Transit With Bikesharing: Overview of Practice and Potential
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First / Last Mile Trip Importance

<table>
<thead>
<tr>
<th></th>
<th>In-vehicle Time</th>
<th>Walk Time</th>
<th>Initial Wait Time</th>
<th>Transfer Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>1.0</td>
<td>2.2</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Range</td>
<td>1.0</td>
<td>0.8-4.4</td>
<td>0.8-5.1</td>
<td>1.1-4.4</td>
</tr>
</tbody>
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Avoiding Deviations

- Washington DC’s Union Station
  - Most common 2011 origin/destination for bikeshare trips to/from USDOT bikeshare station*
  - For commuter rail/Amtrak riders, avoids two transfers to/on Metrorail
  - Avoids $2.15 in subway fare each way**
  - Peak period six minute predicted time savings each way***

*Capital Bikeshare 2011 data presented at JDLand.com
**Peak-of-the-peak non-discounted fare only, does not account for CaBi membership costs
***Google Maps predicted travel time difference between modes at peak time period
Service interruptions

• Capital Bikeshare bridges Metrorail service outages
  – Oct 2010 weekend shutdowns*
• BorisBikes and London Underground strike**

**Fuller, D., Sahlqvist, S., Cummins, S., Ogilvie, D. The impact of public transportation strikes on use of a bicycle share program in London: Interrupted time series design. 2012., Preventive Medicine 54, 74–76

Operating Cost Recovery

<table>
<thead>
<tr>
<th>System</th>
<th>Cost Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Bikeshare (DC)</td>
<td>120%*</td>
</tr>
<tr>
<td>Capital Bikeshare (VA)</td>
<td>53%*</td>
</tr>
<tr>
<td>B-Cycle Denver</td>
<td>Approaching 100%**</td>
</tr>
<tr>
<td>Nice Ride Minneapolis</td>
<td>Approaching 100%**</td>
</tr>
</tbody>
</table>

Station Co-location

- San Francisco Bay Area
- RFP closes 3/21/12
- Nodes of system separated by 50 miles, connected by Caltrain

Why? How? Future?

Station Co-location

- Orange County Transportation Authority
- Funded by FTA Bus Livability Program grant
- 15 stations, 150 bikes oriented around Metrolink in Fullerton

Why? How? Future?

Arlington - Connecting to Metrorail

http://www.bikearlington.com/pages/bikesharing/arlington-
bikeshare-transit-development-plan/map-gallery/

Arlington - Connecting to Buslines

http://www.bikearlington.com/pages/bikesharing/arlington-
bikeshare-transit-development-plan/map-gallery/
System Co-Branding and Mapping

“Common liveries and ‘branding’ for vehicles, stops, maps, and timetables help passengers appreciate that a public transport system really does work as a network...”

--Paul Mees, Transport for Suburbia

- Very few systems worldwide share branding with their counterpart transit system
- Sponsorship/advertising is a further obstacle
- Maps and Apps could be shared (Boston pursuing)

Bike Travel Facilities Near Stations

- Important for bike/transit integration generally
- Especially important for bikeshare
  - Generally less experienced riders
  - Slower heavier bicycles
- Demonstrated correlation between bikeshare and bike lanes*
- FTA Catchment Policy
- New Multimodal Level of Service in Highway Capacity Manual

Promoting Socially Equitable Bikeshare Access

- Assisting targeted populations
  - Security deposit assistance
- Montgomery County
  - JARC grant
  - Suburban system near trunk-line transit

Roundtrip Workday Rentals

- Lets user take bike to work in morning, return to same station in evening
- Expands destinations to those without bikeshare docks
- OV-fiets (Netherlands)
  - 85,000 members, 230 stations, 5000 bikes
  - €10 annual fee, + €3 for 24 hrs use*
- Brompton Dock
  - Folding bikes from lockers
  - €50 annual fee **

** http://www.bromptondock.co.uk/
Common Farecard

- Allow seamless transfers between transit/bikeshare
- Stated desire for common account #s in San Francisco Bay Area
- Hardware, institutional, and taxation obstacles

All pictures courtesy of Santa Clara Valley Transportation Authority, vta.org

Example

- Montpellier, FR (Mediterranean coast)
- 50 stations, operated by and co-branded with transit authority
- 1500 bikes, 800K rides in 2008*
- Free day-use by transit pass holders, fully integrated fare system
- Bikeshare rentals also available
- Leisure bikes at beach/country stations for tourist package use
- Along with other measures, 10-year transit rides increased 2.4 times**

**Le Tourneur, Marc. “Parking management and new mobility services key to increasing ridership for public transport operators.” Public Transport International, Jan/Feb 2012.
Connecting Median-Running Transit to TOD

- Silver Line Metro station to be located in median of toll-road
- Reston Town Center compact development nearly half-mile to the north
- No parking at transit station

Dynamic Bikeshare Supply?

- Various Transit ITS research programs with demand response goal
  - ICM
  - IDTO
- Information shared among operators and patrons to improve travel time and reliability
- Information already used real-time by users through website and smartphones before/during trips
- Use of predictive analytics in system balance operations coming

Integrate transit-oriented bikeshare into transit demand response plans?
Challenges
Transit ITS Technology Deployment

Why? How? Future?

Federal Transit Administration
www.fta.dot.gov
Please Share Your Thoughts and Ideas With Me

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• NACTO -- http://nacto.org/bike_share/
• CUTR -- http://www.cutr.usf.edu/index.shtml
• FTA – http://www.fta.dot.gov/bikesandtransit