

Other Modeling and Data Analysis Activities & Support

- Household Travel Survey
- Replica Big Data Pilot Project
- Micromobility
- Remix Transit
- Bike & Pedestrian Data Collection
- Sugar Access
- PPA

SACOG 2018 Household Travel Survey



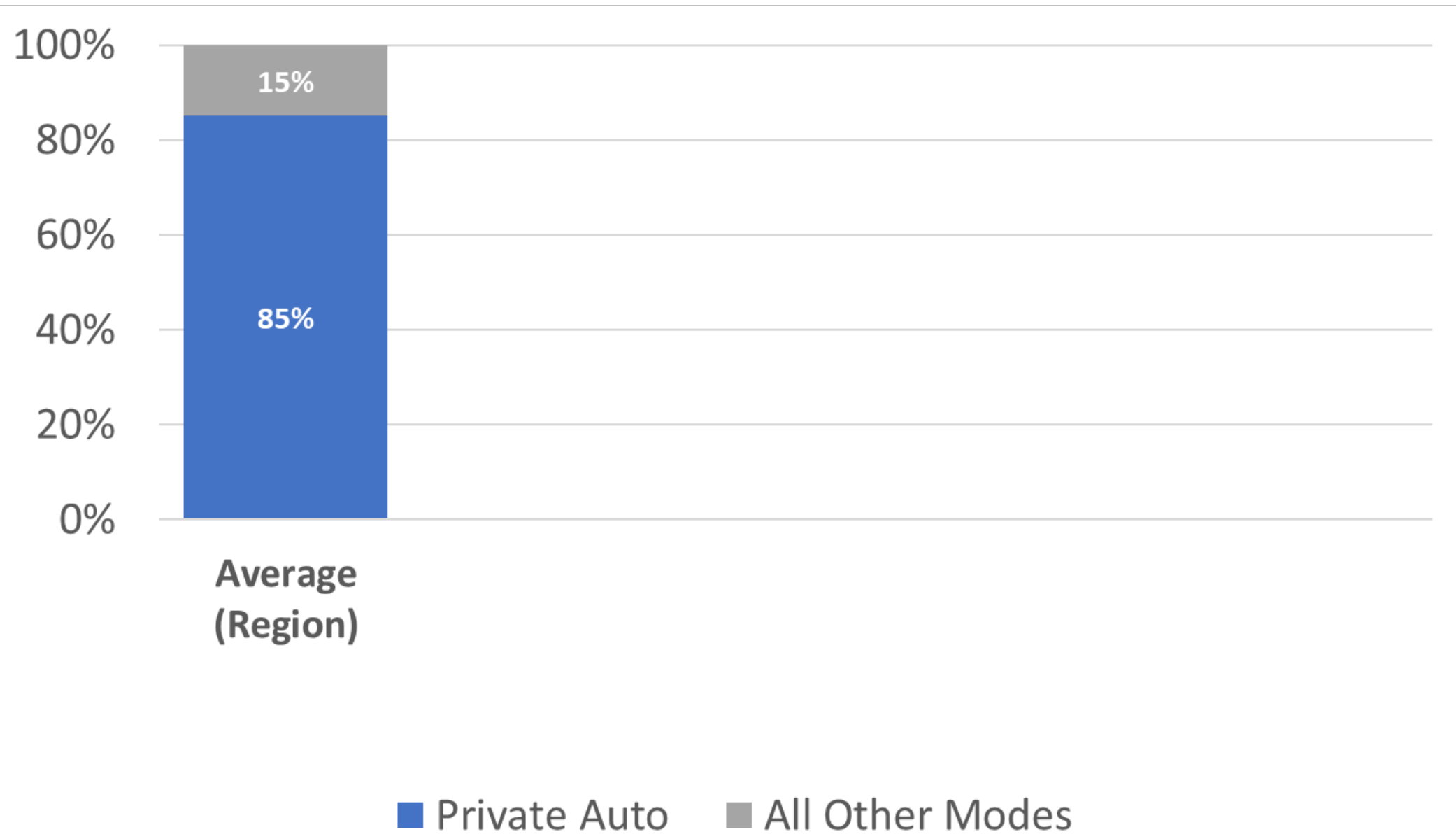
Survey Basics

- Unique dataset--integrated data on:
- People (income, age, household structure, etc.)
- Travel (trips, mode, timing, VMT, etc.)
- Location (residence, jobs, other activities, etc.)
- Vehicles (number, type, power source, etc.)
- Multi-day (includes several weekdays, weekends)

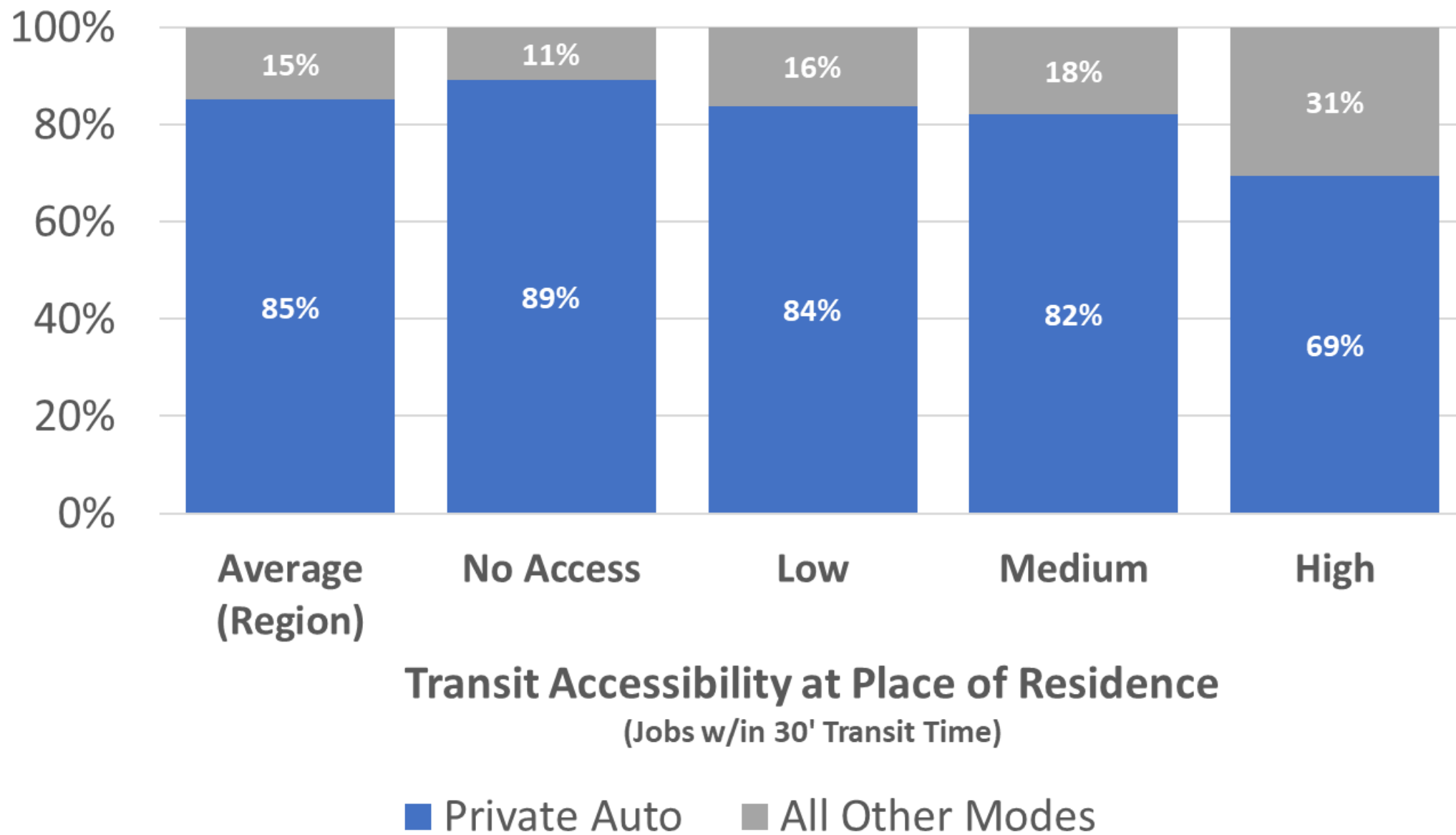
Survey Basics (cont'd)

- Data collection: Mar. 12 to May 27, 2018
 - Total households: 3,956
 - Total persons: 8,321
 - Total vehicles: 6,636
 - Total linked trips: 146,000
 - Actual household sampling rate: 0.5%
 - Most respondents used smartphone app
- Data mining workshop: Feb. 25, 2020

Weekday Mode Share—All Trip Purposes



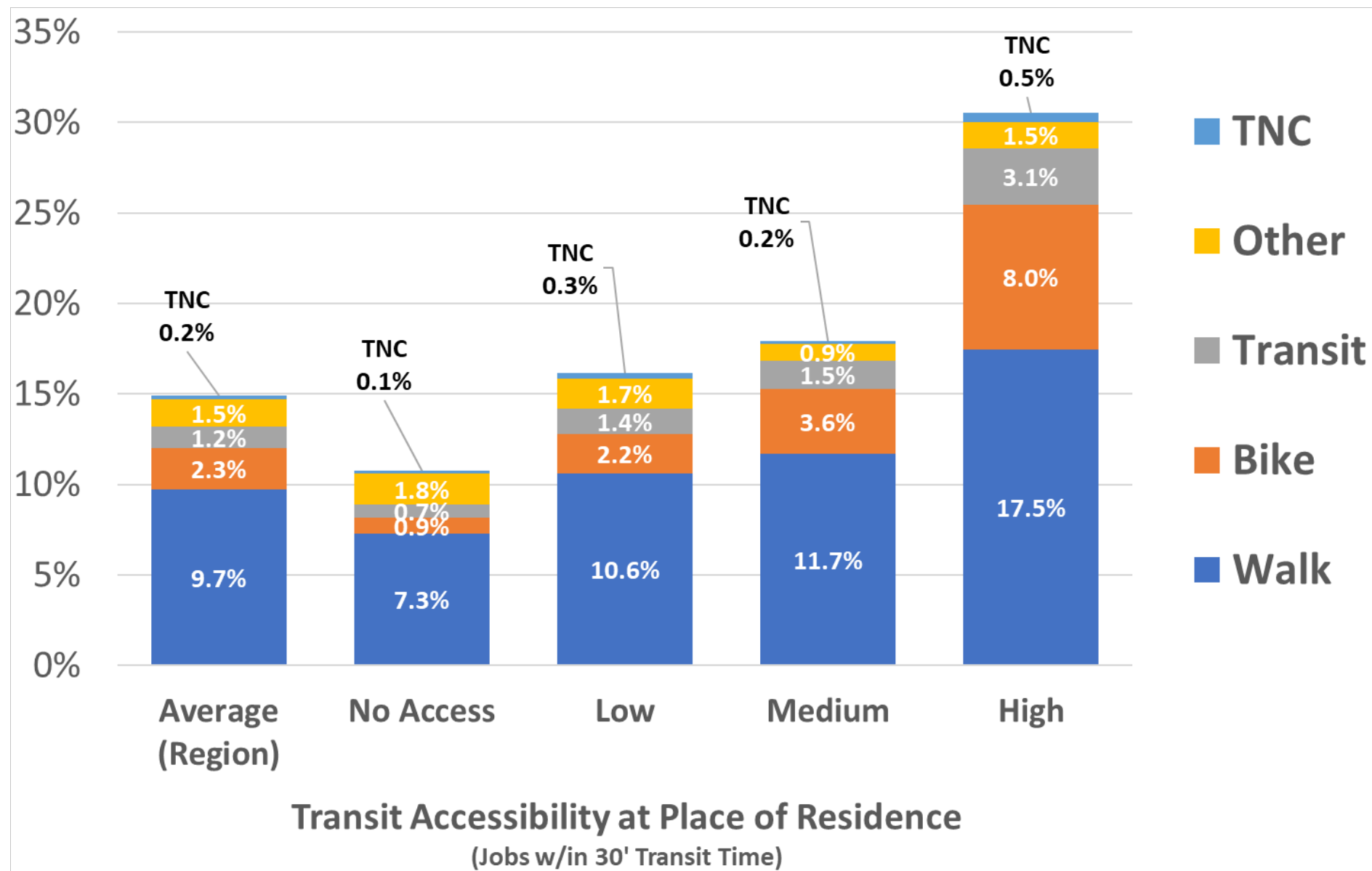
Mode Share—Split by Transit Accessibility



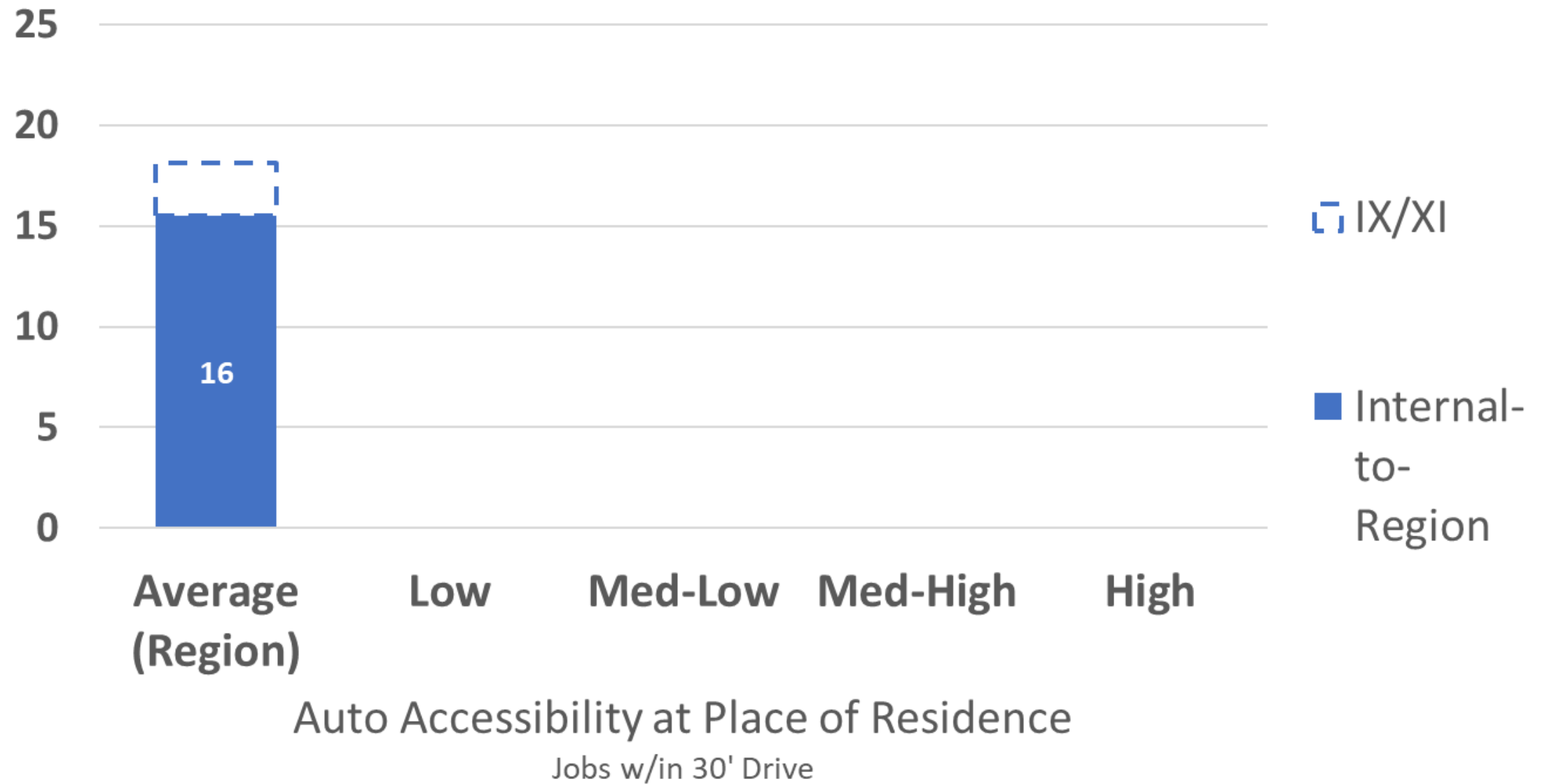
Alternative Mode Share--Detail



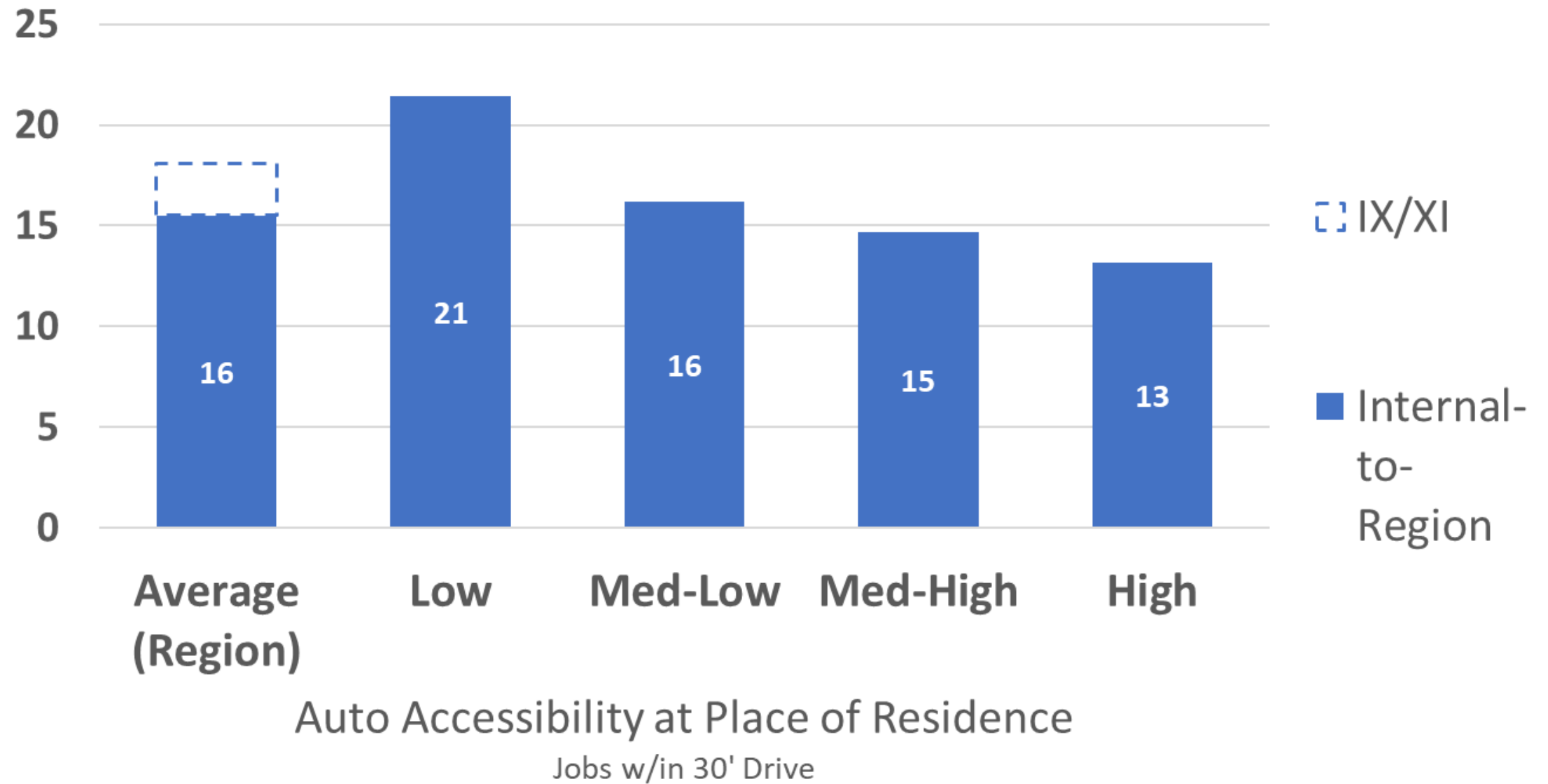
Alt. Mode Share—Split by Transit Accessibility



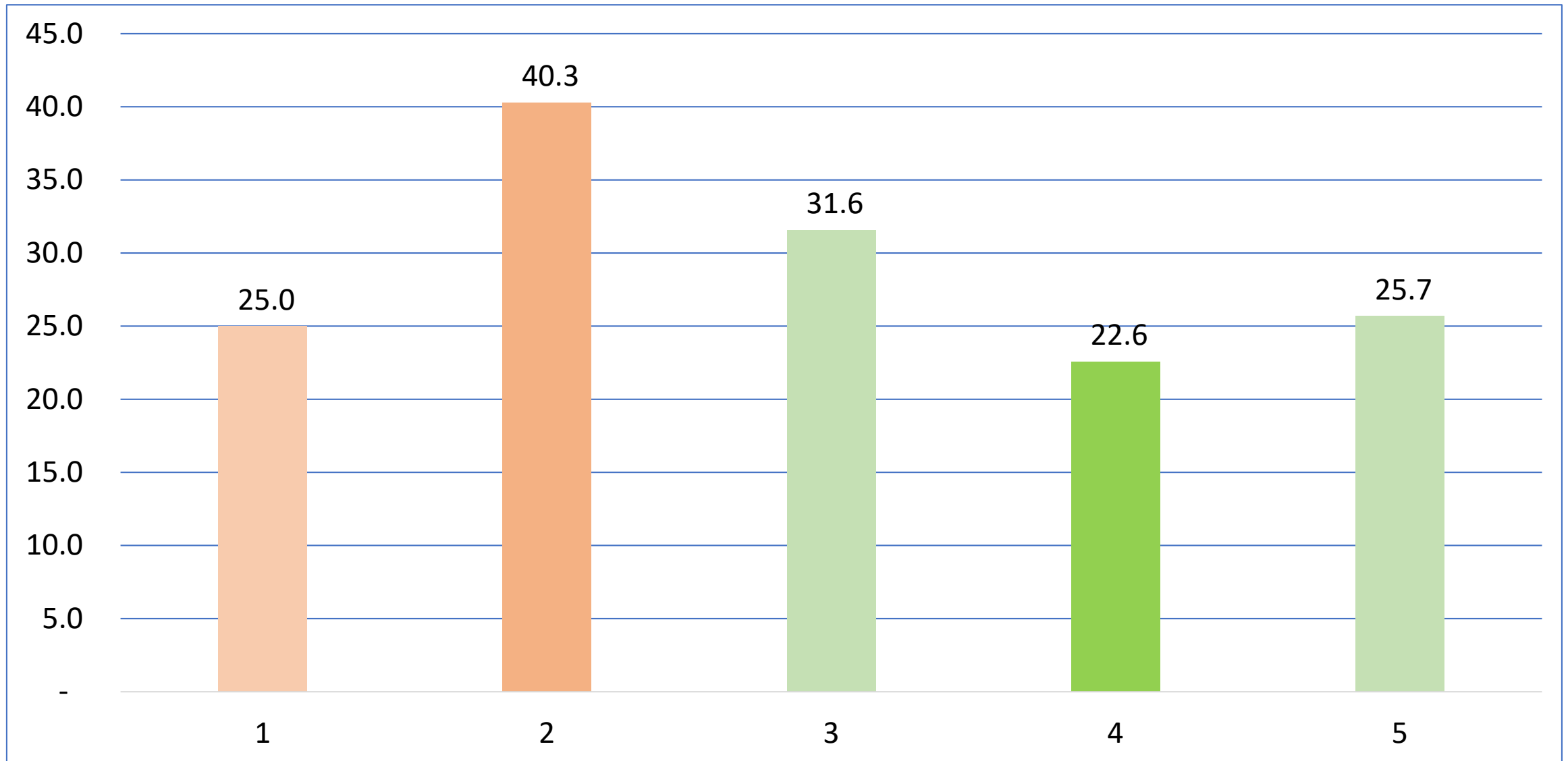
Weekday VMT per Capita



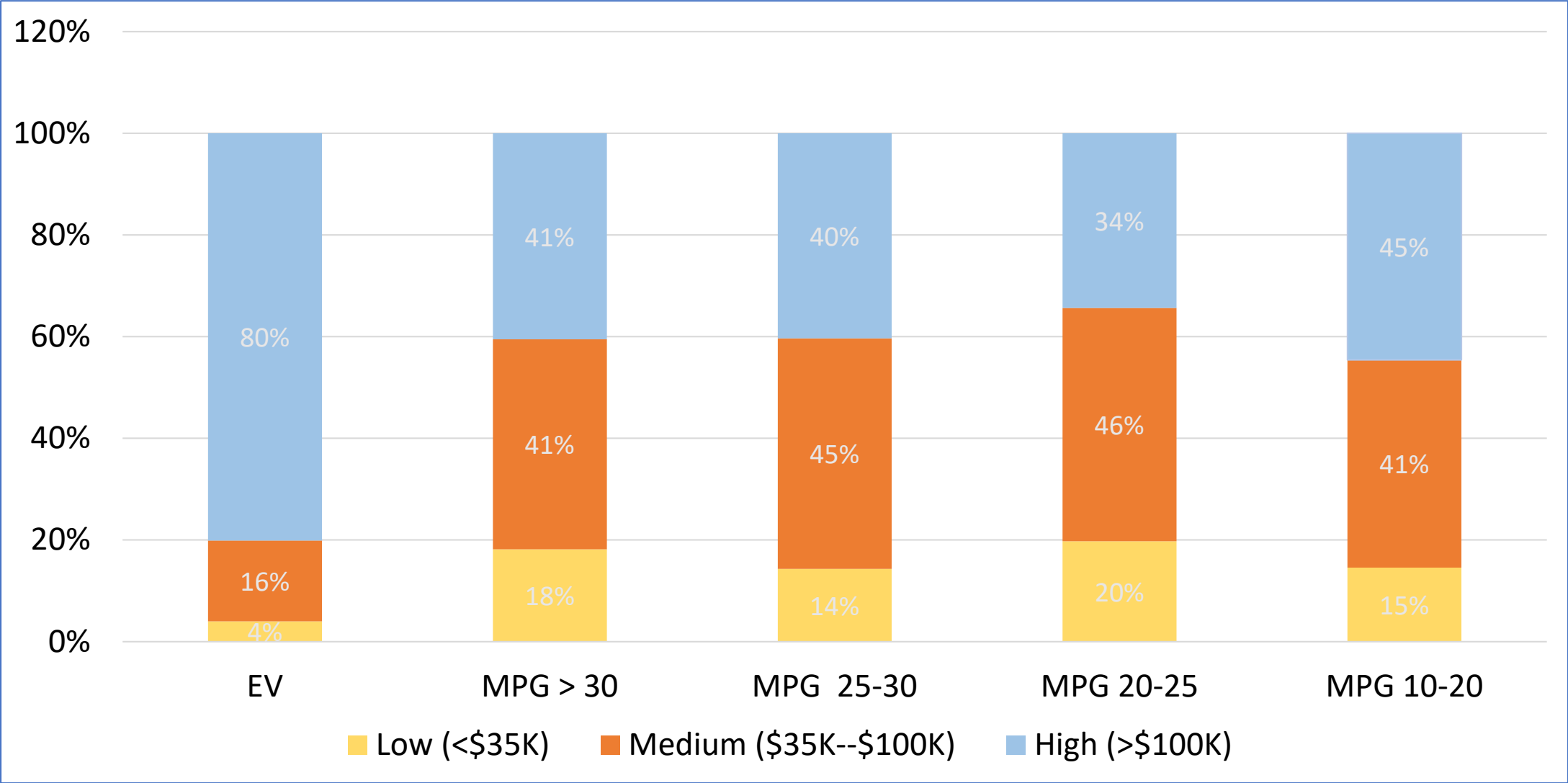
Weekday VMT per Capita



VMT per Vehicle by Fuel Type



Income



• Source: SACOG, February 2018. Based on SACOG 2018 Household Travel Survey, using internal-to-region person trips only.

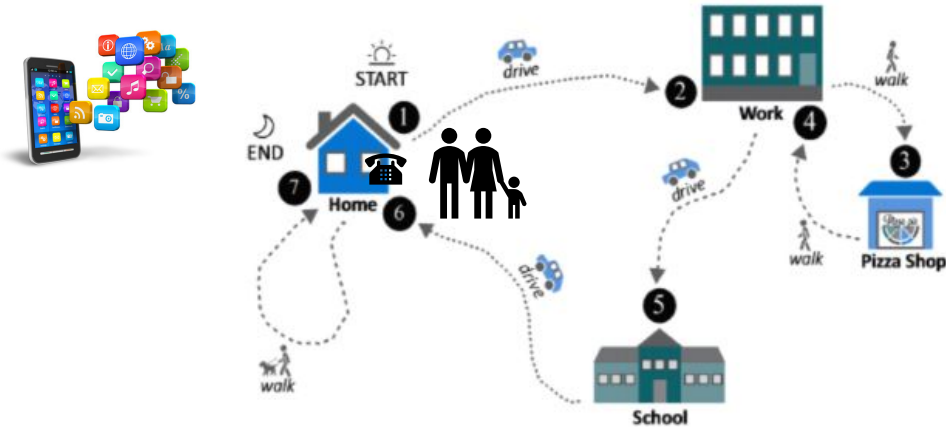
Takeaways

- Unique and valuable research dataset—travel, demographics, land use, etc.
- Some research done—but much more to do!
- Encourage research on:
 - VMT—what factors seem to influence it—SB 743
 - Weekend travel—how does it differ from weekday travel?
 - Vehicle ownership and use—how are different vehicle types allocated within households?

Big Data Pilot Project: Replica

Data for Transportation Planning

A Full Travel Day Example



3. What is most common type purpose of your travel ?

- ☐ Family Vacation
- ☐ Adventures
- ☐ Business
- ☐ Spiritual
- ☐ Religious

4. What mode of transportation do you opt ? Rate them on the basis of your preference (most preferred at the top , Least preferred at the bottom)

Car, Bus, Train , Airplane, Ship

5. Where do you go most often ?

- ☐ Hill Stations
- ☐ Beaches
- ☐ Deserts
- ☐ Historically Significant places
- ☐ Commercially Busy cities

6. Have You travelled Internationally?

- ☐ Yes
- ☐ No

How Many Times

7. With whom, Do you travel most often ?

- ☐ Family
- ☐ Friends
- ☐ Colleagues
- ☐ Alone

8. Where do you like to stay ?

- ☐ Expensive Hotels
- ☐ Economy Hotels
- ☐ Resorts

9. What is generally the length of the trip ?

- ☐ 1-2 days

Household Travel Survey vs. Big Data

	Household Travel Survey	Big Data
Sample Size	Small (<0.5%)	Large (>5%)
Total Cost	High	High
Unit Cost	High	Low
Timeliness	Low	High
Privacy Concerns	High	Low to Medium
Data Quality	High	Medium to High
Seasonal Variation	No	Yes

Project Status

- Project partners: SACOG, Caltrans, CARB
- Data coverage: Sept. 2018 – Nov. 2020
- Current available data: Sept. 2018 – Feb. 2019
- Authorized online users: the project partners and SACOG member agencies
- Data request: general public (including consultants)
- Contact: Shengyi Gao, 916.340.6239, sgao@sacog.org

Replica Big Data Methodology

- Raw data: smart phone app based locations; cellular data; commercial marketing data
- Sample size: 5 to 30 percent samples for each census block

What Are in Replica Online Platform?

NEW PROJECT OR REPORT

 Home

 Case studies

 My projects

 My reports

 Data downloads

 Help

 Tutorials

 Calibration reports

Replica gives you a complete picture of movement patterns in your region

There are three ways to access the data...



Replica Reports

Create simple reports about key topics in just a few clicks

[CHOOSE A REPORT TYPE →](#)



Explorer

Filter and visualize Replica data across dozens of vital metrics

[CREATE AN EXPLORER PROJECT →](#)



Data Downloads

Download data in a variety of formats for analysis in other tools

[VISIT THE DOWNLOADS PAGE →](#)

Summary

~9.45m trips
~2.26m people, daily

No filters applied

Distance Summary Metrics

Total distance of all trips
~128.70m miles

Average distance per trip
13.6 miles

Average daily distance per person
43.2 miles

Map Layers

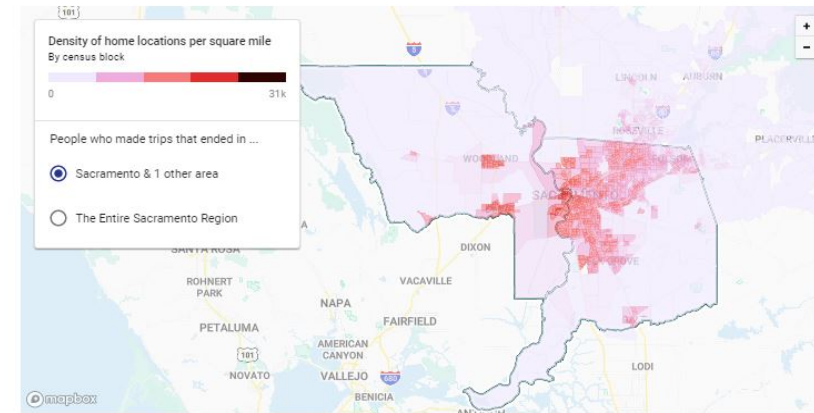
- Sacramento
- Network Link Volume

Replica Report Screen Shots

- Where did people live?
- Why did people travel?
- Which mode did people use?

Where did trip makers live?

Sacramento & 1 other area vs. The entire Sacramento region | Dec 2018 - Feb 2019 | Thursday



[DOWNLOAD DATA](#) [DOWNLOAD IMAGE](#)

Which modes did people use?

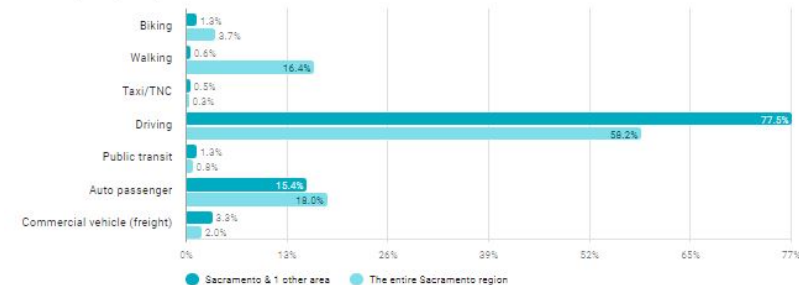
Sacramento & 1 other area vs. The entire Sacramento region | Dec 2018 - Feb 2019 | Thursday

Share of trips where the primary mode was driving

77.5% **58.2%**

Sacramento & 1 other area The entire Sacramento region

Share of trips using each primary mode



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Why did people travel?

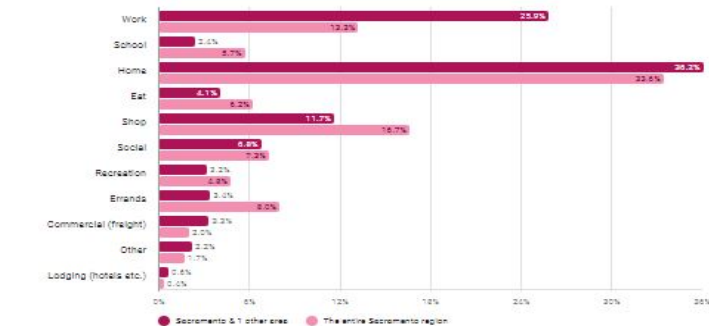
Sacramento & 1 other area vs. The entire Sacramento region | Dec 2018 - Feb 2019 | Thursday

Share of trips that were to home

36.2% **33.6%**

Sacramento & 1 other area The entire Sacramento region

Share of trips for each purpose



[DOWNLOAD DATA](#) [DOWNLOAD IMAGE](#)

Replica Applications

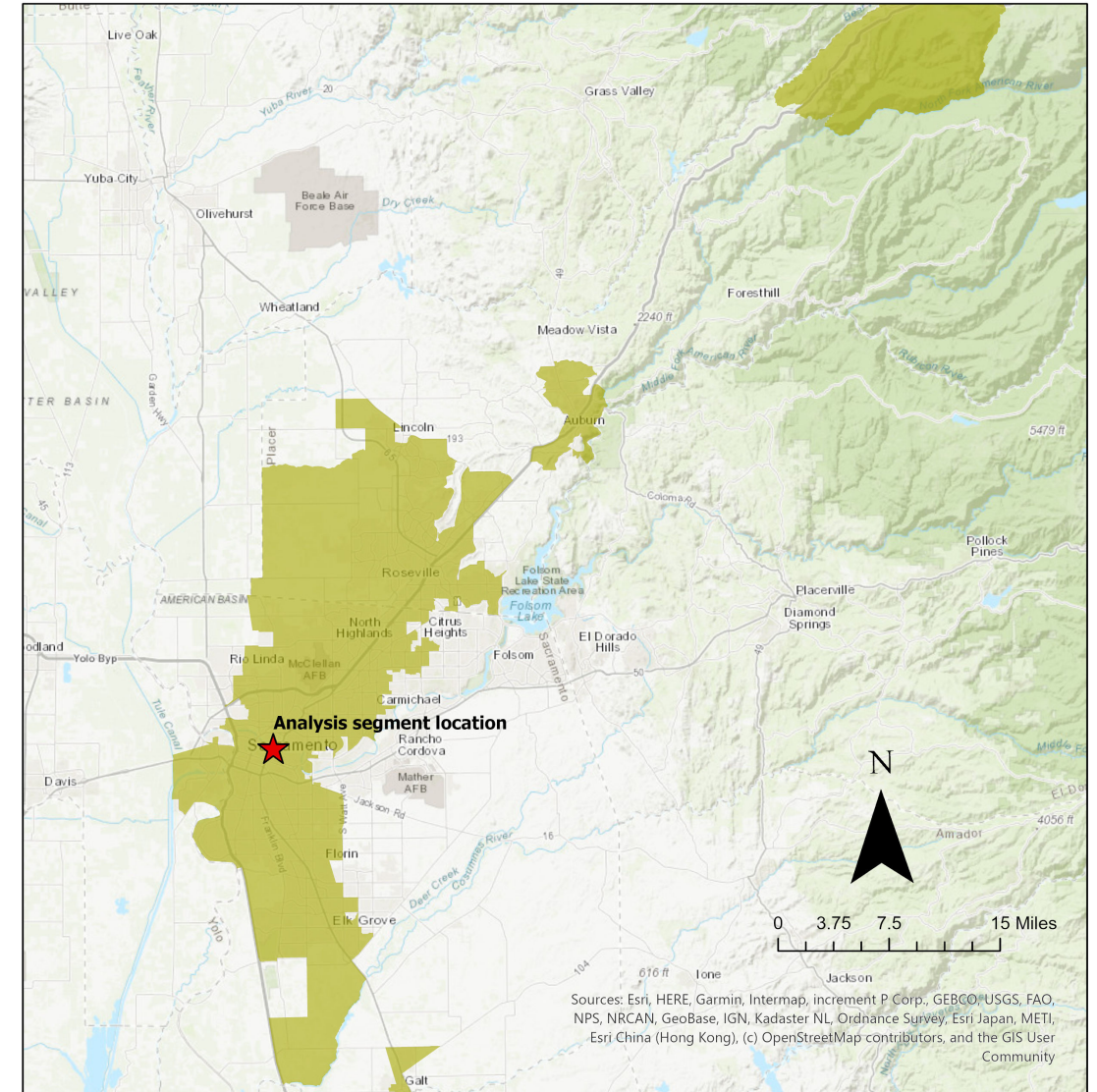
- Provide the latest travel info at the macro and micro levels
- Fill data gaps where there are no observed data
- Analyze commute patterns between SACOG and adjacent areas
- Analyze pass-through traffic
- Analyze freight movement
- Analyze seasonal variations of traffic flows
- Analyze SB 743 projects
- Analyze the impacts of road projects

Replica Travel Shed

Travel shed: areas that trips start and pass through the selected road segment(s)

- Who are using the road segment(s) (age, income, race/ethnicity)?
- Where are they from? (trip origin)
- Where do they go? (trip destination)
- Why do they travel? (trip destination purpose)
- How do they travel? (travel mode)
- When do they travel? (trip departure time)
- How far do they travel? (travel distance)

Weekday Trip Shed for Business 80 at the American River
Created using Replica trip table



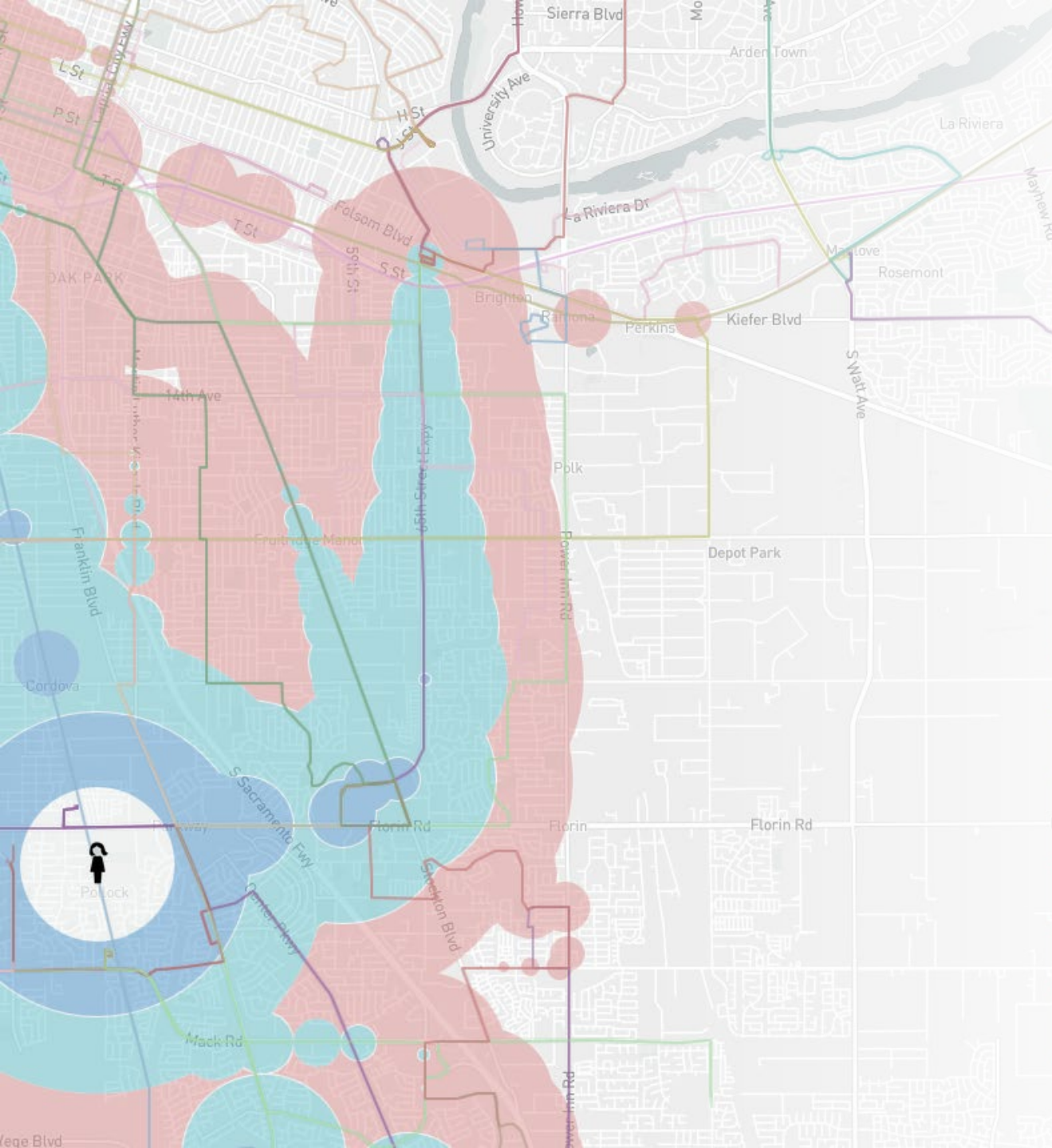


Better Understanding Micromobility Data

Open Mobility Data Specifications (MDS) Workshop

- 2/27/2020 SACOG Board Room
- Last chance to register Monday February 24th! TODAY
- Contact Sabrina Bradbury
Sbradbury@sacog.org

Regional Micromobility
Platform



Sacramento

ULI Florin/M

1 Greenback

2 Riverside

3 Riverside Express

5 Meadowview - V

6 Land Park

7 Pocket Express

11 Truxel Road

13 Northgate

15 Rio Linda Blvd -

19 Rio Linda

21 Sunrise - Citrus

22 Arden

22 Y Wing

78 lines & 157 bus

\$56.6 million / year

Remix Transit Planning

SACOG staff can provide Transit Planning support to member agencies.

Contact: Michael Rosson, Senior Transit Analyst

mrosson@sacog.org

Bike & Pedestrian Count

SACOG is finalizing a contract with Eco-Counter to launch a regional bicycle and pedestrian counting program in April. Accurate data about the volume of people biking and walking will support local and regional plans, projects, and models.

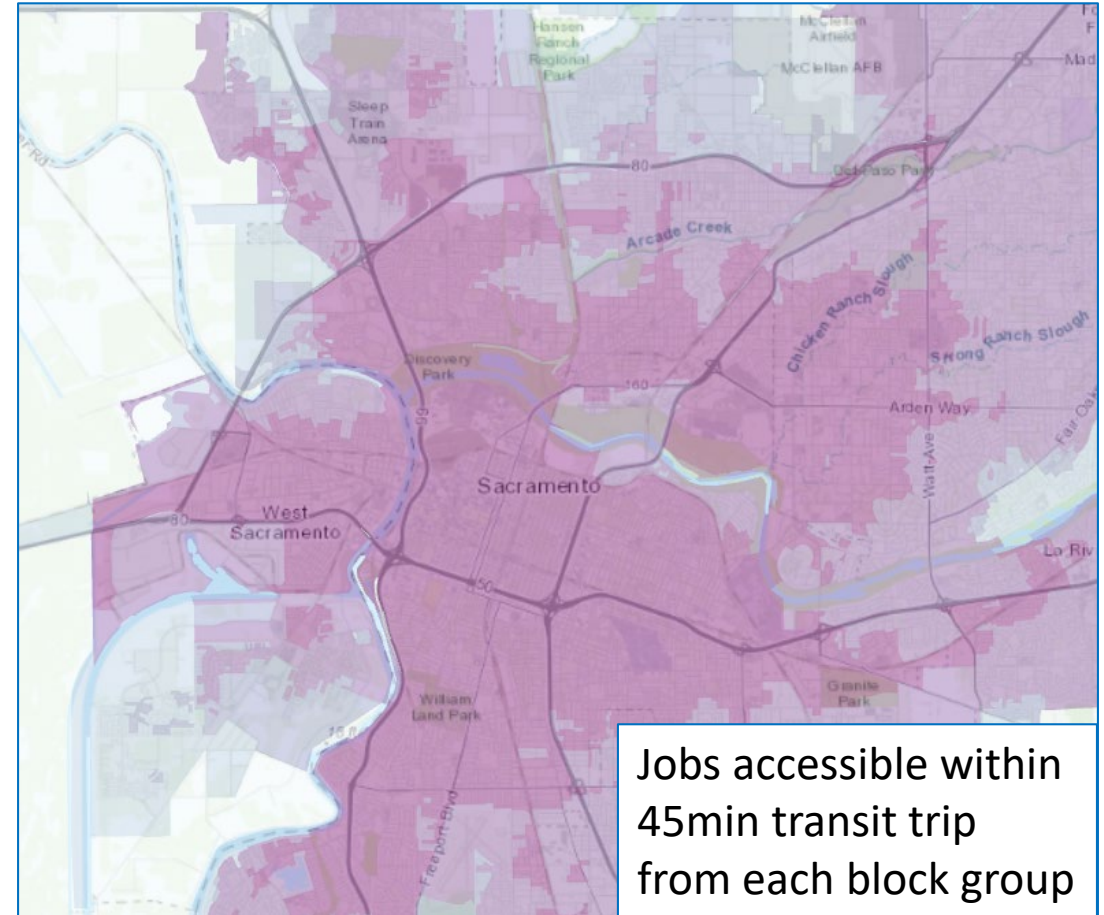
- Long and short term counters to help Inform local plans and projects
- Regional reporting and Replica and SACSIM calibration
- Cooperative purchasing agreement for SACOG member agencies

For more information on the program contact Victoria Cacciato
VCacciato@sacog.org



Sugar Access Software

- Created by Citilabs
- Measures access to a variety of destination types from user-specified areas.
- Fine-grained data inputs for better non-motorized accessibility analysis
 - All-streets network
 - Observed average speeds
 - GTFS transit service data
- Using for Project Performance Assessment (PPA) tool



Project Performance Assessment (PPA) Tool

- Purposes
 - Help evaluate projects applying for money from Funding Round program
 - Provide a more “apples to apples” basis for evaluating projects
- Update of tool used in 2018 Funding Round
 - More observed data, visualizations
 - Beta release scheduled for March 2020
- More information:
 - More on the Funding Round: <https://www.sacog.org/regional-funding-programs>
 - Darren Conly: dconly@sacog.org
 - Garrett Ballard-Rosa: GBallard-Rosa@sacog.org

Thank You

For more information on any of these Data Analysis & Support items contact us!

Shengyi Gao – sgao@sacog.org

Kyle Shipley – kshipley@sacog.org

Darren Conly – dconly@sacog.org

SACSIM Open Round Table Discussion

- Name?
- Organization?
- What project or research topic are you working on relating to SACSIM?
- What SACSIM modeling needs do you have?