Cost Effectiveness of Park and Ride (P&R) Lots

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Agenda

- NUMBERS OF P&R FACILITIES
- BENIFETS OF P&R LOTS
- COST SAVINGS ASSOCIATED WITH P&R’S
- FUNDING PROBLEMS
- METHODS TO PRIORITIZE PROJECTS (CALTRANS AND FDOT MODELS)
- RECOMENDATIONS
Number of P&R Lots

Sources: United Kingdom - RPS Group; Connecticut, Washington DOT, New Jersey DOT, Florida DOT - Caltrans Park and Ride Investigation 6-2-2010; California - Caltrans 2010 PLAN Meeting
Benefits of P&R Lots

- Used since the 1970’s worldwide
- Take cars off the road
- Encourage alternate forms of transportation
- Reduced air pollution
- Reduced gasoline consumption
- Reduced wear and tear
- When designed well, they encourage the use of public transportation (three types of P&R’s – Rural, Bus Accessible, and Multimodal)
FDOT – Rural P&R Lot
Figure 7-3: Conceptual Design for Park-and-Ride Lot Serving Rail Station
(Guidelines for Enhancing Intermodal Connections at Florida Transit Stations)
# WSDOT- 1983 P&R Study

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>Previous Mode</th>
<th>Park and Ride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>$2.80</td>
<td>$3.04</td>
</tr>
<tr>
<td>Road</td>
<td>$0.93</td>
<td>$0.38</td>
</tr>
<tr>
<td>Other Public</td>
<td>$0.26</td>
<td>$0.20</td>
</tr>
<tr>
<td>Congestion</td>
<td>$1.36</td>
<td>$0.52</td>
</tr>
<tr>
<td>Auto</td>
<td>$2.69 ($7.15)</td>
<td>$1.57 ($4.16)</td>
</tr>
<tr>
<td>Parking</td>
<td>$0.89</td>
<td>$1.28</td>
</tr>
<tr>
<td>Bus</td>
<td>$1.21</td>
<td>$1.93</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$10.14 ($26.97)</strong></td>
<td><strong>$8.92 ($23.72)</strong></td>
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</tbody>
</table>
Park and Ride Math

Roadway Project Savings (Sunken Costs)

- $26.97 - $23.72 = $3.25 per trip saved in Roadway Project Costs
- Assuming 10 million commuters in California use P&R’s for 2 trips per Working Day (WD), 20 million trips per WD are saved.
- This equals $65 million / WD or $1.7 Billion per year

Personal Savings

- Roughly $3 per trip x 2 trips/WD x 256 WD /yr = $1,540; Not including gasoline
Funding Problems

- There are funding problems with P&R’s in California
- There are 2 PY’s Caltrans has allocated for P&R projects (Master’s Thesis finding): 2.5 Yrs x 171 hrs/mo x 12 months = 5,130 Hours / FY (for the whole state)
- *California Streets and Highways Code* says: No more than $2 million in State Funds per year can be used in construction of P&R’s
- Projects costing $30K or more have to have matching Federal and/or Local funds
- P&R’s over $250,000 have to be in a Trans. Imp. Plan
Methods to Prioritize Projects

- CALIFORNIA DEPT. OF TRANSPORTATION (CALTRANS) MOBILITY PYRAMID
- FLORIDA DEPT. OF TRANSPORTATION (FDOT) SITE EVALUATION PROCESS (2 SLIDES)
Caltrans Mobility Pyramid

1. System Completion and Expansion
2. Operational Improvements
   - Intelligent Transportation Systems
   - Traveler Information/Traffic Control
   - Incident Management
3. Smart Land Use
4. Demand Management/Value Pricing
5. Maintenance and Preservation
6. System Monitoring and Evaluation

Prevention and Safety
FDOT Evaluation Process [Pt 2]

- **Expand**
- **Do Nothing**
- **Correct Safety**
  - Hazards
  - Repave
  - Rebuild Pavement
  - Replace / Repair Signs
  - Enforce Parking
  - Increase Security
- **Revise Services and/or Promotion**
- **Close Facility Dispose of Property**
Unsuccessful P&R

**Amenities and Conditions:**

<table>
<thead>
<tr>
<th>Parking Spaces: 22</th>
<th>Bike Lockers: No</th>
<th>Transit: No</th>
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<tbody>
<tr>
<td>ADA Spaces: 2</td>
<td>Call Box: No</td>
<td>Phone: No</td>
</tr>
<tr>
<td>Additional Information: N/A</td>
<td>Owner: State</td>
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</table>
Successful P&R

Figure 7: Close-Up Aerial Photo of Venture Oaks location (source: Google Earth)
Recommendations [Pt. 1]

- **BE AWARE OF PUBLIC NEEDS**
  1. Survey people – would they be willing to pay for a P&R facility?
  2. What are public priorities?

- **PRIORITIZE PROJECTS**
  1. Funding problems
  2. Many DOT’s have models to use

- **PERFORM A BENEFIT / COST [B/C] ANALYSIS**
  1. Be careful when using simulations
  2. Repeat every few years as conditions change
Recommendations [Pt. 2]

- **HAVE A JUSTIFIABLE PURPOSE AND NEED**
  1. The better the P&N, the better the chance the project will get funding

- **ESTABLISH PUBLIC / PRIVATE PARTNERSHIPS**
  1. Caution should be used – businesses should not be solely benefiting from tax dollars.

- **RELINQUISH P&R’S WHERE THEY CANNOT BE MAINTAINED**
  1. Follow a suitable process. Document: Who?, What?, When?, and Where? Also, note the cost involved and the expectations of all parties involved. [It is a legal document.]
Thank you!

- Do you have any questions?