



Expanding Zero-Emission Vehicle Infrastructure in Under-Resourced Areas

April 1, 2025

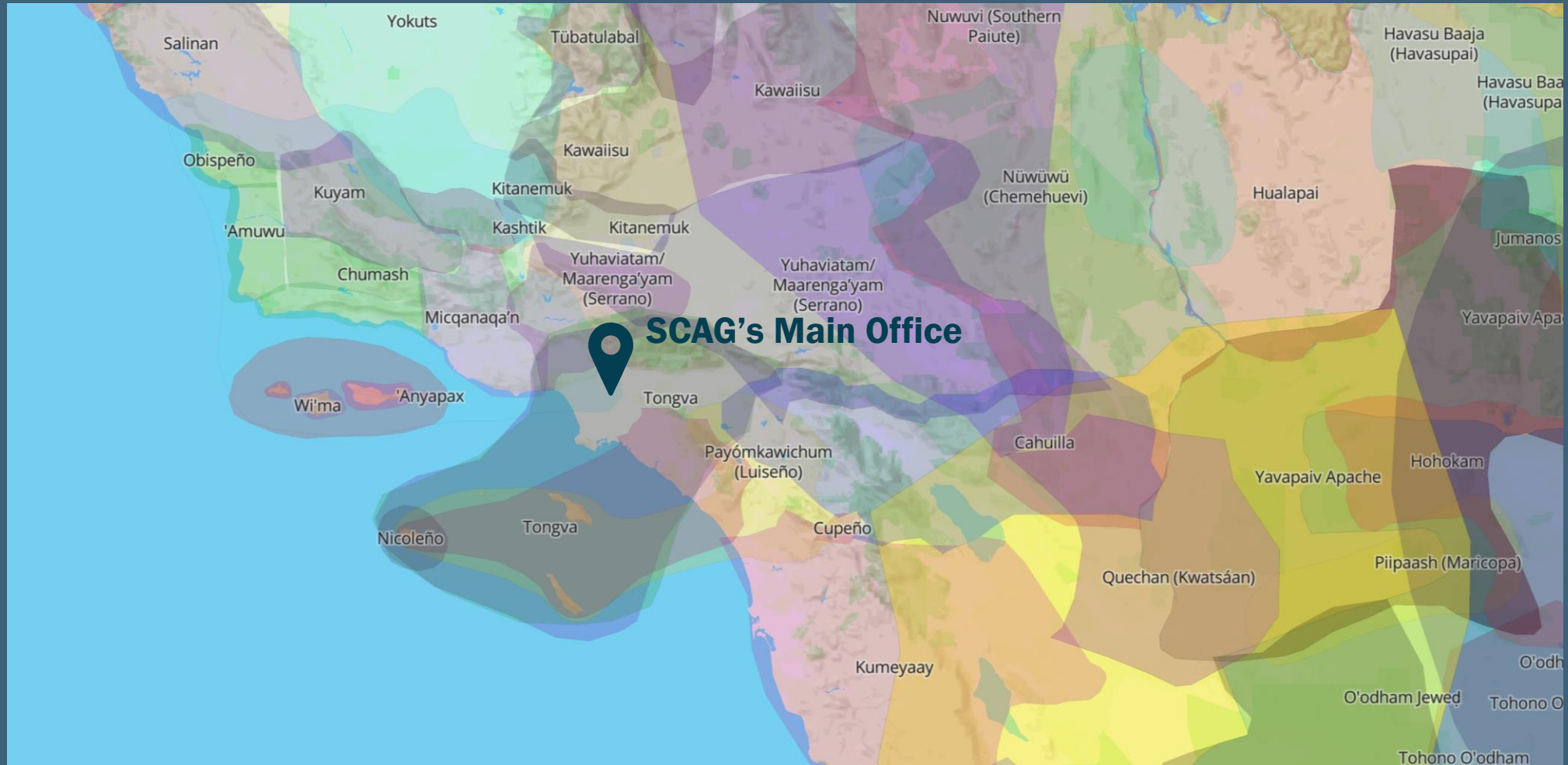


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Housekeeping

1. Meeting length: 1.5 hour
2. This meeting is being recorded
3. All participant lines will be muted
4. At the end of each presentation, there will be Q&A
5. If you have a question during the presentation, please type it into the chat box or press the "raise hand" function
6. We will log all questions and then voice a selection at the end of the presentation
7. A recording of this webinar and the PowerPoint slides will be available on the SCAG website. We will send a link to everyone who has registered after the event

Land Acknowledgement



Racial Equity Early Action Plan

GOALS



Shift Organizational Culture

Focus SCAG's internal work and practices on inclusion, diversity, equity, and awareness.



Center Racial Equity in Regional Planning & Policy

Bring equity into SCAG's regional planning functions.



Encourage Racial Equity in Local Planning Practices

Promote racial equity in efforts involving local elected officials and planning professionals.



Activate & Amplify

Communicate broadly SCAG's commitment to racial equity and join with others in different fields and sectors to amplify impact.

STRATEGIES



Listen & Learn

Develop a shared understanding of our history of discrimination and the structural barriers that continue to perpetuate the inequities experienced today.



Engage & Co-Power

Create an environment where everyone is included, able to share their experiences, and equipped to talk about racial equity and inequities.



Integrate & Institutionalize

Focus on systems change to improve racial equity. Center racial equity in all aspects of work. This involves internal and external systems change. Advancing Racial Equity in Southern California.

*"As central to SCAG's work, **racial equity** describes the actions, policies, and practices that eliminate bias and barriers that have historically and systemically marginalized communities of color, to ensure all people can be healthy, prosperous, and participate fully in civic life."*

Other Learning Opportunities

- Previous Toolbox Tuesday Sessions:
 - April 2022, Taking Action to Advance Equity: Action Plans and Frameworks
 - March 2023, Planning with Rural Communities: Stories from Southern California
 - June 2023, Youth Empowerment Programs Panel
 - August 2023, Planners as Therapists, Cities as Clients
 - December 2023, Youth-Driven Urban Planning through Y-PLAN
 - January 2024, Inclusive Contracting Toolkit
 - February 2024, Data Tools & Research from the Latino Policy and Politics Institute
 - April 2024, A Guide to Environmental Justice Tools for Local Planning
 - July 2024, Voice for All: Developing and Implementing Effective Language Access Strategies
 - October 2024, Heat-Proofing Communities with Resilience Planning and Mitigation
- Recordings and Presentations available at <https://scag.ca.gov/toolbox-tuesday-online-training-materials>

We want to know...

What type of organization are you representing today?

Where are you joining from?

Does the jurisdiction you work for (or live in) have an EV carsharing program?

Does the jurisdiction you work for (or live in) have pole-mounted and/or curbside electric vehicle charging infrastructure?

**Fill out the poll on
your screen!**



Advancing Equity in the Transition to Zero-Emission Vehicles

April 1, 2025



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Passenger vehicle types

1. Zero-Emissions Vehicles (ZEVs)
2. Battery Electric Vehicles (BEVs)
3. Hydrogen Fuel Cell Electric Vehicles (FCEVs)
4. Near-Zero Emission Vehicles (NZEVs), sometimes called Plug-in Hybrid Vehicles (PHEVs)
5. Internal Combustion Engine (ICE) Vehicles



Terms to know

Charger types

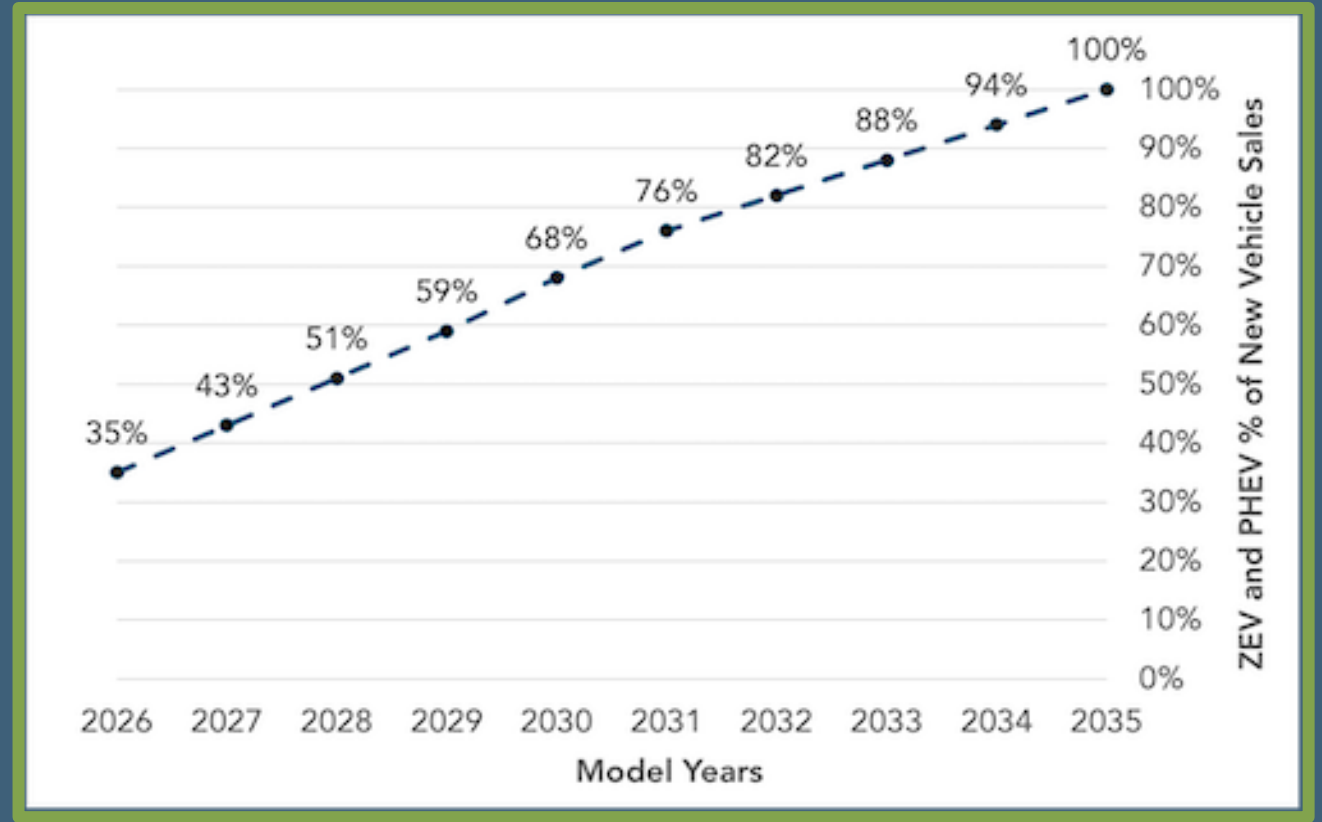
- 6. Level 1 Chargers
- 7. Level 2 Chargers
- 8. Direct Current (DC) Fast Chargers
- 9. Pole-mounted Chargers (PMCs)



Source: FLO

Background

- Advanced Clean Cars II requires all new passenger vehicles sold in California to be zero-emission vehicles by 2035.



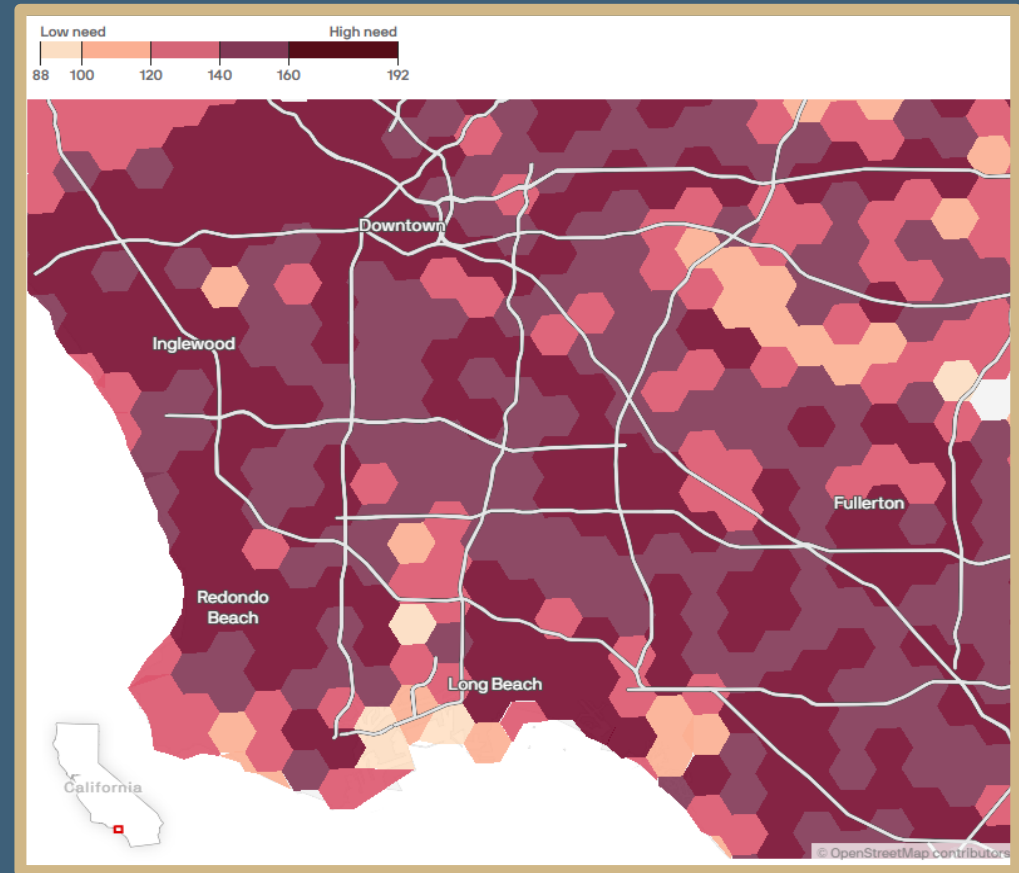
Source: CARB

- Equity in ZEV adoption
 - Populations most affected by pollution and economic challenges
 - Monitor unintended consequences

Current Conditions

Equity Gaps

- ZEV Usage
 - Higher income areas have the highest rates of ZEV adoption
- Charging and Hydrogen Fueling Infrastructure
 - Public charging infrastructure is more accessible in white-majority areas
 - Charging deserts in multifamily dense areas



Source: AXIOS

Equity Gaps

- Environmental Benefits
 - Less air pollution-related health benefits from ZEV adoption for priority populations
- Benefits and Financial Incentives
 - Inaccessible incentives

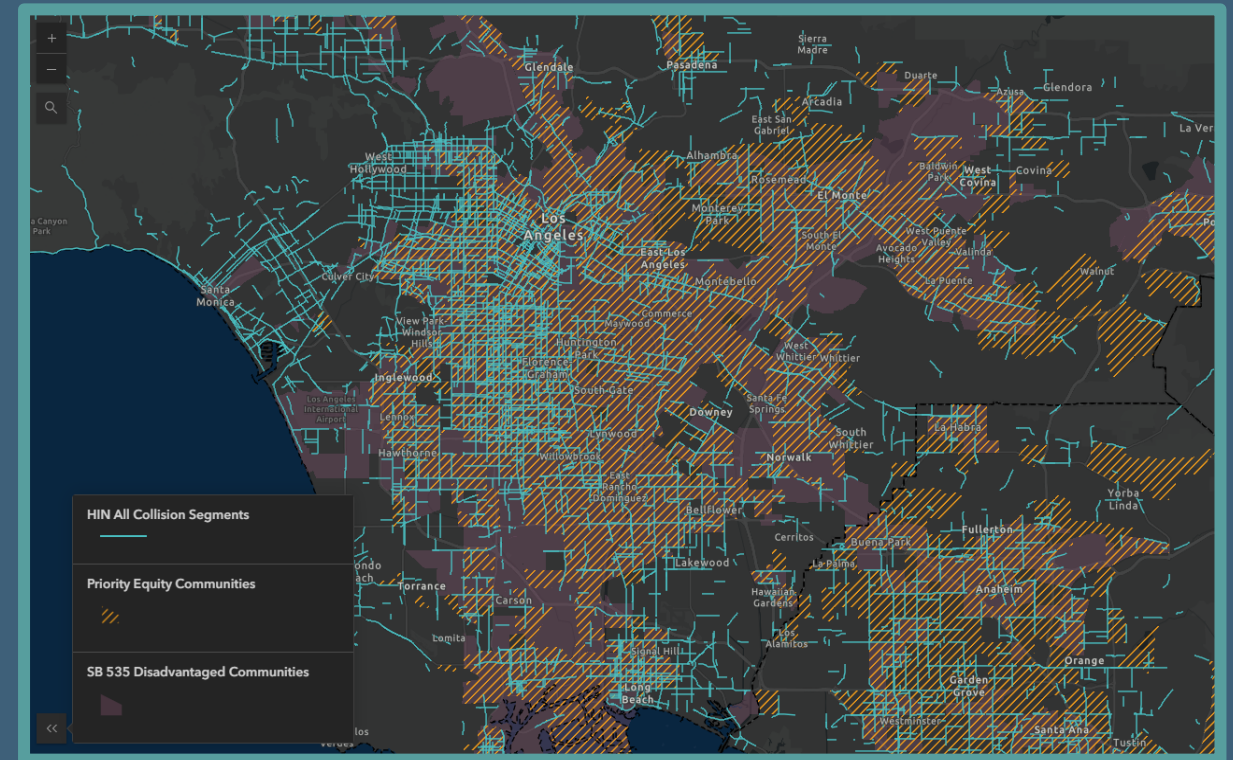


Source: Los Angeles Times

Equity Gaps

- Increased Safety Risks
 - BEVs heavier than ICE vehicles
 - Disproportionately affect priority populations
- User Perceptions and Attitudes
 - Lack of consideration and knowledge of incentives
 - Negative perceptions of charging availability and driving range

SCAG Regional High Injury Network



Source: SCAG

Making ZEVs more accessible

Targeted
community
outreach

Income-based
subsidies

ZEV carshare
programs like
BlueLA, Evie, and
Miocar



Source: CARB

Expanding charging infrastructure equitably



Federal Funding
Initiatives

Workplace
charging

Pole-mounted and
curbside charging
infrastructure

Expanding charging infrastructure equitably

Multi-Unit
Dwellings
(MDUs)

Rebates on
Residential
Charging

Standardized
and Transparent
Charging Pricing



Source: SwtchEnergy

Mitigating increased safety risks

- Vehicle weight taxes

Analyzing and measuring progress

- Metrics on charging deserts
- Concentration of BEV and NZEV chargers and Hydrogen Fuel Stations



Key Takeaways

- Governments play a key role in ensuring that benefits of ZEVs are equitably accessible to the entire population.



Source: East Metro Strong

- Equitable ZEV adoption not only advances **pollution reduction goals** but also ensures that **priority populations** most impacted by **environmental and economic inequities** can participate and thrive in a cleaner, healthier future.

Questions?

References

- Carroll, K., Shaver, L., & Hough, M. (2023, September 25). Many US communities face EV “charging deserts.” 5 strategies can help. World Resources Institute
- Hardman, S., Hoogland, K., & Shafaeen, M. Research Webinar: Increasing Access to Zero-emission Vehicles in Priority Populations. (2024). California Air Resources Board.
- Hardman, S., Fleming, K., Kare, E., & Ramadan, M. (2021). A perspective on equity in the transition to electric vehicle. *MIT Science Policy Review*, 46–54.
- Husak, K., & Font, E. (2023, June). Workplace Charging Barrier Study.
- Jacobs, F. (2023, March 20). *What’s the difference between hydrogen and electric?*. Fleet Europe.
- Jenn, A., & Li, X. (2023). Emissions and Health Impact of Electric Vehicle Adoption on Disadvantaged Communities.
- Ju, Y., Cushing, L. J., & Morello-Frosch, R. (2020). An equity analysis of clean vehicle rebate programs in California. *Climatic Change*, 162(4), 2087–2105.
- Linn, J. (2022, January 21). Balancing equity and effectiveness for electric vehicle subsidies. *Resources for the Future*.
- Muller, J. (2024, June 25). *Surprise: “charging deserts” persist even in EV-crazed cities*. Axios.
- Pierce, G., & DeShazo, J. R. (2019, March 12). DESIGNING LIGHT-DUTY VEHICLE INCENTIVES FOR LOW- AND MODERATE-INCOME HOUSEHOLDS.



SCAG's Future Communities Pilot Program (FCPP): BlueLA Electric Carshare Project

April 1, 2025

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Agenda

- Brief Overview: Future Communities Pilot Program (FCPP)
- About BlueLA
- FCPP's BlueLA Electric Carshare Evaluation Project
- Program Replicability
- Questions & Answers (Q&A)

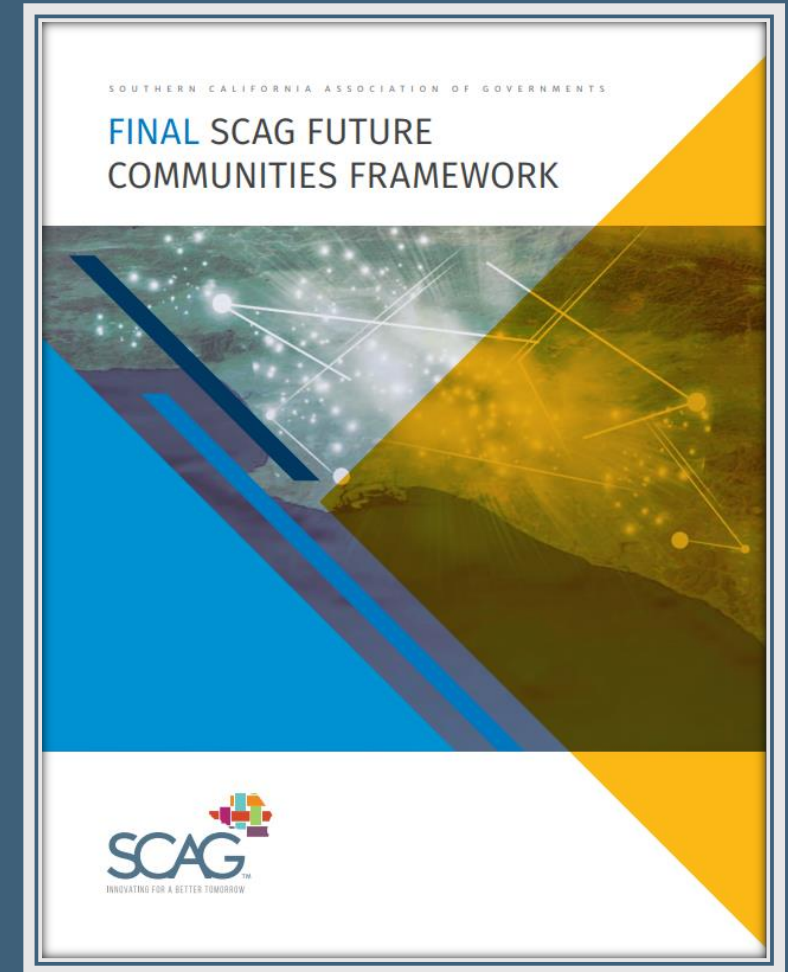




A BRIEF OVERVIEW: FUTURE COMMUNITIES PILOT PROGRAM (FCPP)

The Future Communities Framework & The FCPP

- The FCPP originated in the **Future Communities Framework (FCF)**, adopted by SCAG's Regional Council in 2017
- The **Framework** supported SCAG's role as a leader in technology and innovation
- The FCF outlined several program areas and work products:
 - **The Regional Data Platform (RDP)**
 - **The Future Communities Pilot Program (FCPP)**



The Future Communities Pilot Program (FCPP)

- Project goals included:
 - **Apply new technologies and data analytics to reduce VMT & GHG**
 - **Improve the efficiency of municipal services**
 - **Promote replicable pilots in the region**
- The program aligned pilots with SCAG's long-range planning (RTP/SCS 2020 policies)





THE PILOTS

Pilots Overview

Agency	Project	Objective
City of Anaheim	Smart Center City	<ul style="list-style-type: none">• Integrate real-time parking guidance with the ATN transit planning and ride hailing mobile application (FRAN)• FRAN: “Free Rides Around the Neighborhood” electric shuttle fleet
City of Cerritos	Remote Services Enhancement Project	<ul style="list-style-type: none">• Develop an online permitting and licensing software program offering online self-service, 24/7 real-time information, and record access
City of Los Angeles	BlueLA Electric Carshare	<ul style="list-style-type: none">• Evaluate VMT/GHG reduction from the BlueLA fleet while surveying users for carshare preferences
City of Ontario	Smart City Rapid Validation Hub	<ul style="list-style-type: none">• Implement broadband, micromobility, and intelligent trash bin infrastructure downtown

The Future Communities Pilot Program (FCPP, FY19-20)

Agency	Project	Objective
City of Glendale	Route Optimization and Fleet Telematics	<ul style="list-style-type: none">• Update older street sweeping and garbage collection routes to reduce VMT, GHG, and congestion
City of Monrovia	Incentivizing Bikeshare	<ul style="list-style-type: none">• Encourage mode shift behavior• Incentivize bikeshare participation• Partner with local businesses for zero-emission delivery services
City of Riverside	Integrated Electronic Plans Solution	<ul style="list-style-type: none">• Establish an online development permit process that coordinates review through eight city departments, dozens of blueprints, and multiple rounds of review
County of San Bernardino	Remote Electronic Warrants	<ul style="list-style-type: none">• Upgrade the County's after-hours online system to a fully scalable, 24/7 platform to process warrant applications virtually



ABOUT BLUELA

What is BlueLA?

- One-way station-based EV carsharing system run by LADOT
- Program network operated by Blink Mobility
- Individuals must sign up to be a member before checking out a car
 - Vehicles are unlocked from a charging station using the BlueLA mobile app
 - Vehicles can be used up to 12 hours and must stay within the Counties of LA, Orange, and Ventura.
 - Vehicles must be returned to a station before the battery level reaches 15%



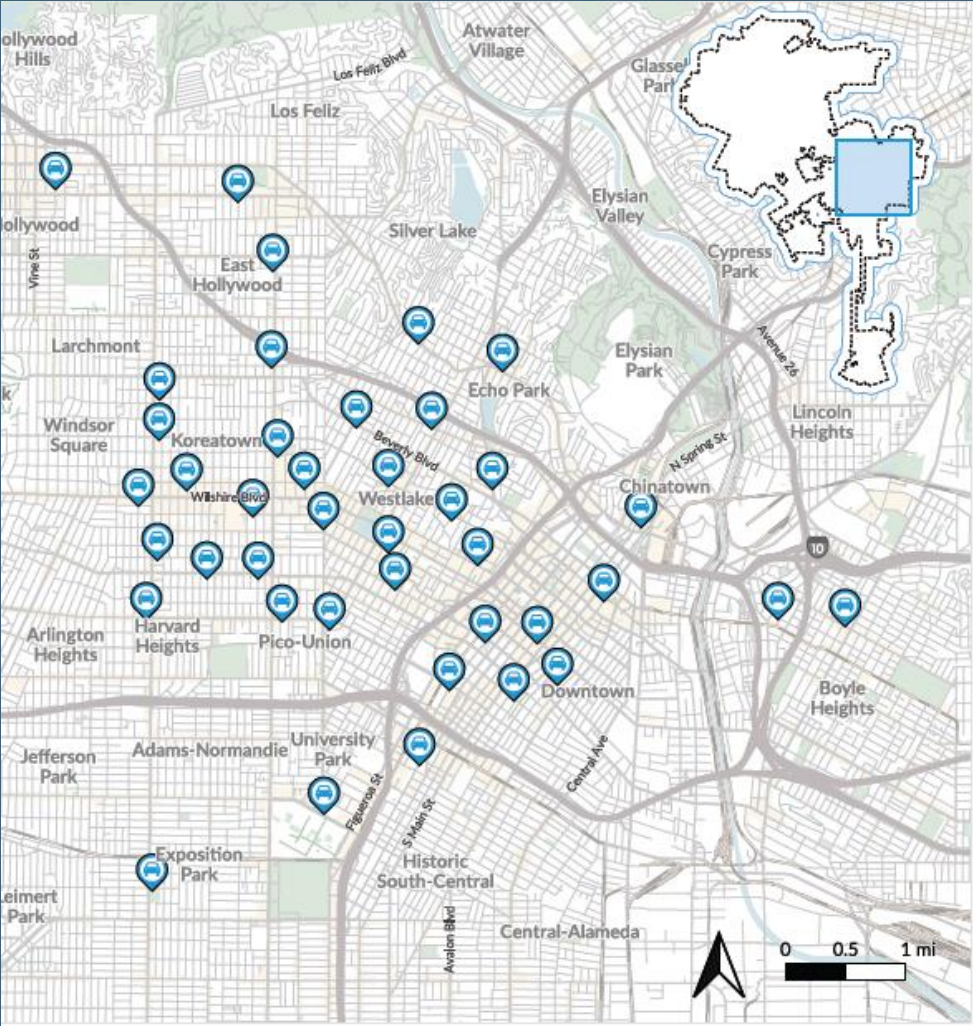
What is BlueLA?

- Program Goals
 - Provide mobility to City residents, with a focus on expanding access in low-income communities
 - Reduce GHG emissions
 - Educate residents about EVs and sustainable transportation alternatives
- Offers discounts to income-qualified users (referred to as “Community Members”)

Pricing*	Standard Member (no discount)	Community Member (discounted)
Monthly Membership Fee	\$5	\$1
Rental Fee	\$0.20/min + tax	\$0.15/min + tax

**3-hour and 5-hour rental packages are also available at a discounted rate*

BlueLA Station Locations





FCPP'S BLUELA ELECTRIC CARSHARE EVALUATION PROJECT

City of Los Angeles' BlueLA Electric Carshare Project

- SCAG partnered with LADOT
- Evaluated the program by tracking performance over time for the following key categories:
 - Productivity and Utilization
 - Membership and Accessibility
 - VMT and Environmental Impacts
- Project data included:
 - System and membership information from 2018-2022 from the previous and current operators
 - 20 months of BlueLA trip data from March 2021 to October 2022
 - Responses from December 2020 member survey
 - Member feedback from focus group interviews conducted by UCLA in 2021

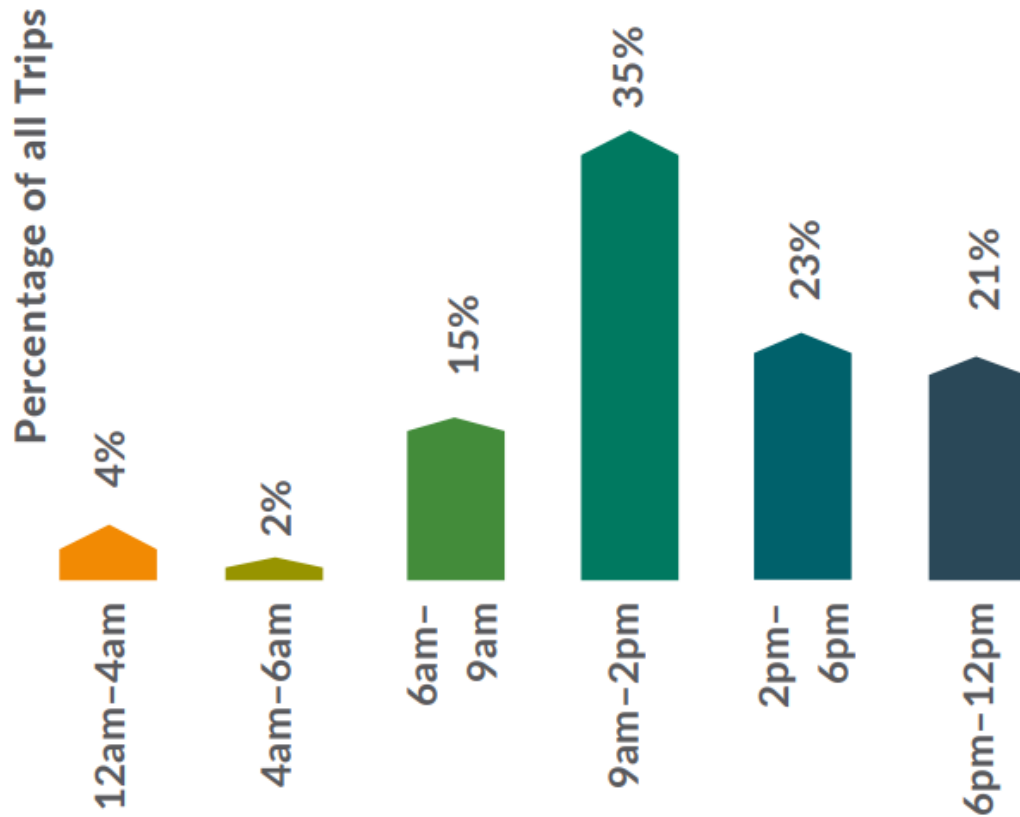
Project Findings: Productivity and Utilization

- The vehicle fleet sees a low-to-moderate rate of utilization, averaging 84 trips/day
- 10 stations account for almost half of total usage
- BlueLA members are substantially more likely to use the service to take long trips
 - Average trip is approximately 39 miles, lasting 5.4 hours
- The public-private partnership model helps minimize city costs

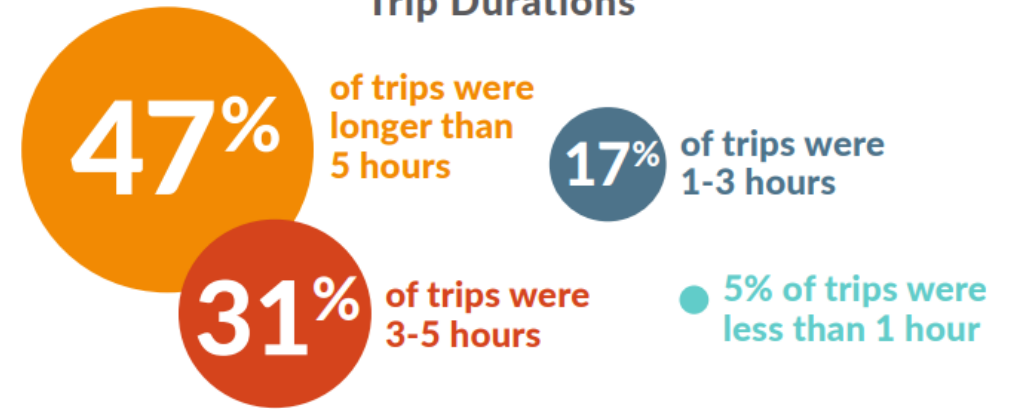


Project Findings: Productivity and Utilization

BlueLA Trips by Time of Day



Trip Durations

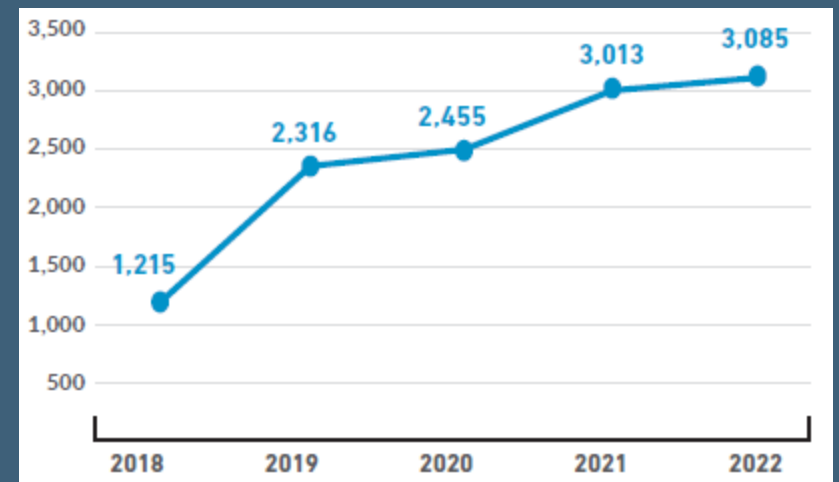


Key Takeaways and Recommendations: Productivity and Utilization

Challenges/Opportunities	Recommendations
Challenge: Small number of stations see the majority of trip-making	<ul style="list-style-type: none">• Expand capacity with new chargers and vehicles at high demand stations.• Identify strategies to increase usage at low-utilization stations.
Opportunity: Tracking trip patterns and station usage over time can support decision-making over fleet size changes and station expansion	<ul style="list-style-type: none">• Use spreadsheet tool for CARB & annual reporting.• Develop a data collection plan and add the following KPIs:<ul style="list-style-type: none">• Vehicle downtime (maintenance requests, other downtime).• Active members (Community vs. Standard).• Percent of time stations have zero vehicles available.
Challenge: Data exchange is irregular since data protocols are not formalized for all KPIs.	<ul style="list-style-type: none">• Create a data sharing schedule with regular data transfer from Blink Mobility.• Coordinate with Blink Mobility to obtain additional data where needed.

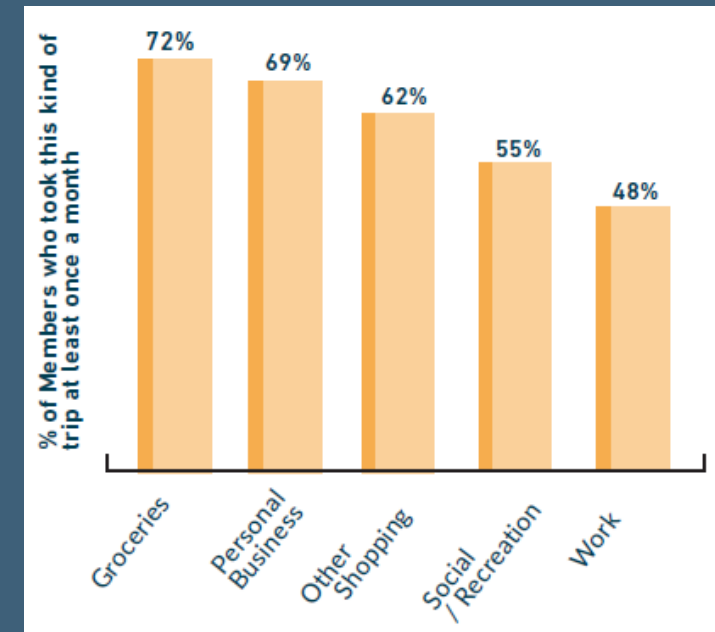
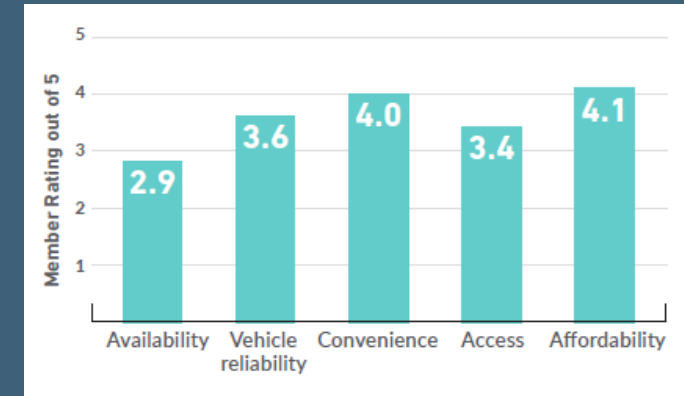
Project Findings: Membership and Accessibility

- Member increase of 154% over four years
- 67% of member survey respondents were in zero-vehicle households
- BlueLA expands member access to key destinations and services
 - 30% of BlueLA trips would not have been made without the service



Project Findings: Membership and Accessibility

- Members are highly satisfied with the program due to:
 - Affordability of service
 - Convenience in accessing vehicles
 - Opportunity to delay/avoid personal vehicle ownership
- Community Members make up 49% of BlueLA's membership and take more than half (52%) of trips
- Most common types of trips were getting groceries and conducting personal business



Key Takeaways and Recommendations: Membership and Accessibility

Challenges/Opportunities	Recommendations
Opportunity: Many BlueLA members are multimodal, and use multiple modes as part of their BlueLA trips.	<ul style="list-style-type: none">• Enable BlueLA payments via TAP cards or the developing Universal Mobility Wallet to streamline connections and payments across transportation modes.
Opportunity: Individuals in small households without access to vehicles are a prime target audience for BlueLA service.	<ul style="list-style-type: none">• When determining new station locations or outreach methods to grow membership, focus on areas with:<ul style="list-style-type: none">• Higher percentage of low-income households• Single-person households• Households with limited access to vehicles
Challenge: Users have concerns about vehicle availability.	<ul style="list-style-type: none">• Review station occupancy data to confirm these concerns align with high use stations.• Expand capacity with new chargers and vehicles at high demand stations.

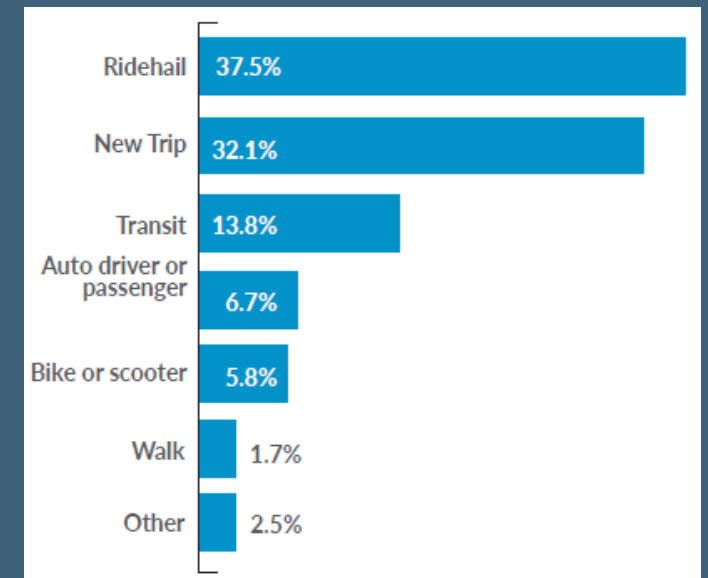
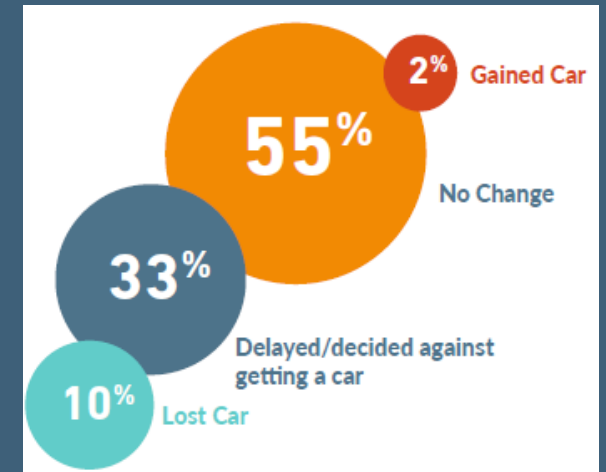
Project Findings: VMT and Environmental Impacts

- VMT was reduced for BlueLA members
 - Over half of BlueLA trips were new trips or replaced, which led to an increase in VMT per trip
 - However, this increase was offset by vehicle suppression and shedding, leading to an overall potential reduction of 2.8 VMT per BlueLA trip
- BlueLA contributes to reduced emissions
 - Program vehicles reduced annual gasoline consumption by nearly 20,000 gallons of gasoline-equivalent
 - The electric nature of BlueLA vehicles contributed to an approximate 172 metric ton reduction in GHG emissions



Project Findings: VMT and Environmental Impacts

- 98% of respondents from the 2020 member survey had not added a car to their household since joining
- ~56% replaced a trip that otherwise would have been taken using transit, active modes, other modes, or would not have been made otherwise
- ~38% replaced a trip that otherwise would have been taken using ridehail
- ~7% replaced a trip that otherwise would have been taken in a private automobile



Key Takeaways and Recommendations: VMT and Environmental Impacts

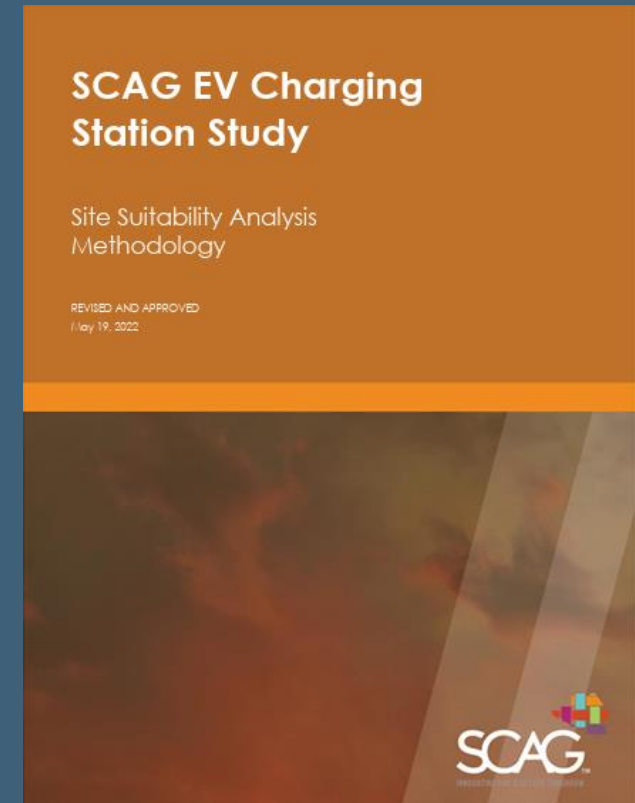
Challenges/Opportunities	Recommendations
<p>Challenge: VMT reduction from BlueLA depends on long-term VMT offsets resulting from delayed purchase or vehicle shedding outweighing VMT increases from carshare trips replacing non-auto travel modes.</p>	<ul style="list-style-type: none">• Additional research on the long-term impacts of carshare on car ownership.• Incorporate carshare/BlueLA into TDM strategies and development requirements.• Track power usage and source to understand GHG impacts from renewable energy.• Incorporate and enhance the GHG benefits when applying for funding.
<p>Challenge: Charging and electricity usage data is inconsistent and not regularly tracked by LADOT.</p>	<ul style="list-style-type: none">• Strengthen partnerships with utility providers and revise data sharing procedures to receive electricity usage and cost data.• Maintain charger data with proactive maintenance procedures.

Program Replicability: Keys to Success

- Identify locations that have the greatest overlap of zero vehicle households and potential to support EV infrastructure and adoption
- Strategic siting of stations in under-resourced communities
- Targeted outreach working in partnership with local community-based organizations and multifamily housing complexes
- Discounted memberships for low-income residents, made feasible by grant funding and public-private partnership savings

EV Carshare Potential in the SCAG Region

- Identified parts of the SCAG region that could be good candidates for EV carshare using SCAG's PEV Site Suitability Scoring Methodology Report
 - 18 participating cities had an "EV Carshare Readiness" score calculated
- EV Infrastructure Categories:
 - **Expanding**: Cities with substantially built out EV infrastructure and that are looking to expand into hard-to-reach areas
 - **Progressing**: Cities with some EV infrastructure, but with significant gaps to fill
 - **Initiating**: Cities with little to no existing EV infrastructure



EV Carshare Potential in the SCAG Region

City	% of City with 5.5%+ Zero Vehicle Households	Average Standard EV Charging Station Score (SCAG)	EV Infrastructure Status	% of City with High or Very High EV Carshare Readiness
Culver City	13%	69.9	Expanding	42%
Long Beach	34%	80.3	Expanding	17%
Los Angeles	40%	80.7	Expanding	20%
Pico Rivera	47%	67.2	Initiating	17%
Rosemead	41%	78.7	Initiating	25%
South El Monte	84%	67.3	Initiating	42%



THANK YOU!

For more information, please visit:

<https://scag.ca.gov/post/future-communities-pilot-program>

<https://ladot.lacity.gov/bluela>

Questions? Contact:

Shannon McAlpine (mcalpine@scag.ca.gov) or Marisa Laderach (laderach@scag.ca.gov)



Curbside Charging in NYC

Southern California Association of Governments'

Toolbox Tuesday: Advancing Equity in the Transition to Zero-Emission Vehicles

April 1, 2025



Pilot Background

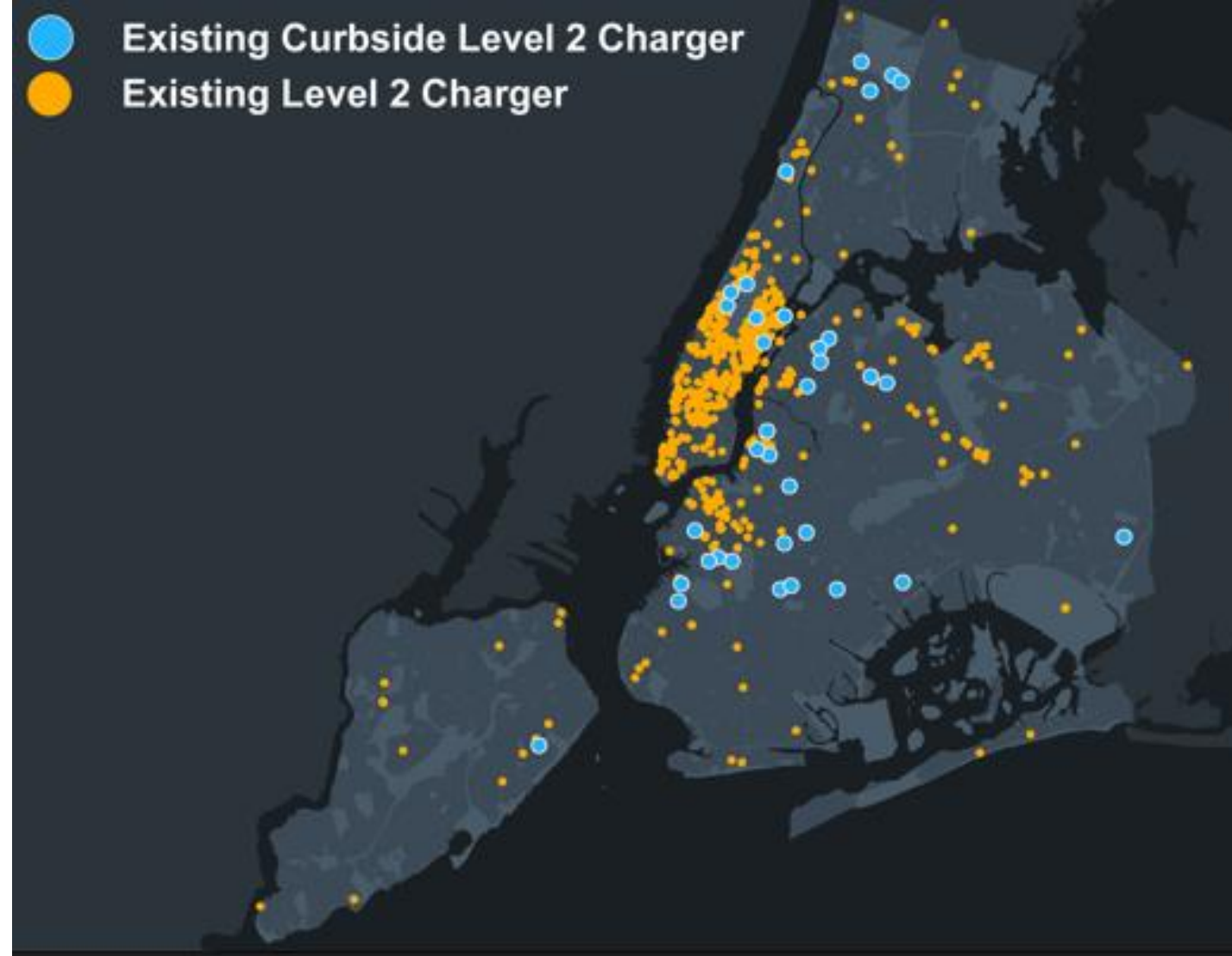
- **Partnership:** Con Ed and DOT installed 100 public Level 2 EV charging plugs on city streets. Con Ed selected the operator (FLO).
- **Funding:** Provided by Con Ed.
- **Schedule:** Began in July 2021; all chargers in service as of summer 2022.
- **Regulation:** EV Charging Only; vehicle must be charging to be in compliance.
- **Price:** \$2.50/hour peak, \$1.00/hour off-peak
- [Curb Enthusiasm Report](#) & [Curbside Charging 18-Month Evaluation Report](#)



Pilot Background

Locations

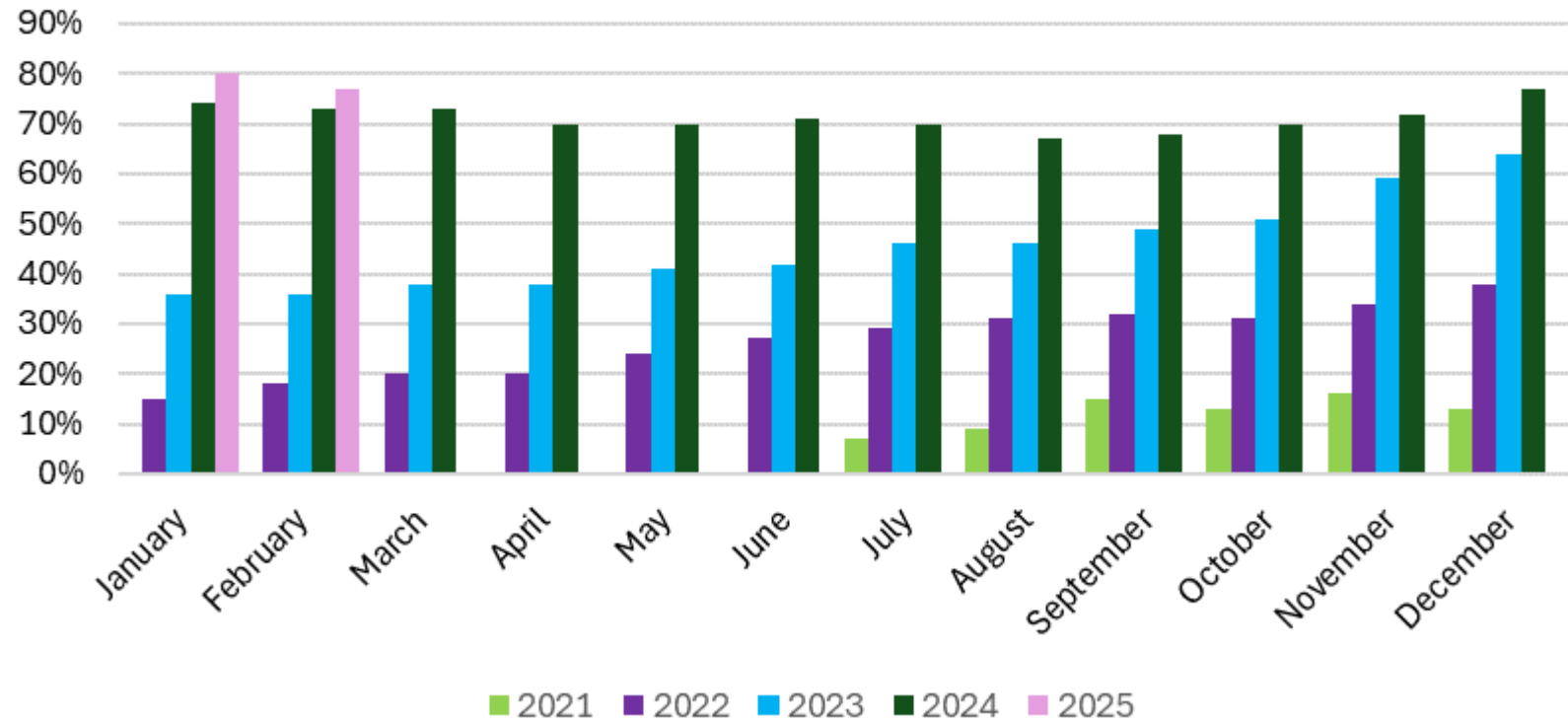
- 57% of pilot sites are in disadvantaged census tracts (USDOT)
- Many pilot sites are in public L2 charging deserts
- Half of public charging is concentrated in the Manhattan core



Pilot Utilization

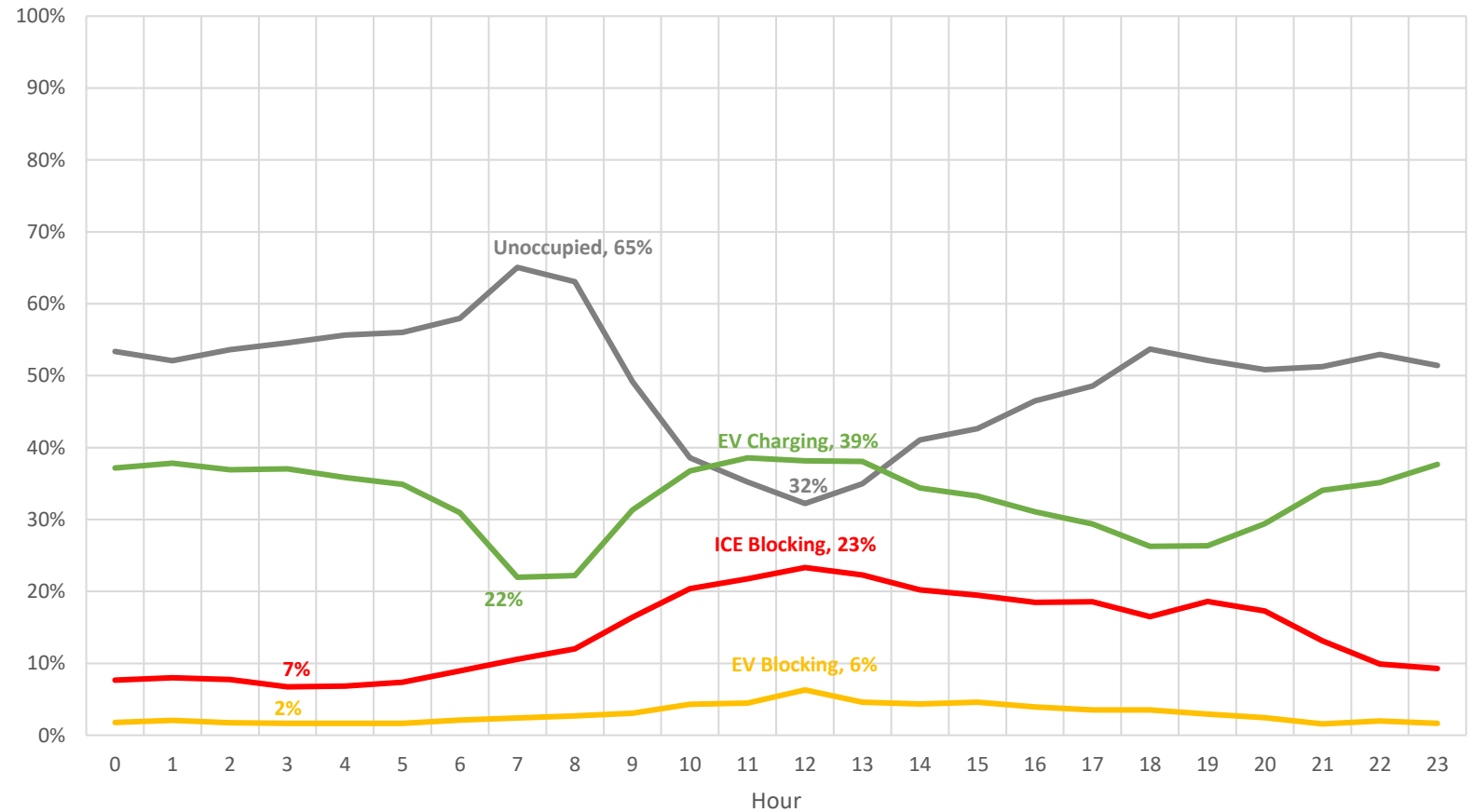
- **Utilization** = percent of time (out of 24/7) an EV is plugged in.
- **Average utilization** for 2024 so far exceeds **70%**, almost all sites exceed 50%, many exceed 80%: **very high** for public L2 chargers.
- **Average uptime: 99.9%**
- **Median session time: 3.5 - 4.5 hours**
 - User pays per hour as long as they are plugged in
 - Energy is being dispensed an average of 80% of the time

Curbside Charger Utilization



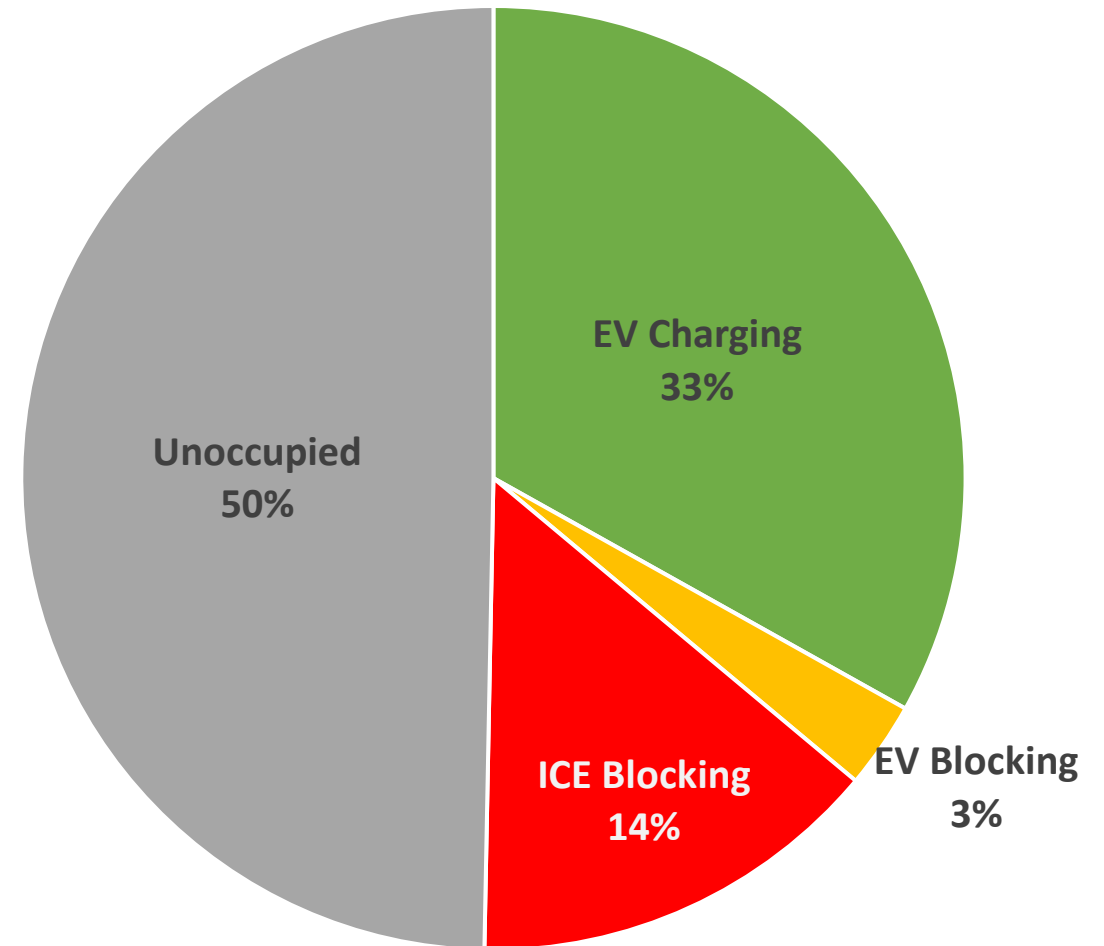
Pilot Utilization by Hour

- Charging **peaked midday** and **overnight**, dropping during commuting hours
- Both legal and illegal parking **peak midday**, but illegal parking is **less frequent overnight**



Pilot Utilization – Blocking?

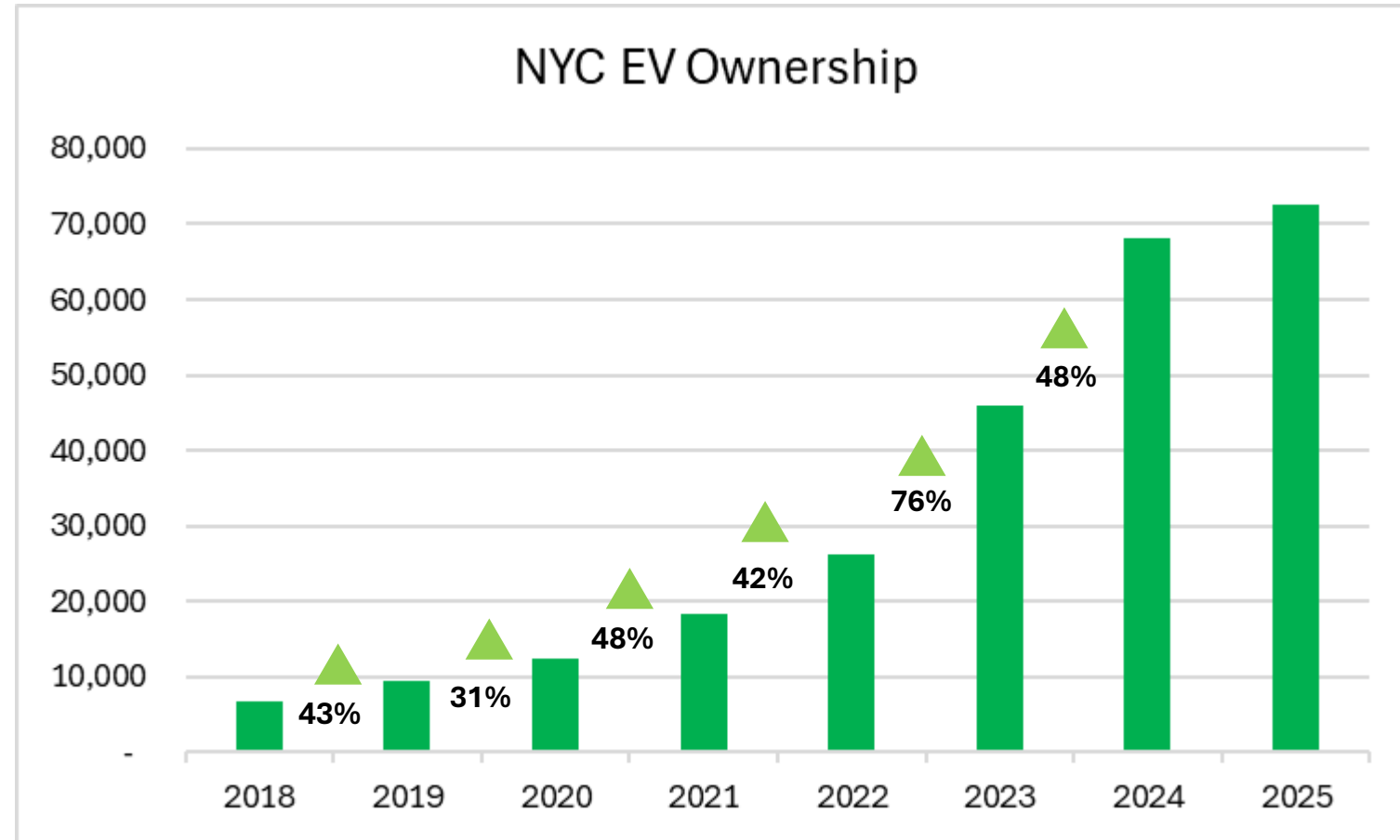
- Overall, **vehicles** were **parked** in **EV charging spaces** about **half** the observation period (January 2023)
- When vehicles were present, they were **plugged in** about **65%** of the time, and **blocking** the space **about 35%** of the time.
- Charging and blocking characteristics **varied greatly by location** and **time of day**
- The timelapse study was conducted in **January 2023**, **utilization** has **more than doubled** since then
- Now, there is **less** opportunity for **blocking**, **more queuing** occurring



State of EVs in NYC

EV Ownership

- Over 72,000 EVs in the city;
26% of EVs in New York State
- EV split: 60% BEV, 40% PHEV
- Majority of EVs in NYC
(65%+) registered in Brooklyn
and Queens
- For context, total number of
LDV registrations in NYC =
1.8M - 2M units



**2025 is based on March registrations*

Next Step: Building on Success of the Pilot

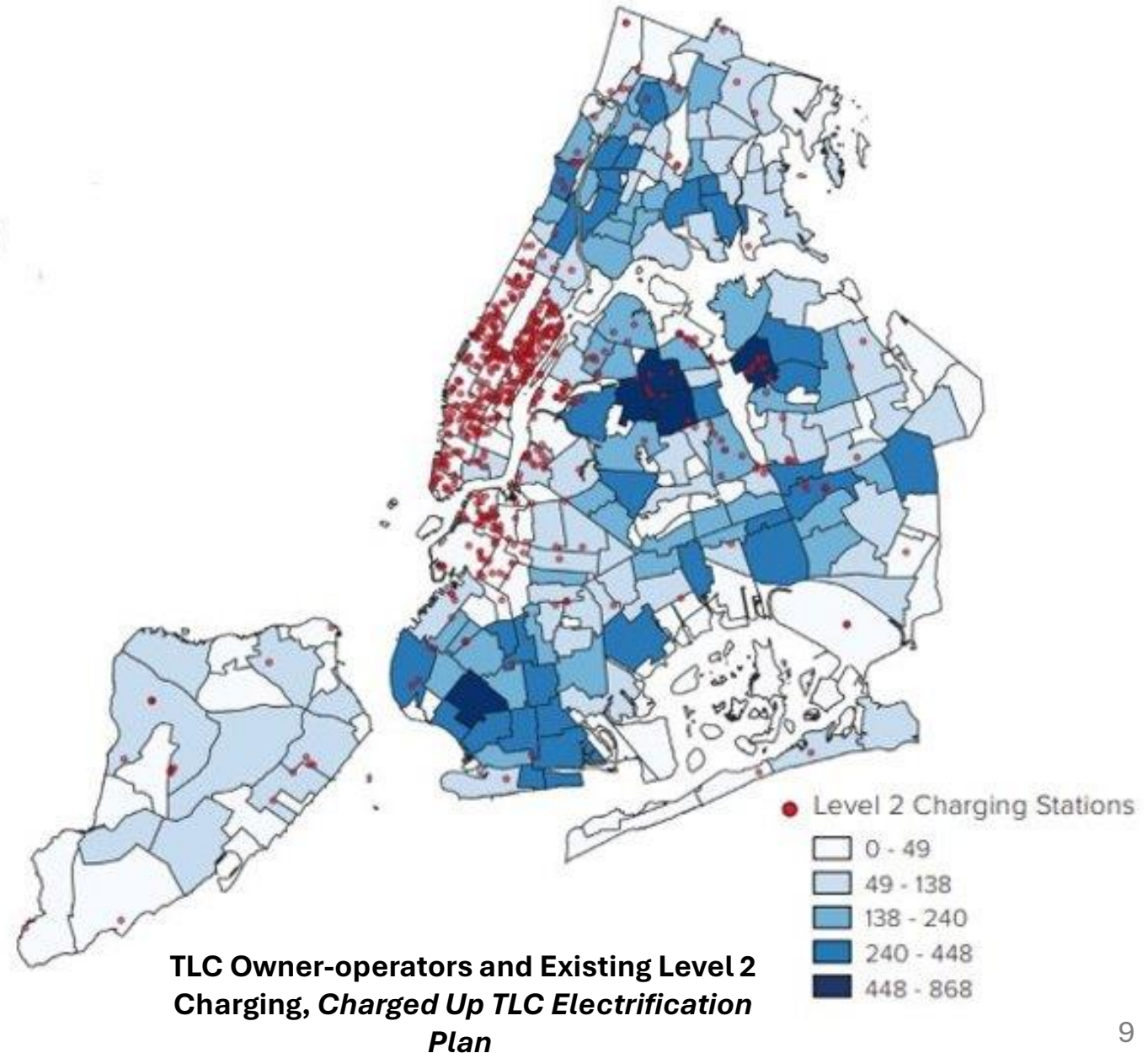
Need: Curbside charging is key part of NYC's overall EV charging strategy

- Nearly half of NYC vehicle owners park on-street, need a place to charge
- Pilot performance demonstrates robust demand for additional chargers
- Supports Adams Administration's commitment to electrify taxi/FHV fleets and to expand charging

Expansion Strategy

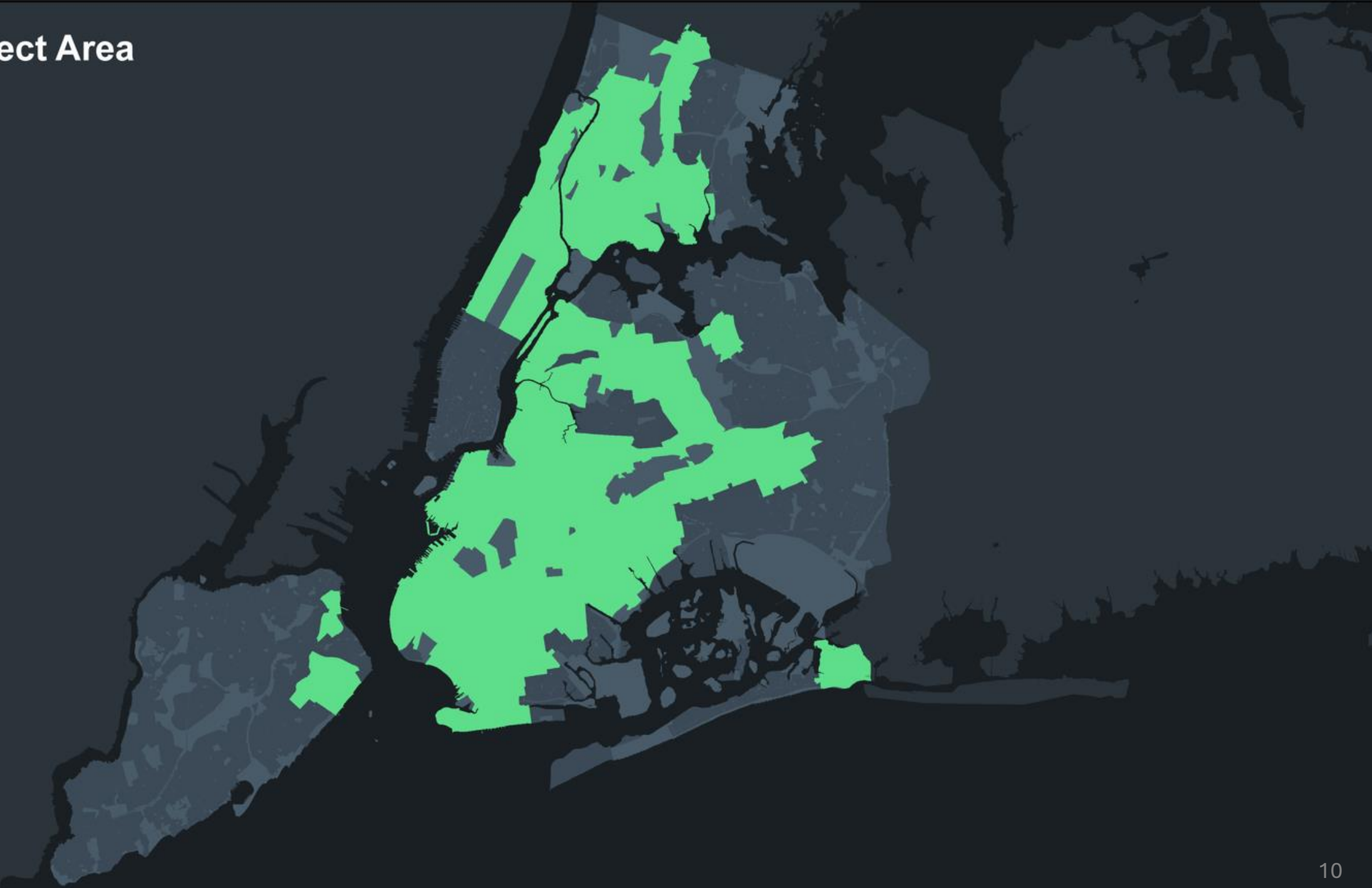
- **Priorities:**

- Neighborhoods where TLC drivers live
- At least 50% of sites would be in disadvantaged communities
- High-density areas w/ limited off-street parking
- Micromobility charging at select locations; following “dig once” philosophy.





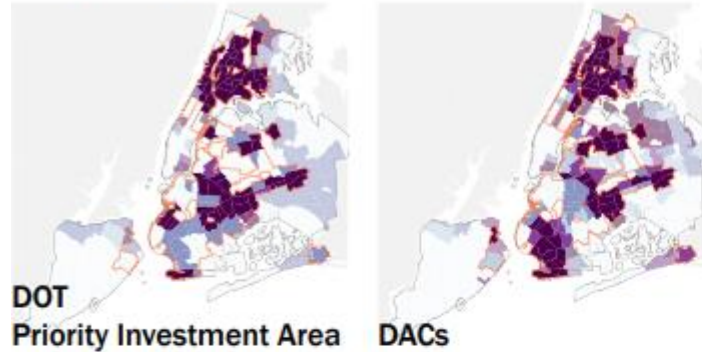
Project Area



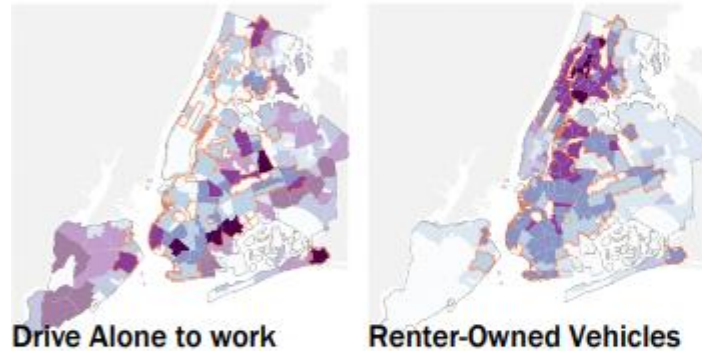
Siting

- Factors for identifying which neighborhoods to prioritize for more or fewer new chargers
- Also seeking to spread the project further and not overly clustered

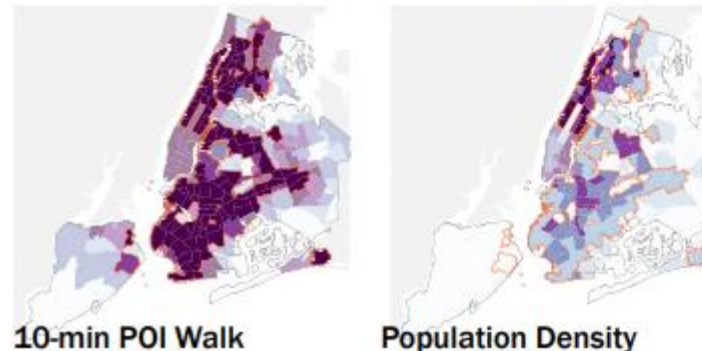
Equity



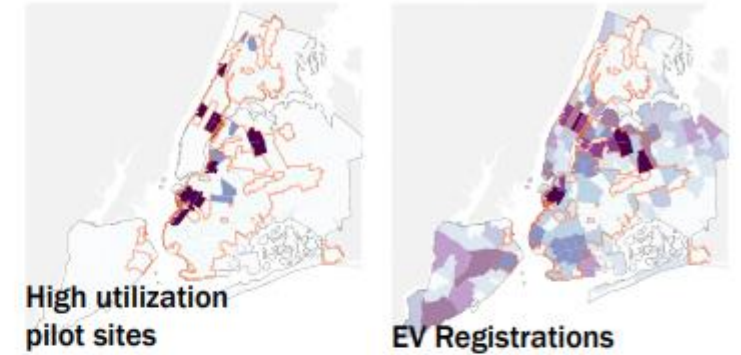
On-street parkers



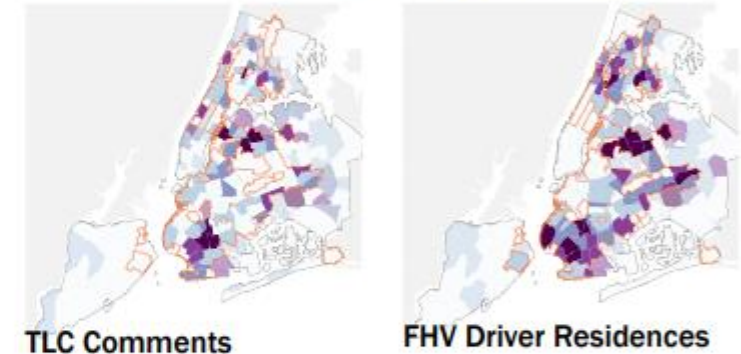
Land use & density

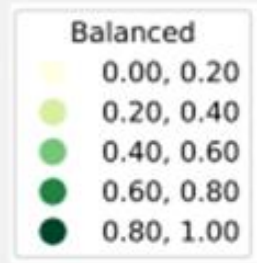


EV demand



FHV driver demand





weights

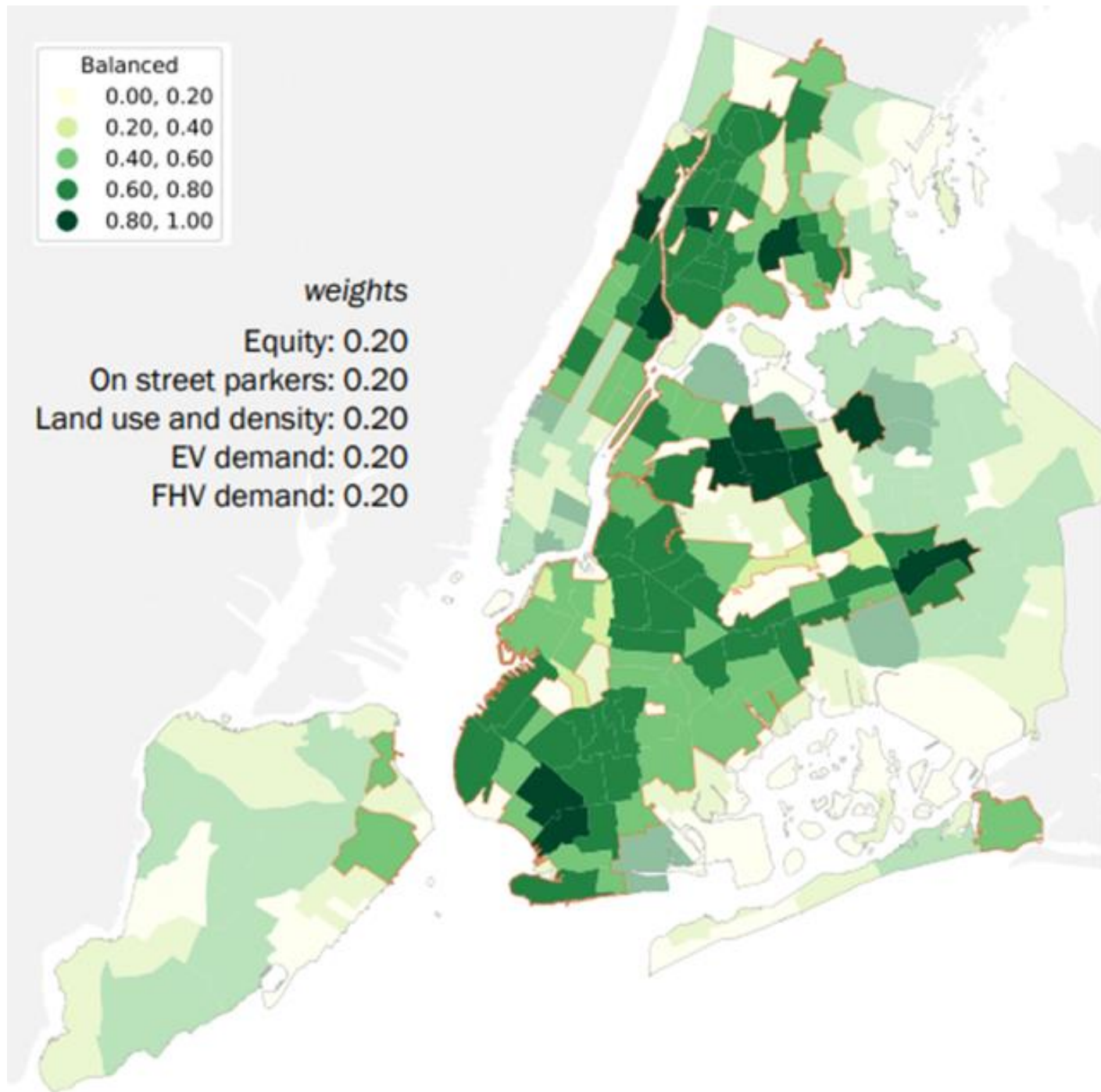
Equity: 0.20

On street parkers: 0.20

Land use and density: 0.20

EV demand: 0.20

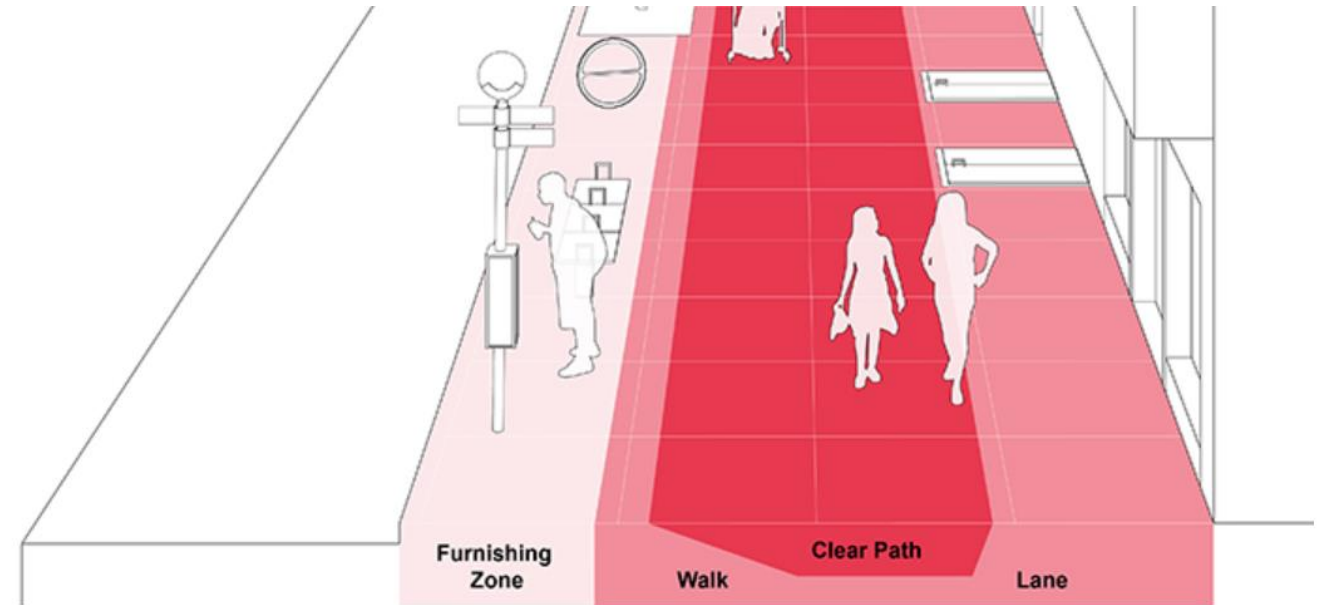
FHV demand: 0.20



Siting on NYC Sidewalks

EVSE siting will be in the "furnishing zone"

- 18" minimum EVSE setback from curb edge
- 5' minimum Clear Path for pedestrians
- 10' clearance from [corner quadrant](#)
- 5' minimum **lateral** distance from a building entrance
- 25' minimum **lateral** clearance from main entrance of a major building, school, or hospital



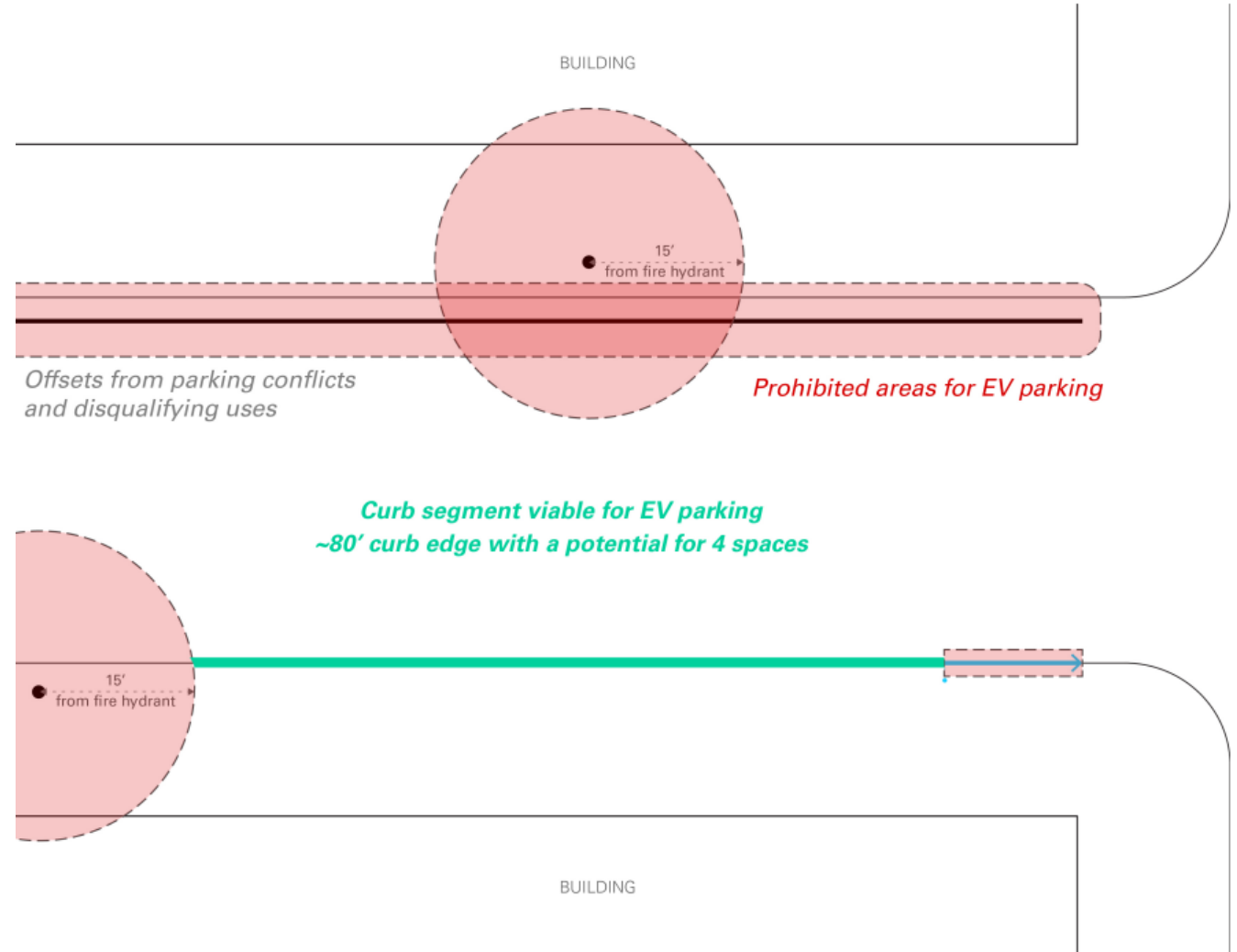
Corridor Category	Sidewalk Width	Furnishing Zone	Walk Lane	Clear Path
Baseline Street	8' +	3'	5'	4'
Community Connector	10' +	2'	8'	5'
Neighborhood Corridor	15' +	3'	12'	8'
Regional Corridor	20' +	5'	15'	12'
Global Corridor	25' +	5'	20'	15'

Reference: [NYC Streets Plan](#)

Siting – Disqualifying Factors

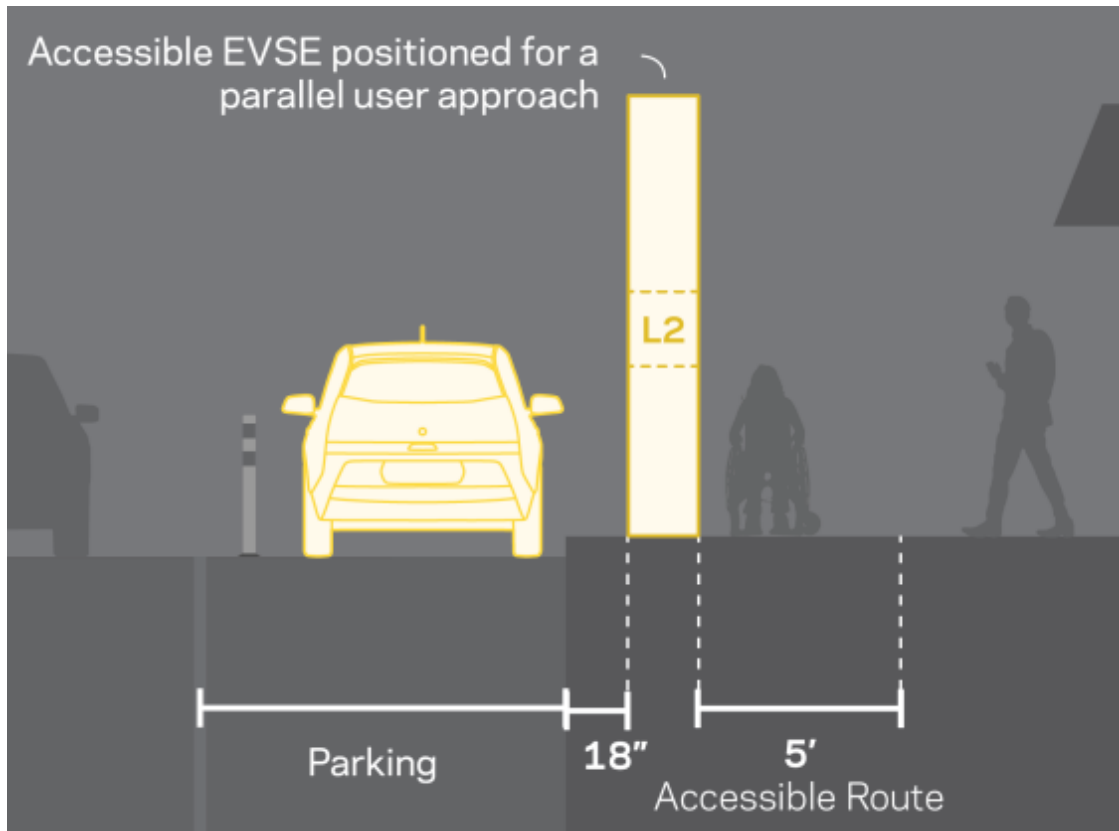
Sites **will not** be located:

- Outside of the project area
- Within 15 feet of a fire hydrant
- Within no parking/no standing zone
- On highways, ramps, bridges, or in tunnels
- On a street with a bike lane (unless under a viaduct)
- On a street with a bus lane (unless under a viaduct)
- On the same block as a DSNY garage, NYPD precinct, or FDNY fire station
- Along a sidewalk that is less than 8 feet wide (unless under a viaduct)
- Where curb segment is less than 80 feet long
- Where there are no parking regulations (unless under a viaduct)



EV Equipment Installation

Dimensional Criteria

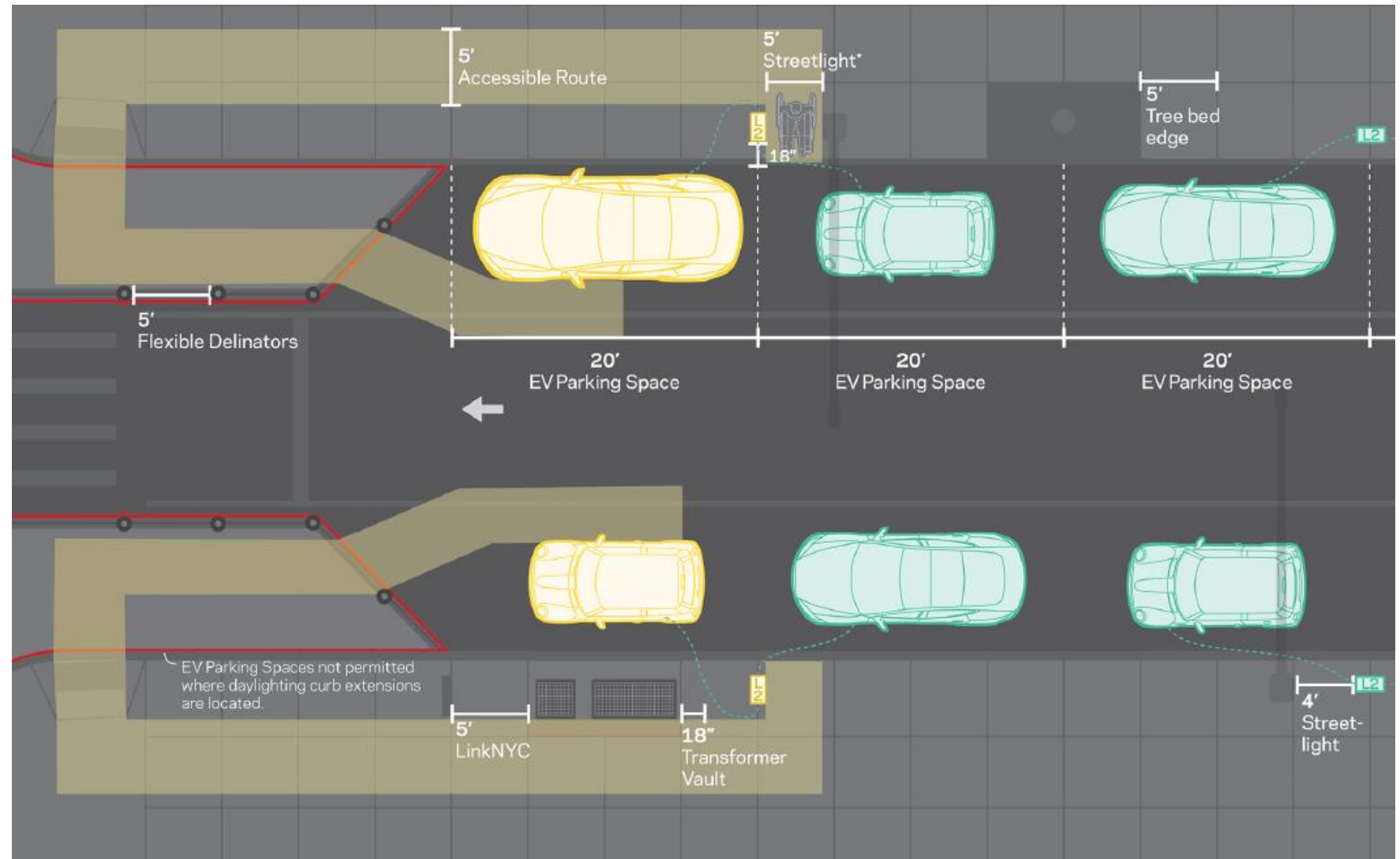


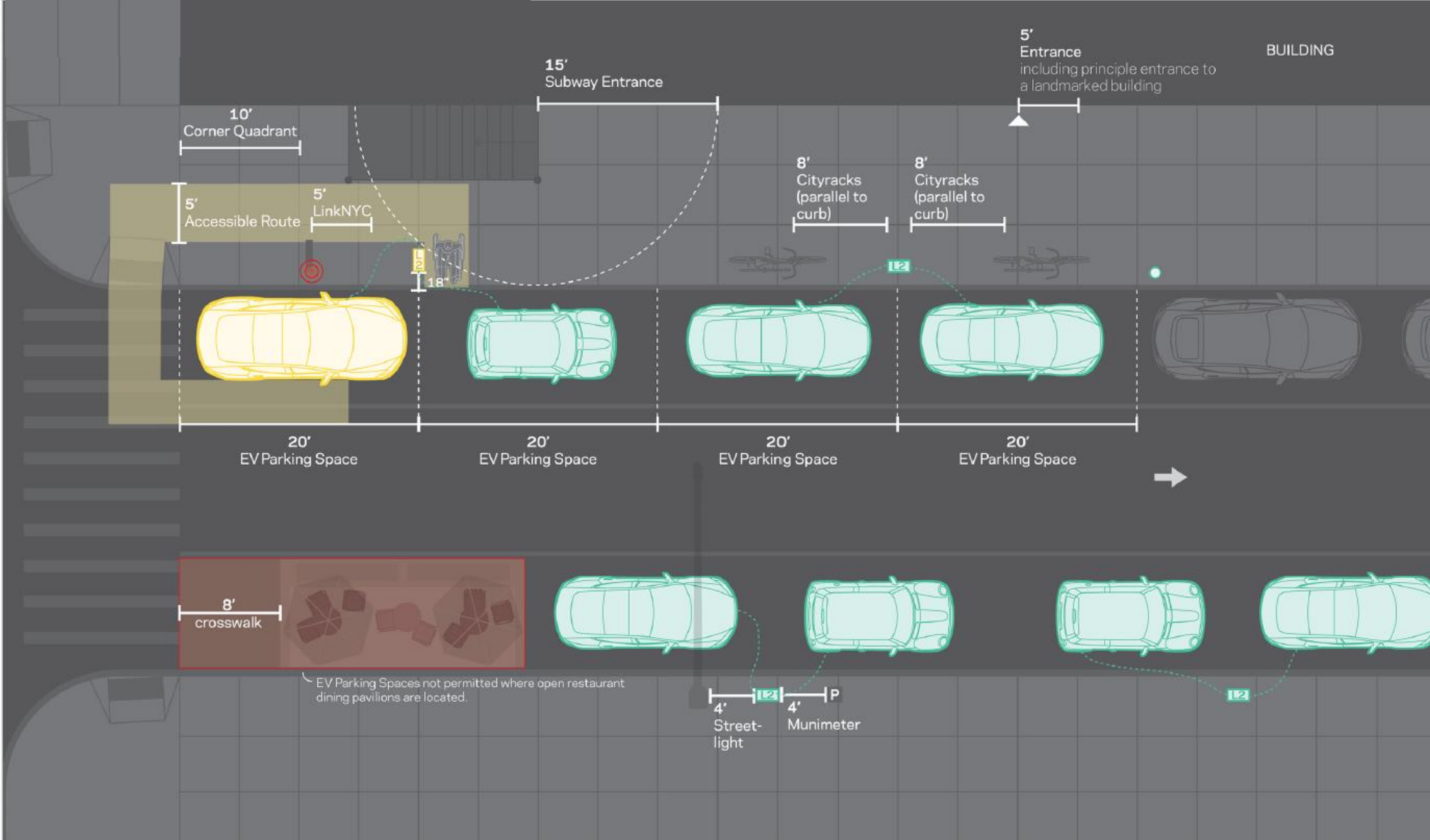
Curbside Install (WEST 76TH STREET, UWS)



Site Design

- ADA Accessibility
- Integration with:
 - Existing street furniture
 - Outdoor dining
 - Bike infrastructure





RESIDENTIAL

FRONT YARD

5' Entrance
including principle entrance to a
landmarked building

5' Clear Path

5' Tree Pit (Pit Edge)
Planter

15' Fire Hydrant

20' EV Parking Space

20' EV Parking Space

20' EV Parking Space

20' EV Parking Space

80' Regulatory Signage

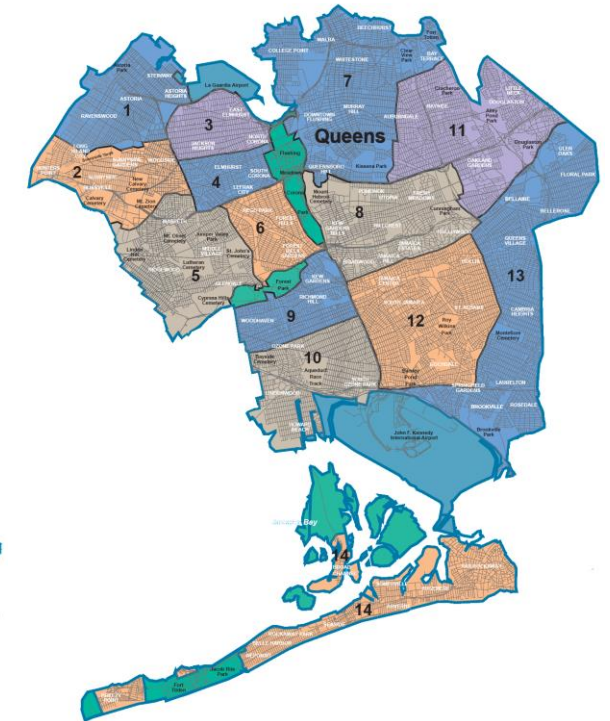
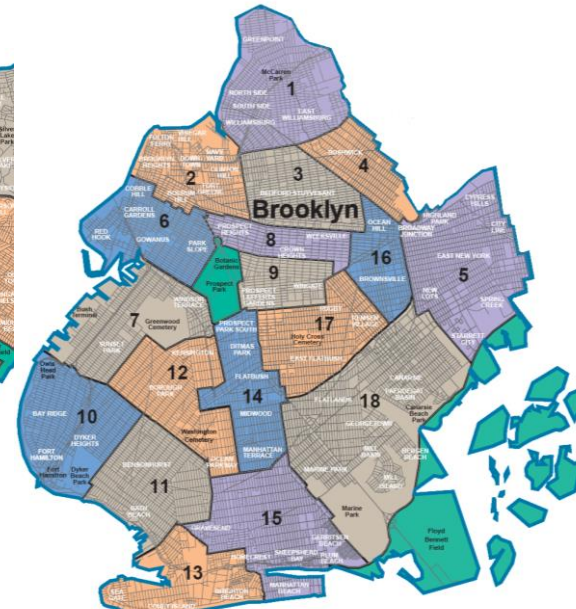
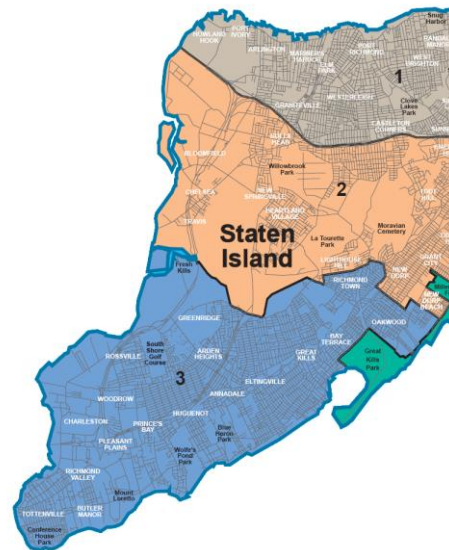
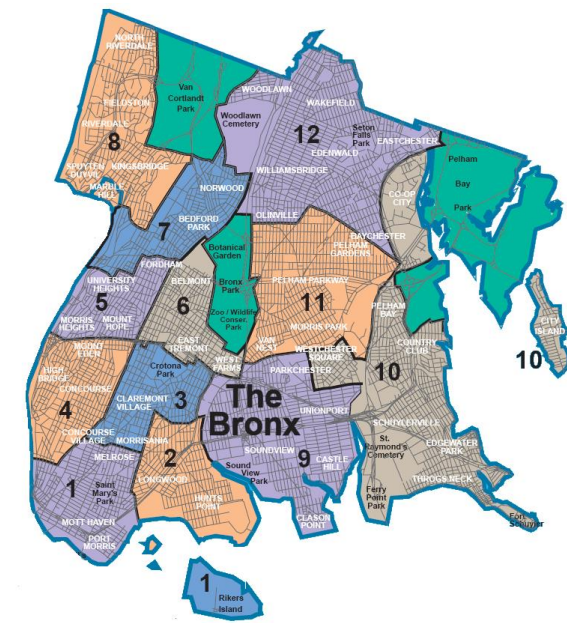
EV Parking Spaces not permitted within 15' of a fire hydrant



Outreach and Finalizing

Finalize sites after:

- Individual site assessments
- Community Board outreach (see maps)
- Conflict checks
- Subsurface investigation
- Initial design



Conclusion

- Pilot has exceeded all expectations; EVs are gaining acceptance in NYC
- NYC EV registrations increased over 300% since pilot inception
- High utilization (~80%) helps justify expansion strategy
- Expansion priority shift from testing 'typologies' to providing support for priority/mandated fleets and other priority areas
- DOT will continue to work with affected stakeholders and community leaders to reduce concerns about reductions in available street parking

Thank You!



NYCDOT



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Tell us how we did!

Take a quick 2-minute survey to help us improve future Toolbox Tuesdays!



SCAN ME