CARSHARING MODELS, IMPACTS + LATEST UNDERSTANDING

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OVERVIEW

- Carsharing service models
- Impacts
  - Roundtrip
  - Business
  - P2P
  - One-way
- Carsharing highlights: 2015
- Acknowledgements
Roundtrip Carsharing: Round trip, pay by the hour/mile, non-profit and for profit fleet models

Peer-to-Peer Carsharing: Shared use of private vehicle typically managed by third party

One-Way Carsharing: Pay by the minute, point to point, fleet operated, street parking agreements

Fractional Ownership Carsharing: Individuals sublease or subscribe to a vehicle owned by a third party

There are many flavors of carsharing
GROWTH OF WORLDWIDE CARSHARING

Members

<table>
<thead>
<tr>
<th>Year</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>346,610</td>
</tr>
<tr>
<td>2008</td>
<td>670,822</td>
</tr>
<tr>
<td>2010</td>
<td>1,163,405</td>
</tr>
<tr>
<td>2012</td>
<td>1,788,027</td>
</tr>
<tr>
<td>2014</td>
<td>4,828,616</td>
</tr>
</tbody>
</table>

Vehicles

<table>
<thead>
<tr>
<th>Year</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>11,501</td>
</tr>
<tr>
<td>2008</td>
<td>19,403</td>
</tr>
<tr>
<td>2010</td>
<td>31,967</td>
</tr>
<tr>
<td>2012</td>
<td>43,554</td>
</tr>
<tr>
<td>2014</td>
<td>103,980</td>
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</tbody>
</table>

Shaheen and Cohen, 2015

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2008 N. AMERICAN CARSHARING SURVEY

- Survey implemented from Sept. to Nov. 2008
- ~9,500 completed surveys; analysis based on 6,281 hhds
- Completion rate ~80%
- Online survey challenging
  - Took between 10 to 15 minutes for most respondents to complete

Martin, Shaheen, Lidicker, 2010

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PARTICIPATING ORGANIZATIONS

**American**
- City CarShare
- CityWheels
- Community Car
- Community Carshare of Bellingham
- Igo
- PhillyCarShare
- Zipcar

**Canadian**
- AutoShare
- Communauto
- Co-operative Auto Network
- VrtuCar
- Zipcar

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Between **9 to 13 vehicles removed**, including postponed purchase

*4 to 6 vehicles*/carsharing vehicle *sold* due to carsharing

25% sell a vehicle; 25% postpone purchases

**27 - 43% VMT/VKT** reduction per year, considering vehicles sold and purchases postponed

More users increased overall public transit and non-motorized modal use (including bus, rail, walking, and carpooling) than decreased it

Martin et al. 2010
2008 KEY FINDINGS (CONT’D)

- Reduction of **0.58-0.84 metric tons** of GHG emissions per year for one household (mean observed and full impact)
- 34% - 41% reduction of **GHG emissions** per year for one household.
- $154 - $435 monthly household savings per U.S. member after joining carsharing

Martin et al. 2010
2014 ZIPCAR FOR BUSINESS: CASE STUDY

- Survey implemented Oct. 2014 with ~24,000 completed surveys; analysis based on 523 corporate members
- 750,000 members in N. America
  - 175,000 Zipcar for Business members
- Available in 63 cities across the U.S.

Shaheen and Stocker, 2015

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BUSINESS CARSHARING: IMPACTS

2 in 5 corporate members surveyed sold or postponed a vehicle purchase due to joining Zipcar

This corresponds to 33,000 VEHICLES REMOVED across North America due to Zipcar for Business

N=523

Shaheen and Stocker, 2015

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BUSINESS CARSHARING: IMPACTS (CONT’D)

CORPORATE MEMBERS WHO BECAME ZERO-CAR HOUSEHOLDS
BECAUSE OF ZIPCAR EXPERIENCED

- more often: 41% (public transit), 41% (walking), 22% (biking)
- same: 46% (public transit), 52% (walking), 59% (biking)
- less often: 13% (public transit), 19% (walking), 7% (biking)

Shaheen and Stocker, 2015
BUSINESS CARSHARING: IMPACTS (CONT’D)

CORPORATE MEMBERS WHO BECAME ZERO-CAR HOUSEHOLDS
BECAUSE OF ZIPCAR EXPERIENCED

- more often: 41% public transit (N = 59), 41% biking (N = 54)
- same: 46% public transit, 59% biking, 52% walking (N = 58)
- less often: 13% public transit, 19% biking, 7% walking (N = 58)

Shaheen and Stocker, 2015
BUSINESS CARSHARING: IMPACTS (CONT’D)

IF ZIPCAR DID NOT EXIST, I WOULD HAVE

- borrowed a car: 37%
- used a traditional car rental: 18%
- used my personal car: 14%
- taken public transit: 12%
- taken a taxi: 10%
- other (e.g., other carsharing): 7%
- walked or biked: 2%

N = 523

Shaheen and Stocker, 2015
CARSHARING HIGHLIGHTS: 2015

- CarSharing Association Conference in Vancouver, BC
  - September 22-23
  - http://conference.carsharing.org/
- Disrupting Mobility Summit in Cambridge, MA
  - November 11-13
  - http://www.disrupting-mobility.org/#welcome-
- Fractional ownership through Audi “Unite”
- E-bikesharing and carsharing to launch in SF Bay Area
- New entrants and the growth of one-way and electric service models

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