



UNIVERSITY OF CALIFORNIA *Berkeley*
Transportation Sustainability
RESEARCH CENTER

CARSHARING MODELS, IMPACTS + LATEST UNDERSTANDING

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OVERVIEW

- Carsharing service models
- Impacts
 - Roundtrip
 - Business
 - P2P
 - One-way
- Carsharing highlights: 2015
- Acknowledgements





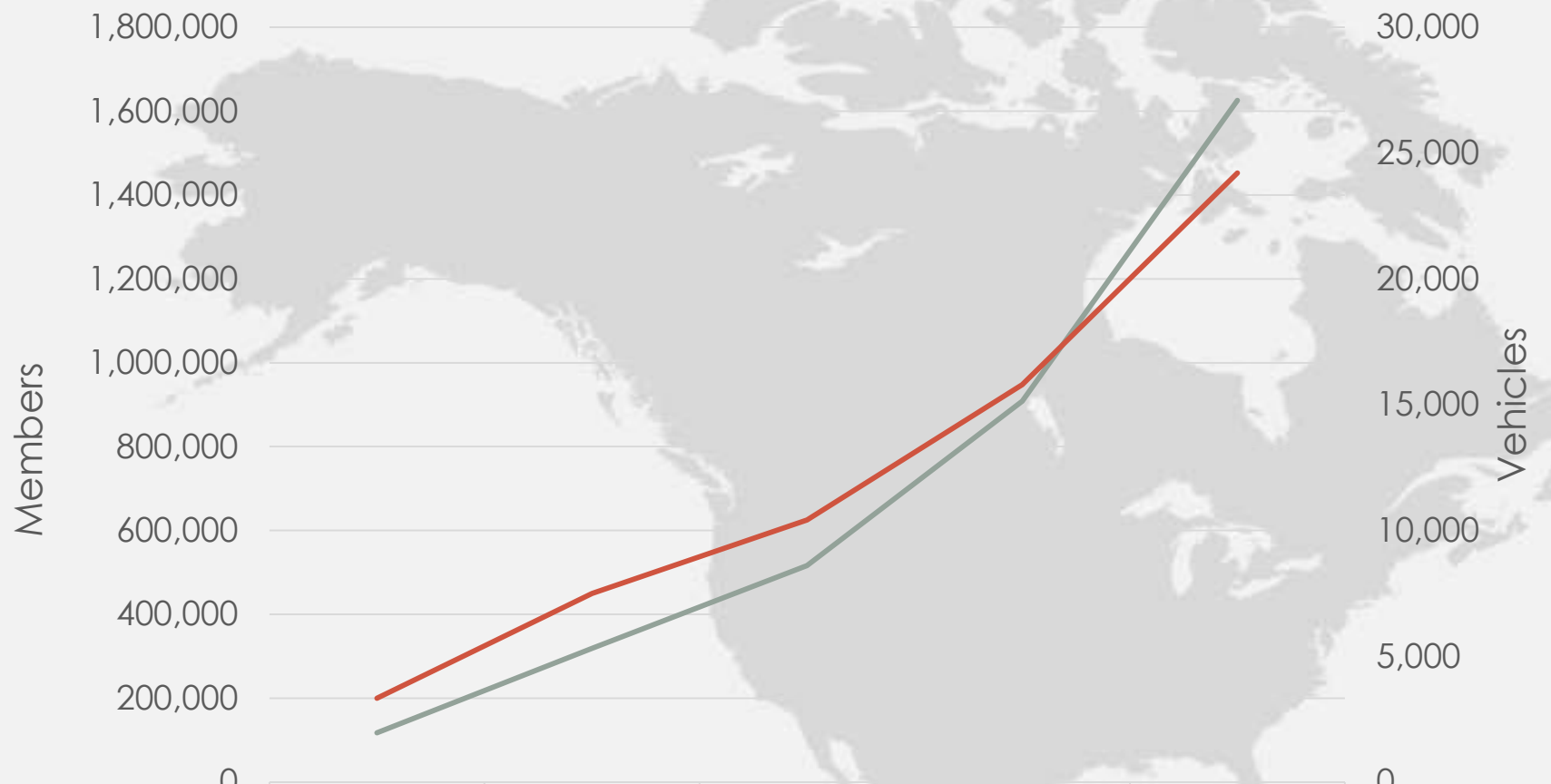
Roundtrip Carsharing:
Round trip, pay by the hour/mile, non-profit and for profit fleet models

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

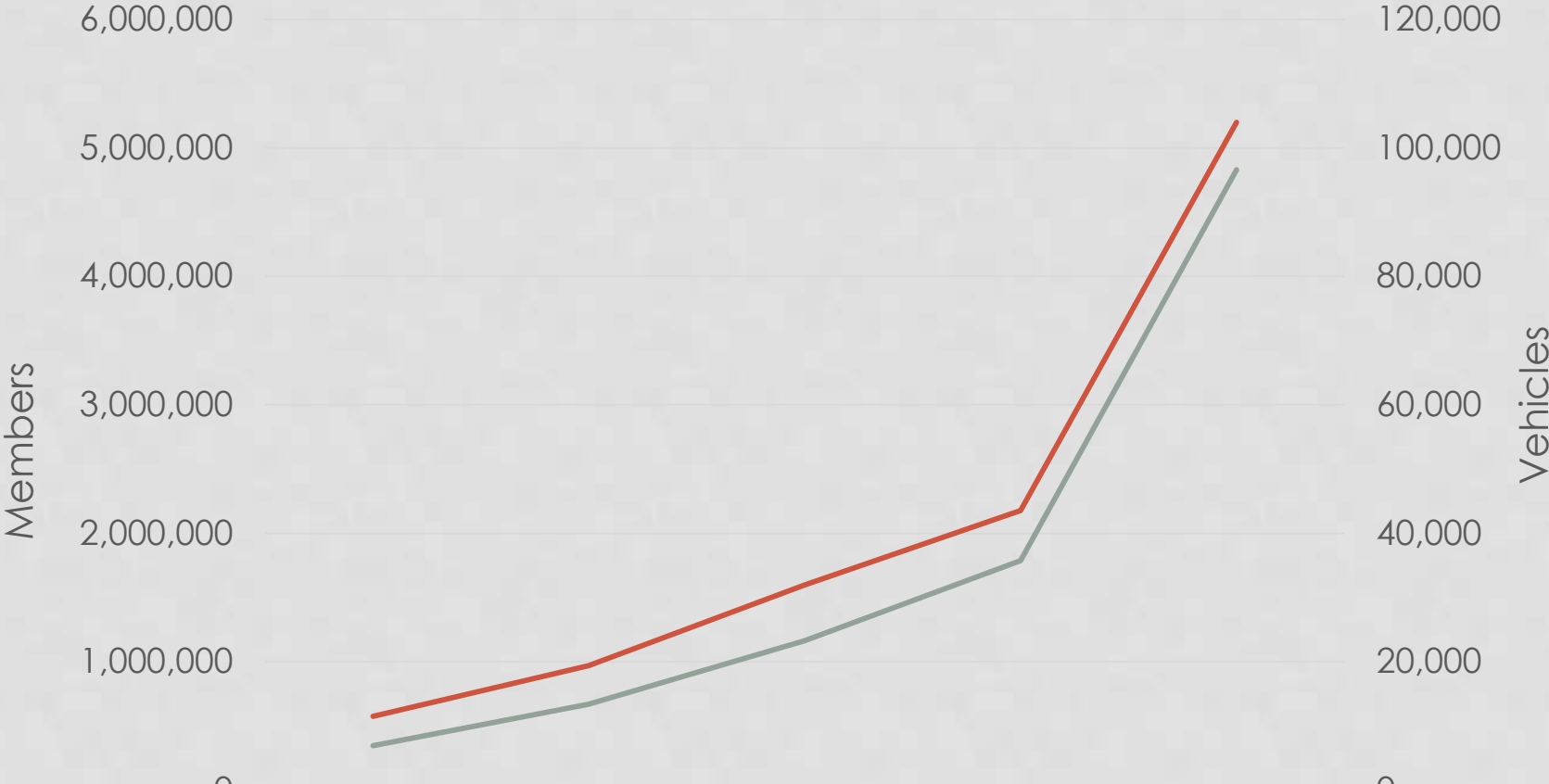
Fractional Ownership Carsharing:
Individuals sublease or subscribe to a vehicle owned by a third party

NORTH AMERICAN LONGITUDINAL TRENDS



| | 2006 | 2008 | 2010 | 2012 | 2014 |
|------------|---------|---------|---------|---------|-----------|
| — Members | 117,656 | 318,898 | 516,100 | 908,584 | 1,625,652 |
| — Vehicles | 3,337 | 7,505 | 10,420 | 15,795 | 24,210 |

GROWTH OF WORLDWIDE CARSHARING



| | 2006 | 2008 | 2010 | 2012 | 2014 |
|----------|---------|---------|-----------|-----------|-----------|
| Members | 346,610 | 670,822 | 1,163,405 | 1,788,027 | 4,828,616 |
| Vehicles | 11,501 | 19,403 | 31,967 | 43,554 | 103,980 |

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



PARTICIPATING ORGANIZATIONS



American

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



Canadian

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

2008 NORTH AMERICAN CARSHARING SURVEY: KEY FINDINGS

- 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

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

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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



BUSINESS CARSHARING: IMPACTS



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

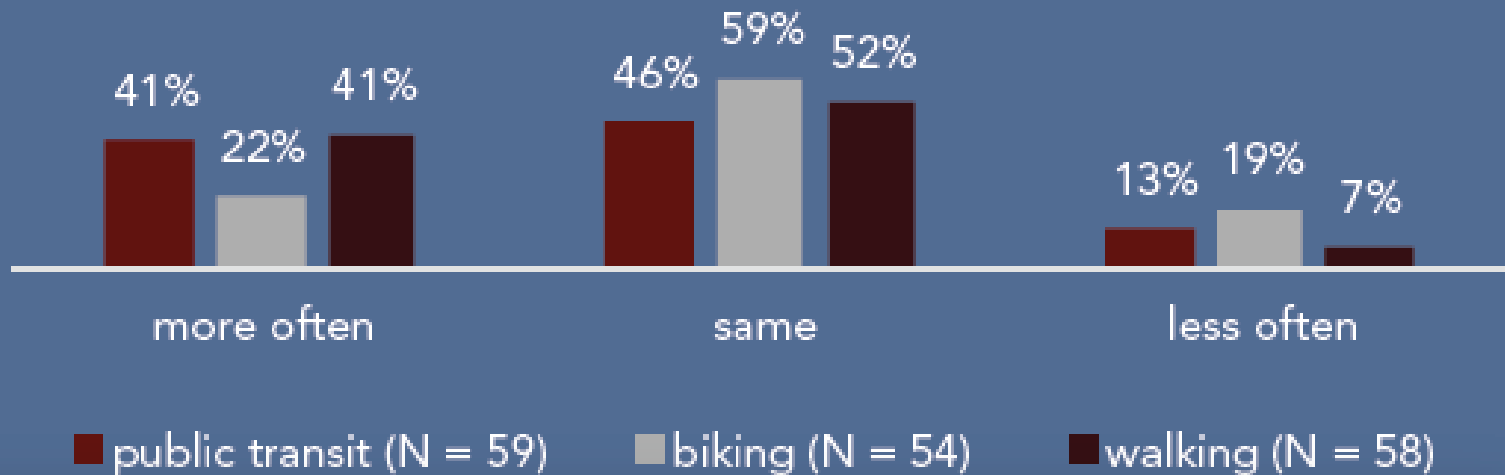
This corresponds to
33,000 VEHICLES REMOVED
across North America due to
Zipcar for Business

N=523

Shaheen and Stocker, 2015

BUSINESS CARSHARING: IMPACTS (CONT'D)

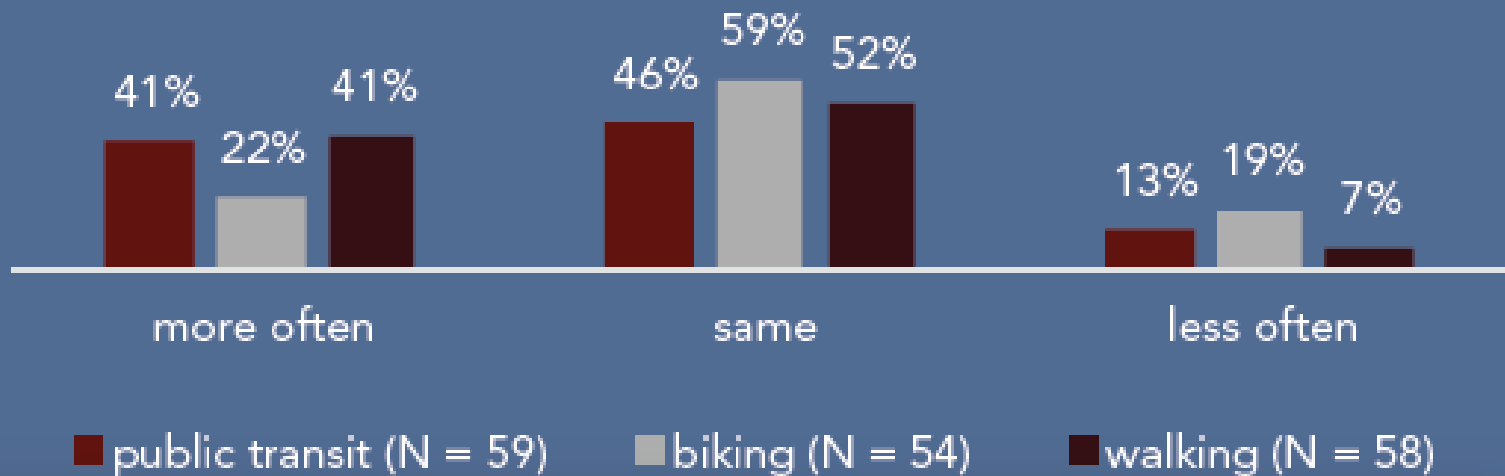
CORPORATE MEMBERS WHO BECAME ZERO-CAR HOUSEHOLDS BECAUSE OF ZIPCAR EXPERIENCED



Shaheen and Stocker, 2015

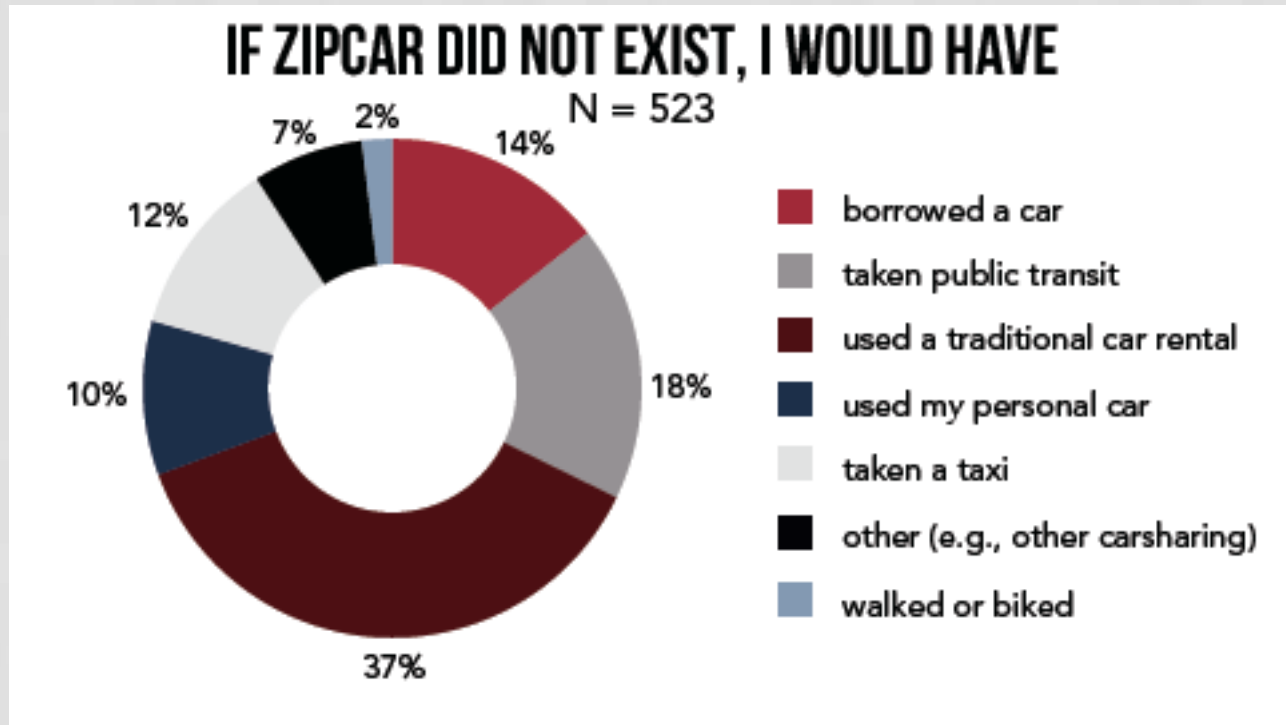
BUSINESS CARSHARING: IMPACTS (CONT'D)

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



Shaheen and Stocker, 2015

BUSINESS CARSHARING: IMPACTS (CONT'D)



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

ACKNOWLEDGEMENTS



- Mineta Transportation Institute, San Jose State University
- California Department of Transportation
- Adam Cohen and Elliot Martin, TSRC, UC Berkeley
- Special thanks to the worldwide carsharing operators, Metavera ,and the CarSharing Association



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