

May 12, 2016 | American Planning Association | Shared Mobility and the Transformation of Public Transportation



Yes, Millennials Are Interested



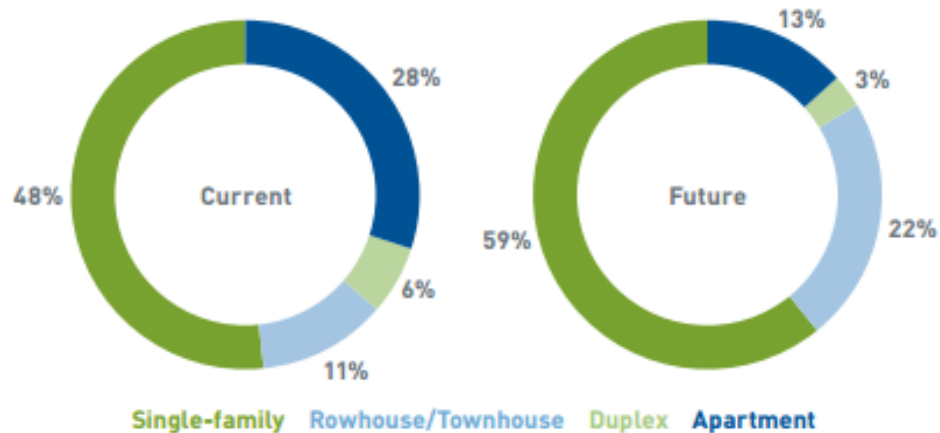
Top 5 reasons or motivations for transportation choices or routines overall (Q31, Among % Total, n=1,000)

I need to save money	46%
It is the most convenient	46%
It allows me to get some exercise (walking, biking, riding, etc.)	44%
I live in an area where it makes more sense to use public transit	35%
I care about the environment	34%

However, Settlement Trends Are Shifting

FIGURE 22

Current and Future Housing Types for Millennials *Among millennial likely movers*



Now I have some questions about your home that is your primary residence. Do you currently live in an apartment building; a duplex; a rowhouse or townhouse; a single-family detached home; or something else? How likely are you to move to a different home—one that is your primary residence—in the next five years? Would you say very likely, somewhat likely, not very likely, or not at all likely? In five years, what type of home do you expect to live in? An apartment building; a duplex; a rowhouse or townhouse; a single-family detached house; or something else?



They Are Demanding

Q35 / Q36 - <i>In the future (10 years from now), I'd like to see transportation options that...</i>	TOTAL (n=1000)
Are more reliable	61%
Offer more real-time updates to help me avoid waiting longer than needed	55%
Are more user-friendly and intuitive (e.g. don't make me dig around for info)	44%
Are more precise	38%



And Are Getting More So

Q36 - In the future (10 years from now), I'd like to see more technology & tool offerings that...

TOTAL
(n=1000)

Help me **optimize my entire travel experience** across different options & locations

44%

Provide transportation options based on what mindset I may be in (e.g. routes perfect for good weather, bad weather, most cost efficient, etc.)

43%

Help me **take advantage** of more **"alternative" transportation options** (e.g. bike share, walking, etc.)

38%



Empty Nesters Are Moving Back



However....

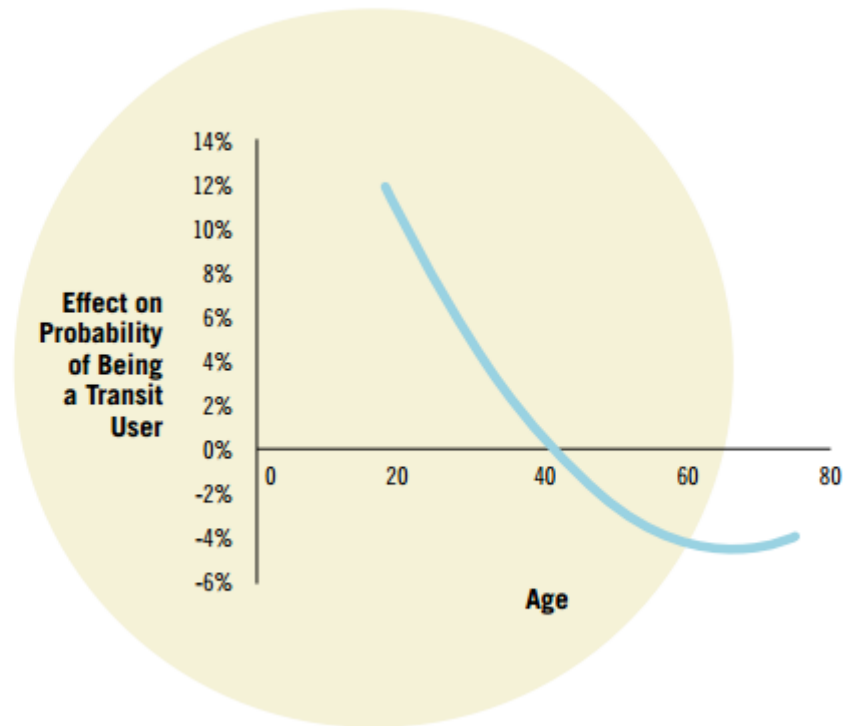
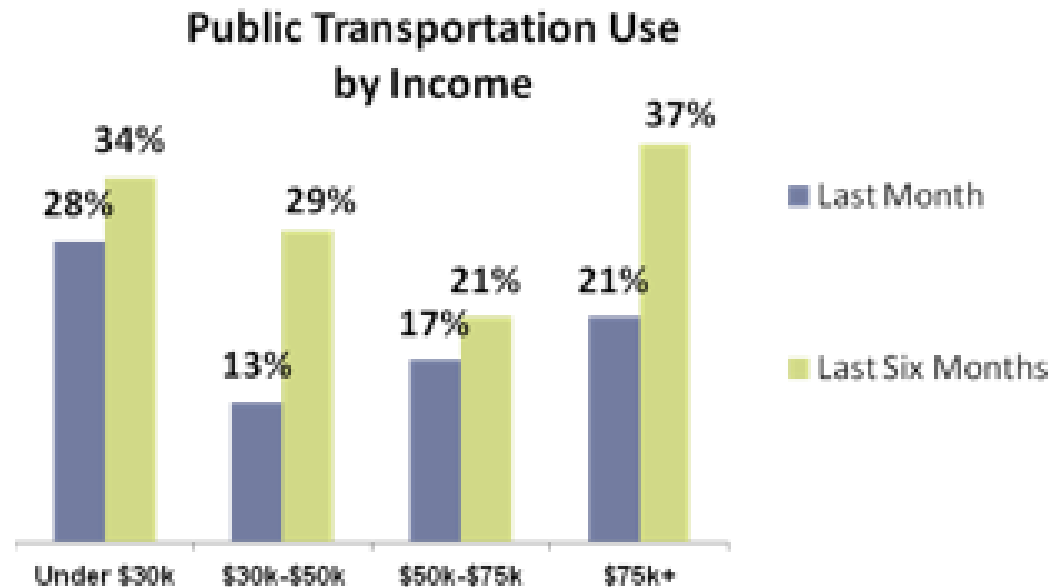


FIGURE 2:
AGE AND
TRANSIT USE




Working Class: An Important Base




The Suburbanization of Poverty

Public perception has yet to catch up to the reality that the poor now live in the suburbs, too.

EMILY BADGER | May 20, 2013 |  118 Comments

858
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Project Influence: Suburban Town Centers

- Developers Understand How to Make Money
- Millennials Love Them
- Easier to serve w/ transit than traditional suburban retail=operating efficiency



Project Influence: Townhome Development



- Developers Understand How to Make Money
- Millennials Drive Demand
- Easier to serve w/ transit than single family homes=operating efficiency



Project Influence: New Mobility Options



- Fully integrate the user experience



- May increase number of transit dependent and car-lite households

- Complementary service



- Create mutually beneficial partnerships



Aligns With APTA Strategic Plan





DEMOGRAPHIC SHIFTS

GOAL

Assist members in addressing ever-evolving lifestyles and mobility needs.



TECHNOLOGICAL INNOVATION

GOAL

Lead and serve member efforts to evaluate, develop and adapt to emerging technologies.

A Core Principle

Ensure Accessibility

Providers in the transportation network must provide access for all, and be driven by the need for social inclusion and environmental justice in our transportation system.



New Shared Mobility Report



GOAL #1: Understand the impact of the mainline ridesourcing services, such as Uber & Lyft

Download Your Copy:
apta.com/sharedmobility

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TRANSPORTATION RESEARCH BOARD

TRANSIT COOPERATIVE RESEARCH PROGRAM

Program J-11

Contractor Chosen: Shared Use Mobility Center



Project Overview



Project Objectives and Overview

Objectives

- Improve understanding and find ways for transit agencies to learn from new tech-enabled mobility services
- Identify opportunities & challenges
- Present strategies & best practices for transit agencies to maximize public benefit
- Study cities: Austin, Boston, Chicago, DC, LA, San Francisco, Seattle

Methodology

- Public agency & private operator interviews: 70 officials, 26 public agencies, 5 private SUM operators
- Consumer survey (n = 4550) to inform why and how riders use Uber/Lyft and transit
- Transit/TNC demand & capacity analysis
- Literature Review



Interviews



Interviews

70 public agency officials at 26 agencies

- Transit operators
- City transportation departments
- Regional planning and transportation authorities
- State transportation departments
- Regulatory compliance authorities (state & local)
- Federal Transit Administration

Representatives of 5 shared-use mobility operators

- Network aggregation
- Ridesourcing
- Carsharing
- Bikesharing
- Microtransit



Interview findings

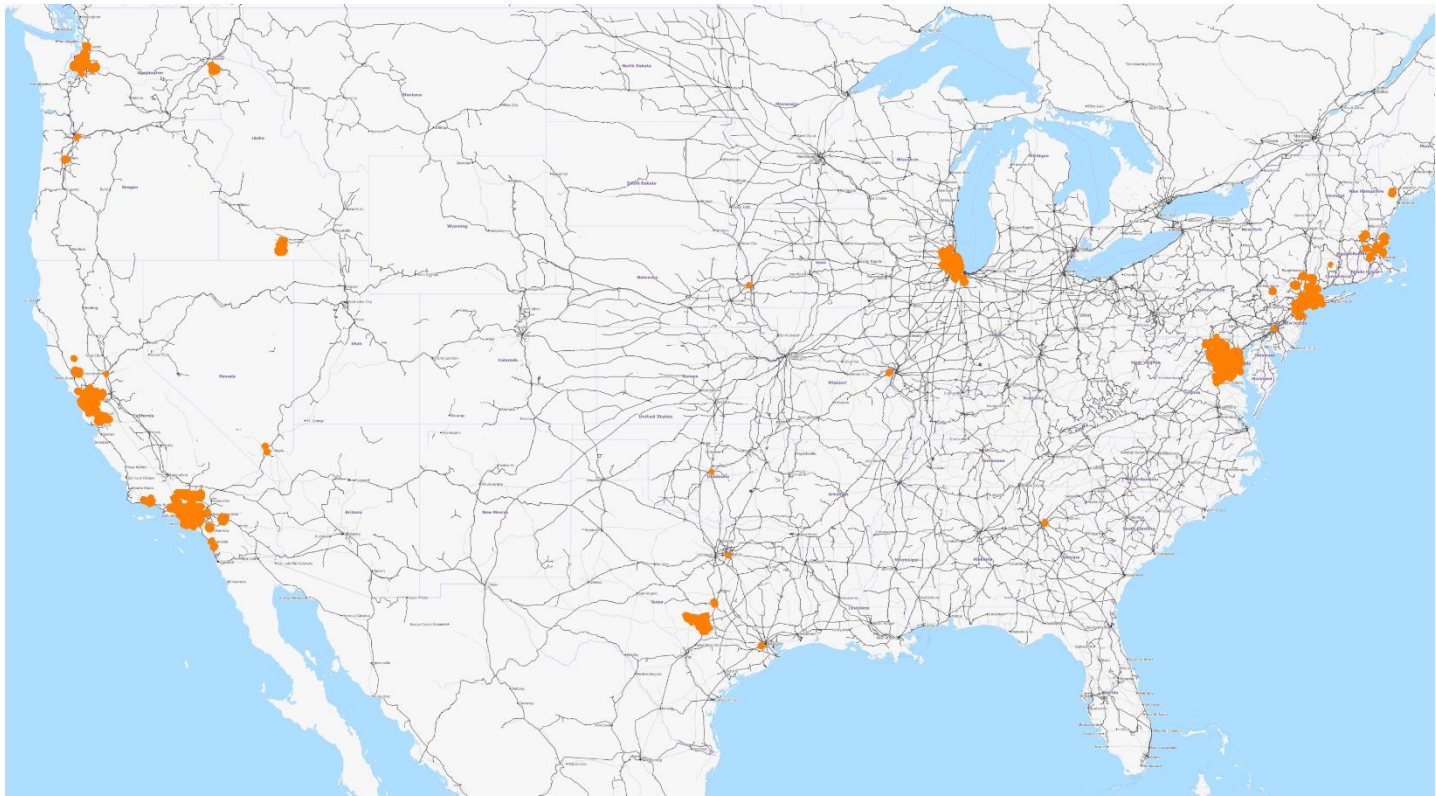
- **Consensus: shared-use modes will continue to grow in significance, public entities must engage in order to ensure that potential benefits are widely and equitably shared**
- Cities with robust transit: least concern about negative impact of new modes on core transit
- More dispersed, difficult to serve ridership: high interest in collaboration
- New shared modes generally perceived as complementary to transit
- Eagerness around potential to improve paratransit
- Private sector taking more active role in developing customer-facing tech; public commitment to open data
- Regulatory data shared in interviews: evidence ridesourcing is reducing taxi use; not seeing an impact on transit
- Many cities & agencies already working with shared-use mobility providers, mostly bikeshare & carshare
- Transit-ridesourcing partnerships still developing
- Ridesourcing regulation contentious from all sides



Shared Mobility User Survey



Shared Mobility User Survey



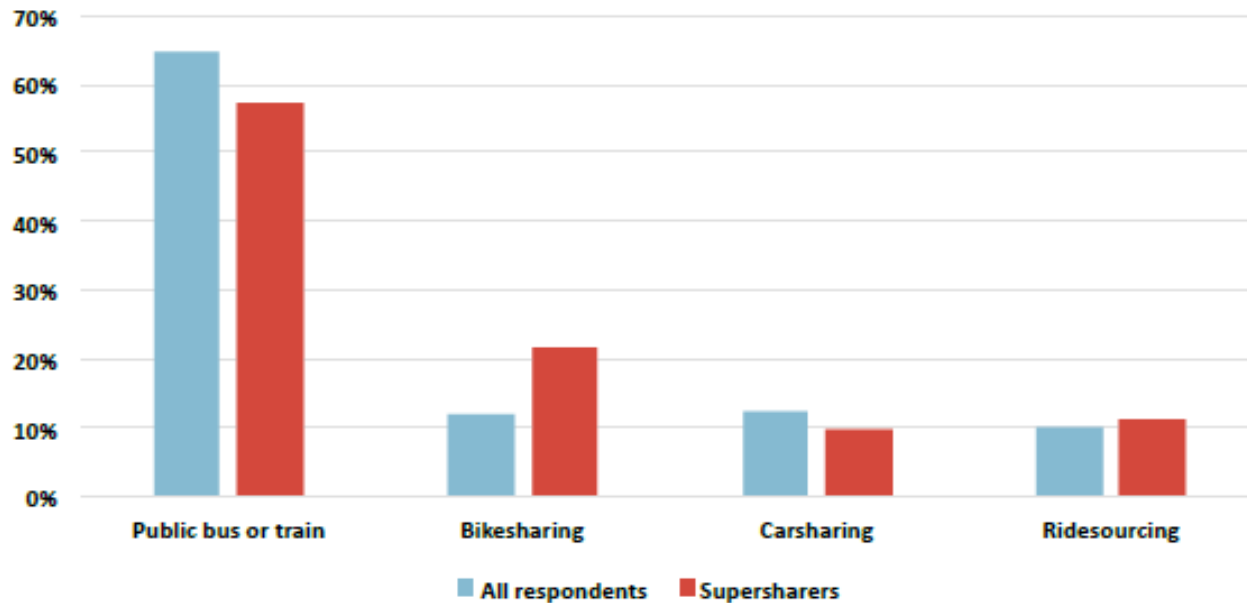
- Web survey, convenience sample, small sample sizes in some markets
- Distributed to shared-mobility consumers by transit agencies, carshare and bikeshare operators
- 4,551 respondents, ~6% r.r.
- 79% had some SUM experience beyond transit



Supersharers

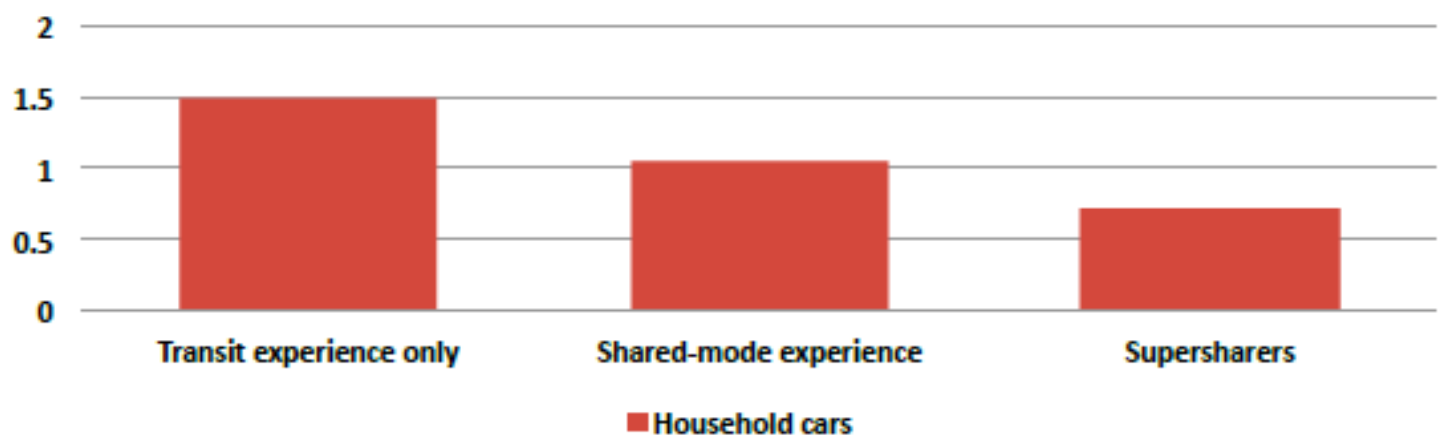
Key Finding 1: The more people use shared modes, the more likely they are to use transit, own fewer cars, and spend less on transportation overall. “Supersharers”—people who routinely use several shared modes, such as bikesharing, carsharing, and ridesourcing—report greater transportation savings and own half as many cars as people who use transit alone.

Figure 1:
Single shared mode used most often—supersharers v. all respondents¹



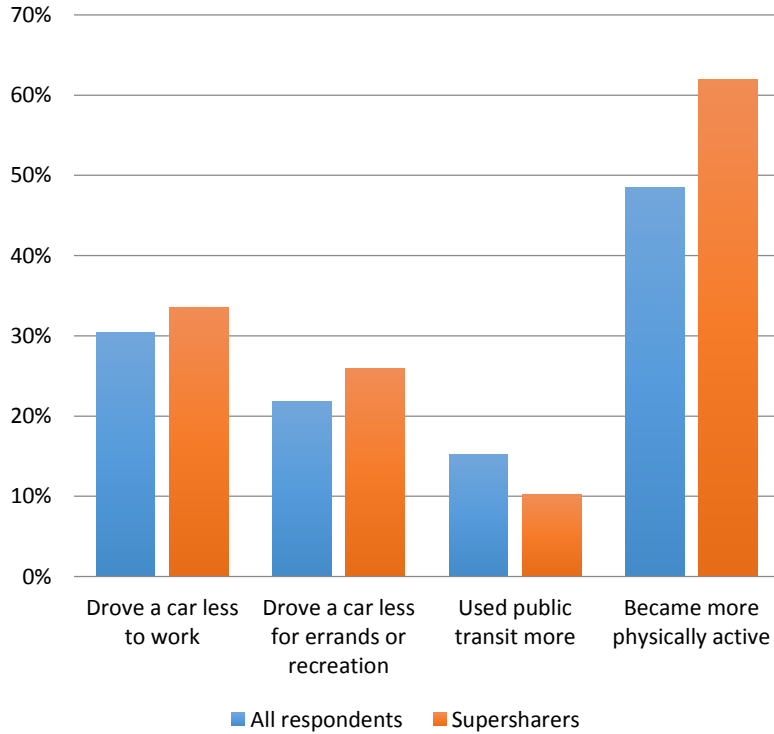
Supersharers

Figure 3:
Household vehicle ownership, by shared-mode experience³

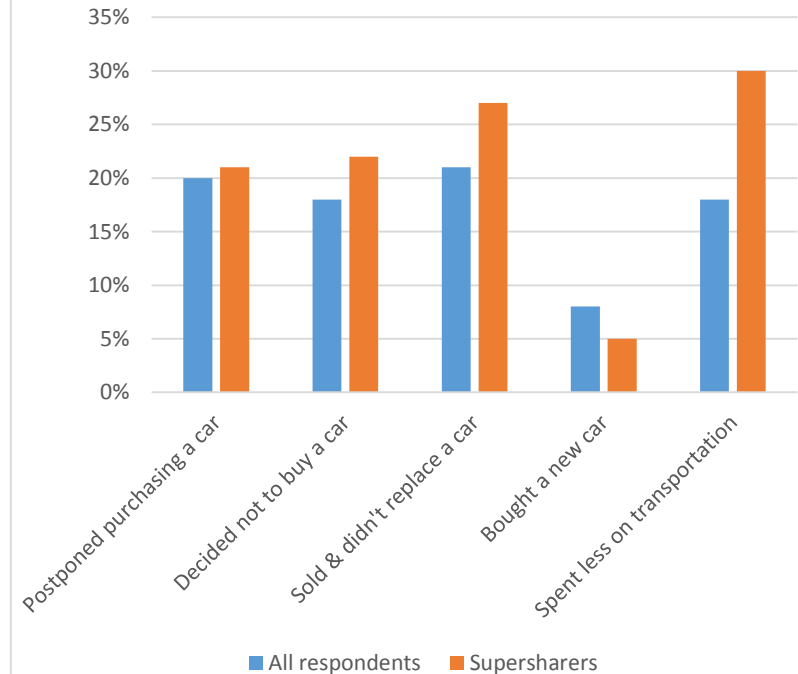


Supersharers

Lifestyle changes since starting to use shared modes



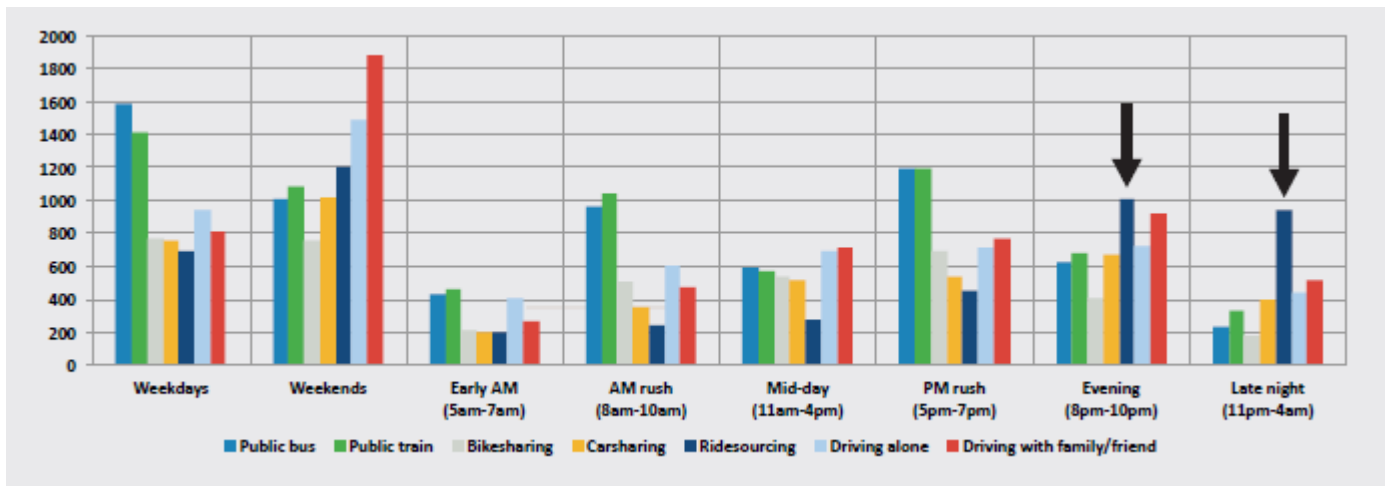
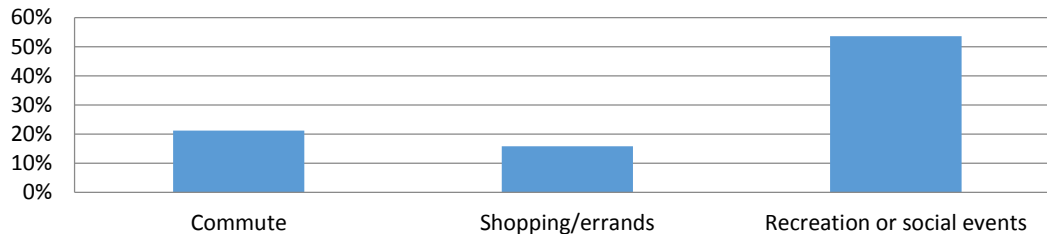
Household and financial changes since starting to use shared modes



Ridesourcing Usage Patterns

Key Finding 2: Shared modes complement public transit, enhancing urban mobility. Ridesourcing services (e.g., Lyft and Uber) are most frequently used for social trips between 10 pm and 4 am, times when transit runs infrequently or is unavailable. Shared modes substitute more for automobile trips than transit trips.

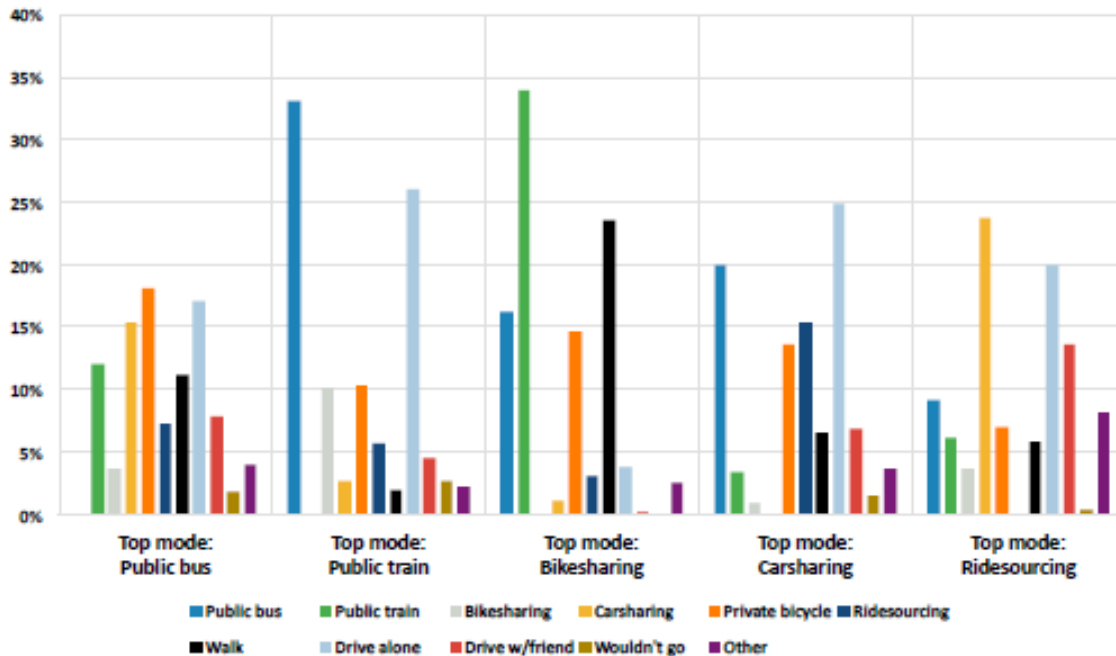
Recent Use of Ridesourcing,
by Trip Purpose



Ridesourcing Mode Substitution

Ridesourcing appears more likely to substitute for automobile trips than transit

Figure 10:
Alternative for most frequent shared-mode trip if that service was not available—by top shared mode⁹



RELATIVELY FEW PEOPLE USE RIDESOURCING TO COMMUTE—AND THOSE WHO DO, DO SO OCCASIONALLY

- Ridesourcing is not a major part of the mobility picture for most commuters who responded to the survey
- Even among respondents who report ridesourcing as their top shared mode, only 7 percent say they use ridesourcing daily, while 43 percent said they use it 1-3 times per month



Ridesourcing and Transit Data Analysis



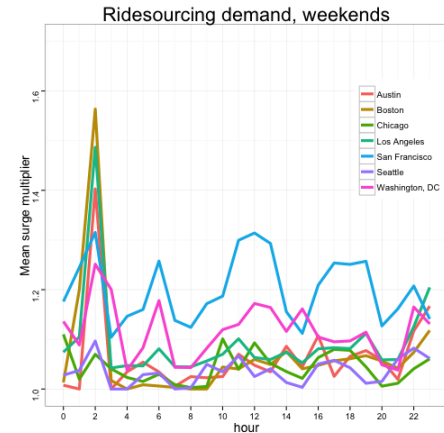
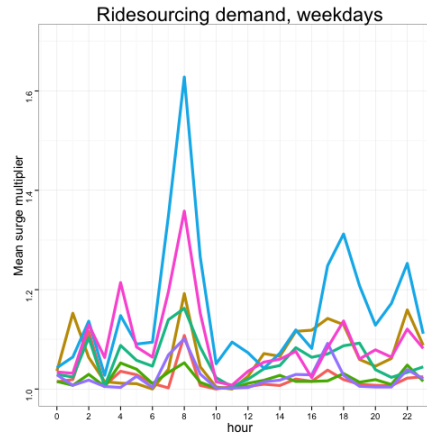
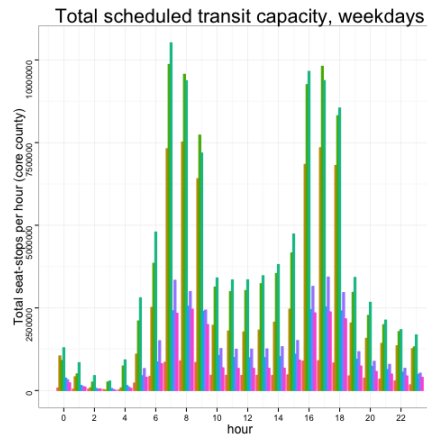


Sources

- Ridesourcing data: Uber API
 - Hourly queries at tract level across study cities
 - *Not actual customer trips*—system provided data about demand signals at single points only
 - Data points per observation: timestamp, surge multiplier, wait time
 - Collected at tract level, aggregated to zip code tabulation area (ZCTA)
- Transit capacity: Agency GTFS schedule feeds
 - Schedule data parsed to provide hourly counts of seat-stops (stops x vehicles x capacity) and wait times for weekday and weekend schedules
 - Aggregated to ZCTA level
 - Sam Schwartz Engineering assisted with this work

Demand and Capacity Around the Clock

Ridesourcing demand varies throughout the day, but is uniformly highest late at night



Key Finding 3:

Shared modes will continue to grow in significance, and public entities should identify opportunities to engage with them to ensure that benefits are widely and equitably shared.

Transit agencies should seize opportunities to improve urban mobility for all users through collaboration and public-private partnerships, including greater integration of service, information, and payment methods.

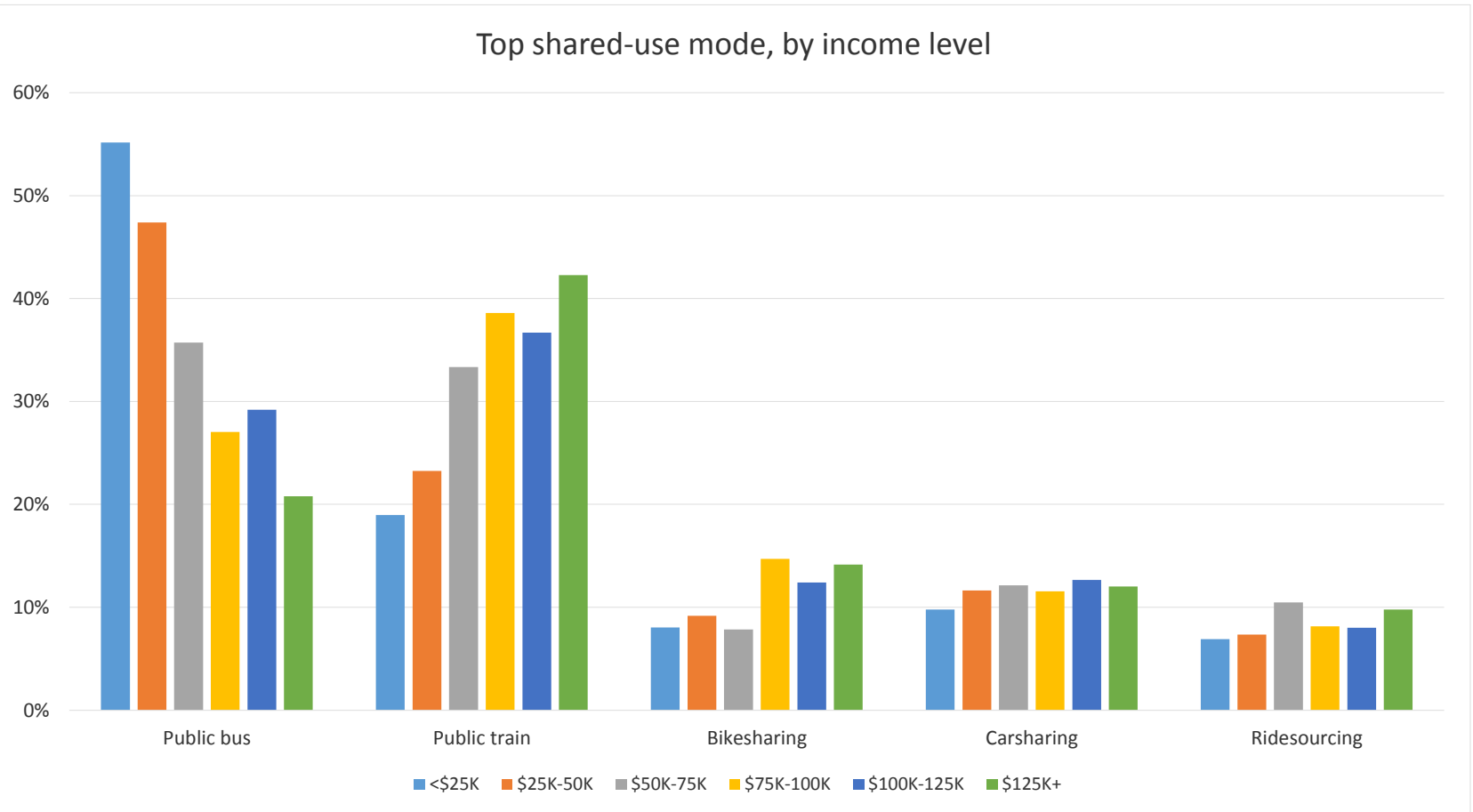


Fare and Service Integration

- Transit agencies across the country are working to migrate to new electronic fare payment systems. Fairness issue considerations:
 - New non-fare fee structures
 - Fare loading levels
 - Changes to the mix of retail outlets for fares and fare media, including purchase by mail
 - Access for persons with limited English proficiency
 - Registration requirements



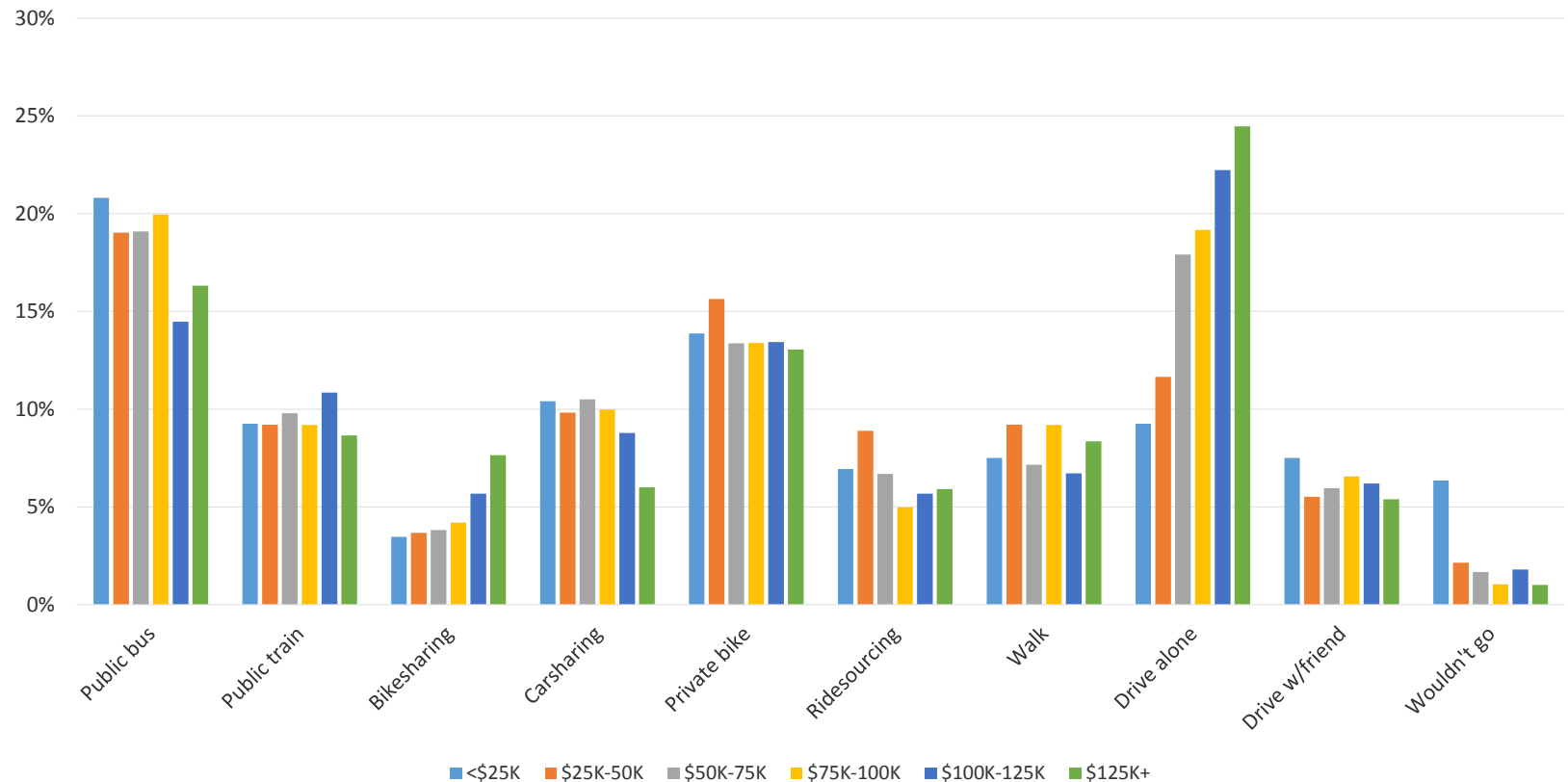
Transit is the top shared-use mode at every income level



Lower-income households have much to gain from wider availability of shared-use modes



Alternative if top shared mode not available



Paratransit and Shared Mobility



Key Finding 4:

The public sector and private mobility operators are eager to collaborate to improve paratransit using emerging approaches and technology.

While a number of regulatory and institutional hurdles complicate partnerships in this area, technology and business models from the shared mobility industry can help drive down costs, increase service availability, and improve rider experience.



Potential Areas for Collaboration

- Interactive reservation, confirmation, schedule adjustment, and cancellation systems;
- Dynamic dispatch and routing of vehicles;
- Route combination for riders with similar origins/destinations;
- App-based payment integrated into reservation systems;
- Ability to track vehicle arrival and share trip details, location, and estimated arrival time with caregivers or other third-parties; and
- Real-time customer feedback.



Challenges to Direct Paratransit Provision by Ridesourcing Companies

- FTA-required drug and alcohol testing,
- Liability and occupational safety relating to transfers and loading/unloading of non-ambulatory riders.
- Requirements for accepting accessible rides and for accommodating wheelchairs or service animals. Heightened vehicle safety and inspection requirements and insurance costs associated with ADA provision and the transportation of fragile individuals.
- Fleet-level accessibility requirements.
- Buy America provisions



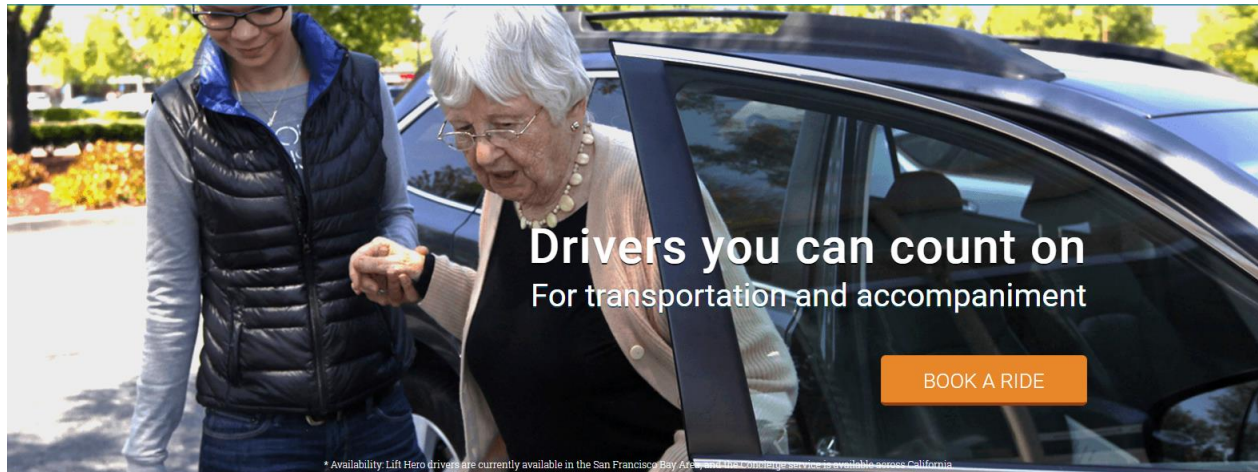


Potential for Public transit Agencies to Build on the Innovations of Shared-Use Modes for Paratransit

- Bringing reservation systems into the 21st century
- Use of “concierge services.”
- Provision of same-day paratransit rides
- Make greater use of feeder paratransit

Private Sector Providers can Improve and Innovate ADA Services

- Niche services
- Incentives to drivers for taking accessible rides and using accessible vehicles
- Make accessible interfaces standard



Next Steps:

Apply
Learning



New Customer Service Approaches

Singaporeans will soon use their smartphones to pay for public transit

Michael Tegos
3:19 AM on Mar 29, 2016



Photo credit: Singapore Buses.

You know that near field communication (NFC) function on your smartphone that you never use? Well, if you live in Singapore, you will soon be able to do more with it than just getting the thingamajig at Starbucks to work to pay for your latte. Specifically, you can now use it to pay your way on public buses and the MRT, Singapore's subway system. All you need is an NFC Transit SIM card, and luckily, the country's three telcos just announced they'll start selling it soon.

M1, Singtel, and Starhub subscribers will be able to get their NFC Transit SIM cards on the telcos' respective outlets from April 2016 onwards. The cost will be S\$37.45 (US\$27), same as



Encourage Customer-Focused Regulation



Business Model Tweaks

Use Uber and Lyft's Technology

Download the VTA FLEX and also receive a \$6.00 credit to ride FLEX more!



What is it?

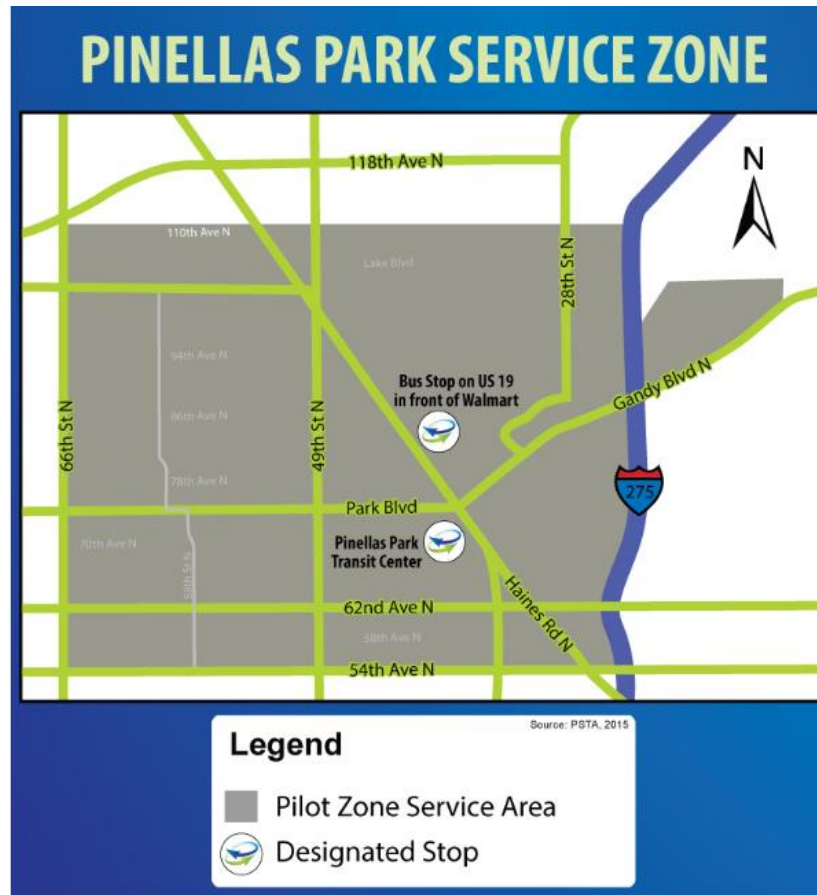
- FLEX is an On-Demand, shared-ride public transit service. Other riders that have similar travel destinations may be picked up and dropped off during the course of your ride.
- FLEX is ideally suited for smartphone users. Riders can use the app to request a ride.

FLEX Service Area



Business Model Tweaks

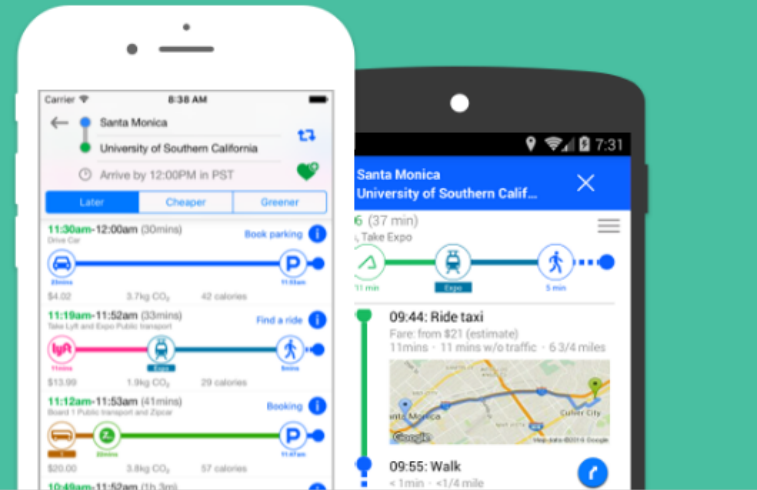
Replace High Cost Routes



Use Tech to Know Customers



Visit the web app



Download Our Press Kit

Includes our logo, app screenshots, fact sheet, press release, etc.

Download



Embrace the “Maker Culture”

<u>Old Power Values</u>	<u>New Power Values</u>
<ul style="list-style-type: none">• Professionalism• Specialization	<ul style="list-style-type: none">• Do It Ourselves• “Maker Culture”



Maker Skillsets Disrupt

<u>Old Power Values</u>	<u>New Power Values</u>
<ul style="list-style-type: none">• Specific technical skills• Learning in isolation• Failure=lack of technical skills, get it right the first time• Hoard information to show competence	<ul style="list-style-type: none">• Problem solving skills• Group learning• Trial and Error (fail early, often, forward and cheap)• Share information and learn from others to enhance group learning• Consumers instantly influence brands



Every Value System Has Drivers

<u>Old Power Values</u>	<u>New Power Values</u>
<ul style="list-style-type: none">• Post WW2• Cold War• Mad Men• Father Knows Best	<ul style="list-style-type: none">• Economic conditions• Barriers to professional entry• Barriers to market entry• Millennial focus on entrepreneurship• Student-loan crisis• On-demand concepts



Real Life Application

<u>Old Power Values</u>	<u>New Power Values</u>
<ul style="list-style-type: none">• Defense Industry<ul style="list-style-type: none">• GE• Engineering Firms• Mainline Consulting Firms• Many Transit Agencies<ul style="list-style-type: none">• Microsoft	<ul style="list-style-type: none">• Hackathons• Wikipedia• Crowdpc• TransportationCamp• Tesla Motors<ul style="list-style-type: none">• Etsy• Kickstarter



Summary

Darnell Grisby, Director, Policy
Development and Research



dgrisby@apta.com



[@darnellgrisby](https://twitter.com/darnellgrisby)



- Study shows the trend towards shared mobility can support public transportation.
- Continue to promote social mobility and access.
- Leverage excitement around new mobility to promote strategic initiatives.
- Though demographic trends provide support, we will need to act to reap benefits going forward.