Effects of second generation car sharing on Public Transport

Results of the car-sharing evaluation in the city of Munich, Germany - Vancouver, 9/22/2015
Experience of 13 years, 50 experts, 300 projects and 10 innovation prices
Munich - Details

Size 311 sqkm
Inhabitants 1.39 Million
Density: 4468 Inhabitants/sqkm
Evaluation Details

• Evaluation of CarSharing-Services on behalf of the City of Munich between 2013 and 2015

• Evaluated services:
  – FreeFloating: DriveNow and car2go
  – Parking-Area based services: Flinkster and CiteeCar

• Evaluation included:
  – Customer surveys: approx. 1,600 participants
  – Survey on Munich citizens: approx. 1,000 participants
  – Analysis on Back-End-Data: approx. 400,000 Trips
  – Focus groups and expert interviews

• Project Partners
  – team red Deutschland GmbH
  – Dresden Institute of Technology
  – Omnitrend GmbH
FreeFloating CarSharing: Users Modal Split

No exact Modal Split Measurement

Except Shopping, Public Transport is the mainly used mode by FFC-Users
Most FFC-Users report that there are no changes in PT-Usage due to FFC
More FFC-Users report a slight decrease in PT-Usage than slightly increased usage
• Reported changes of PT-Usage correlate with the reported PT modals Split share
• Highest PT-Share by FFC-Users who report using PT a lot more often
# PT-Usage Change: Demographics

<table>
<thead>
<tr>
<th>PT Usage</th>
<th>N (Sample)</th>
<th>Household Type</th>
<th>Household Size (Total/Kids)</th>
<th>Ratio within &quot;Mittlerer Ring&quot;</th>
<th>Mean Age</th>
<th>Ratio &lt;25</th>
<th>Ratio &gt;45</th>
</tr>
</thead>
<tbody>
<tr>
<td>a lot more often</td>
<td>56</td>
<td>With Kids (30%)</td>
<td>2,1/0,3</td>
<td>57%</td>
<td>43</td>
<td>2%</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>Working Single (32%)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Downtown people, <strong>FF is a perfect add-on to existing PT-use</strong></td>
<td></td>
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</tr>
<tr>
<td>a little more</td>
<td>67</td>
<td>With Kids (38%)</td>
<td>2,3/0,4</td>
<td>48%</td>
<td>45</td>
<td>6%</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>Working Single (23%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no change</td>
<td>525</td>
<td>With Kids (33%)</td>
<td>2,2/0,4</td>
<td>60%</td>
<td>38</td>
<td>6%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>525</td>
<td>Working Single (26%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Couples without Kids (25%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a little less</td>
<td>250</td>
<td>Couples without Kids (32%)</td>
<td>2,2/0,4</td>
<td>57%</td>
<td>35</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>250</td>
<td>Working Single (28%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>With Kids (27%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a lot less</td>
<td>43</td>
<td>Couples without Kids (32%)</td>
<td>1,9/0,1</td>
<td>50%</td>
<td>34</td>
<td>21%</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Working Single (32%)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Young singles / young couples, downtown / suburban, <strong>FF is a perfect add-on to existing car-use</strong></td>
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</tr>
</tbody>
</table>
FreeFloating CarSharing: Car-Usage by PT-Usage-Change

Usage of privately owned cars by PT-Usage change

- Lowest own-car milage by users with no change in PT-Usage
- Highest own-car milage by users with little more PT-Usage
Accordingly, the number of cars per person 18+ in the household is the lowest, when users report to use PT a lot more often
Reported changes of PT-Usage also correlates with car disposal

Highest no. of cars reduced by FFC-Users who report using PT a lot more often
FreeFloating CarSharing : PT-Station by PT-Usage-Change

Time to next PT-Station (e.g. local train, bus stop) by PT-Usage change

- FFC-Users who use PT a lot more report the shortest distances to the next PT-Station, all other groups are nearly at the same level
• FFC-Users who use PT a lot more have the highest share of PT-Season-Ticket holders
FreeFloating CarSharing: CS-Usage by PT-Usage-Change

- FFC-Users with increasing or unchanged PT-Usage use CS slightly below average
- A decreasing PT-Usage correlates with an above average CarSharing-Usage
FFC-Users with increasing or unchanged PT-Usage use have longer rentals
A decreasing PT-Usage correlates with shorter rentals
Conclusions

• The evaluation confirms earlier findings about positive as well as negative effects of CarSharing-services on public transit and vice versa.

• Certain user groups increase PT usage:
  – Effect shows up especially, when CarSharing-Users get rid of their privately owned car and use public transit a lot more often
  – Having a public transit station nearby the housing is a key factor for starting off this process

• Certain user groups decrease PT usage:
  – On the other hand there is a number of CarSharing-Users reducing public transit usage to nearly nothing
  – Further analysis show that the vast majority of these CarSharing-Users has car-friendly attitudes and did not use Public Transport very often before joining CarSharing Services
Thank you!

-> Contact us for receiving more detailed data on this evaluation!

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