INSIDE THE BLACK BOX – TRANSPORTATION IMPLICATIONS OF SMART GROWTH IN CAMBRIDGE

Susanne Rasmussen, Director, Environmental and Transportation Planning, City of Cambridge
Calculating New Trips

- **NEW DEVELOPMENT**
- **PERSON TRIPS**
- **PERSON TRIP BY MODE**
- **CAR TRIPS**

**_modal_split**
- **PEDESTRIAN**
- **TRANSIT**
- **BICYCLE**
- **VEHICLE OCCUPANCY RATE**

**SQUARE FEET BY LAND USE**

**ITE RATE AND ACS FACTOR**

**Car Trips**
K2C2 Development Scenarios

Square footage

- **Existing Development (2010)**
  - Retail: 1.90 M
  - Residential: 3.62 M
  - General Office: 4.97 M
  - Research and Development: 0.11 M

- **2030 Under Existing Zoning**
  - Retail: 5.18 M
  - Residential: 2.23 M
  - General Office: 8.84 M
  - Research and Development: 0.17 M

- **K2C2 Proposal**
  - Retail: 3.39 M
  - Residential: 0.30 M
  - General Office: 5.41 M
  - Research and Development: 10.52 M

Legend:
- Purple: Retail
- Red: Residential
- Blue: General Office
- Green: Research and Development
Net New PM Person Trips

- Trips created by net new development

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>3.73</td>
</tr>
<tr>
<td>General Office</td>
<td>1.49</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>1.07</td>
</tr>
<tr>
<td>Residential</td>
<td>0.62</td>
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(new trips per 1000 sf of development)

Average rates from the 8th Edition *ITE Trip Generation* manual

- ITE trips converted to “person-trips” using National ACS factor
2030 Net New Person Trips by Land Use

“Person-Trips”

- Existing Development (2010)
- 2030 Under Existing Zoning
- K2C2 Proposal

- Retail
- Residential
- General Office
- Research and Development

- 257
- 176
- 789
- 775

- 6009 (employee)
- 8303 (employee)
Kendall Square Modal Shares by Land Use

Office and R&D
- Current: 51%, 36%
- Enhanced TDM: 41%, 42%
- Auto: 6%, 7%
- Transit: 38%, 31%
- Walk: 5%, 10%
- Bike: 42%, 25%

Residential
- Current: 36%, 24%
- Enhanced TDM: 30%, 25%
- Auto: 6%, 6%
- Transit: 31%, 10%
- Walk: 3%, 3%
- Bike: 2%, 41%
- Other: 2%, 2%

Retail
- Current: 35%, 27%
- Enhanced TDM: 31%, 27%
- Auto: 2%, 6%
- Transit: 30%, 15%
- Walk: 28%, 15%
- Bike: 29%, 14%
- Other: 2%, 3%

Academic/Institutional
- Current: 27%, 27%
- Enhanced TDM: 41%, 42%
- Auto: 2%, 3%
- Transit: 15%, 15%
- Walk: 14%, 14%
- Bike: 15%, 15%
- Other: 2%, 3%
2030 Net New Trips by Car – PM Peak Hour

Existing Zoning

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<thead>
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Vehicle occupancy of 1.08-1.09

K2C2 Proposal

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