veo



TOO HOT TO TROT

SCOOTING THROUGH EXTREME WEATHER

What rider experiences with extreme heat, poor air quality, and wildfire conditions mean for city transportation planning.

November 2026

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Executive Summary

Extreme heat, poor air quality, and wildfire smoke are increasingly common in cities around the world. These conditions change how people travel, but don't change their need to get around. Veo surveyed over 2,600 riders in seven locations and held follow-up focus groups to understand how these extreme weather circumstances shape their travel choices.

This research effort found that riders use shared micromobility during a range of extreme heat, poor air quality, and wildfire conditions:

- 58% of respondents across all seven locations had ridden during extreme heat.
- 44% of respondents in the air quality focus areas had ridden during periods of poor air quality.
- 24% of respondents in wildfire-prone study areas had ridden during wildfire conditions.

Five findings stand out:

1. **Riders use shared micromobility to shorten time outdoors—and need information to guide their decisions:** Some choose a scooter or bike to avoid longer walks or waits for the bus in heat or poor air quality. Others shorten trips, travel at different hours, or switch modes. Responses suggest poor air quality is a greater deterrent to riding than heat, with riders citing concerns about breathing unhealthy air and physical exertion. Riders need timely, accessible information about conditions, health risks, and official guidance to help them decide whether, when, and how to travel.
2. **Shared micromobility must be available and affordable:** A shared ride is only practical when riders can find a suitable vehicle within a reasonable walk and park close to their destination—at a price they can afford.
3. **Vehicle choice and protected routes expand access:** Seated vehicles offer comfort and stability for some riders, throttle-assist options reduce physical effort, and cargo capacity helps people carry essentials. Standing scooters provide another option when seats become too hot. Connected, protected bike lanes give riders space away from car traffic and can make them more comfortable choosing a shared scooter or bike.
4. **Wildfire conditions require targeted planning:** Among survey respondents in wildfire-prone areas, 6% reported using shared micromobility to reach safety or evacuate, while 55% said they would consider it in the future. Beyond evacuation, shared scooters and bikes may help people make essential trips when wildfire conditions disrupt local transportation systems. Their practicality depends on fire and smoke conditions, road closures, travel distances, and individual needs. Cities, emergency officials, and operators should coordinate to identify when and where shared micromobility can support travel during wildfire disruptions.
5. **Nondrivers may benefit the most from micromobility in extreme weather:** Access to shared micromobility during extreme weather may be especially consequential for nondrivers and riders with low incomes, disabilities, and health conditions like asthma. Decisions about vehicle placement, fleet accessibility, and pricing must account for residents who may have few affordable alternatives when extreme conditions disrupt their usual trips.

These findings offer cities and operators a practical agenda: prepare micromobility fleets and service protocols before extreme weather occurs, safely connect riders to essential destinations, and coordinate clear communication between riders, operators, and city officials. Incorporating shared micromobility into transportation and emergency plans can help enhance transportation access while defining its role — and limits — during emergencies.

Introduction

Extreme weather is changing what it takes to move through cities. Unusually hot summer days and nights have become more common across the United States, and heat waves are projected to grow more frequent, severe, and long-lasting.[1] On some hot days, the challenges compound: heat and sunlight can worsen ground-level ozone, while shifting winds can bring wildfire smoke into a community within hours. These conditions can turn an ordinary trip to work, the grocery store, or a transit stop into a decision about comfort, health, and safety.

For many people, staying indoors until conditions improve is not possible. Someone commuting to work during a heat wave may need to choose among walking, waiting at an uncovered bus stop, taking a shared scooter or bike, or paying for a more expensive ride-hail trip. Which options are feasible depends on access to a car, cost, and the transportation services available nearby.

During weather-related emergencies, those options can change quickly. Roads may be blocked, transit disrupted, ride-hail vehicles unavailable, and shared scooters or bikes difficult to find or unlock. The Federal Highway Administration (FHWA) recommends planning for alternate routes and transportation modes so residents have options when parts of the transportation system become unusable.[2]

Through a rider survey and focus groups, this report examines how people decide whether to use shared scooters and bikes during heat waves, poor air quality, and wildfire conditions. It explores how health, physical comfort, safety, and cost shape those decisions—and what would make these services more dependable. These tradeoffs are especially consequential for riders with health conditions or few transportation options.

As cities work to reduce transportation emissions and prepare for more disruptive extreme weather, shared scooters and bikes have a role to play in both efforts. Understanding how riders use these services during extreme weather can help cities better support residents' transportation needs and identify practical steps to make shared micromobility a more dependable option.

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1 U.S. Climate Resilience Toolkit. (n.d.). Extreme heat. https://toolkit.climate.gov/extreme-heat

Nolte, C. G., et al. (2023). Air quality. In Fifth National Climate Assessment, Chapter 14. U.S. Global Change Research Program. https://research.fs.usda.gov/treesearch/68776

2 Federal Highway Administration. (2007, November). Planning considerations. In Using highways for no-notice evacuations (Chapter 5, Report No. FHWA-HOP-08-003). U.S. Department of Transportation. https://ops.fhwa.dot.gov/publications/evac_primer_nn/chap5.htm

Methodology

In September 2025, Veo surveyed over 2,600 riders across seven locations that had recently experienced extreme heat, poor air quality, or wildfire conditions. The survey paired quantitative questions with open-ended prompts, generating hundreds of rider comments. Three follow-up focus groups involving 23 riders explored how participants compared transportation options and adapted their trips during extreme weather. Survey respondents received $5 in Veo ride credit, and focus group participants received $75 in Veo ride credit for an hour of their time.

Location	Survey Responses	Focus group participants	Weather conditions
Bend, Oregon	159	3	Extreme heat Wildfires
Corvallis, Oregon	198	1	Extreme heat Wildfires
East Bay communities of Berkeley, Emeryville, Oakland, and Albany, California	253	5	Extreme heat Wildfires
Los Angeles/Santa Monica, California	517	5	Extreme heat Wildfires
San Antonio, TX	442	2	Extreme heat Poor air quality
Toledo, Ohio	456	1	Extreme heat Poor air quality
Washington, DC	591	6	Extreme heat Poor air quality
Total	**2,616**	**23**	

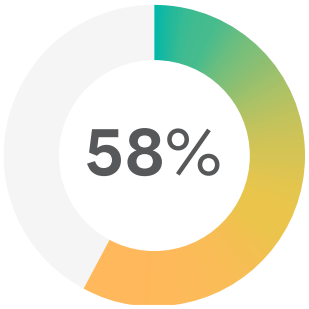
The research focused on three types of extreme weather:

- **Extreme heat** was defined as temperatures of 95°F or higher for at least one day.
- **Poor air quality** included days with local air quality alerts or symptoms such as difficulty breathing or eye irritation.
- **Wildfire conditions** included smoky air and, in some questions, the possibility of evacuation.

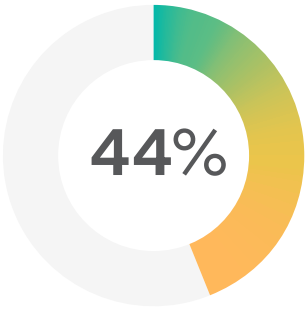
Findings

Riders Are Already Using Shared Vehicles in Extreme Weather

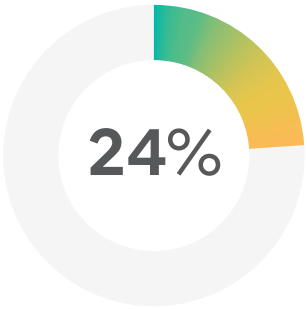
Micromobility can be a practical and even preferred option during disruptive weather. Among riders who had previously ridden in extreme weather, shared scooters and bikes were the leading travel preference. Shared scooters and bikes remained the most selected single option during wildfire conditions, though by a much narrower margin.



had used Veo during extreme heat



had used Veo in poor air quality

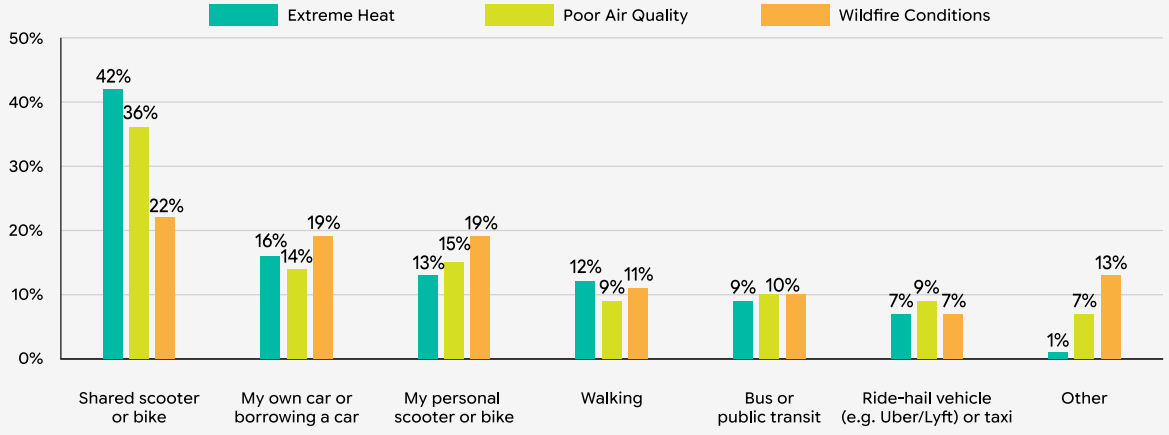


had used Veo during wildfire conditions

"I am more comfortable using a bike or scooter in extreme heat or smoky conditions than walking."

- rider in Corvallis, OR

What would be your preferred mode of travel for trips 1.5 miles or less during extreme weather conditions?



Question was asked of riders who said they had ridden in extreme weather conditions before.

Extreme Heat and Poor Air Quality

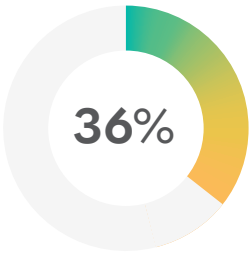
Riders Use Micromobility to Limit Exposure to Uncomfortable and Unhealthy Conditions

Riders described using shared scooters and bikes to avoid walking or waiting for transit during extreme heat and poor air quality. Among those who had ridden in extreme heat, 36% said they would choose shared vehicles instead of walking or taking the bus. Among those who had ridden in poor air quality, 28% said a shared scooter or bike felt safer than walking or waiting outside for a bus.

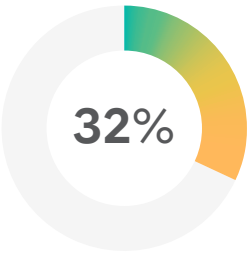
About a quarter in each group said they cut down on travel during extreme heat or poor air quality by shortening their trips or taking fewer trips. Heat appeared less likely to change riding plans: 32% said it did not affect their decision to ride, compared with 19% who said the same of poor air quality.

How does extreme weather affect your decision to use shared scooters or bikes?
Question was asked of survey respondents who had ridden in extreme weather conditions before.

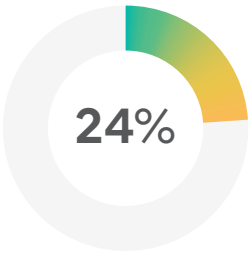
Extreme Heat



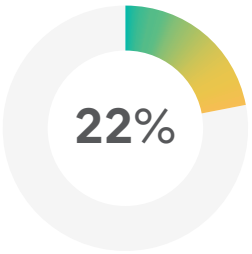
use shared scooters/ bikes when it's too hot to walk or take the bus



say heat doesn't affect whether they choose to ride

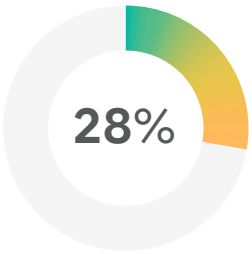


shorten their trip or take fewer trips

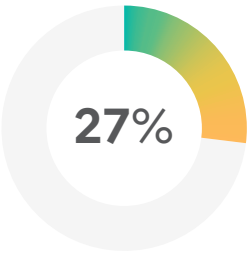


choose throttle-assist vehicles to avoid physical effort

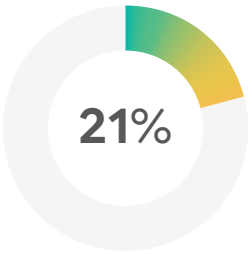
Poor Air Quality



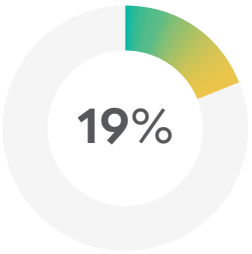
use shared scooters/ bikes because it feels safer than walking or taking the bus



shorten their trips or take fewer trips



Switch to other transportation options to avoid exposure to poor air quality



say poor air quality doesn't affect their decision to ride

"I use Veo to get to the bus during extreme heat... the buses have air conditioning."

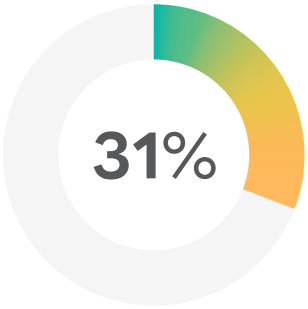
- focus group participant from the East Bay, CA

Heat and Poor Air Quality Can Also Create Barriers to Riding

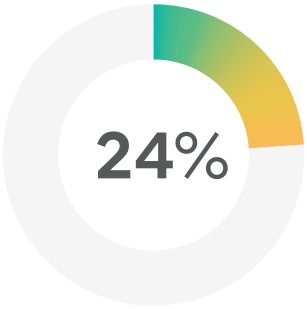
A shared scooter or bike can spare riders a long walk in extreme heat or poor air quality, but these conditions can also introduce barriers to riding. When considering using a shared scooter or bike, riders worry about overheating, getting a sunburn, or arriving sweaty due to extreme heat, and are concerned about health impacts of riding in unhealthy air.

Top barriers to riding in hot weather

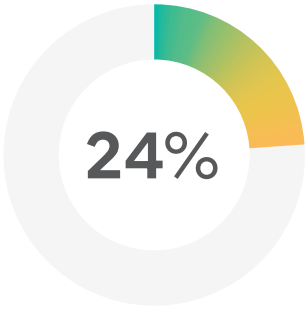
Question was asked of all survey respondents.



I avoid riding because I don't want to arrive sweaty



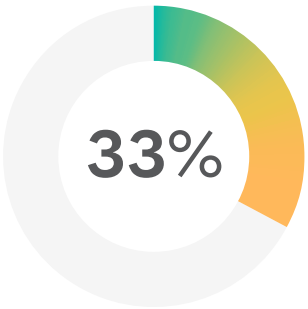
I'm concerned about overheating or heat exhaustion



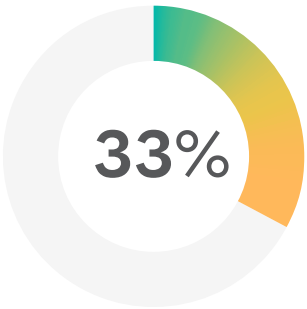
The vehicle seat gets too hot to ride comfortably

Top barriers to riding in poor air quality

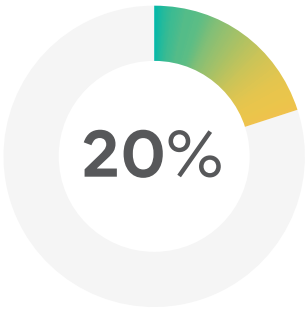
Question was asked of survey respondents in San Antonio, TX, Toledo OH, and Washington, D.C.



I'm concerned about breathing in harmful air while riding



I don't want to exert myself physically when the air is unhealthy



I'm unsure if scooters or bikes are safe to use during a poor air quality day

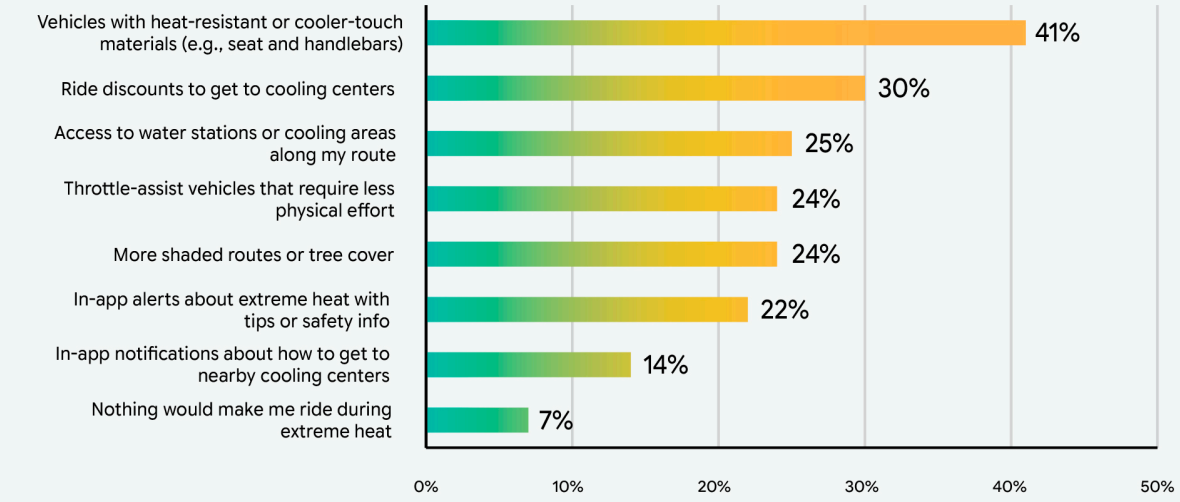
"I find poor air quality a lot more of a deterrent to riding than extreme heat."

- survey respondent in Washington, D.C.

Ways to Make Trips More Manageable During Extreme Heat and Poor Air Quality

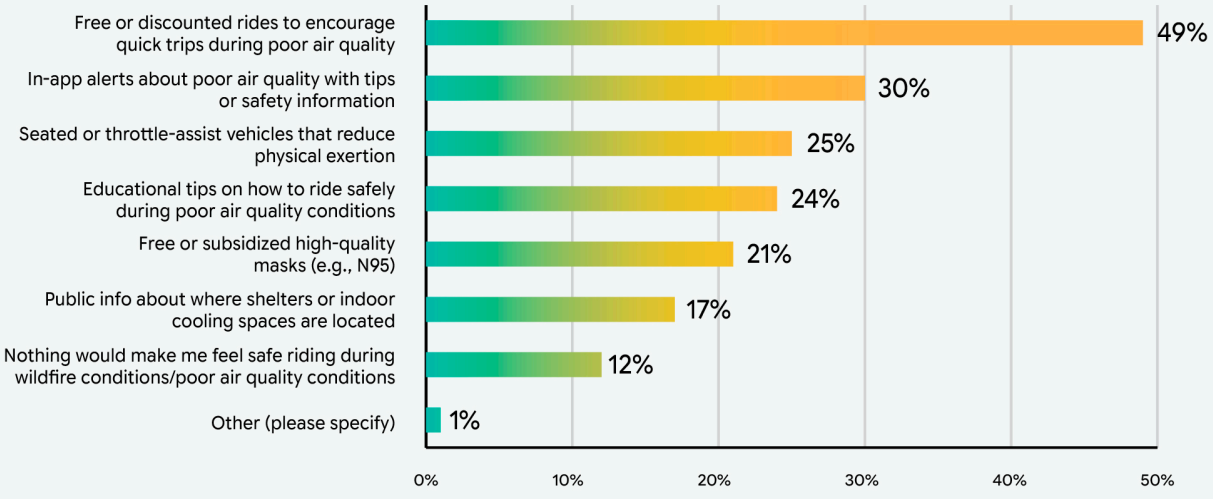
Riders suggested practical ways to make shared scooter and bike trips more manageable during extreme heat and poor air quality. In extreme heat, seats and handlebars that stay cooler to the touch could improve comfort, while shaded routes and access to water fountains could help during their journeys. Across both conditions, riders called for discounted rides, information to help them assess conditions before setting out, and throttle-assist vehicles to reduce physical effort.

What would make it easier or safer to ride in extreme heat? Choose your top 3.



Question was asked of all survey respondents.

What would make it easier or safer to ride when the air quality is poor? Choose your top 3.



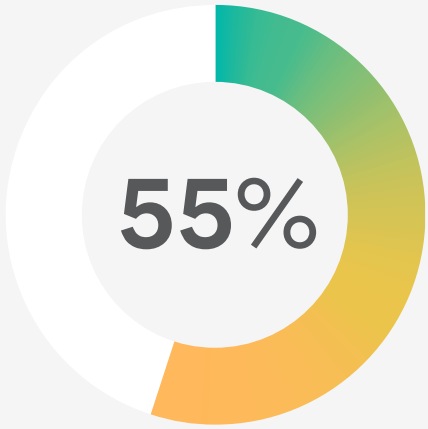
Question was asked of all survey respondents in San Antonio, TX, Toledo OH, and Washington, D.C.

Wildfire Smoke and Evacuation

Wildfire smoke can complicate transportation even before an evacuation is ordered. Across Bend, Corvallis, the East Bay, and Los Angeles, 24% of respondents said they had used shared micromobility during smoke or other fire-related conditions. Fewer had used it to evacuate: 6% reported using a shared scooter or bike to reach safety or evacuate during a wildfire emergency, while 55% said they would consider doing so in the future.

Necessary Trips During Smoky Conditions

Residents outside evacuation zones may still need to get to work, run errands, or reach transit in smoky conditions. Some riders said shared scooters and bikes helped them complete these trips faster and with less physical effort than walking. When a shared scooter or bike replaces a car trip, it may also help keep roads clear for emergency crews. Whether riding is appropriate depends on local air quality, wind, visibility, road conditions, and official guidance.



of riders in wildfire-prone areas said they would consider using a shared scooter or bike to evacuate in the future

"I remember riding scooters in wildfires, you need to run errands but don't want to get out of breath. Visibility wasn't an issue, and I was wearing a mask. It's not super comfortable getting out of breath in your mask, I liked that aspect of riding with Veo."

- focus group participant from the East Bay, CA

Micromobility's Role and Limits in Wildfire Evacuations

Among respondents in fire-prone areas, 37% said they did not own or have access to a car. When a shared vehicle is nearby and a safe route is available, it could offer some of these residents another way to leave when officials advise or order an evacuation.

Evacuation conditions can change quickly, however. Smoke and ash can reduce visibility, while strong winds and debris can make riding dangerous. Shared vehicles may be unavailable, geofencing may restrict travel, and cellular outages may prevent riders from unlocking a vehicle. Riders may also need to travel with children, pets, medical equipment, or belongings that a shared scooter or bike cannot accommodate.

Veo recommends leaving promptly when local officials advise or order an evacuation, before conditions deteriorate. Micromobility may offer an additional option when routes are safe and service is available, but emergency plans must also provide transportation options for residents who cannot use a shared scooter or bike.

Case Study: Palisades Fire

The Palisades Fire began in Los Angeles on January 7, 2025, prompting widespread evacuations. Smoke spread across the area, while gridlock and abandoned cars blocked roads and delayed emergency responders. More than 60,000 people evacuated their homes due to the fire,[3] while residents outside evacuation zones still needed to make everyday trips. During the fire's first four days, more than 1,700 riders took over 4,800 Veo rides in Los Angeles and Santa Monica.



Veo adjusted operations in both cities to support residents' travel and help keep access clear for emergency crews:

- **Expanded access:** Veo expanded its operating area to help residents reach evacuation shelters.
- **Reduced costs:** Veo provided ride credit, waived unlock fees, and offered additional incentives to help riders reach evacuation centers.
- **In-app notifications:** Veo sent in-app notifications directing riders to City emergency resources.

"One night during the Palisades fire... we were getting 50-60mph winds. You don't want to be on a scooter in that. The next day it was less windy, and I used a seated scooter because it felt more robust to ride. They are a lot more stable and the wheels are bigger."

- focus group participant in Los Angeles, CA

3 Jany, L. (2025, November 4). LAPD report says confusion, miscommunication hampered Palisades fire response. Los Angeles Times. https://www.latimes.com/california/story/2025-11-04/lapd-after-action-report-palisades-fire

Cross-Cutting Themes

Several themes emerged across riders' experiences with extreme heat, poor air quality, and wildfires, highlighting factors that shape whether shared micromobility is a practical option during these conditions.

A Vehicle Must Be Nearby and Able to Reach a Rider's Destination

A shared vehicle is useful when a rider can find one nearby and park close to their destination. If a rider has to walk a long way to find a scooter—or park far from their destination—the trip may offer little advantage over walking. Service boundaries may determine whether the ride is possible at all. When transit is running, a scooter or bike can help a rider reach a bus stop or complete the last leg of their trip, including on journeys beyond the shared vehicle's service area.

Access depends on:

- **Proximity:** Is a vehicle within a reasonable walk?
- **Destination access:** Can the rider reach their destination and park nearby?

Vehicle Choice Expands Access

Across extreme weather conditions, the vehicle types available and street infrastructure can influence who can use micromobility and which trips they can make.

A mixed fleet gives riders options:

- **Seated vehicles** offer greater stability and comfort for some riders, including people with disabilities and those making longer trips. Stable vehicles with a low center of gravity and larger tires may feel safer during high winds or low visibility.
- **Throttle-assist vehicles** can reduce physical exertion during extreme heat or poor air quality.
- **Standing scooters** may be more comfortable on hot days for riders who want to avoid a seat left in direct sunlight.
- **Two-seated vehicles** can allow a rider to travel with a passenger who cannot ride independently.
- **Cargo capacity** can help riders carry groceries, work supplies, medications, and other essentials, though it does not solve the need to transport children, pets, or larger loads.

Protected Routes Make Micromobility Feel Safer

Connected, protected bike lanes give riders dedicated space away from car traffic. In Veo's separate 2026 national rider survey of over 14,000 riders nationwide, 43% of respondents said protected bike lanes and safer streets would help them feel safer while riding.[4] Participants in this study's focus groups also described feeling more comfortable using bike lanes, suggesting that access to safer routes can shape whether they consider using a shared scooter or bike during extreme conditions.

"It makes such a big difference when I see the bike lane. When you have to ride alongside the cars, it's so nerve-racking because you have limited space."

- focus group participant from San Antonio, TX

4 Veo. (2026). 2026 national rider survey [Unpublished survey data].

Riders Want Support for Making Travel Decisions

Some riders were unsure whether it was safe to ride during extreme weather, while others wanted more information about conditions before setting out. Timely, localized information about heat, air quality, road closures, and official guidance can help riders decide whether to travel, adjust their trip, or choose another option.

Affordability Shapes Which Options Are Within Reach

Riders called for discounted trips during extreme heat and poor air quality, underscoring how cost can shape travel decisions during extreme conditions. A shared vehicle may be nearby and suitable for a trip, but its price still determines whether a rider can use it or needs to walk or forgo their trip completely. Discounted rides and credits for trips to cooling centers and clean-air shelters could help make those destinations more accessible.

Ensuring Access for Riders With Fewer Travel Options

The same heat wave or day with poor air quality does not leave every rider with the same choices. Someone with a car may decide to drive. Someone without one may have to weigh a long walk, transit, a shared vehicle, an expensive ride-hail trip, or asking someone for a ride. A disability, respiratory condition, or limited income can narrow those choices further.

These circumstances are common among survey respondents:

- 44% do not own or have access to a car
- 28% do not have a driver's license
- 19% reported having a disability
- 17% reported having a health condition like asthma that makes it difficult to go outside during poor air quality days
- 58% have a household income less than $50,000/year
- 17% do not have air conditioning in their home

For a rider who has difficulty walking, a vehicle ten minutes away may be too far to access. And if the nearby fleet lacks a more accessible seated vehicle type, that rider may have no suitable option other than a costly ride-hail trip. Solutions for travel during extreme weather must account for these riders, who may have fewer options in extreme weather conditions.

"Because I have asthma...I prefer Veo so I can hurry and get it done versus riding public transportation that takes hours just to get to one place."

- focus group participant from Washington, DC

Recommendations for Cities and Operators

This research explored what riders need to travel safely during extreme heat, poor air quality, and wildfires, and how cities and operators can support them. The following recommendations outline ways city agencies and operators might work together to address those needs through transportation and emergency planning. Specific solutions should be tailored to each community.

Topic	Actions
City–Operator Emergency Coordination	• Define shared micromobility's role in emergency transportation protocols. Plan for when service should be maintained, adjusted or suspended. Explore changes to geofencing, operations, and vehicle deployment. • Establish clear communication channels between operators and emergency management personnel before emergencies occur.
Geofencing & Emergency Protocols	• Establish city-approved procedures to adjust operating boundaries and geofences during evacuations so riders can reach safety beyond standard service areas. • Review slow-ride zones with emergency personnel and define when temporary adjustments may be appropriate to help riders evacuate faster.
Operations & Deployment Strategies	• Adjust deployment and rebalancing to maintain vehicle availability in high-demand areas. Prioritize deployment in neighborhoods with low car ownership and greater exposure to heat and poor air quality. • Stage vehicles near cooling centers, clean-air shelters, libraries, and community centers, and provide in-app directions to these locations. • Prioritize shaded locations for vehicle placement, including under building overhangs, and explore covered micromobility corrals. • Explore emergency mobility hubs that connect people to transit and provide outreach and information during extreme weather. • Enable vehicle reservations so riders can secure a vehicle before walking to it. • Identify evacuation corridors where shared vehicles should not be parked, and coordinate vehicle removal to keep routes clear for emergency responders. • Consider plans for a fleet-wide vehicle system unlock for emergency utilization.
Vehicles & Product Design	• Offer a range of throttle-assist, seated, and standing vehicles to accommodate different mobility needs and reduce physical effort. • Explore seats and handlebars that stay cooler to the touch during extreme heat. • Install water bottle holders to help riders carry drinking water. • Equip vehicles with effective lighting to improve visibility when conditions permit safe riding. • Offer cargo bikes for carrying essential items and multi-passenger vehicles for people traveling together.

Rider Safety Communications	• Deliver in-app alerts for heat advisories, air quality conditions, red flag warnings, road closures, and emergency zones. • Share guidance from public health agencies on limiting exposure, staying hydrated, and using appropriate masks during smoky conditions. • Issue clear “do not ride” notices for unsafe conditions, including strong winds, hazardous debris, and active fire areas, consistent with official guidance. • Leverage on-vehicle audible information alerts to communicate emergency information to communities.
Pricing & Equity Programs	• Offer discounted or free trips during heat advisories, air quality alerts, and evacuation events when conditions permit safe riding. • Provide ride credits for trips to cooling centers and clean-air shelters. • Partner with local institutions to distribute N95 masks and water bottles at campuses, transit stations, and community hubs.
City Infrastructure Improvements	• Prioritize a connected network of protected bike lanes citywide. • Identify protected bike corridors with limited shade and target them for tree planting or other shade improvements. • Identify key bike routes to cooling centers, clean-air shelters, and evacuation destinations, and plan to keep them clear and accessible during extreme weather and emergencies.

Conclusion and Future Research

Extreme weather changes how people travel without removing their need to get to work, buy groceries, or reach transit. This research shows that shared scooters and bikes already help some riders make these trips during extreme heat, poor air quality, and wildfire conditions. Riders also made clear what determines whether a shared scooter or bike works for their trip: having a suitable vehicle nearby at an affordable price, with a route they feel safe taking, and information to guide their transportation decisions.

Cities and operators can act on these findings before the next heat wave or wildfire. Coordinating vehicle deployment, expanding access to cooling centers and clean-air shelters, investing in protected and shaded routes, and establishing emergency communication protocols can help make shared micromobility more dependable during extreme conditions. Those decisions must account for people with fewer travel options, including residents without cars and those with disabilities, health conditions, or limited incomes.

Shared micromobility's role in evacuations requires additional planning. Riders' interest in using these services underscores the need to establish when and where they can support an emergency response and when service should be suspended. Veo's next step is to review these recommendations with city emergency management teams and assess how they can fit into local transportation and emergency response plans.

Future research should evaluate how these approaches perform during actual events, including vehicle availability, access to essential destinations, and riders' ability to receive information and unlock vehicles during disruptions. Future research should also explore transportation needs during conditions beyond those studied here, including rain, cold, and disaster recovery.

Too Hot to Trot:
Scooting Through Extreme Weather

veo