

# U.S. EPA's State and Local Energy and Environment Webinar Series

## New Mobility Mindsets: Shared Mobility and Personal Micromobility

March 12, 2020  
3:00 – 4:30 PM Eastern

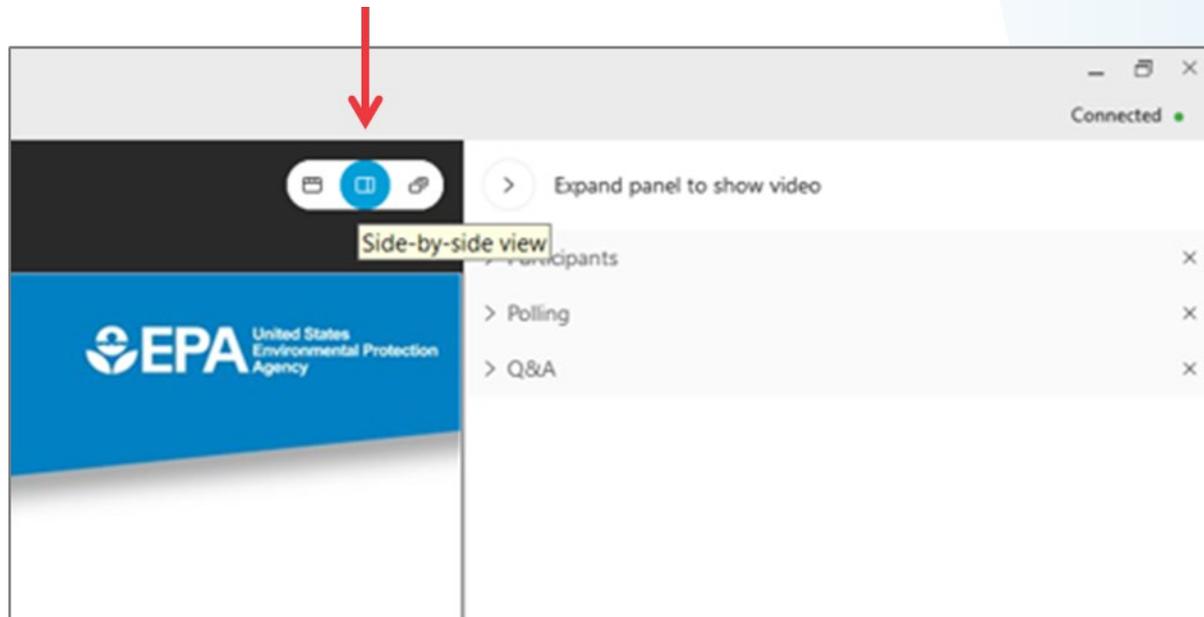
Two audio options:

1. Listen via computer
  2. Dial 1-415-655-0002 or 1-855-797-9485
- Event number: 641 323 504



# Screen View

- There are several layout options
- We recommend the side-by-side view



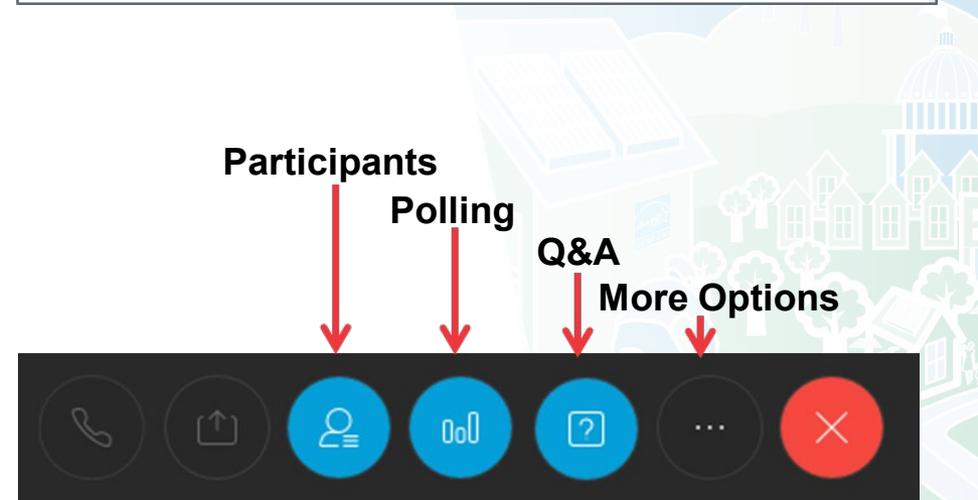
## We'll use three panels

- Participants, Polling, and Question & Answer (Q&A)
- Use the arrow to expand or collapse the panels



## Adding Panels

- If some panels don't appear, hover over the bottom of the screen and select the desired panels
- Select More Options (...) for additional panels
- Blue icons indicate active panels

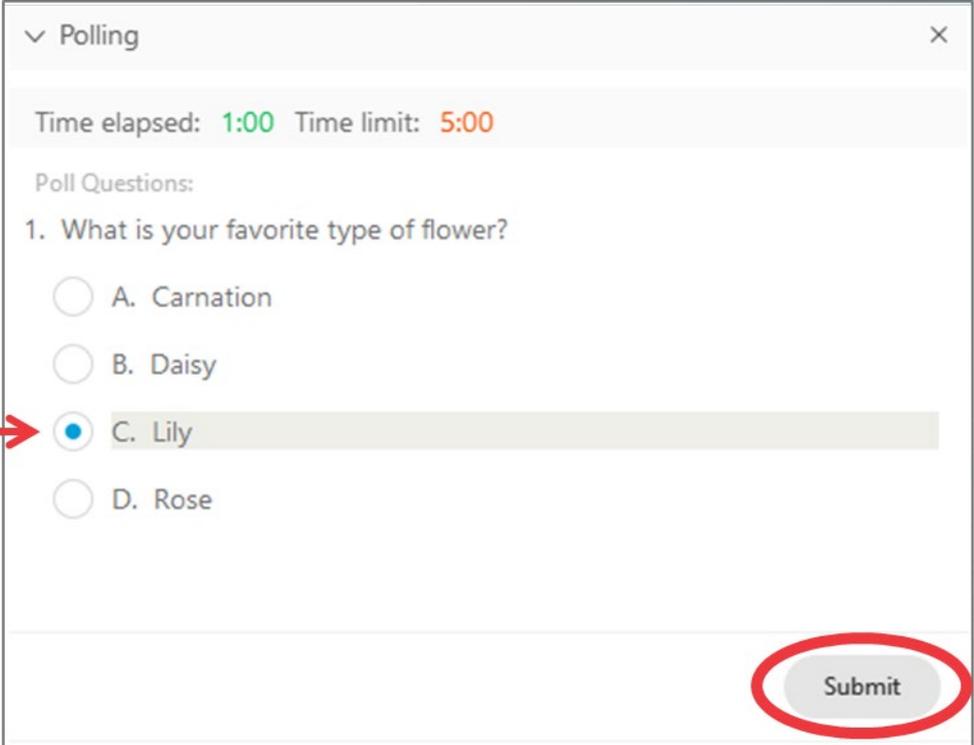


## Polling

- We'll ask several poll questions during the webinar
- The polling panel will appear when we open the first poll
- Select your desired response and hit "Submit"

## Webinar Feedback

- A feedback form will pop-up when you exit today's webinar



▼ Polling ×

Time elapsed: 1:00 Time limit: 5:00

Poll Questions:

1. What is your favorite type of flower?

A. Carnation

B. Daisy

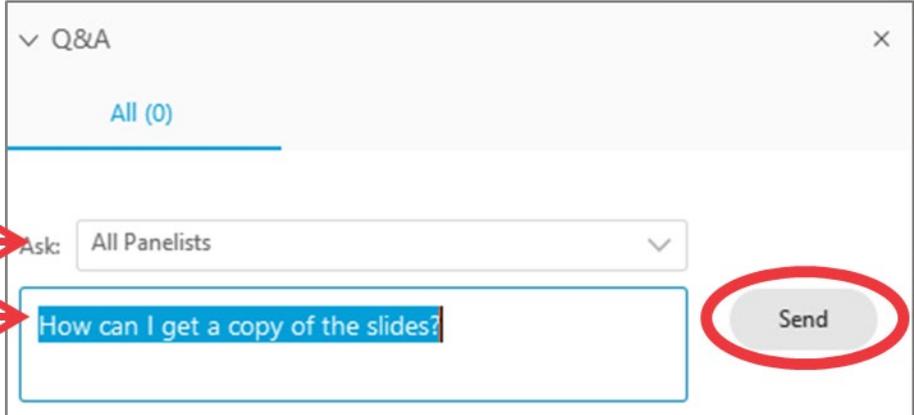
C. Lily

D. Rose

**Submit**

- Participants are muted
- Questions will be moderated at the end
- To ask a question:

1. Select “All Panelists” from the drop-down menu
2. Enter your question in the Q&A box
3. Hit “Send”



The screenshot shows a Q&A interface with a title bar "Q&A" and a close button "X". Below the title bar, it says "All (0)". There is a drop-down menu labeled "Ask:" with "All Panelists" selected. Below the menu is a text input box containing the question "How can I get a copy of the slides?". To the right of the input box is a "Send" button, which is circled in red. Two red arrows point to the "Ask:" menu and the text input box.

- EPA will post responses on the Webinar Series page:  
[www.epa.gov/statelocalenergy/state-local-and-tribal-webinar-series](http://www.epa.gov/statelocalenergy/state-local-and-tribal-webinar-series)

# Today's Agenda

- **Andrea Denny**, Office of Atmospheric Programs, U.S. Environmental Protection Agency (EPA)  
**Jessica Daniels**, Office of Transportation and Air Quality (OTAQ), EPA
- **Brian Holland**, Shared-Use Mobility Center
- **Janna Smith** and **Anita Tang**, Los Angeles, California Bureau of Transportation Technology
- **Karina Ricks**, Pittsburgh, Pennsylvania Department of Mobility and Infrastructure
- Question and Answer Session

*The views expressed by speakers on this webinar are solely those of the participants and EPA does not endorse any products or commercial services mentioned in this webinar.*

**Andrea Denny**

Local Energy and Environment  
Program Lead

**Jessica Daniels**

Environmental Protection Specialist

U.S. Environmental Protection Agency



# U.S. EPA's State and Local Energy and Environment Program



- Investing in energy strategies that lower emissions can be an effective way for state, local and tribal governments to achieve multiple goals:
  - ▶ Improve air quality and public health
  - ▶ Strengthen energy systems
  - ▶ Reduce greenhouse gas emissions
  - ▶ Save money
- We offer free tools, data and technical expertise about energy strategies, including energy efficiency, renewable energy and other emerging technologies, to help state, local and tribal governments achieve their environmental, energy and economic objectives.
- Access all of these resources at the Energy Resources for State, Local, and Tribal Governments site: [www.epa.gov/statelocalenergy](http://www.epa.gov/statelocalenergy)

# U.S. EPA's State and Local Energy and Environment Program

## ■ Electrification Webinar Series

- ▶ Shared Mobility and Personal Micromobility - today
- ▶ Additional Topics (codes, planning, etc.) – throughout 2020
- ▶ Get notifications by subscribing to our newsletter:
  - [www.epa.gov/statelocalenergy/state-and-local-energy-newsletters](http://www.epa.gov/statelocalenergy/state-and-local-energy-newsletters)
- ▶ Access all webinar materials at: State, Local, and Tribal Webinar Series
  - [www.epa.gov/statelocalenergy/state-local-and-tribal-webinar-series](http://www.epa.gov/statelocalenergy/state-local-and-tribal-webinar-series)

## ■ Past Webinars

- ▶ State and Local Experience with Workplace Electric Vehicle (EV) Charging
  - [www.epa.gov/statelocalenergy/webinar-state-and-local-government-experience-workplace-ev-charging](http://www.epa.gov/statelocalenergy/webinar-state-and-local-government-experience-workplace-ev-charging)
- ▶ EV Trends and Projections
  - [www.epa.gov/statelocalenergy/webinar-electric-vehicle-trends-and-projections](http://www.epa.gov/statelocalenergy/webinar-electric-vehicle-trends-and-projections)
- ▶ EVs: The Utility Connection
  - [www.epa.gov/statelocalenergy/webinar-electric-vehicles-utility-connection](http://www.epa.gov/statelocalenergy/webinar-electric-vehicles-utility-connection)

# U.S. EPA's State and Local Energy and Environment Program

- ENERGY STAR Certified EV Supply Equipment
  - ▶ Level 1 and Level 2 Certified Chargers are available; Direct Current (DC) Fast coming Spring 2020
  - ▶ Buying guides and sample procurement language available
  - ▶ California Energy Commission (CALeVIP Program) and New York State Energy Research and Development Authority have adopted ENERGY STAR purchasing requirements for all Level 2 chargers
  - ▶ [www.energystar.gov/products/other/evse](http://www.energystar.gov/products/other/evse)

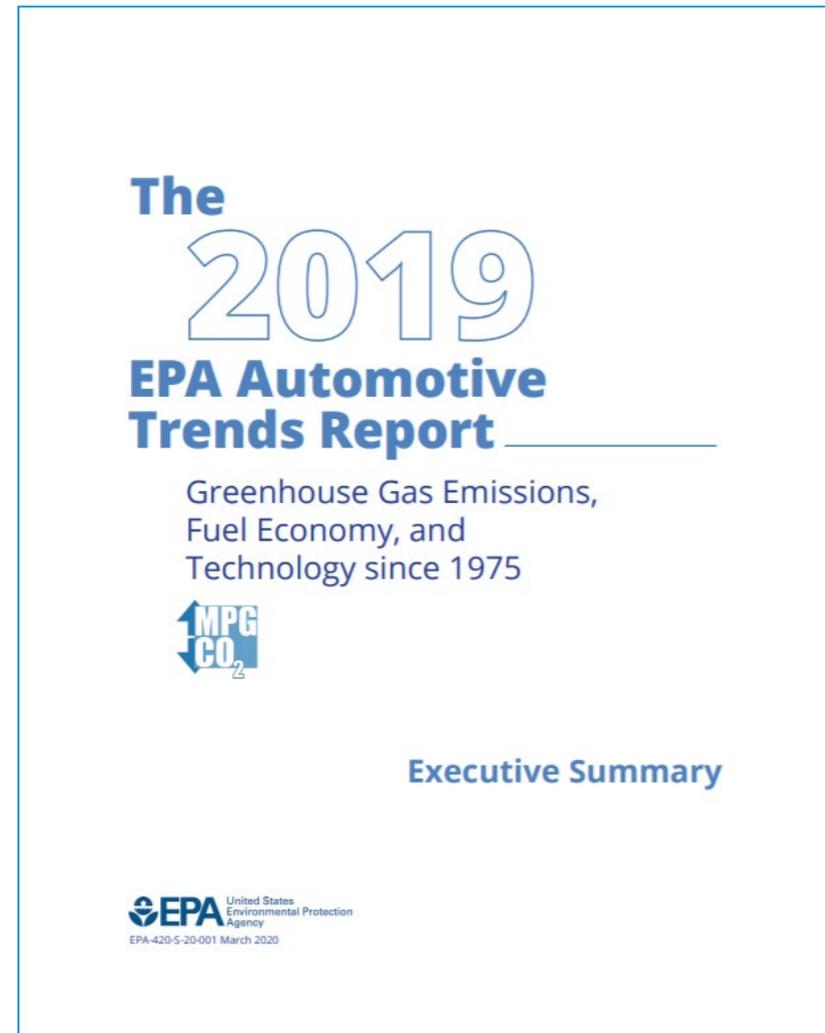
# U.S. EPA's State, Local, and Tribal Transportation Resources

- EPA's OTCQ protects human health and the environment by reducing air pollution and greenhouse gases from mobile sources and the fuels that power them, advancing clean fuels and technology, and encouraging business practices and travel choices that minimize emissions.
- We help state, local, and tribal governments achieve their environmental and other objectives by providing expertise on:
  - ▶ State Implementation Plans
  - ▶ Transportation Conformity
  - ▶ Vehicle Emissions Inspection & Maintenance and state fuel programs
  - ▶ Travel Efficiency and Greenhouse Gas (GHG) Planning
  - ▶ MOVES, Calculators, and Tools
- Access all of these resources at the State and Local Transportation Resources page: [www.epa.gov/state-and-local-transportation](http://www.epa.gov/state-and-local-transportation)

# OTAQ's Voluntary Programs and Initiatives

- EPA's OTAQ also has several voluntary programs and initiatives for state, local, and tribal governments as well as other stakeholders
- Clean Diesel Program – To reduce diesel emissions that impact public health
  - ▶ Includes grants and rebates under the Diesel Emissions Reduction Act (DERA)
  - ▶ [www.epa.gov/cleandiesel](http://www.epa.gov/cleandiesel)
- Ports Initiative – To improve environmental performance near ports
  - ▶ [www.epa.gov/ports-initiative](http://www.epa.gov/ports-initiative)
- SmartWay – To advance sustainable transportation supply chains
  - ▶ [www.epa.gov/smartway](http://www.epa.gov/smartway)

- EPA Automotive Trends Report
  - ▶ Public information about new light-duty vehicle greenhouse gas emissions, fuel economy data, technology data, and auto manufacturers' performance in meeting the agency's GHG emissions standards
  - ▶ [www.epa.gov/automotive-trends](http://www.epa.gov/automotive-trends)
- EPA Green Vehicle Guide
  - ▶ Learn more about emerging options in transportation like zero emission vehicles (ZEVs), shared mobility, and self-driving cars
  - ▶ [www.epa.gov/greenvehicles](http://www.epa.gov/greenvehicles)



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Jessica Daniels  
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**State and Local  
Energy and Environment Program**

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Join Our LinkedIn Group | [www.linkedin.com/groups/12129811/](http://www.linkedin.com/groups/12129811/)

# Poll 1



## Brian Holland Shared-Use Mobility Center





SHARED-USE  
MOBILITY CENTER

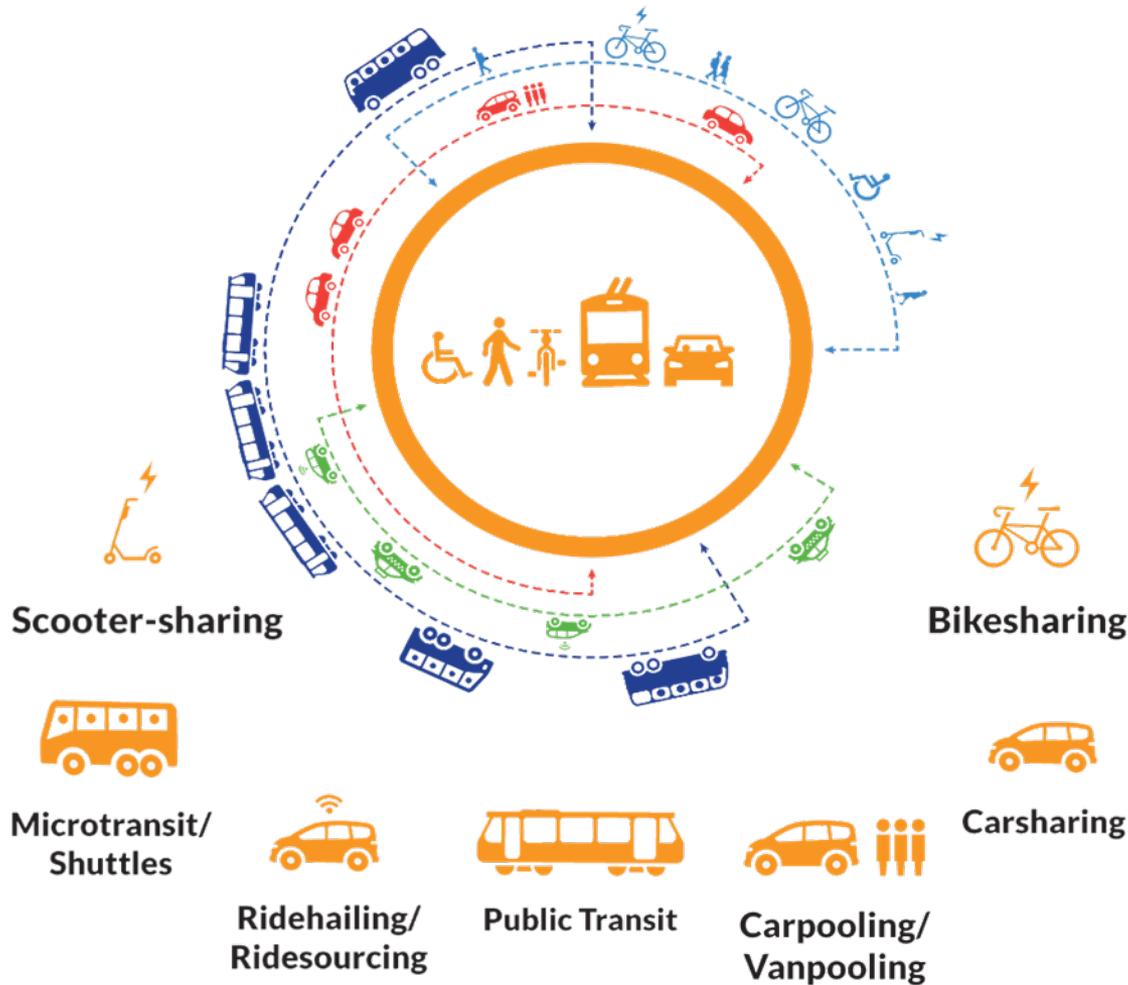
# The Shared+Electric Mobility Future

**Brian Holland**

**EPA State and Local Program Webinar**

**March 12<sup>th</sup>, 2020**

# Creating a Multimodal Transportation System that Works for All



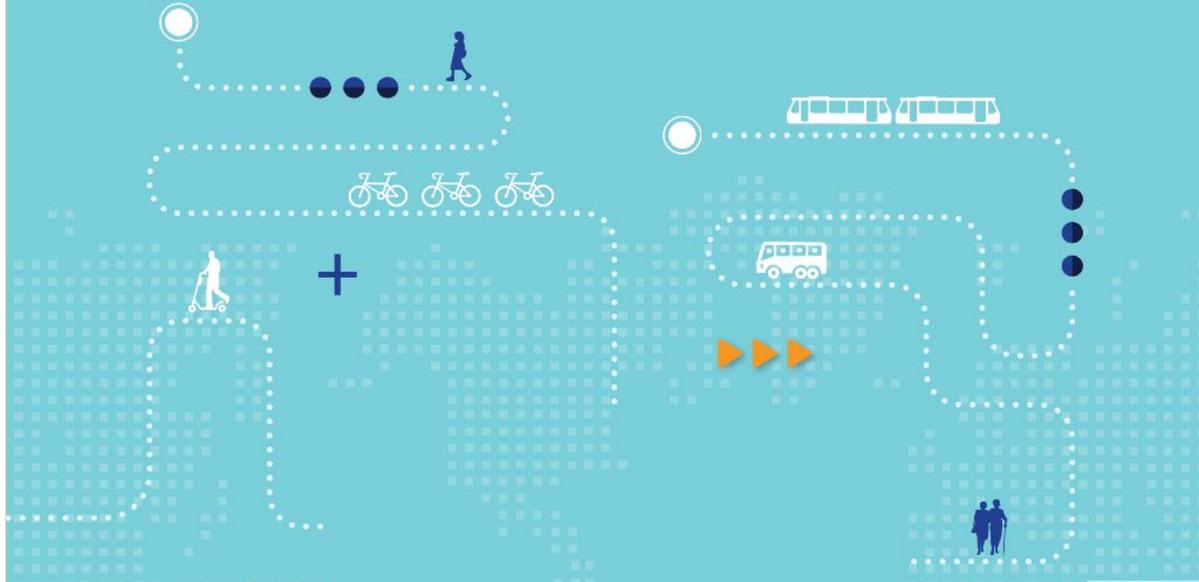
Connected.

Universal.

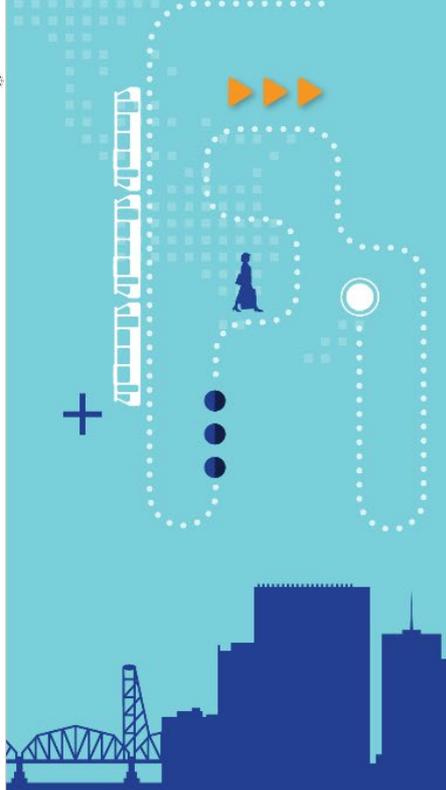
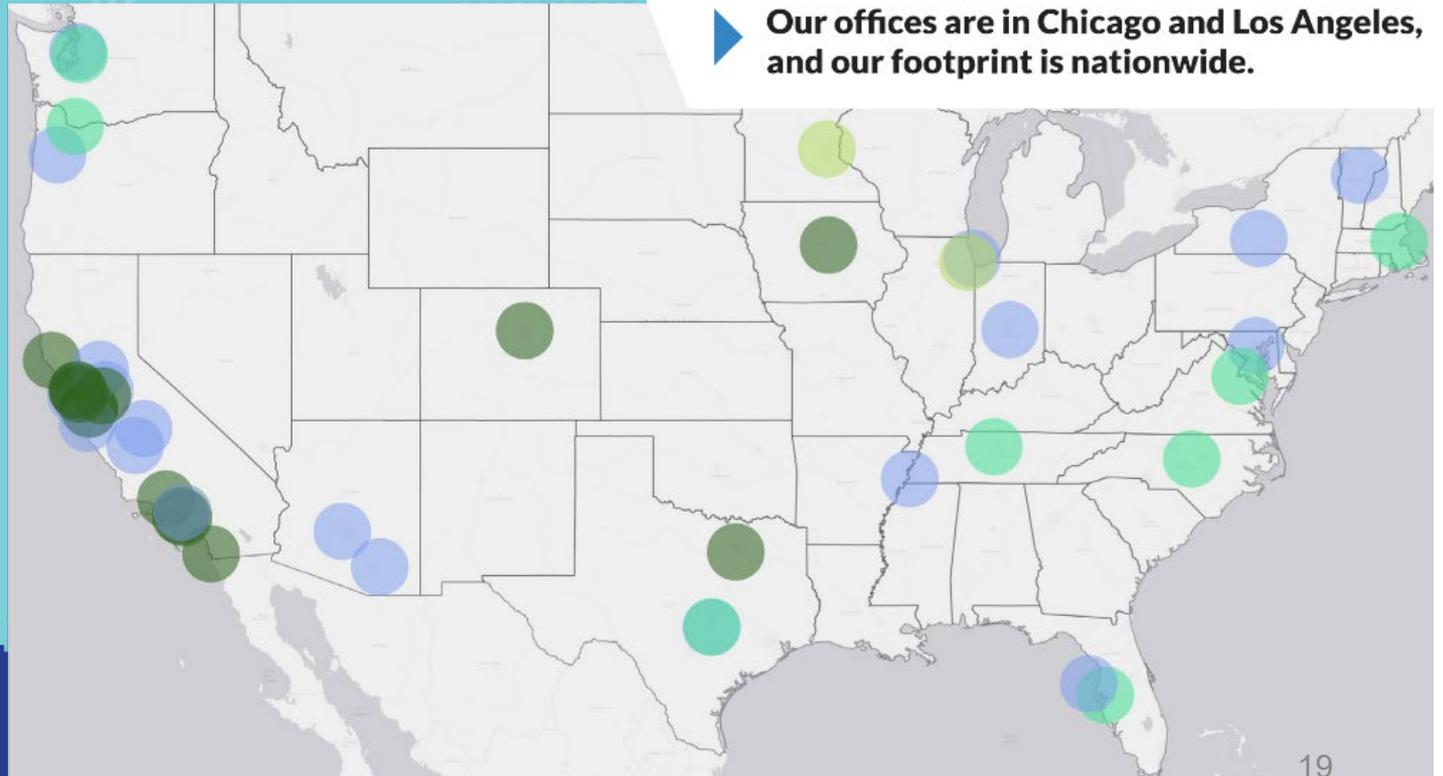
Equitable.

Environment

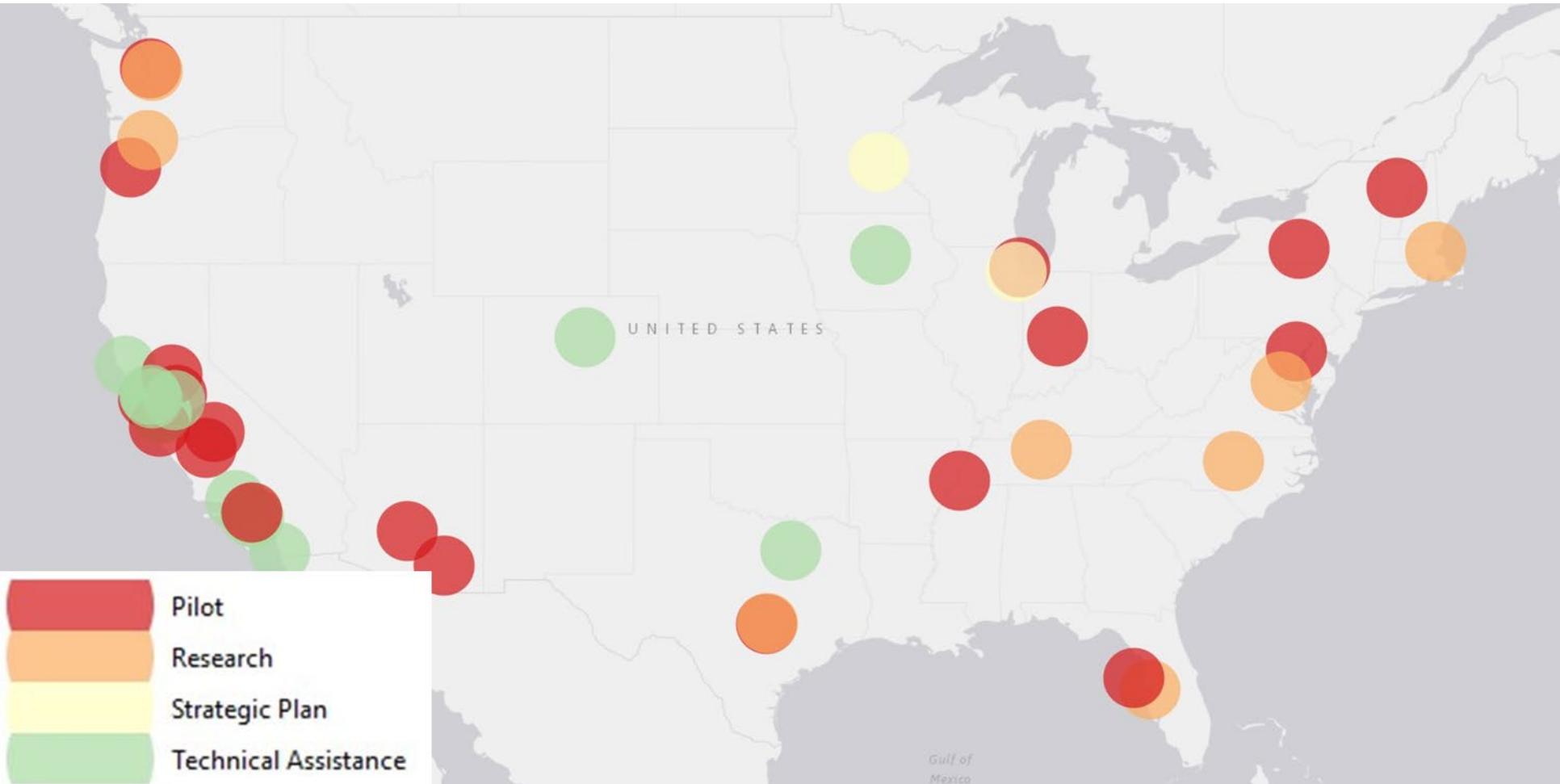
# Pilots Partnerships Research Convening Knowledge Exchange



▶ Our offices are in Chicago and Los Angeles, and our footprint is nationwide.



# Where We Work



# Our Team



**Sharon Feigon**  
Executive Director



**Kevin Karner**  
Project Associate



**Mary Ferguson**  
California Program Manager



**Israel Ramirez**  
Communications Associate



**Albert Benedict**  
Research Manager



**Peter Lauer**  
Project Associate



**Leslie Gray**  
Communications Director



**Linda Sloan AICP**  
Operations Director



**Erin Evenhouse**  
Program Manager



**Colin Murphy**  
Research and Consulting Director



**Prashanth Gururaja**  
Program Director



**Kimberly Steele**  
Event Director



**Rudy Faust**  
Project Associate



**Ellen Partridge**  
Policy and Strategy Director



**Brian Holland**  
California Program Director



**Alvaro Villagran**  
Program Manager



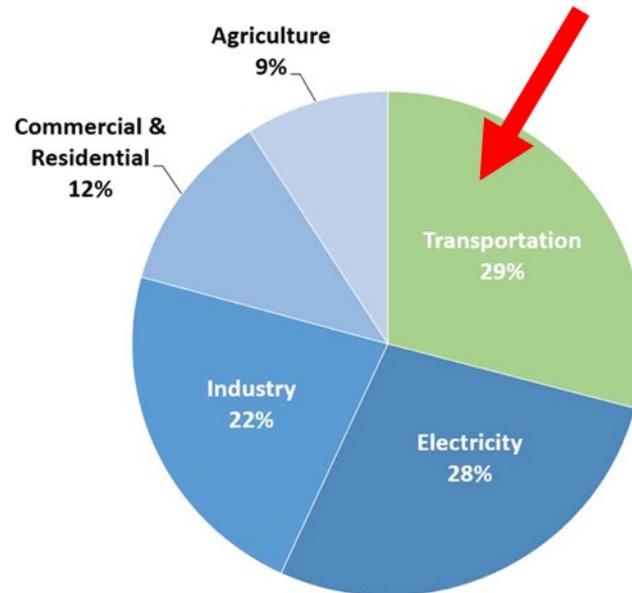
**Fabian L. Campos**  
Program Coordinator, California

# We face major transportation challenges in the United States

Congestion +  
Overloaded  
Infrastructure



Greenhouse Gas  
Emissions



Economic + Social  
Mobility

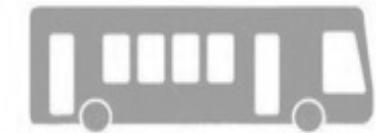
In U.S. metropolitan areas, only **25%** of low- and middle-skill jobs are accessible by public transit **within 90 mins** (Brookings)

# The more people use shared mobility...

..the more likely they are to use transit, own fewer cars, and spend less on transportation overall



# Why is **Shared Mobility** Important?



- **Jumpstarts** transition to a less auto-dependent future
- **Fills gaps** in transit, particularly on weekends and late-night service
- **Adds more options** to improve multimodal ecosystem
- **Provide first/last mile connections** between transit stations and residential areas
- **Can be implemented** quickly with few infrastructural costs
- **Encourages sustainable, healthy, and walkable communities**

# Climate Action – Transportation Strategies

- 1) Fuel efficiency standards
- 2) Vehicle electrification
- 3) Travel demand
  - Public transit
  - Shared mobility
  - Active transportation
  - Land use and affordable housing

# Shared and electric go hand-in-hand

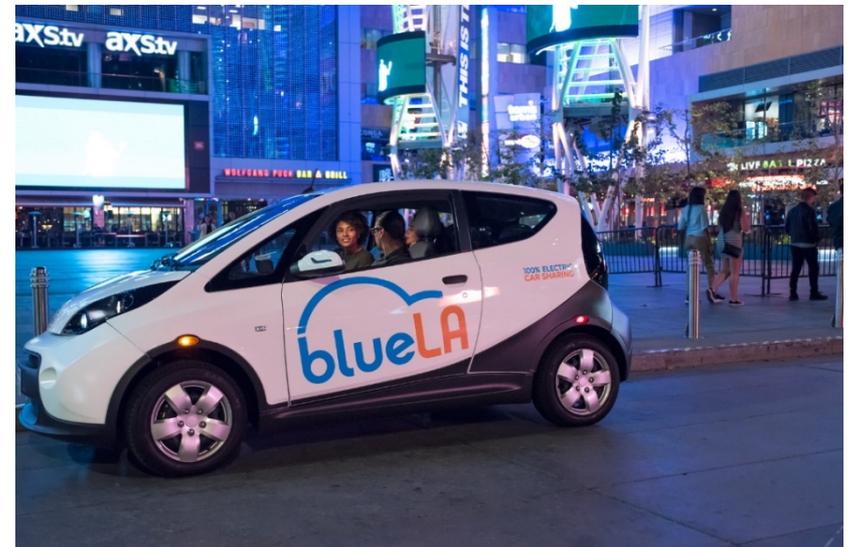
*Electrifying shared mobility can accelerate electrification by making it:*

- **Equitable** - Shared mobility extends the benefits of electrification to communities that are buying fewer EVs
- **Efficient** – Shared mobility reduces miles travelled and energy consumption, lowering the requirements for new charging infrastructure
- **Expeditious** – Shared mobility can help shift travel to EVs quickly, by enabling larger fleet purchases and by keeping EVs on the road more often than personally-owned EVs
- **Educational** – Using EVs in a shared mobility service can make consumers more familiar with the technology to inform later purchasing decisions

# Shared+Electric Mobility Initiative

*A partnership with The Hewlett Foundation and others to pilot solutions, create knowledge, and mainstream shared+electric mobility.*

- Phase 1 – Early Pilots
- Phase 2 – Lessons Learned
- Phase 3 – Scaling Up



# Shared+Electric – Pilots

- BlueLA - EV Carsharing
- TransForm Mobility Hubs in Affordable Housing
- Green Raiteros - Volunteer Ridehailing
- EVgo Equal Access Charging Hubs (EACH)
- Fresno Clean Shared Mobility Network

# Shared+Electric – Lessons Learned

- Long-range vehicles are ready for deployment in mobility services
- Design of EV charging equipment should be tailored to the service
- Availability and installation of EV charging equipment remains a key barrier
- Community-based outreach and education is important for building understanding and comfort with EV technology

# Shared+Electric in the Mobility on Demand (MOD) Learning Center

## Search

 Clear Search ×

➤

### By Resource Type

- Learning Module All
- Case Study
- Multimedia
- Brief Overview
- Regional Profile

### + By Mode

### + By Partner

### + By Document Type

### + By Topic

**Keyword:**  × **AND Resource Type, any of:**
 ×
 ×
 ×  
 ×
 ×

132 Search Results

Sort by Relevance ▾

MAP

LIST

<p><b>Electric Vehicle Policies and Programs: Resources for your Community, 2020</b></p> <p>Brief Overview Report/Study, SUMC Public Feb 28, 2020 </p>	<p><b>Charged for Growth: Electric Mobility Planning in San Jose, CA, 2020</b></p> <p>Case Study Report/Study, SUMC Public Feb 20, 2020</p>	<p><b>The Story of Green Raiteros: A Shared &amp; Electric Lifeline for California ...</b></p> <p>Case Study Report/Study, SUMC Public Feb 18, 2020</p>	<p><b>Webinar: Clean Mobility Options – Partnerships with Mobility Providers, California, 2020</b></p> <p>Multimedia Webinar Feb 12, 2020</p>
<p><b>CityLab: potential for over-regulation of e-scooters, particularly in less densely-populated</b></p> <p>Brief Overview Journal Article Feb 10, 2020</p>	<p><b>Our Community CarShare Case Study, Sacramento, CA, 2020</b></p> <p>Brief Overview Report/Study, SUMC Public Feb 1, 2020 </p>	<p><b>E-Scooter Pilot Evaluation, Chicago, IL, 2020</b></p> <p>Brief Overview Report/Study Jan 21, 2020 </p>	<p><b>On-Demand &amp; Shared Mobility Roadmap, Auckland Transport, NZ, 2020</b></p> <p>Brief Overview Internal Policy or Guideline Jan 10, 2020</p>

# Shared+Electric – Scaling Up

## California Clean Mobility Options Voucher Program

- \$32M from California Air Resources Board to support shared+electric projects in disadvantaged communities
- EV carsharing, ridesharing, and bike/scooter-sharing projects
- Applications due late Spring 2020
- [www.cleanmobilityoptions.org](http://www.cleanmobilityoptions.org)



Clean  
Mobility  
Options



# Shared+Electric – Scaling Up

## Clean Mobility Provider Directory





# SHARED-USE MOBILITY CENTER

## Thank you!

**Brian Holland**

**[brian@sharedusemobilitycenter.org](mailto:brian@sharedusemobilitycenter.org)**

**415-734-0653**

**Los Angeles, CA**

# Poll 2



# Electric Vehicle Carsharing in Los Angeles

Janna Smith  
Anita Tang

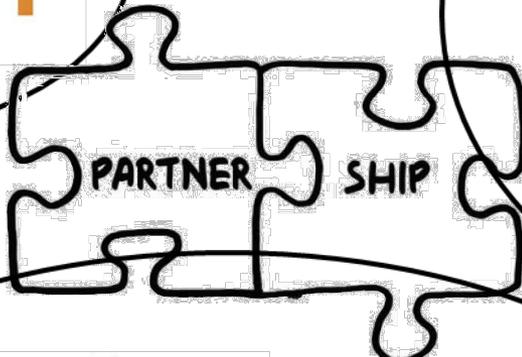
Los Angeles, California Bureau of  
Transportation Technology



# ***Electric Vehicle Carsharing in Los Angeles***



**ANITA TANG  
CITY OF LOS ANGELES  
CARSHARE PROJECT MANAGER  
TRANSPORTATION TECHNOLOGIES  
LOS ANGELES DEPT. OF TRANSPORTATION  
(LADOT)**



***Los Angeles is the first major city to have an EV carsharing pilot servicing disadvantaged communities***

**2015:** City of LA secures \$1.6 million for EV Carshare Pilot

**2016:** Contract in place between City of Los Angeles & BlueLA Carsharing LLC

**2017, June:** First demonstration site installed

**2018, April:** Commercial launch of 25 Electric Vehicles and 35 charging stations (7 sites)

**2019, February:** Deployment of additional 40 electric vehicles and 75 charging stations (total 22 sites)

**2019, April:** Grant agreement signed for expansion for additional 300 charging stations (60 sites) with 100 more EVs

**2020, April:** All 200 EV charging stations (40 sites) completed with 100 EVs for initial phase

**2023:** Initial pilot term end; extension available through 2028





**STANDARD**

**20¢**  
/minute\*

\$5/month

Target: Other inhabitants of the targeted communities

Need: Mobility completion for short and long journey

**COMMUNITY**  
For Low-Income Qualified

**15¢**  
/minute\*

\$1/month

Target: Low-income inhabitants of the targeted communities

Need: Enhance mobility for residents by providing them access to a car

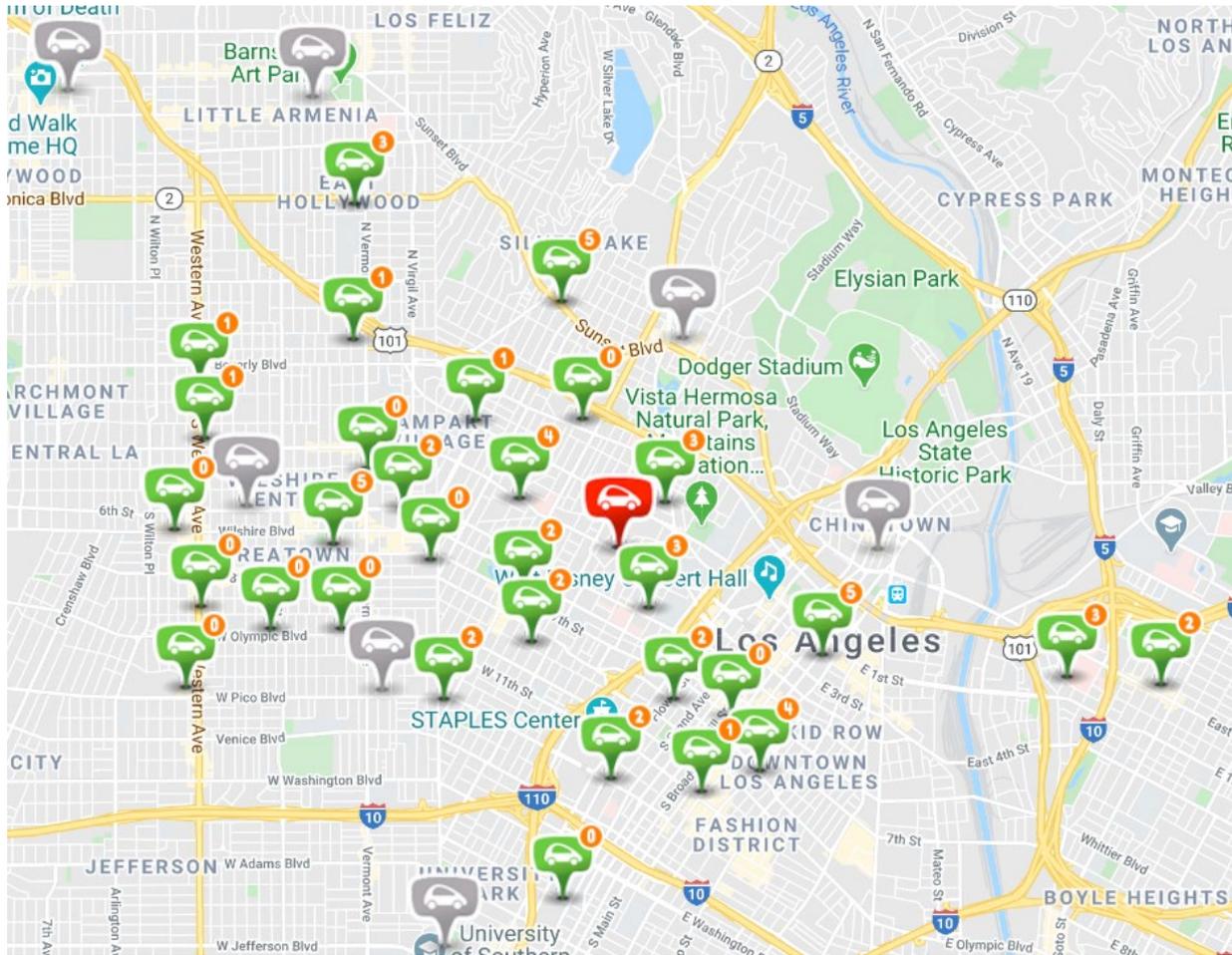
**TRIAL**  
Valid for one month

**40¢**  
/minute\*

\$0/month

Target: Other inhabitants of the targeted communities

Need: Renting a car as needed, and testing the service



TOTAL	
Stations	32
Electric vehicle charging points	160
Vehicles	106

As of March 01, 2020

	Vehicle		Operational
	Parking spot		Under maintenance
	Charge point		Under construction



## MEMBERSHIP

	Total	%
Current Members	<b>2,185</b>	<b>100</b>
Standard	<b>1,013</b>	<b>4</b>
Community	<b>1,084</b>	<b>50</b>
Trial	<b>88</b>	<b>4</b>

## TRIPS AND ACTIVITY

	Total	%
Trips Taken	<b>41,716</b>	<b>100</b>
Miles Driven	<b>953,471</b>	<b>100</b>
Standard	<b>17163</b>	<b>41</b>
Community	<b>23139</b>	<b>55</b>
Trial	<b>1416</b>	<b>3</b>

Trips by Type	Total	%
Round Trip	<b>22,346</b>	<b>54</b>
One-Way	<b>19,370</b>	<b>46</b>
< 1 Hour	<b>11,919</b>	<b>29</b>
1-3 Hours	<b>15,761</b>	<b>38</b>
3-5 Hours	<b>9830</b>	<b>24</b>
> 5 Hours	<b>4206</b>	<b>10</b>

## GREENHOUSE GAS & POLLUTANT REDUCTIONS

## ELECTRICITY USAGE

Metric Tons of Carbon Dioxide Equivalent Avoided	<b>1,557*</b>	Electricity Consumption at Stations To Date* (kWh)	<b>781,738</b>
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\* Equivalent to 1,715,622 pounds of coal burned or 175,202 gallons of gasoline consumed



blueLA



outreach



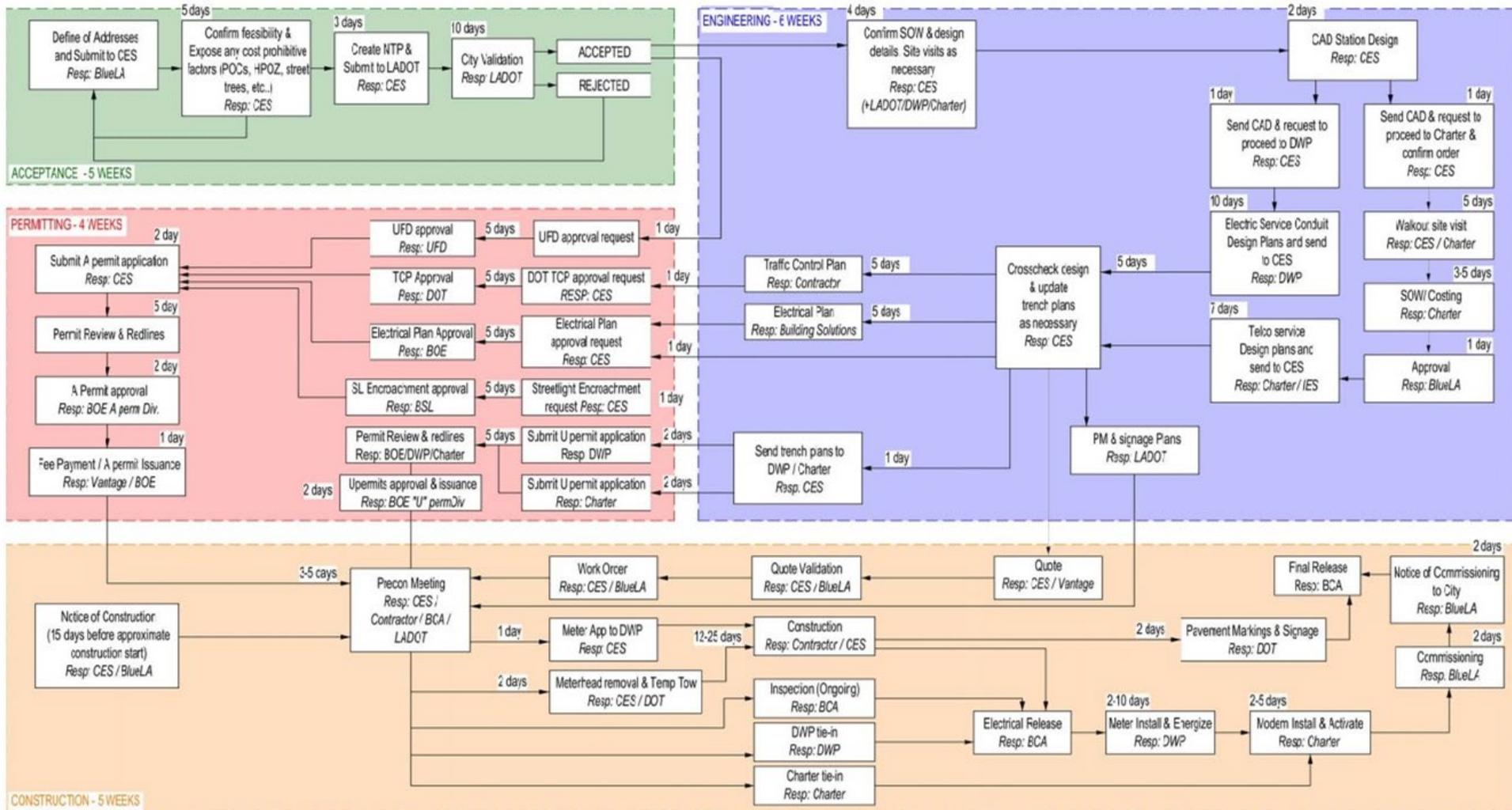


## 1. **Siting of Locations**

- Council Districts and local CBOs need to be more proactive in recommending site locations
- It would help if Council outreach requirements could be standardized

## 2. **EVSEs in PROW**

- Though it's more appealing for electric vehicle supply equipment (EVSE) be installed in the public right of way (PROW), coordination of construction has proven to be very difficult
- Underground complications, especially in Downtown Los Angeles area
- Unforeseen change of ordinance can cause major delay and unexpected additional expenses
- Trade-off between visibility (on-street) and speed of construction (off-street) will continue to be something to grapple with



**Outside (Private) Parties:** BlueLA, Charter, Construction Contractor, Contracted Engineering Companies (CES), Inland Engineering Services (IES)

**Internal (City) Parties Involved:** Bureau of Contract Administration (BCA), Bureau of Engineering (BOE), Bureau of Street Lighting (BSL), Bureau of Street Services (BSS), Department of Building and Safety (DBS), Department of Water and Power (DWP), DOT, Mayor's Office, Urban Forestry Division (UFD)

Other Terms: Computer-aided Design (CAD), Historical Preservation Overlay Zone (HPOZ), Notice to Proceed (NTP), Point of Contact (POC), Scope of Work (SOW), Traffic Control Plan (TCP)





## 3. Permit Process

- In order to install EVSE in PROW, permits are needed. This process involves a minimum of 6 City departments (in City of LA). Coordination and communication could be difficult & lengthy, especially when there's changes and/or rotations of staff
- Identifying the key personnel from each department and having weekly meeting is important, to maintain the momentum of the project and also to have that constant and uninterrupted communication
- It would be beneficial if a special task force team can be formed, or an one-stop shop for EVSE installation



- **Phase 1 Final Report**
  - Challenges and successes
  - Results of participant survey
  - Estimated emission reductions achieved
  
- **Phase 2**
  - South Los Angeles, Boyle Heights, East Hollywood
  - 200 additional EVs
  - 60 additional carshare stations (300 additional EVSE's)
  - a 600 dockless e-bike/e-scooter system



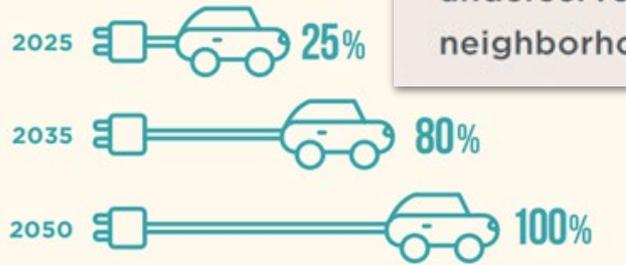
# City of Los Angeles Green New Deal

- Ensure that municipally deployed EV chargers are distributed equitably around the city, with a focus on underserved and disadvantaged neighborhoods

**Target**

**Increase the percentage of zero emission vehicles in the city to 25% by 2025; 80% by 2035; and 100% by 2050**

Baseline: 1.4% of vehicles as of September 2018  
Source: CA Department of Motor Vehicles



2022/2028

**Install 10,000 publicly available EV chargers by 2022; and 28,000 by 2028**

- Streamline permitting and interconnection processes for EV charger installations

2025

**Dramatically reduce exposure to health-harming pollutants in our most disadvantaged communities**

- Expand electric car sharing options, including BlueLA, to all Los Angeles neighborhoods in the top 10% of the CalEnviroScreen

# CONTACT

**ANITA TANG**

**[ANITA.TANG@LACITY.ORG](mailto:ANITA.TANG@LACITY.ORG)**

**CITY OF LOS ANGELES**

**CARSHARE PROJECT MANAGER**

**TRANSPORTATION TECHNOLOGIES**

**LOS ANGELES DEPT. OF TRANSPORTATION**



# Poll 3



# New Mobility Mindset Pittsburgh (PGH): Maximizing Micromobility

**Karina Ricks**

**Pittsburgh, Pennsylvania Department  
of Mobility and Infrastructure**





# New Mobility Mindset PGH: Maximizing Micromobility



Pittsburgh Department of  
Mobility and Infrastructure  
March 2020

# PITTSBURGH MOBILITY PRINCIPLES

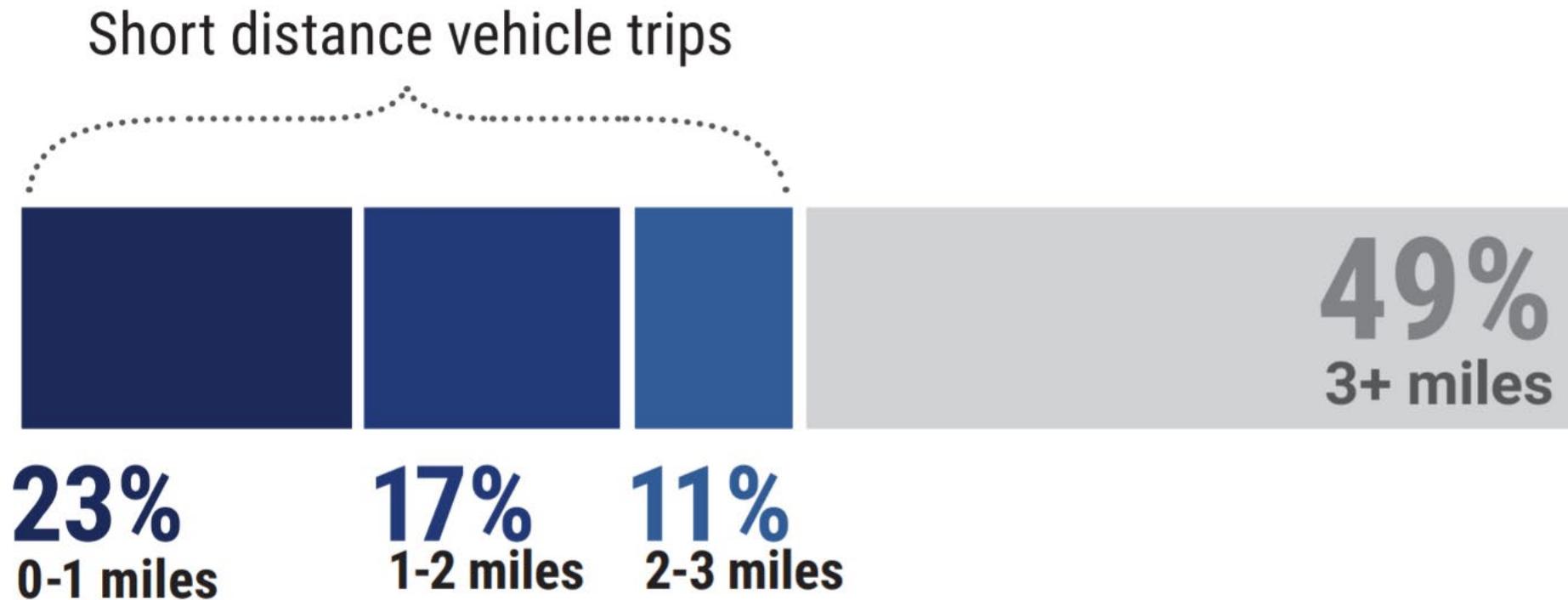
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1. **No one dies** or is seriously injured traveling on city streets (streets and intersections are intuitive to use, even by an adolescent child).
2. Every resident can **access fresh fruits and vegetables** within 20 minutes travel of home (without requiring a private vehicle).
3. All trips less than 1 mile are **easy and enjoyable** to achieve by non-vehicle travel.
4. No household must **spend** more than 45% of income on housing + transportation + energy (for any income quintile).
5. Our streets reflect the **values and pride** of our city.



**THE CLIMATE IMPERATIVE**  
**50% reduction in transportation-**  
**related emissions by 2030**  
(from 2008 levels)

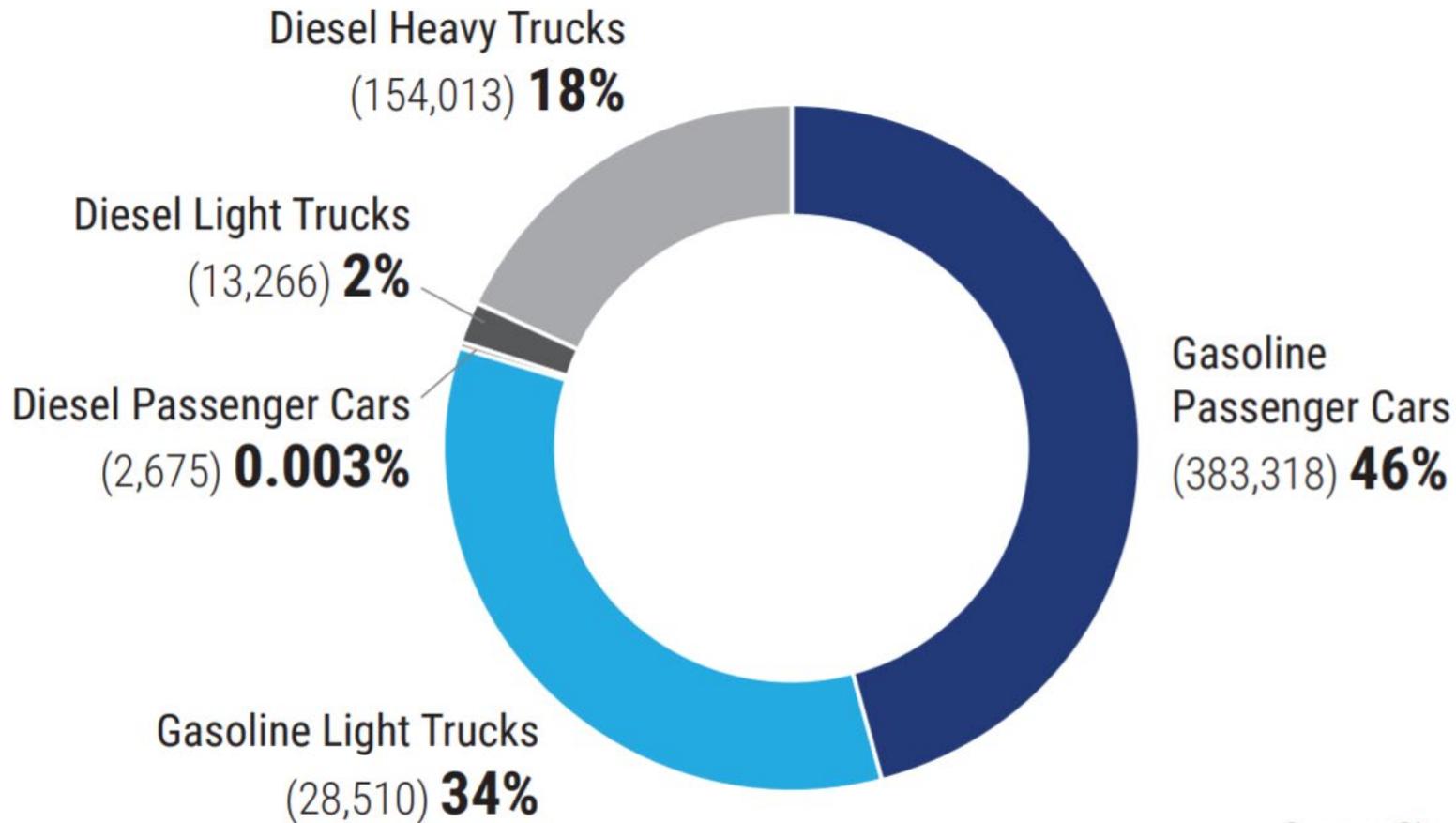
# The Opportunity for Impact



Nearly 40% of all vehicle trips made in the city are for distances shorter than 2 miles. Nearly  $\frac{1}{4}$  of all trips made in vehicles are less than 1 mile.

# The Opportunity for Impact

46% of greenhouse gas emissions are from conventional passenger vehicles.



Source: City of Pittsburgh  
Climate Action Plan (2018)

# The Opportunity for Impact



31% of residents bike, walk, or ride public transit to get to work<sup>3</sup>



12th highest share of bicycle commuters in the nation<sup>5</sup>



484.9% increase in bicycle commuting from 2000 to 2016<sup>6</sup>



13% of residents do not have access to a personal automobile<sup>4</sup>

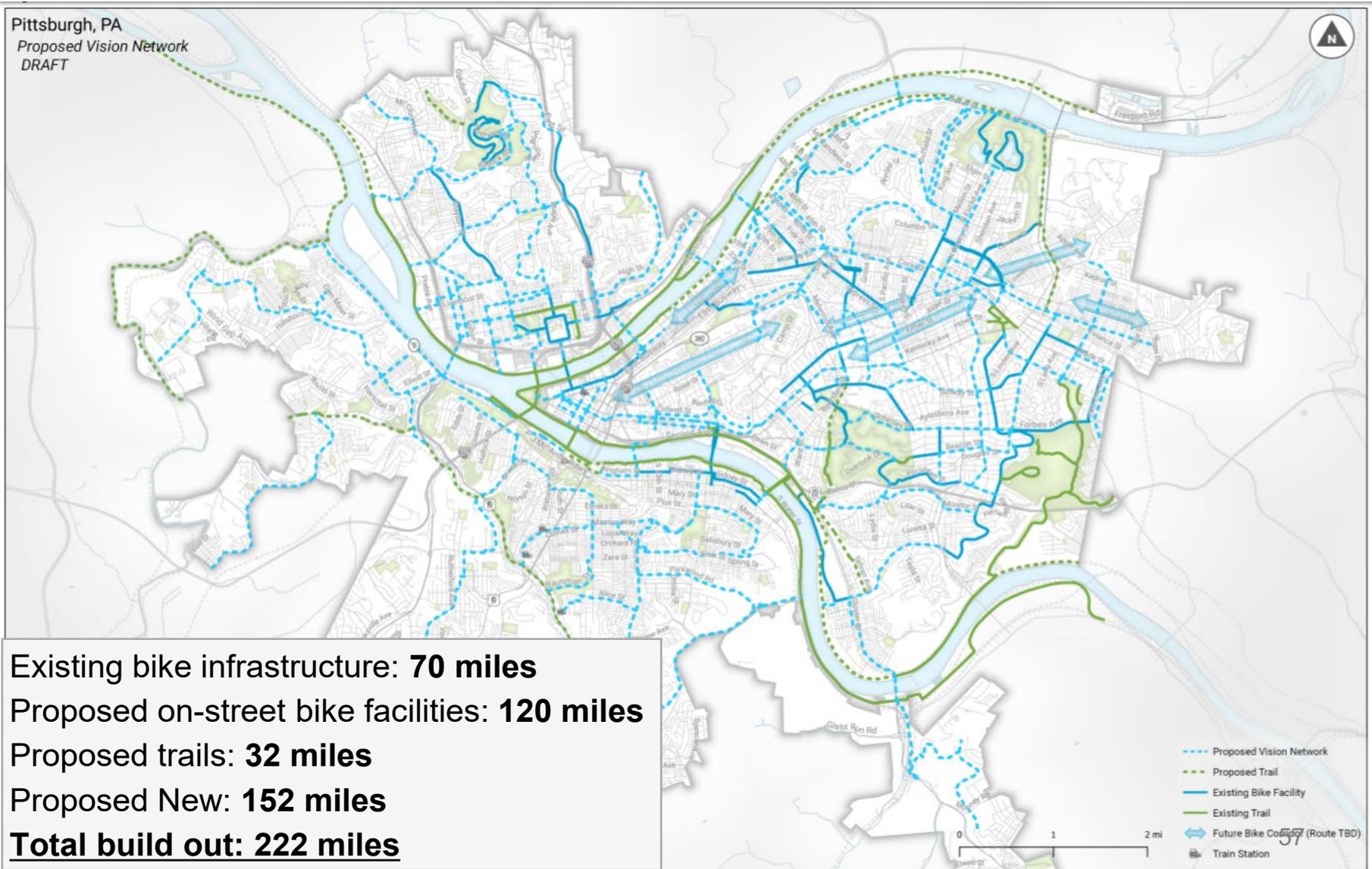


50% of Pittsburgh households have 2 or more vehicles



\$6,000 to \$11,000 per year is the total cost of owning a car in Pittsburgh<sup>7 8</sup><sub>56</sub>

# Pittsburgh's Bike(+) Plan

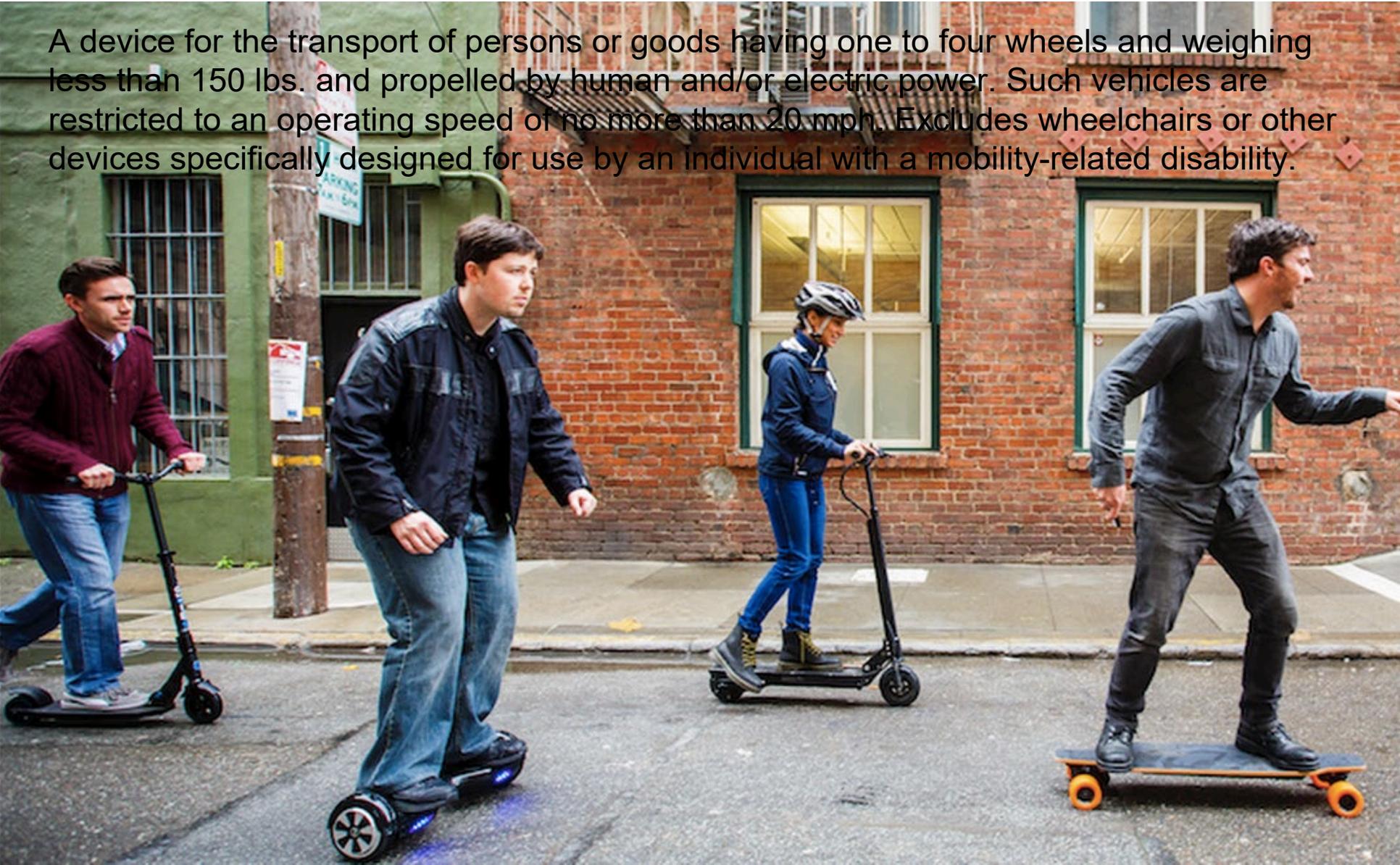


# WHY?

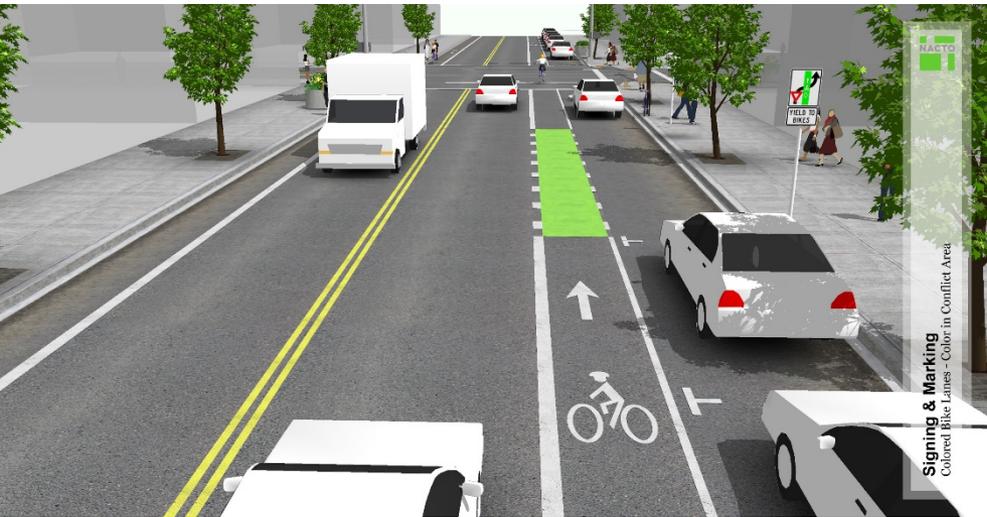


# Defining Micromobility

A device for the transport of persons or goods having one to four wheels and weighing less than 150 lbs. and propelled by human and/or electric power. Such vehicles are restricted to an operating speed of no more than 20 mph. Excludes wheelchairs or other devices specifically designed for use by an individual with a mobility-related disability.



# Designing for Bike(+)



# Anticipating e-commerce and freight



# A GRAND EXPERIMENT

## HOW MIGHT WE...?

**DRAMATICALLY AND RAPIDLY  
REDUCE CARBON EMISSIONS?**

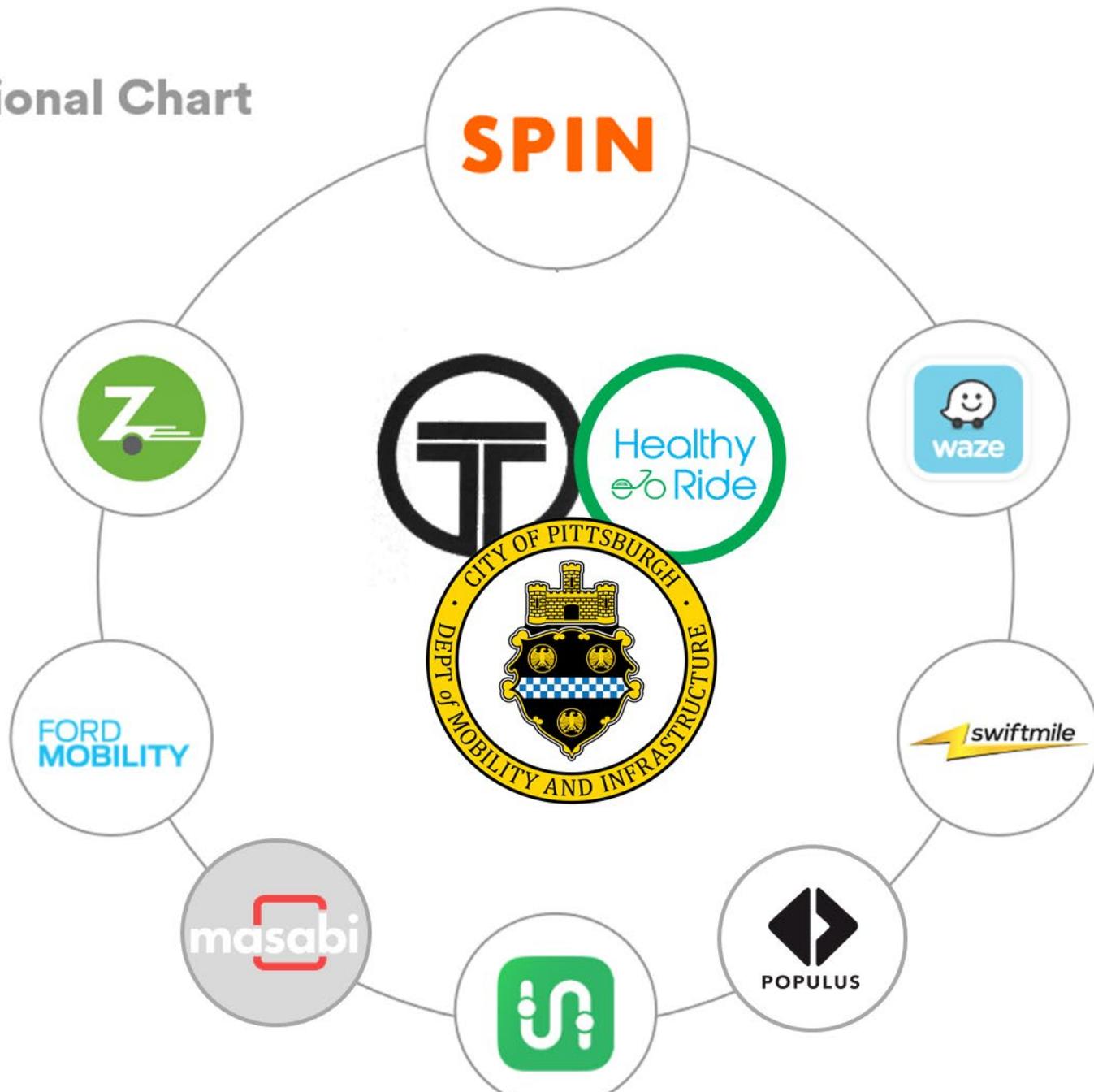
**INCREASE ACCESS TO NEW MOBILITY WITHOUT  
COMPETING WITH PUBLIC TRANSIT AND BIKESHARE?**

**MAKE EMERGING MOBILITY EASIER AND  
MORE INTEGRATED FOR THE USER?**

**INFLUENCE NEW MOBILITY FORM FACTORS TO ADDRESS  
THE NEEDS OF MORE USERS AND TRIP TYPES?**

**NIMBLY MAKE PUBLIC POLICY FOR  
RAPIDLY ITERATING MOBILITY?**

# Organizational Chart



# Mobility Hubs + Charging Infrastructure



Credit: City of Minneapolis, MN

# PITTSBURGH MOBILITY PRINCIPLES

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1. **No one dies** or is seriously injured traveling on city streets (streets and intersections are intuitive to use, even by an adolescent child).
2. Every resident can **access fresh fruits and vegetables** within 20 minutes travel of home (without requiring a private vehicle).
3. All trips less than 1 mile are **easy and enjoyable** to achieve by non-vehicle travel.
4. No household must **spend** more than 45% of income on housing + transportation + energy (for any income quintile).
5. Our streets reflect the **values and pride** of our city.



*Department of*

# MOBILITY & INFRASTRUCTURE

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# Question and Answer Session



# Connect with the State and Local Energy and Environment Program

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