%
Brookline 10%
Northwest 16%
Arlington 4%
Somerville 8%
West 7%
Boston 15%
Northwest 16%
Northeast 17%
Cambridge 11%
Southeast 7%
Arlington 4%
Southeast 7%
Boston 15%
Northeast 17%
Northwest 16%
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
Employee Origins – Urban Ring

Northwest 16%
Somerville 8%
Watertown, Waltham, Newton, Brookline 10%
Boston 15%
Southeast 7%
West 7%
Arlington 4%
Northeast 17%
Cambridge 11%
2010 PTDM
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
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 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*

<table>
<thead>
<tr>
<th>Measure</th>
<th>%</th>
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<tbody>
<tr>
<td>Rideshare matching</td>
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<tr>
<td>Secure bike storage</td>
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<tr>
<td>Transit Subsidy</td>
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<td>Free Shuttle</td>
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<td>Emergency Ride Home</td>
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<td>Lockers</td>
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<td>Charles River TMA Membership</td>
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<td>Showers</td>
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<td>MBTA passes sold on-site</td>
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<td>Trans info new employee packet/training</td>
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<td>HOV Parking Spaces</td>
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<td>Info on Website</td>
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<td>Newsletter</td>
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<td>Annual Trans Fair</td>
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<td>EZRIDE contribution</td>
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<td>Flexible Work Hours</td>
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<td>Employees Charged for Parking(#)</td>
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<tr>
<td>Carpool incentive</td>
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<td>Allow telecommuting</td>
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<td>Bike incentives</td>
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<td>Parking Cash-out (#)</td>
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<tr>
<td>Vanpool incentives</td>
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<td>Transit accessibility advertised in materials</td>
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<tr>
<td>On-Site amenities</td>
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<td>Car-Share Vehicle</td>
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<tr>
<td>Toll Free # for shuttle</td>
<td></td>
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<tr>
<td>Commuter Check</td>
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</tbody>
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*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)
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.
Office (150k SF):
Real Demand

Unshared Supply

2pm
Restaurant (150k SF):
Real Demand

Unshared Supply

12pm
**Residential (1000 units):**
Real Demand

Unshared Supply

2 am
Planning for Growth - Transportation

- Continued application of Cambridge’s sustainable, multi-modal, and vehicle reduction policies
- Review connectivity gaps
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