



## First large-scale survey of TNC users, a case study from the SF Bay Area

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# Acknowledgements & Presentation Outline

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*Joe Castiglione (SFCTA) and Shimon Israel (MTC)*

*Caltrans provided financial support for further data collection*



## Outline

- Why do TNC-user-focused data collection?
- What do we know about TNC users?
- How did we design our project?
- Share some preliminary results.



**Why do a large-scale survey of TNC users?**

# As popular as TNCs are, there is limited quality data available to inform planning, modeling, and policy-making responses

- Project is designed to fill gaps by:
  - Using **rigorous methods** (e.g., probability sampling)
  - Using **innovative methods** (e.g., 7-day smartphone-based diary)
  - Collecting a **sizable quantity of data**. (>30,000 person-days of data)
  - Capturing **comprehensive travel behavior data** (person's entire travel)
- Analytical use cases informing project design:
  - **Model estimation** for tour mode, trip mode, and auto ownership
  - Expanded TNC tour and trip mode targets for **model calibration**
  - Develop **TNC user demographic and trip profiles** for model calibration

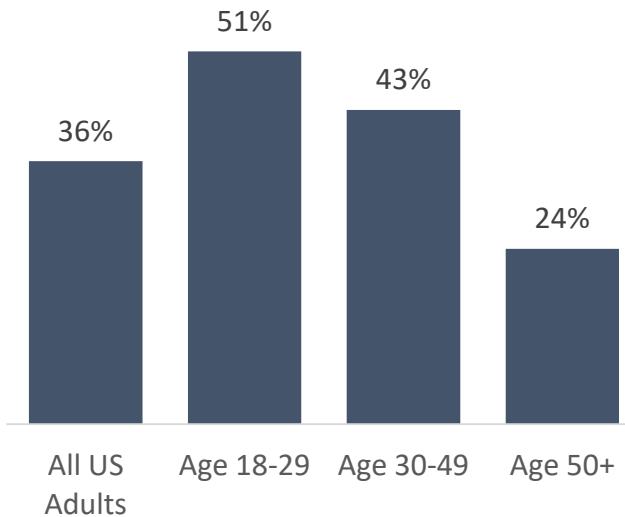




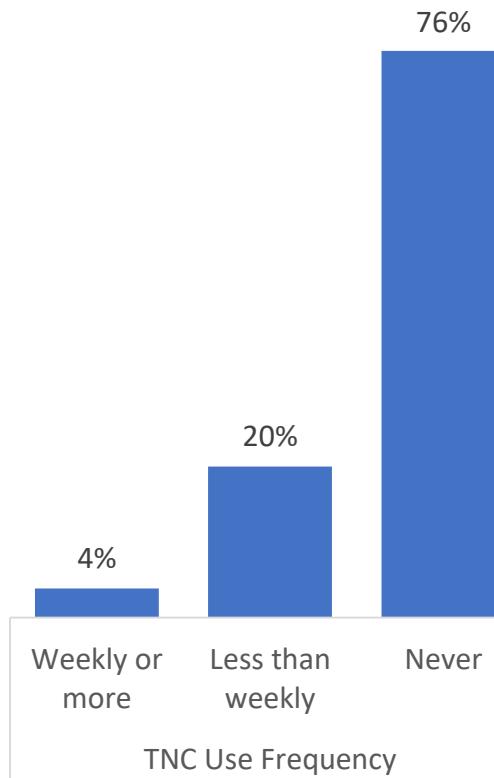
**What do we know about TNC users already?**

# TNC use varies by region. 65-75% of US adults have never used TNCs. Weekly TNC users are <5% of US adults.

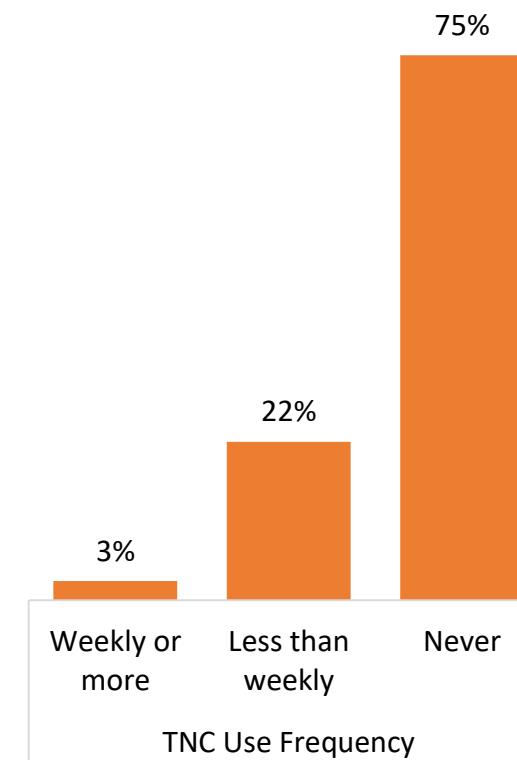
% of all US adults have ever used a TNC (2018-Q4, Pew)



% of San Diego adults (2016-17 HTS, RSG)

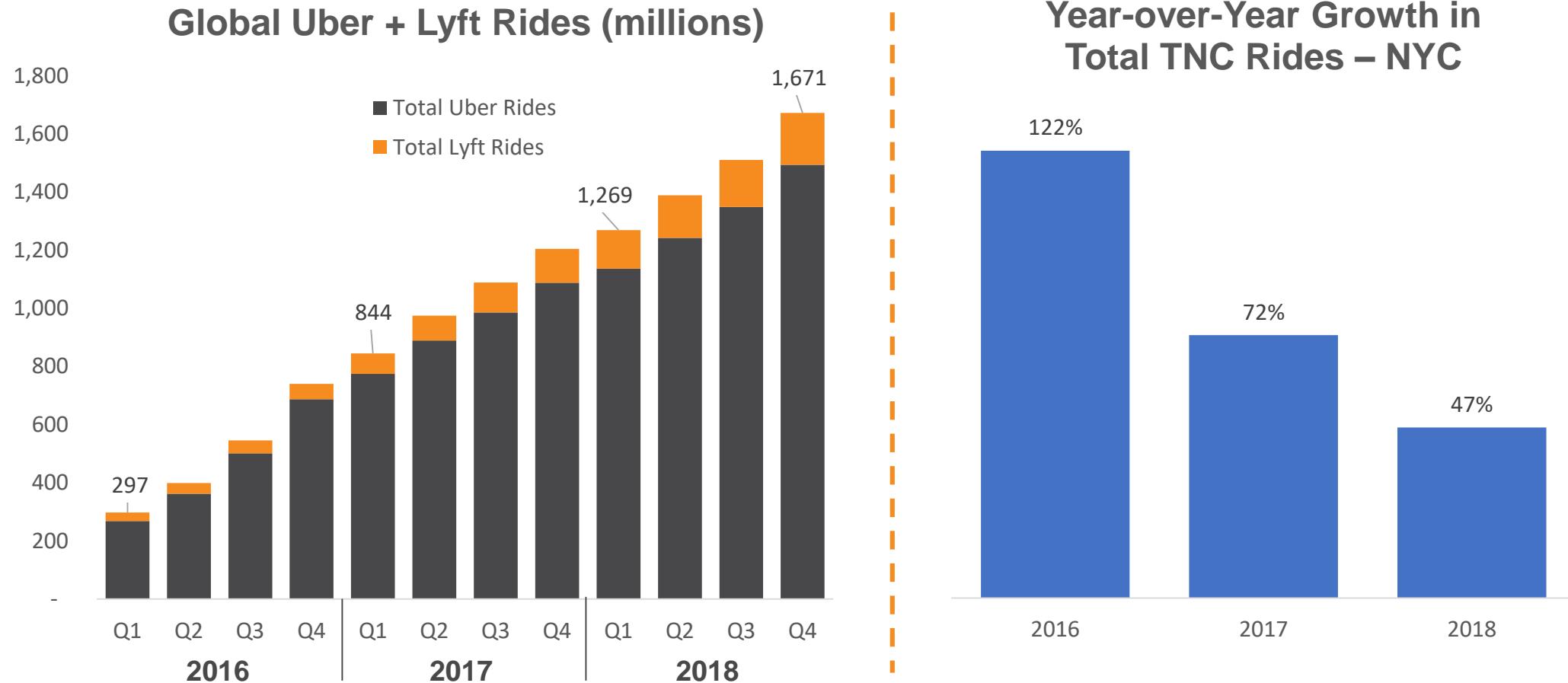


% of Sacramento adults (2018-Q2 HTS, RSG)



\*Pew data as of October 2018: <https://www.pewresearch.org/fact-tank/2019/01/04/more-americans-are-using-ride-hailing-apps/>

TNCs are growing rapidly by adding new markets and gaining travel market share. NYC data suggests 320% TNC growth since 2016.



1. *Lyft data:* <https://www.sec.gov/Archives/edgar/data/1759509/000119312519059849/d633517ds1.htm>
2. *Uber data:* [https://www.sec.gov/Archives/edgar/data/1543151/000119312519103850/d647752ds1.htm#toc647752\\_4](https://www.sec.gov/Archives/edgar/data/1543151/000119312519103850/d647752ds1.htm#toc647752_4)
3. *NYC data (NYC TLC):* <https://www1.nyc.gov/site/tlc/about/aggregated-reports.page>



## Key elements of the TNC passenger study design

# Given concentration and infrequency of TNC use, what are best practices for TNC-focused data collection?

We need to get 3 methods right:

## 1. Sampling TNC users

- { Address-based sampling w/ aggressive TNC-oversampling
- Person-based study, but allow all adults in HH to participate
- Mail letter & postcard to invited households

## 2. Capturing TNC trips

- { rMove/smartphone-based travel diaries
- 7-day travel periods for each person
- TNC-tailored questionnaire

## 3. Weighting & representation

- Use weighting methods similar to household travel surveys

*Presentation on sampling methods tomorrow morning  
Tues – Modeling Data*



*Presentation on TNC Mode in Mode Choice models (concurrent session)*



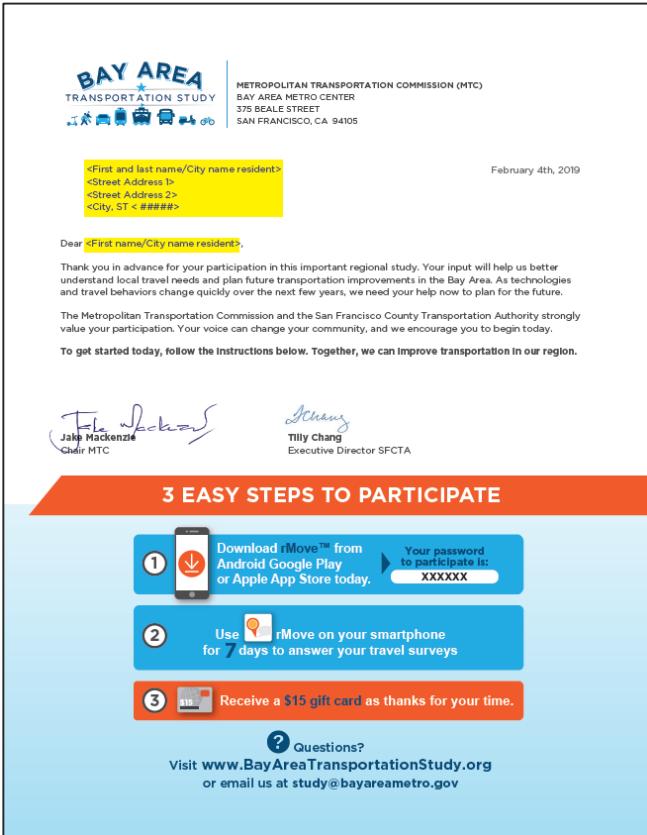
# Participants are recruited to the study with custom-branded mailed invitations

## RECRUITMENT



### MAILED INVITATION MATERIALS

- Address-based sample
- Invitation Letter / FAQ w/foreign language insert
- Reminder postcard
- Gift card incentives



### FREQUENTLY ASKED QUESTIONS

**What is this study all about?**  
We want to hear about your daily transportation habits: How do you travel? How far do you go? How much does it cost? Our goal is to get a complete picture of regional transportation patterns to better plan for future improvements in our community.

**Why should I participate?**  
Your participation ensures that residents like you are fully represented in our regional transportation plans. (The gift card at the end helps too!) Technologies and travel behaviors are changing quickly, and we need your help now to plan for the future.

**How was I selected to participate?**  
Your address was selected at random from across the Bay Area. Random sampling is an important part of making sure the study represents the entire region.

**Can other members of my household participate?**  
Yes! Other household members (who live with you in your home) are strongly encouraged to participate with the same password. Just list their name when you sign up in rMove. If they download rMove and complete the study at the same time, they too will receive a \$15 gift card!

**How much time does it take to participate?**  
It takes 3 minutes to get started and about 5 minutes per day for seven days to complete the full study. The rMove app helps to reduce the effort required to capture your travel data.

**How does the rMove™ travel survey smartphone app work?**  
Once it is installed and running, rMove will record your travel. A few minutes after you stop traveling, rMove will ask you about the details of your trip. The app will also ask a few questions at the end of each day. You can answer these surveys any time during the day, but please do not answer them while driving! Participants should keep their phones with them any time they travel.

**What if I don't have a smartphone?**  
To best understand regional travel behavior and to minimize the effort required to participate, this is a smartphone-based study. If another adult in your household owns a compatible smartphone, they are strongly encouraged to participate in the study.

**What do I get for participating?**  
You will receive a \$15 gift card after you've completed the study, while also ensuring that residents like yourself are fully represented in our regional transportation plans.

**What if I don't travel much?**  
Any amount of travel (including no travel) will help us improve regional transportation planning. Don't forget that short trips such as walking the dog, count too.

**What if my transportation habits during the survey aren't my "typical" habits?**  
That's no problem - we still encourage you to participate. We'll also ask how you typically travel.

**How is my personal privacy protected?**  
We are committed to your privacy and we take it very seriously. To read our full privacy policy, visit [www.BayAreaTransportationStudy.org](http://www.BayAreaTransportationStudy.org).

**Who is sponsoring this survey?**  
This survey is sponsored by the Metropolitan Transportation Commission (MTC) and the San Francisco County Transportation Authority (SFCTA).

To learn more, visit [www.BayAreaTransportationStudy.org](http://www.BayAreaTransportationStudy.org) or email us at [study@bayareametro.gov](mailto:study@bayareametro.gov)

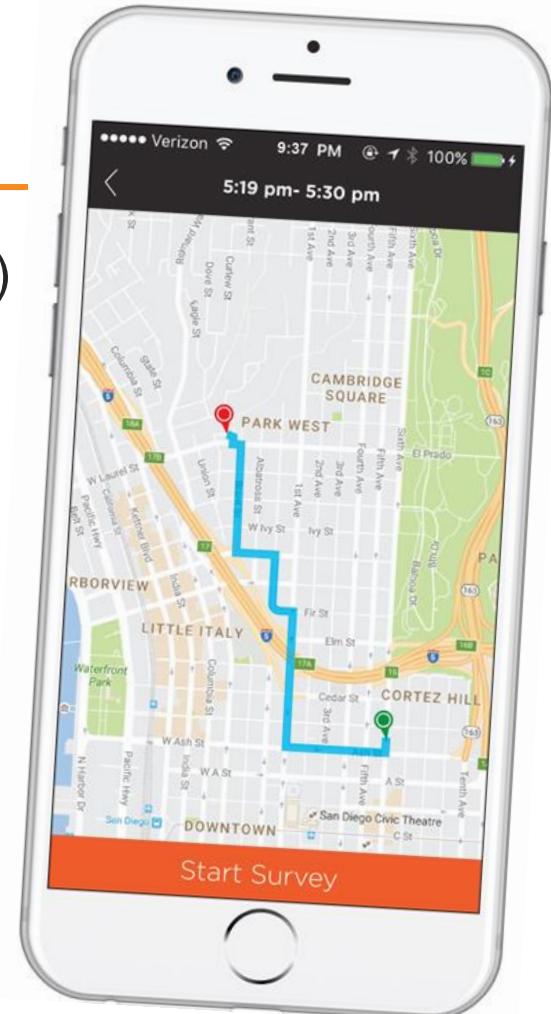


# Questionnaire captures comprehensive household, demographic, and travel data over the course of a week



## Participants see 3 types of surveys in rMove

1. **Signup survey** upon activating the app (basic HH composition)
2. **Trip surveys** after each trip  
e.g., "How did you travel to this destination?"
3. **Daily 'end-of-day' surveys**, covering a unique topic each day.  
Topics include: employment, school, typical travel, land use, personal vehicle, and more.



# Surveys are optimized to capture TNC trip information



Verizon 21:04 8:10 AM-8:25 AM

What type of taxi or smartphone-based app car service did you use?  
Select all that apply.

- Regular taxi (e.g., Yellow Cab)
- Uber
- Lyft
- Other smartphone-based app car service (e.g., Arro, Summon, Wingz)
- Other hired car service (e.g., black car, limo)

Previous Next

Verizon 21:04 8:10 AM-8:25 AM

What Lyft service did you use?

- Pooled (e.g., Lyft Line)
- Regular or economy (e.g., Lyft)
- Premium (e.g., Lyft Plus, Lyft Premier, Lyft Lux, Lyft Lux SUV)
- I don't know

Previous Next

Verizon 21:04 8:10 AM-8:25 AM

How many people were part of your Pooled trip?

Please indicate the number of other paying passengers who were also on the Pooled trip (regardless of whether they got in or out of the vehicle). Please do NOT include the driver. Please do NOT include anyone you met at your destination.

- 0
- 1
- 2
- 3
- 4
- 5+

Previous Next

Verizon 8:40 AM 7:38 AM - 8:04 AM

When did you schedule this trip in the Uber/Lyft/other ride hailing app?

- Within 1 hour of starting trip
- Earlier the same day
- The day before
- 2 or more days before

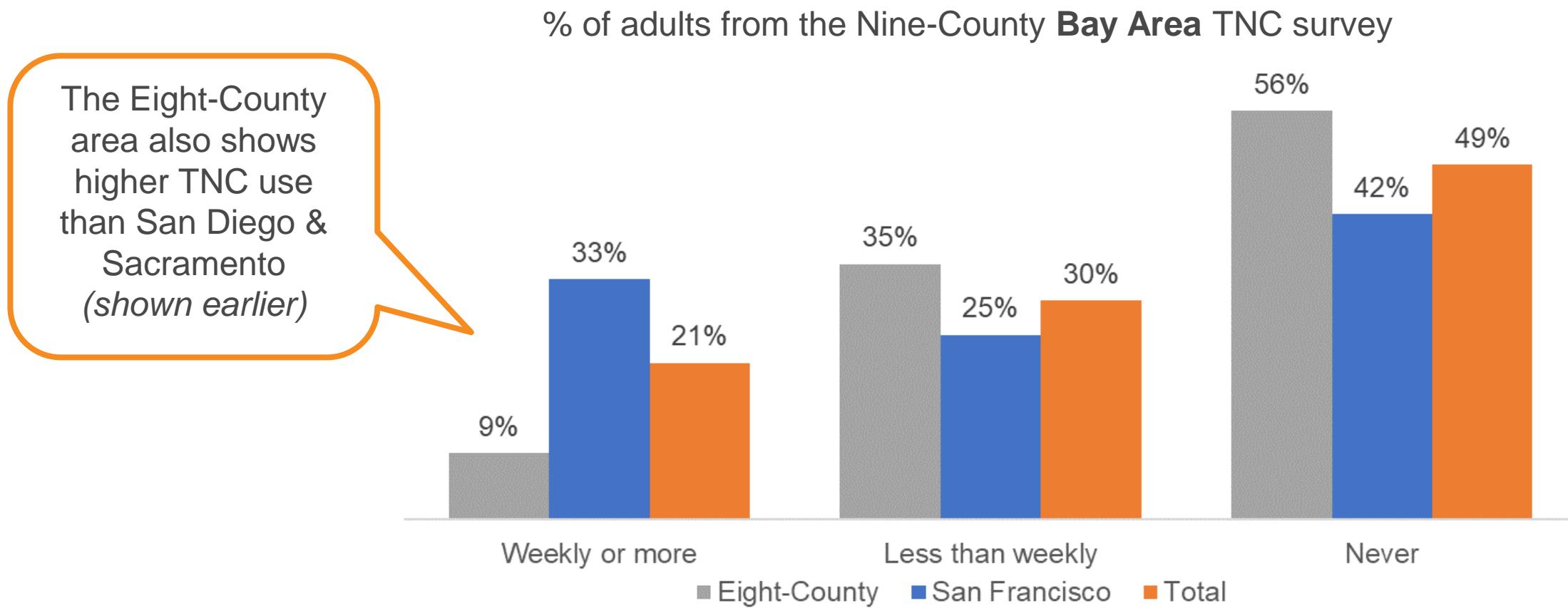
PREVIOUS NEXT





**Preliminary\* results from the project**

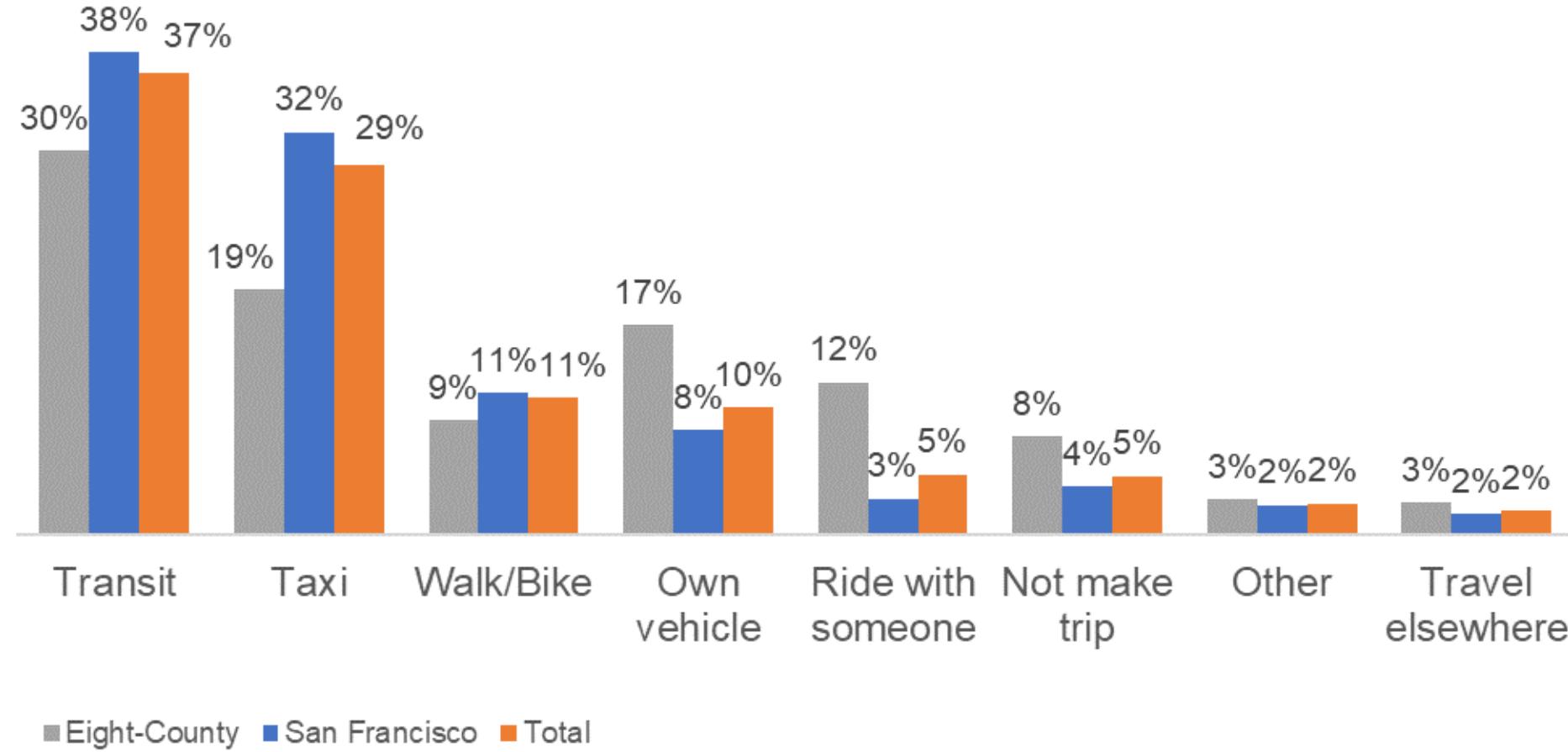
# San Francisco's level of TNC use far outpaces the other counties in the Bay Area, with one-third of adults using TNCs weekly or more



\* Preliminary results, unweighted

In SF, ~53% of TNC trips substituted for Transit, Walk, Bike, or not traveling. Outside of SF, it was ~47%.

*For TNC trips: If Uber/Lyft, did not exist, how would you have made this trip?*



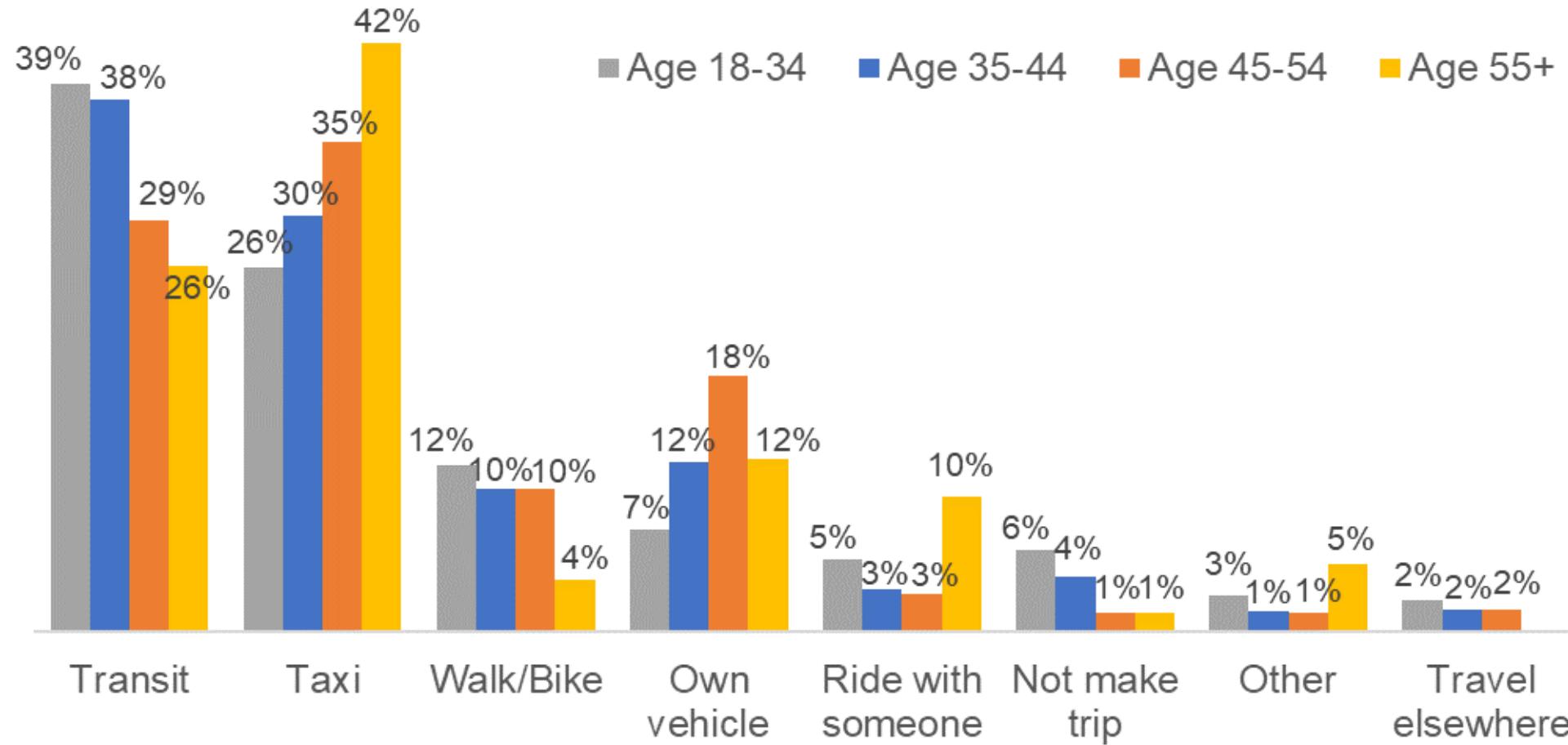
■ Eight-County ■ San Francisco ■ Total

\* Preliminary results, unweighted



**Younger TNC users more likely to substitute for transit, walk/bike, or not traveling. Older users more likely to substitute for taxi/car trips.**

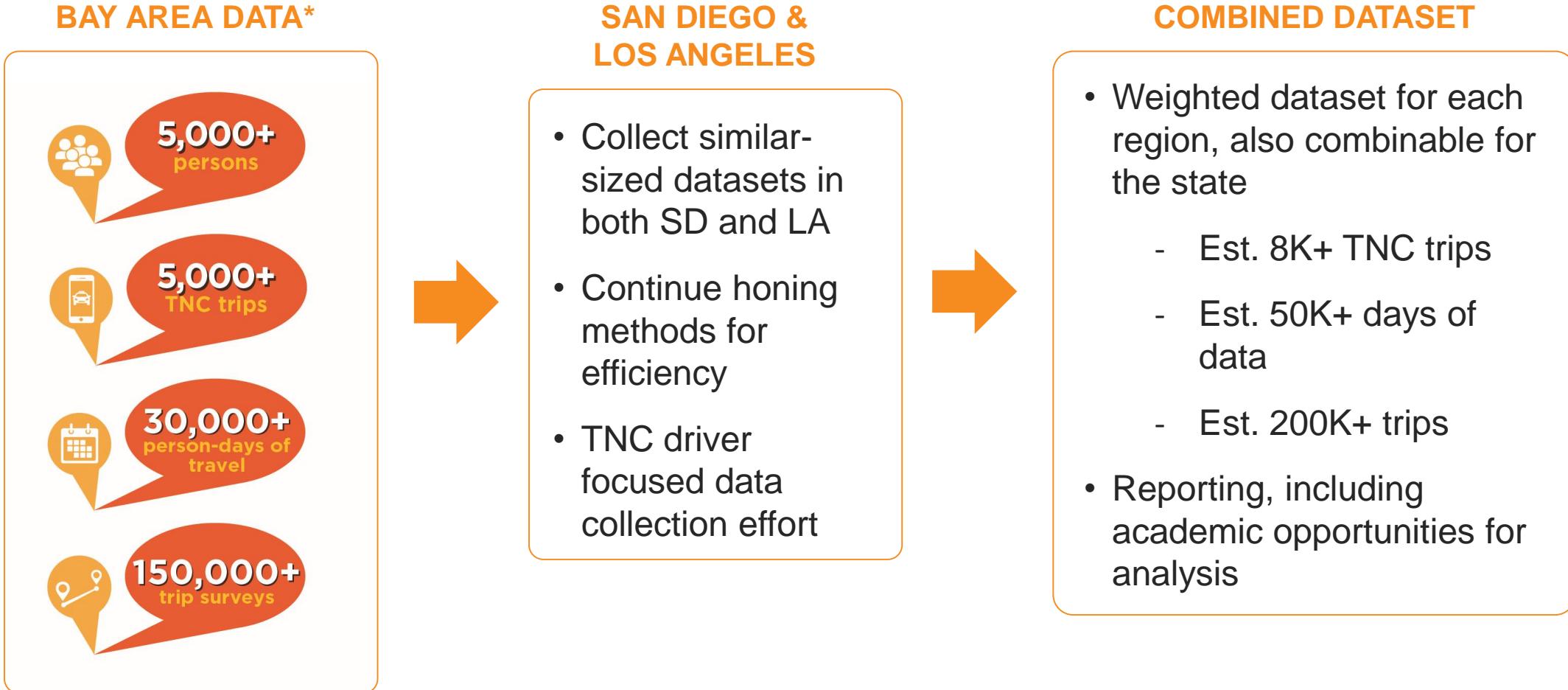
***For TNC trips: If Uber/Lyft, did not exist, how would you have made this trip?***



\* Preliminary results, unweighted



# Bay Area data collection just ended in May. Now extending survey to San Diego and LA (in 2019).



\* Preliminary results, unweighted



## Contacts

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