Car Sharing in Planned Communities

S. Maurice Rached, PE, PTOE

2016 Transportation Technology Summit: Innovative Mobility Solutions
Density and parking are among the biggest challenges facing TODs & Planned Communities.

Most parking requirements are not TODfriendly.

Meeting certain parking requirements encourages high vehicle ownership rates.

Complying with some local & State requirements defeats the intent and purpose of smart growth.

Developers are shying away from TOD projects.
Prior Gas Station site in New Jersey
- Site currently under-utilized and dilapidated
- Site has been vacant for many years
- In a very desirable area and near train station
- 60 units needed to make the project viable
- Parking requirements dictate about 120 spaces
- **Challenge:** parking/access/automobile ownership
- One car shared by many
- Fully automated system
- Technology based on Internet, wireless, and GPS
- Once subscribed, reserving a vehicle is done in seconds
- Provider pays for gas, tolls, insurance, maintenance, car washing....
- Virtual concierge system
- Reserve on-line or by phone
- Data is wirelessly transmitted to the vehicle
- The technology logs the vehicle usage and vital driver and vehicle information.
CarSharing programs launched successfully in Europe in the mid-1980s

- In North America, car sharing began in the 1990s
- Zipcar has 767,000 members and 11,000 vehicles,
  Car2Go has 900,000 members and 12,000 cars.
- About 18 non-profit and for-profit operations in 30 states, over 150 college campuses, and many commercial businesses

Sources:
Studies have shown 1 CarShare vehicle:

- Removes up to 31 private vehicles off the road
- Eliminates the need for up to 30 parking spaces

71% of CarShare members avoid purchasing a second vehicle.

Sources:
Elliot Martin, PhD Post-Doctoral Research Engineer, Transportation Sustainability Research Center University of California, Berkeley

Susan A. Shaheen, PhD Research Associate, Mineta Institute Honda Distinguished Scholar in Transportation, University of California, Davis, & Acting Co-Director, Transportation Sustainability Research Center (TSRC) University of California, Berkeley

NYC Planning Board Amendment of 2010
Car Sharing - Utilization

**Sources:** Shaheen, Cohen, and Chung. TRB 9-3688 NORTH AMERICAN CARSHARING: A TEN-YEAR RETROSPECTIVE
CarSharing - Demographics

Sources:
City Data.com / Shaheen, Cohen, and Chung. TRB 09-3688 NORTH AMERICAN CARSHARING: A TEN-YEAR RETROSPECTIVE
CarSharing – Age Distribution

- 60 to 70: 4.9%
- 50 to 60: 11.2%
- 40 to 50: 16.0%
- 30 to 40: 29.5%
- 20 to 30: 37.6%

Median Age - ...

Sources: City Data.com / Shaheen, Cohen, and Chung. TRB 09-3688 NORTH AMERICAN CARSHARING: A TEN-YEAR RETROSPECTIVE
If there were more options in my area such as public transportation, car sharing or convenient carpooling, I would drive less than I do now.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-34 years old</td>
<td>27%</td>
<td>37%</td>
<td>64%</td>
</tr>
<tr>
<td>35-44 years old</td>
<td>21%</td>
<td>34%</td>
<td>55%</td>
</tr>
<tr>
<td>45-54 years old</td>
<td>15%</td>
<td>34%</td>
<td>49%</td>
</tr>
<tr>
<td>55 years or older</td>
<td>11%</td>
<td>30%</td>
<td>41%</td>
</tr>
</tbody>
</table>

- Online survey of 1,025 adults
- Ages 18 and over
- 966 licensed driver
- Conducted October 2010

Sources: Zipcar Millennial Survey October 2010
In today’s economy, it can be difficult to own a car because of the high cost of gas, insurance, maintenance and parking.

**Survey Findings**

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**Sources:** Zipcar Millennial Survey October 2010
### CarShare – Individual Benefits

<table>
<thead>
<tr>
<th></th>
<th>Car Owner</th>
<th>CarShare Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car payment</td>
<td>$288</td>
<td>included</td>
</tr>
<tr>
<td>Finance charges</td>
<td>$67</td>
<td>included</td>
</tr>
<tr>
<td>Insurance</td>
<td>$84</td>
<td>included</td>
</tr>
<tr>
<td>Gas</td>
<td>$100</td>
<td>included</td>
</tr>
<tr>
<td>License, registration &amp; tax</td>
<td>$49</td>
<td>included</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$44</td>
<td>included</td>
</tr>
<tr>
<td>Parking</td>
<td>$150</td>
<td>included</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$782/mo</strong></td>
<td><strong>$144/mo avg.</strong></td>
</tr>
</tbody>
</table>

*Monthly cost based on small – mid-size car

(6 two hour trips & 2 four-hour trips)

**Sources:** Data based on 2010 AAA study of average driving cost Zipcar www.zipcar.com
2 CarSharing vehicles
1 space per unit, 4 spaces for visitors
Parking reduced by about 55 spaces
Cool Project Concept: Bicycles, solar energy, virtual concierge...
## Integrating transportation with other needs/services

- Transportation needs
  - Car/Mass Transit/Air
- Personal schedule
- Personal services
- Home control
- Entertainment & food
Questions

- How many Parking Credits per shared car?
- What are the characteristics of a suitable location?
- Will the cars be available to the general community?
- How is the system managed?
- How much does it cost?
- How about electric cars?
- How is the virtual concierge paid for?