Urban Parking Issues & Studies

Southern California Association of Governments
Toolbox Tuesdays

September 27th

Gary Hamrick, Iteris, Inc.
“Examine the impacts of parking capacity at eight transit stations in Los Angeles”
Project Objectives and Issues

- Study of eight TOD locations
  - Identification of the locations
  - Research & best practices study
  - Data collection at each location
    - Number of spaces
    - Fees
    - Time limits
- Parking occupancy survey
- Findings and conclusions
TOD Parking Study Issues/Challenges

- Understanding parking environment around TOD locations
- Relate parking capacity to transit usage
- Understand effects of parking costs
- Understand effects of parking availability
- Conduct adequate number of case studies
- Cover various station “area types”
## TOD station area types

<table>
<thead>
<tr>
<th>Potential station areas to be studied</th>
<th>Urban Neighborhood</th>
<th>Urban Center</th>
<th>CBD/Special District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont/Santa Monica (Red)</td>
<td>Hollywood/Vine (Red)</td>
<td>Jefferson (Expo) or Chinatown (Gold)</td>
<td></td>
</tr>
<tr>
<td>Transit Neighborhood</td>
<td>Mixed Use Center</td>
<td>Business District</td>
<td></td>
</tr>
<tr>
<td>Mariachi Plaza (Gold)</td>
<td>San Pedro (Blue)</td>
<td>Warner Center (Orange)</td>
<td></td>
</tr>
<tr>
<td>Suburban Neighborhood</td>
<td>Neighborhood Center</td>
<td>Office/Industrial District</td>
<td></td>
</tr>
<tr>
<td>Woodman (Orange) or 103rd Station (Blue)</td>
<td>La Cienega/Jefferson (Expo)</td>
<td>Universal City (Red)</td>
<td></td>
</tr>
</tbody>
</table>
TOD Station place types, by Intensity and Use Mix


Urban Neighborhood
Urban Center
CBD / Special District
Transit Neighborhood
Mixed Use Center
Business District
Suburban Neighborhood
Neighborhood Center
Office/Industrial District

Innovation for better mobility
City of LA TOD Parking Case Studies

- **Key tasks**
  - Parking inventories (1/8th mile radius)
    - Public
    - Private
    - Fee structure
  - Utilization surveys
  - Research best practices
  - Existing / future parking generation and demand
  - Assess parking relationship to transit station
City of LA TOD Study locations

TOD station names

1. Sylmar
2. Laurel Canyon
3. Hollywood/Vine
4. Vermont Sunset
5. Wilshire/Western
6. San Pedro
7. Soto
8. Highland Park
TOD Study Area with Analysis Zones

- Map of Wilshire / Western study area with analysis zones
Data Collection Issues/Challenges

- Inventory
  - Private spaces
  - Garages
  - Residential

- Utilization
  - What time periods?
  - How often?
  - Sample size
  - Access
Data Collection Issues/Challenges

- Land use
  - Accuracy of data
  - Building size
  - Current land use

- Cost
  - Parking data collection is time consuming!
Urban Parking Analysis - Methodology

- Existing conditions inventory
- Future projections
  - Land use
  - Growth assumptions
  - Turnover to new uses
  - Block level analysis
  - Mode share
  - Shared use
  - Time of day
  - Weekday v/s Weekend
Robert Cervero

- Parking policy can influence success of TODs
- Unbundling cost of parking can make TOD more viable
- Walk access and pedestrian environment also critical
- Households near TODs tend to own fewer vehicles
- Do TODs cause people to own fewer cars or are people with fewer cars attracted to TODs?
### Table 1

**Commercial Parking Reductions at Selected TODs**

<table>
<thead>
<tr>
<th>TOD</th>
<th>Land Use</th>
<th>Parking Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Court (Long Beach, CA)</td>
<td>Retail</td>
<td>60%</td>
</tr>
<tr>
<td>Uptown District (San Diego, CA)</td>
<td>Commercial</td>
<td>12%</td>
</tr>
<tr>
<td>Rio Vista West (San Diego, CA)</td>
<td>Retail/Commercial</td>
<td>15%</td>
</tr>
<tr>
<td>Pleasant Hill (CA)</td>
<td>Office</td>
<td>34%</td>
</tr>
<tr>
<td>Pleasant Hill (CA)</td>
<td>Retail</td>
<td>20%</td>
</tr>
<tr>
<td>Dadeland South (Miami, FLA)</td>
<td>Office</td>
<td>38%</td>
</tr>
<tr>
<td>City of Arlington (VA)</td>
<td>Office</td>
<td>48%-57%</td>
</tr>
<tr>
<td>Lindbergh City Center (Atlanta, GA)</td>
<td>Speculative Office</td>
<td>19%</td>
</tr>
<tr>
<td>Lindbergh City Center (Atlanta, GA)</td>
<td>Retail</td>
<td>26%</td>
</tr>
<tr>
<td>Portland (OR) Suburbs*</td>
<td>General Office</td>
<td>17%</td>
</tr>
<tr>
<td>Portland (OR) Suburbs*</td>
<td>Retail/Commercial</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Statewide Transit Oriented Development Study – Parking and TOD: Challenges and Opportunities (Special Report) - Caltrans
Other Research - Best Practices

Austin, Texas TOD Guidebook

- Need convenient parking and drop off zones
- “Enough but not too much” parking!
- Locate parking to sides and rear of buildings
- Keep station and buildings oriented to sidewalk and pedestrians, and not parking
- Encourage phased parking – evolve from surface lots to structures
- Provide ample, convenient, secure bike parking
Parking Methodology
Examples
### Detailed Inventory by Block

#### Off-Street Parking Spaces

<table>
<thead>
<tr>
<th>Block</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harbor Blvd</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Whiting Ave</td>
<td>16</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Wilshire Ave</td>
<td>33</td>
<td>35</td>
<td>68</td>
</tr>
</tbody>
</table>

#### On-Street Parking Spaces

<table>
<thead>
<tr>
<th>Block</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harbor Blvd</td>
<td>33</td>
<td>35</td>
<td>68</td>
</tr>
<tr>
<td>Whiting Ave</td>
<td>16</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Wilshire Ave</td>
<td>33</td>
<td>35</td>
<td>68</td>
</tr>
</tbody>
</table>

### Key

- **Off-Street Parking Spaces**
- **On-Street Parking Spaces**
- **Public Parking Spaces**
- **Private Parking Spaces**

### Existing Parking Supply

#### Figure 3

- **Whiting Ave**
  - 33 Public
  - 35 Private
  - 68 Total

- **Wilshire Ave**
  - 33 Public
  - 35 Private
  - 68 Total

- **Harbor Blvd**
  - 33 Public
  - 35 Private
  - 68 Total
Hourly Demand

DOWNTOWN LONG BEACH PARKING DEMAND - TUESDAY
(WITHOUT CITYPLACE)

Spaces Occupied/Available

Occupied
Available

Time of Day
(December 2004)
Surplus / Deficit by Block

Existing Weekday Surplus / Deficit

Key:
- Surplus - 295
- Deficit - (283)

Note: Parking supply is reduced by 5% to allow for contingency for peak situations.

Existing Weekday Surplus / Deficit - 11 AM
December 2004

FIGURE 1

Innovation for better mobility
Parking “Impacted” Blocks

Downtown Long Beach Parking Management Plan Occupancy Percentage (weekday peak)

December 2004 data

Innovation for better mobility
## Parking Demand Model

- **Block level by land use type**

<table>
<thead>
<tr>
<th>Parking Demand Rate</th>
<th>Residential</th>
<th>Restaurant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ave. 1.5/Unit</td>
<td>10/1000 SF</td>
</tr>
<tr>
<td>Area</td>
<td>Size</td>
<td>Theoretical Parking Requirement</td>
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<tr>
<td>Block 40</td>
<td>52</td>
<td>78</td>
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<tr>
<td>Block 41</td>
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<td>0</td>
</tr>
<tr>
<td>Block 42</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Block 43</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Block 54+67</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Block 57</td>
<td>193</td>
<td>290</td>
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<tr>
<td>Block 64</td>
<td>61</td>
<td>92</td>
</tr>
<tr>
<td>Block 78</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>LB Plaza</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Block 81</td>
<td>22</td>
<td>33</td>
</tr>
<tr>
<td>Block 86</td>
<td>65</td>
<td>98</td>
</tr>
<tr>
<td>Block 87</td>
<td>0</td>
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<td>Block 102</td>
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<td>Block 104</td>
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<tr>
<td>Block 105</td>
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<td>0</td>
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<td>Block 110</td>
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<td>Block 112</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Block 113</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>573</td>
<td>866</td>
</tr>
</tbody>
</table>

Use local parking code as parking demand rates or other factors.
### Parking Demand Model

- Block level with modal adjustments & shared use

<table>
<thead>
<tr>
<th>Area</th>
<th>Residential</th>
<th></th>
<th>Restaurant</th>
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<td>Reduced</td>
<td>Reduced</td>
<td>Reduced</td>
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<td>Parking Requirement</td>
<td>Parking Requirement</td>
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<td>Number</td>
<td></td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Block 40</td>
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<td>78</td>
<td>24</td>
<td>15</td>
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<tr>
<td>Block 41</td>
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<td></td>
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<tr>
<td>Block 42</td>
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<td>Block 57</td>
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<td>Block 78</td>
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<td>36</td>
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<td>LB Plaza</td>
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<td>106</td>
<td>85</td>
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<td>13</td>
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<td>64</td>
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<td>20</td>
<td>15</td>
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<tr>
<td><strong>Totals</strong></td>
<td>860</td>
<td>860</td>
<td>1205</td>
<td>964</td>
</tr>
</tbody>
</table>

Able to adjust walk, bike, transit and shared use factors.
Parking Demand Model

- Time of day projections

<table>
<thead>
<tr>
<th>Block 40 Weekday</th>
<th>Land Use</th>
<th>Residential</th>
<th>Restaurant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spaces Reduced by Mode Split</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Hour</td>
<td>% Spaces</td>
<td>% Spaces</td>
<td></td>
</tr>
<tr>
<td>6:00 AM</td>
<td>100</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>7:00 AM</td>
<td>95</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>8:00 AM</td>
<td>90</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>9:00 AM</td>
<td>87</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>10:00 AM</td>
<td>85</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>85</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>85</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>85</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>85</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td>85</td>
<td>66</td>
<td></td>
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<tr>
<td>4:00 PM</td>
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<td>5:00 PM</td>
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</tr>
<tr>
<td>6:00 PM</td>
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<td>7:00 PM</td>
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<td>8:00 PM</td>
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<td>77</td>
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</tr>
<tr>
<td>11:00 PM</td>
<td>100</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>12:00 AM</td>
<td>100</td>
<td>78</td>
<td></td>
</tr>
</tbody>
</table>

May want to customize hourly factors in place of ULI time of day factors.
Summary

- Parking studies help assess current parking and need for future parking.
- Los Angeles TOD Parking project will assess the relationship of parking to transit at TODs/stations.
- Significant parking data are required.
- Parking data are time consuming to collect.
- Data collection issues:
  - Inventory and access to private parking.
  - Residential versus commercial parking spaces.
  - Time of day to survey.
  - Day of week to survey.
  - Accurate land use information, by block.
- Variations by type of area (urban, suburban, density, transit service, etc.) need to be addressed.
- Causality – does parking and auto ownership drive transit use or the other way around, or both?
Questions?

Gary Hamrick
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562-432-8484
gjh@iteris.com