



Cruise // Austin August 2023

Presented by
Yariel Diaz, Government Relations, Southeast U.S.
Michele Lee, Accessibility, U.S.

Meeting Agenda

- Introductions
- Who is Cruise?
- Cruise in Austin
- Needs
- Q&A

Building the world's
most advanced
autonomous vehicles.



Cruise Mission & Vision

Self-driving.

Our mission is to build the world's most advanced self-driving vehicles to **safely** connect people with the places, things, and experiences they care about.

Accessible.

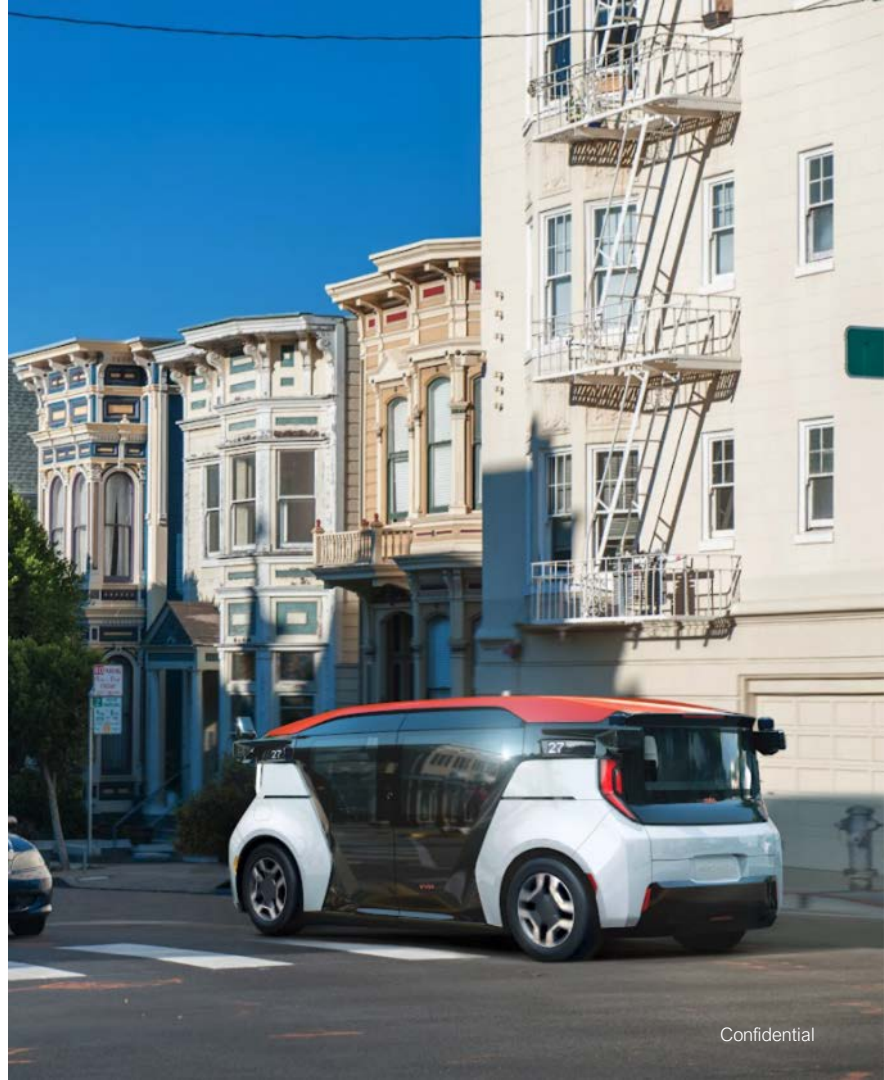
Cruise AVs will provide **accessible** transportation for those unable to drive themselves, including elderly populations and those lacking existing transportation options.

Shared.

Cruise will own and operate our fleet, providing **shared** transportation services that reduces the need for personal car ownership.

Zero-emission.

Cruise AVs are **all-electric**, providing access to green miles for people who might otherwise not have utilize an EV.

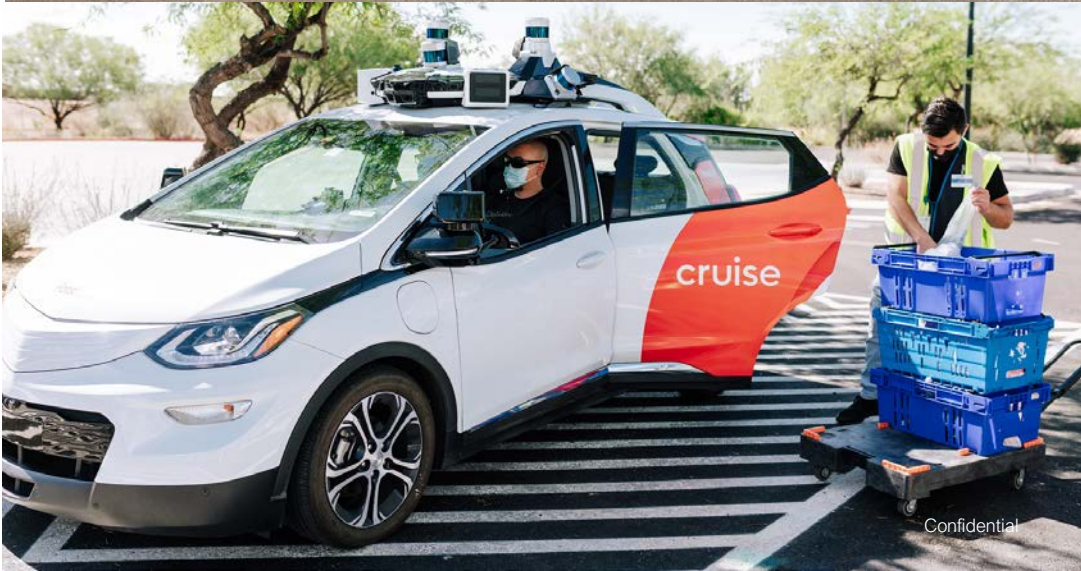


Partnering With **People** to Drive Life in **Cities** Forward

We're guided by the question "Will this solution drive life in cities forward?"

Through working with our communities to build a product and experience that people love, we believe we can make a major positive impact by:

- Helping to **save millions of lives** by reducing car crashes
- **Reshaping cities** around people
- Giving people **time** to do things other than drive
- Making transportation and goods more **accessible**



Our Journey

General Motors purchases Cruise, bringing more than a century's experience designing and manufacturing vehicles to the effort.

2016

Cruise unveils the Origin and repurposes its AV fleet to deliver meals to vulnerable San Franciscans during the COVID-19 pandemic.

2020

Microsoft and Walmart join new investment round into Cruise.

Cruise & Walmart launch AV delivery pilot in AZ.

Cruise secures \$5.5B loan to fund commercialization and the manufacturing of thousands of Origins at Factory ZERO (MI).

2021

Cruise begins offering driverless rides to members of the public, unfared, in San Francisco.

Walmart AV delivery pilot expands to 8 stores in AZ.

Driverless ridehail launches in Arizona and Austin

2022

2013

Kyle Vogt & Dan Kan found Cruise in San Francisco.

2018

Cruise receives additional investments from GM and Softbank.

Honda invests in Cruise and commits to helping develop the Cruise Origin.

Cruise authorized by CA DMV to deploy driverless vehicles in San Francisco & charge a fare for goods delivery.

Cruise becomes the first company approved by CPUC for driverless passenger service (with no fare).

Cruise and GM file a petition seeking NHTSA approval to build and put the Origin into commercial service.

Cruise Approach to Safety

Our Product: Seamless Integration

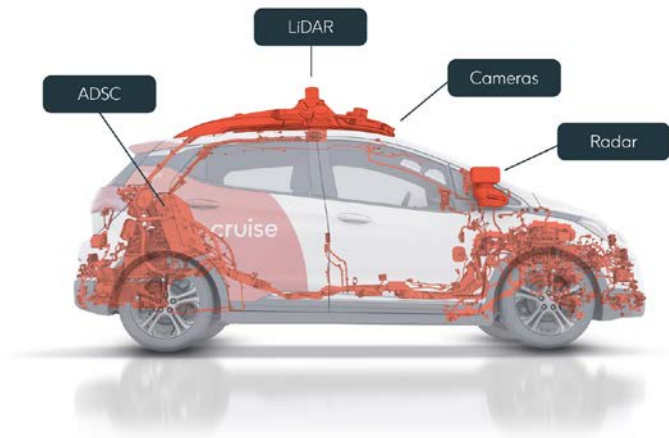


Safely Navigating Streets

Self-driving vehicles never get tired, distracted, or drive under the influence, making our roads safer for everyone.

A Cruise vehicle uses multiple sensors to:

1. See everything around it with 360-degree vision
2. Know where it is down to the centimeter
3. Make decisions 10 times a second to help it safely navigate the city



1. How does Cruise see the world?

40+ state-of-the-art sensors

Cruise uses multiple sensors including cameras, LiDAR, and radar to see the world and help determine free, drivable space around the vehicle.

2. How does Cruise know where it is?

Rich 3D maps

Cruise takes a live snapshot of what it sees in the world and matches it against a rich 3D map so it knows precisely where it is in the city, down to the centimeter.

3. How does Cruise make decisions?

Autonomous Driving System Computer (ADSC)

The ADSC is the brain of the vehicle. It takes in data from multiple sensors and converts it into decisions so Cruise can safely navigate the city. The vehicle detects, predicts, and responds to the movement of people and objects around it 10 times per second.

Sensor Technology

Sensor diversity provides confidence that the self-driving system can detect, track, and classify objects around it in various driving conditions.

Cameras

Cameras help classify and track objects to make confident real-time decisions.

Cruise uses multiple cameras to create a 360° field of view with no blind spots. Cameras identify pedestrians, vehicle types, construction zones, and traffic light states.



LiDAR sensors

LiDAR sensors use an array of lasers to measure the distance between objects, down to the centimeter, and create a 3D visualization of the world.

LiDAR helps Cruise determine where it is in the world and reliably know where all nearby pedestrians, vehicles, and other objects are located.



Radar sensors

Radar sensors use radio waves to quickly measure the speed and trajectory of moving objects.

Each Cruise vehicle is equipped with multiple radar sensors, which measure the direction of travel and speed of moving objects like cars on the road.



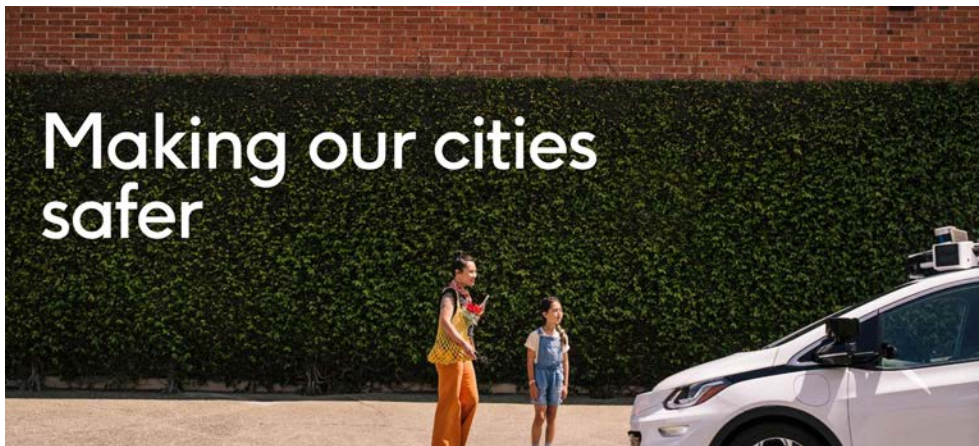
Safely Navigating Communities

Cruise's approach to safety:

- **Testing**
 - Complex SF ecosystem 24 hours per day, 7 days per week (Real World, Closed Course, and Simulation)
- **Partnering with First Responders**
 - Provide law enforcement and first responders with the information they need to safely identify and interact with our Cruise Autonomous Vehicles (AVs).
- **Partnering with Road Safety Experts**
 - Joining the Vision Zero Network and Mothers Against Drunk Driving
 - Supported AB 43 in California, allowing cities to reduce speed limits in certain high-foot traffic and high-injury network corridors.
- **Data Replay and Regression Testing**
 - Constant data-driven improvement



Safety is at the core of everything we do.



- Dedicated 'Safety' [Website Page](#)
- Cruise Safety Report - [Released November 2022](#)
- Externally Audited Safety Management System 'SMS' based on safety-first industries including aviation and energy sectors.

Cruise Today

San Francisco Ridehail

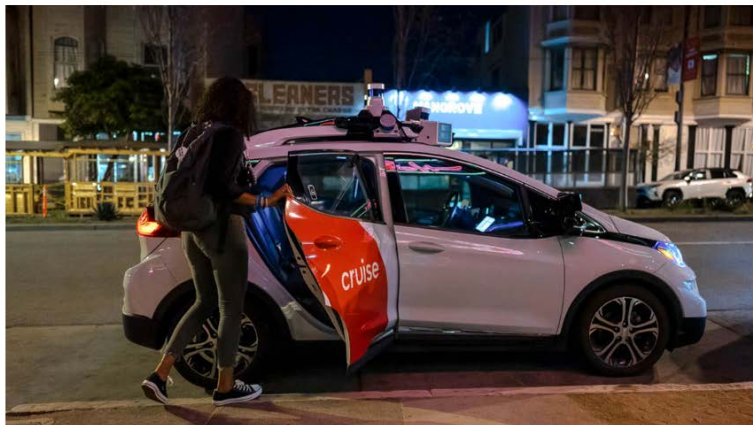
Jun 2nd, 2022

We're going commercial.

Blog post • by Gil West, Chief Operating Officer



A commercial AV ridehail service is three things: driverless, public, and fared. Last fall, our CEO Kyle Vogt took the first fully driverless ride; in February we began welcoming members of the public to experience our service; and now we're going commercial.



- Cruise received the first-ever Driverless Deployment Permit granted by CPUC
- This permit means Cruise can offer fully driverless rides to the public, and charge a fare
- Continue to grow fleet, ridership, and revenue in San Francisco throughout in 2023.
- Cruise has completed 4MM+ driverless miles.

Ridehail Expansion

cruise

**We're hitting
the road!**

See you on the
streets of Austin
and Phoenix soon.

getcruise.com



- Cruise launched ride hail services in Austin and Phoenix in Q4 of 2022.
- The service will expand this year.

Arizona Delivery

Cruise expands Walmart autonomous delivery pilot in Arizona

Rebecca Bellan @rebeccabellan / 1:56 PM PDT • April 12, 2022

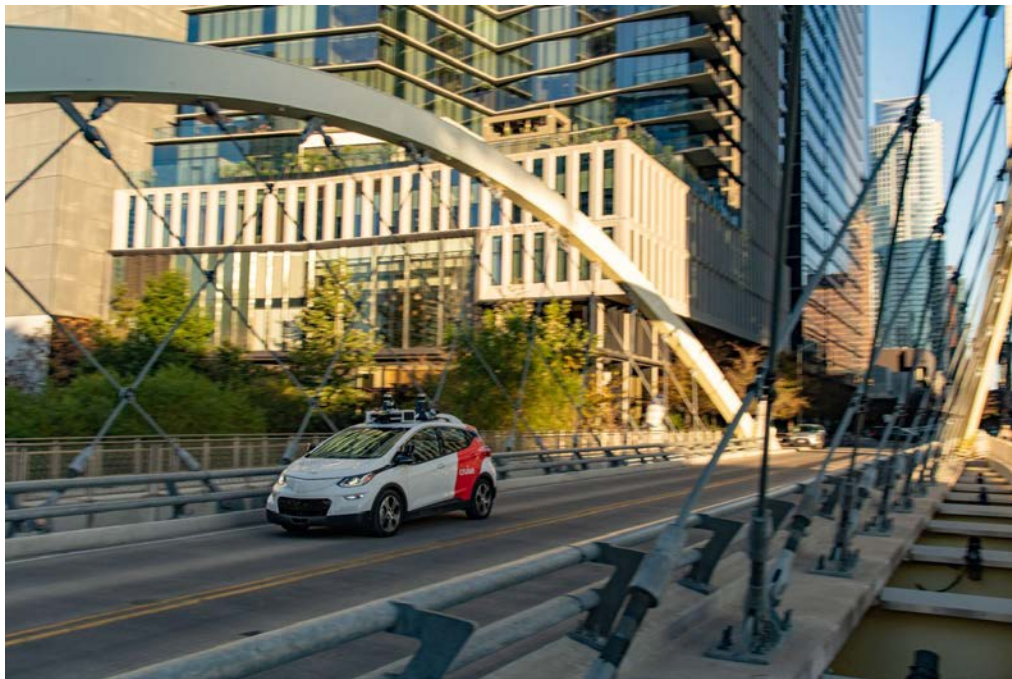
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 Image Credits: Cruise

- Last-mile delivery partnership with Walmart in Arizona.
- Completed over 30,000 deliveries.
- Expanded from one to 8 stores, with more to come in '23.

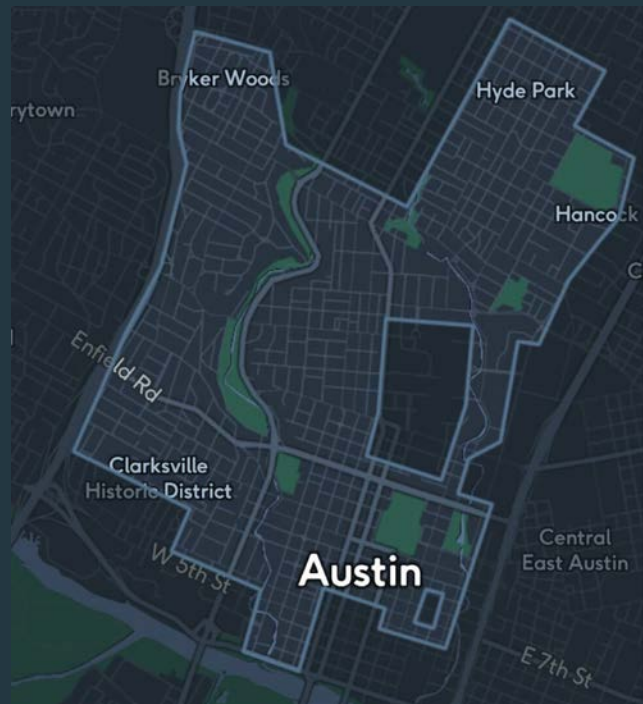
Austin Ridehail - Launched!



Work prior to launch:

- Mapping our initial service area
- Developing sites for launching, servicing, and charging vehicles
- Collecting on-road data in Autonomous Vehicles staffed by Test Operators
- Preparing to begin fully driverless service

AUS Operational Design Domain (ODD)



Overview:

- Covers north downtown, UT Austin, Hyde Park, and surrounding residential neighborhoods.
- Operationally limited to 7:00PM to 6:00AM.
- Ride Service Hours limited to 8:00PM to 5:30AM.
- Primary launch facilities at 701 Trinity St, 811 Trinity St, and 710 Trinity St.
- Looking to expand to more permanent locations.
- Infrastructure needs: secure location, multiple access points for egress and ingress, charging, lighting, 5G/internet, space for team facilities.

Novel Vehicle Designs

Origin: Unlike Anything Else

Purpose Built.

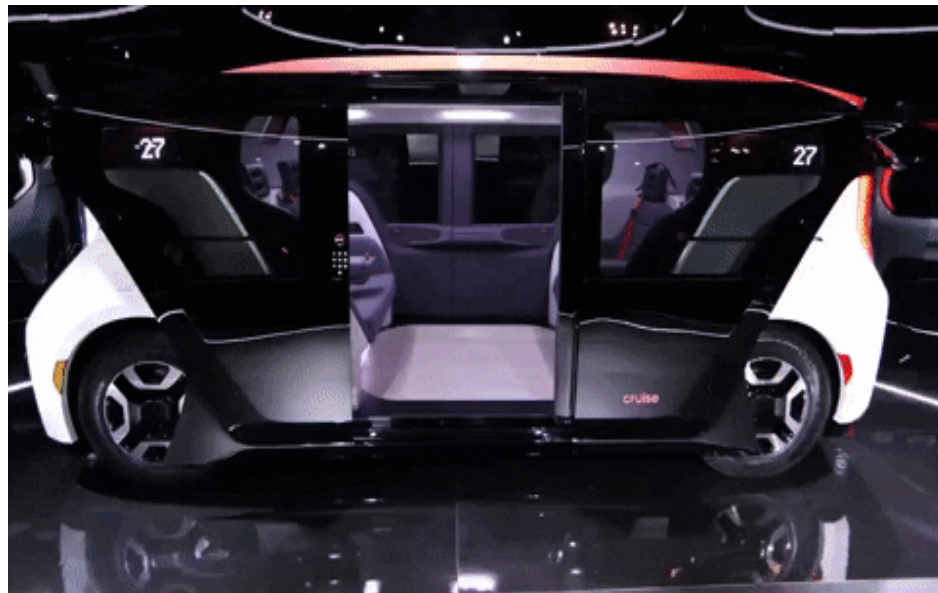
Origin is purpose-built as an AV to offer a self-driving service to serve more people safely and sustainably. It is a totally different transportation experience than a car today.

American Made.

Manufactured at Factory ZERO in Michigan, GM's fully dedicated EV plant, the Origin will support employment in the United States, both at the plant and at part suppliers.

Shared.

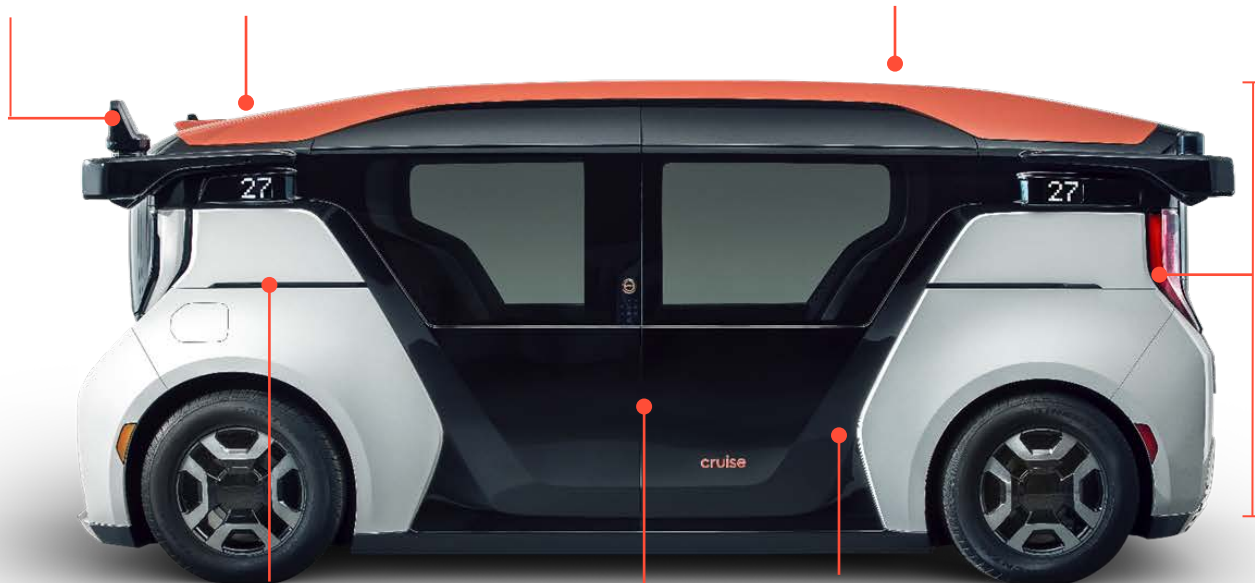
By removing the driver and associated equipment, the Origin will seat up to six passengers in a campfire seating arrangement.



Cruise Origin

Lidar, Radar, Camera, and
acoustic sensor in corner pods
and rooftop module

Manufactured by GM at
Factory Zero in Detroit, Michigan



L: 4,659mm
W: 2,032mm
H: 2,032mm

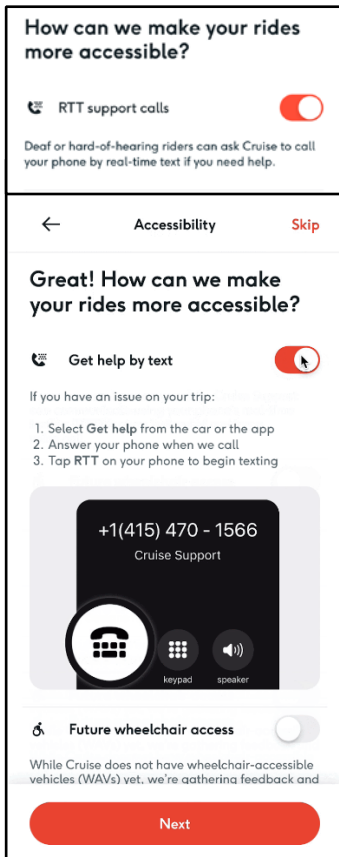
All-electric design

Ultium Battery Pack

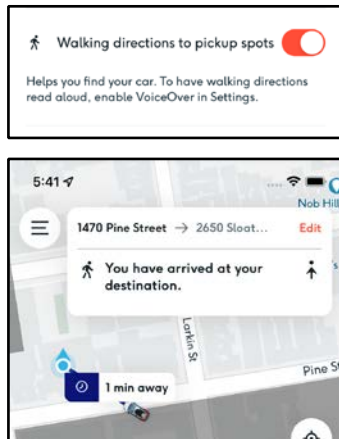
Spacious cabin with campfire seating for 6 passengers and
powered dual sliding doors for easy ingress/egress

Current Accessibility Features

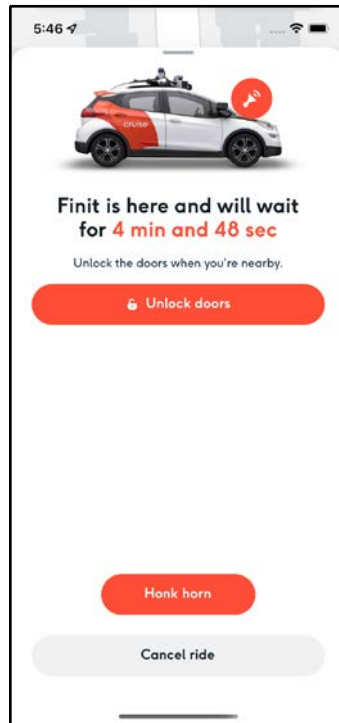
RTT support



Audible/visual walking directions



User-initiated horn honk



Audible/visual end-of-ride announcements

🔊 We're arriving soon. Please close the windows and start gathering your things.

🔊 We've arrived! Please make sure the windows are closed and that you have all your things.

As you exit on the sidewalk side, watch out for bikes and cars.

Thanks for riding with Cruise!

Cruise WAV

Origin will transform people's lives.

For far too long, transportation options for people with disabilities have been lacking. At Cruise, we see a future where self-driving cars make it easier for everyone including wheelchair users to connect with the things, experiences, and places they care about.

That is why we designed the Wheelchair Accessible Origin.

Origin will help empower people's independence.

The Wheelchair Accessible Origin will challenge the status quo by providing wheelchair users access to convenient, fast, and affordable point to point transportation.





Thank you!

Fully Autonomous Driving in SF



Appendix

Equipment Details

A Guide for First Responders



EMV Response



Cruise for Good



Cruise for Good expands