

Passenger Safety Plan November 2021



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1. Introduction

Cruise LLC ("Cruise") was founded on the premise that the status quo of transportation is not sufficiently safe. That is why safety is the driving force behind everything we do — from our purpose-built vehicle designs to our self-driving system to protecting our passengers. Cruise's mission is to provide passengers with a safe, reliable, all-electric, renewable energy-powered, self-driving transportation option that can connect people to the places and experiences they care about.

Safety has been Cruise's guiding principle since Cruise was founded in 2013, and safety will continue to guide Cruise as we expand our self-driving service. At Cruise, safety is not just about complying with the vehicle code or a single static metric. Rather, Cruise takes a holistic and comprehensive approach to safety. Consistent with Decision 20-11-046 of the California Public Utilities Commission ("CPUC") and Ordering Paragraphs 8-10,¹ this Passenger Safety Plan ("PSP") reflects that extensive approach and describes in detail how Cruise will protect the safety, health, and well-being of our passengers. Contributors to this PSP include individuals with comprehensive safety experience from the automotive industry as well as other relevant industries, such as transportation, technology, electric utilities, aerospace, accessibility, defense, and law enforcement. Additionally, these contributors have subject matter expertise across vehicle safety, human factors and systems engineering, fleet operations, ride-hail service product development, and ride-hail customer service and incident response. Once our commercial service launches, we will continually improve by incorporating feedback from our passengers, industry regulators, and our valued community stakeholders.

2. Cruise Autonomous Vehicle Passenger Service

2.1. Scope of Deployment

Cruise's CPUC Driverless Autonomous Vehicle Deployment Program ("Driverless Deployment Program") will begin with a limited scope, starting with up to thirty of our all-electric autonomous vehicles ("AVs") providing non-pooled rides for members of the public. This program will be limited in geography, in daily hours of operation, and by certain weather conditions in parameters set by Cruise's California Department of Motor Vehicles ("DMV")-approved Operational Design Domain ("ODD").² Cruise's DMV testing and participation in the Commission's passenger service pilot have informed the scope of this initial deployment by helping define the ODD conditions that are currently optimal for Cruise's initial passenger service.

Cruise's self-driving system is designed to ensure that our AVs do not operate in autonomous mode outside of their ODD. The AVs in our Driverless Deployment Program will provide service to



¹ Decision Authorizing Deployment of Drivered and Driverless Autonomous Vehicle Passenger Service, D.20-11-046 at p. 136, OP 8-10 (Cal. P.U.C. Nov. 19, 2020), as modified by Order Modifying Certain Holdings of Decision 20-11-046 and Denying Rehearing of the Decision, as Modified, D.21-05-017 (Cal. P.U.C. May 6, 2021) ("D.20-11-046").

² An "ODD" is the specific operating domain(s) in which an automated function or system is designed to properly operate, including but not limited to geographic area, roadway type, speed range, environmental conditions (weather,

daytime/nighttime, etc.) and other domain constraints. See Cal. Code Regs. tit. 13, § 227.02(j) (2021). See also Appendix 8.1 for Cruise's current ODD, approved by the California DMV. Cruise's California DMV-approved ODD is subject to

change pursuant to DMV regulations, including section 228.10 of Title 13 of the California Code of Regulations. However, ODD expansion will not materially affect Cruise's operations as outlined in this PSP.

passengers only in the designated ODD and will avoid streets closed to through traffic during the pandemic, which have been mapped in detail. Roadway features like traffic lights, stop signs, lane merges, and markings are embedded in on-board maps and detected in real-time by the AV's sensors so they can be obeyed. Cruise also keeps its on-board map up-to-date so that our AVs maintain current information about the road.

2.2. Initial service and no pooled rides

Passengers in Cruise's Driverless Deployment Program will be required to agree to Cruise's CustomerAgreement before creating an account to use Cruise's service. We also will provide Cruise Community Rules to every passenger. The Cruise Community Rules cover our expectations for passenger conduct and safety behaviors when using our service. Examples of Community Rules include the following:

- Only bring items into the AV that can be safely and securely stowed during operation of the AV.
- Do not bring illegal substances, hazardous materials, highly flammable materials, or any kind of weapon into the AV.
- Safely enter and exit our AVs watch out for other passengers, pedestrians, cyclists, and other road users.

Violation(s) of the Customer Agreement or the Cruise Community Rules will be grounds for suspension or termination of a passenger's account and their ability to use our service.

Initially, Cruise will offer a limited service to members of the public. Cruise will not, however, offer driverless pooled rides during the initial phase of the Driverless Deployment Program. We may update our approach in this PSP when we seek Commission approval to launch driverless pooled rides in the future. Any change in approach will be informed by our learnings during this initial deployment and engagement with interested stakeholders.

Consistent with Decision 20-11-046, Cruise also will prohibit the transport of unaccompanied minors in any AV passenger service in California.³ Cruise's Customer Agreement requires users to certify that they are at least 18 years old before creating an account. Under the Customer Agreement, individuals under the age of 18 are not allowed to create an account or hail rides and account holders are not allowed to permit a minor to ride without being accompanied by someone over the age of 18. Violation of the Customer Agreement's restrictions on the use of Cruise's service by unaccompanied minors may result in the suspension or termination of a passenger's account and their ability to use our service. In addition, where a minor accompanies an adult passenger, the adult passenger will be able to access instructions in the mobile app describing how to properly install child seats, if appropriate. The Cruise AV also will have anti-tampering features, including physical barriers, outlined in Section 4.4 below, that will prevent minors and other passengers from interfering with any vehicle controls when accompanying adult passengers.

2.3. Accessibility



³ See D.20-11-046 at p. 36.

2.3.1. Accessible safety measures

Cruise understands the need for accessible design and how accessibility can benefit the safety of all passengers, including those with disabilities. Our Driverless Deployment Program will comply with our legal accessibility obligations, including accommodations for service animals accommodations, and other means of supporting access. In addition, to help us achieve the goal of designing and building an accessible service, we have developed strong relationships with organizations and advocates across the disability community to hear from a broad range of voices and perspectives. We have conducted research with partners from the National Federation of the Blind and California's Lighthouse for the Blind to understand existing challenges in ride-hailing, such as locating the Cruise AV at pickup and understanding route progression during a ride. This research has been instrumental to our efforts to build and operate an accessible ride-hail service that minimizes safety risks to passengers traveling in a driverless vehicle.

We have incorporated a number of accessibility features, detailed below, that are designed to support passengers using our service who are hearing or visually impaired. We have built these features into the Cruise mobile application ("app") (available on passengers' personal devices), into the in-vehicle passenger experience, and into the manner and means by which passengers can communicate with Cruise Customer Support.

Passengers in our Driverless Deployment Program will be able to hail a Cruise AV through a mobile app that is compatible with iOS VoiceOver. iOS Voiceover provides blind and low vision users with auditory feedback even if they cannot see the mobile app screen. When passengers request a Cruise AV, the mobile app will provide an estimated wait time. Passengers who use iOS Voiceover will be able to receive this information audibly and will be able to anticipate the AV's arrival even if they cannot visually track its movements in the mobile app.

Once the Cruise AV arrives, passengers will be able to locate their respective AV through the mobile app's audio-based navigation systems. This feature benefits all passengers. It also is particularly helpful for blind and low vision users based on our learnings from the National Federation of the Blind and California's Lighthouse for the Blind. In addition, because we learned in user studies that blind and low vision passengers often prefer using their mobile phones with iOS VoiceOver rather than less familiar interfaces, like hard buttons or in-vehicle touchscreens, passengers will be able to start rides and end rides through the mobile app (in addition to using the in-vehicle touchscreens to start rides, and tactile button to end rides as shown below).





Once passengers begin their ride, they will be able to use both in-vehicle visual and audio-based features to receive updates on their ride. Each Cruise AV will have two in-vehicle touchscreens in the back of the vehicle that are accessible to passengers. These in-vehicle touchscreens will have a map navigation feature that passengers can use to monitor ride progress. This visual map navigation will help support deaf and hard of hearing passengers to monitor progress to their destination. Likewise, audible alerts will provide blind and low vision passengers real-time updates about their ride, such as an audible alert when the ride has ended.

The Cruise AV will have a two-way voice communications link accessible through a communications button ("two-way communications link" or "communications button") with a tactile feature designed to support blind and low vision passengers. Passengers will be able to contact Customer Support through the in-vehicle communications button. Passengers who are deaf or hard of hearing also will be able to contact Customer Support through the mobile app, which will provide immediate live chat support.



Figure 2: In-app customer support (provided as example, actual may vary)

Cruise is committed to continuing to engage with organizations and advocates from across the disability community to build on our research and user testing. To ensure we are collecting information from a broad range of stakeholders, we have created a feedback system, discussed in Section 5.4, that will allow us to collect, investigate, and respond to any passenger comments and complaints and help us improve our service. As our technology matures, we will continue to evolve our accessibility features.

2.3.2. Wheelchair Accessible Vehicles ("WAVs")

Cruise will initially provide its passenger service in the Cruise AV, a fully integrated self-driving car built upon the all-electric Chevrolet Bolt, a vehicle platform with a five-star safety rating in the



Figure 1: In-vehicle tactile communications buttons (provided as example, actual may vary)

National Highway Traffic Safety Administration's New Car Assessment Program ("NCAP").⁴ The Cruise AV can securely fit a foldable wheelchair on the rear floor or backseat with one passenger. The rear floor and backseat can also accommodate similar sized foldable walkers and foldable scooters, in addition to other smaller assistive devices such as crutches and canes.

Ultimately, Cruise will provide rides in our purpose-built vehicle, the Origin, that is specifically designed for our autonomous ride-hailing service. Cruise is exploring a wheelchair accessible version of the Origin.⁵ We are currently working closely with the disability community and have engaged in user testing of early prototypes.



Figure 3: Rendering of wheelchair accessible version of Origin (provided as example; actual may vary)

3. COVID-19 Response Plan for Ride-Hail Services

Consistent with CPUC <u>Resolution TL 19131</u>, effective on August 6, 2020, Cruise implemented comprehensive and robust health and safety protocols and best practices from the Center for Disease Control ("CDC"), as well as guidance and orders from the California Department of Public

⁴ See Press Release, National Highway Traffic Safety Administration, National Highway Traffic Safety Administration issues statement about New Car Assessment Program's highest rating (Oct. 9, 2018), <u>https://www.nhtsa.gov/press-releases/national-highway-traffic-safety-administration-issues-statement-about-new-car</u>. Vehicle safety ratings are available on the National Highway Traffic Safety Administration's website at <u>https://www.nhtsa.gov/ratings</u>.



⁵ See Sam Abuelsamid, *Cruise CEO Shows Off Locker Module and Wheelchair Accessible Origin Robotaxi*, Forbes (Oct. 6, 2021, 4:58 PM), <u>https://www.forbes.com/sites/samabuelsamid/2021/10/06/cruise-ceo-shows-off-locker-module-and-wheelchair-accessible-origin-robotaxi/?sh=26a725be1c78</u>.

Health ("CDPH"). In addition, since the beginning of the pandemic, Cruise has and continues to comply with the California Governor's executive orders, orders of California's State Public Health Officer, and the City and County of San Francisco's Department of Public Health orders. Pursuant to Ordering Paragraph 4 of Resolution TL 19131, "all requirements to follow the CDC's COVID-19 guidelines and the CDPH Guidance shall be suspended when all jurisdictions attain Stage 4 of the CDPH's Pandemic Roadmap or the local equivalent." As of June 15, 2021, California Governor Gavin Newsom lifted the executive orders issued to address the pandemic, including termination of the Stay-at-Home Order and the Blueprint for a Safer Economy, to allow California to move forward with reopening fully and safely.⁶ Although the requirements of Resolution TL 19131 are suspended, Cruise has attached its <u>COVID-19 Response Plan for Ride-Hail</u> as Exhibit A for the Commission's reference in acknowledgment that the pandemic and its impact remain a concern for all of us.

4. Passenger Education

4.1. Passenger onboarding and education

The Cruise AV is a fully integrated self-driving car built upon the award-winning, all-electric Chevrolet Bolt, but with a signature difference: a suite of components customized for self-driving. Some of these components are immediately visible to passengers, while others are not, but all ensure optimal safety. For instance, an array of highly visible external sensors that enable the Cruise AV to gather information about its environment and inform the system's driving decisions are immediately apparent to most passengers and passersby. Conversely, the computer that comprises the "brain" of the self-driving system is contained in the trunk of the AV and is not visible to passengers or passersby. Regardless of visibility, the diversity of these components are the basis for how the Cruise AV perceives, operates, and makes decisions.

Many passengers will experience a fully driverless ride for the first time when they participate in Cruise's Driverless Deployment Program. We are invested in making sure that every ride is safe and easy-to-understand for passengers from the start. Prior to initiating a ride, passengers will have access to educational onboarding materials through many communication channels, including the mobile app and email, that will address ride safety. These onboarding materials will help passengers understand what to expect during their ride, including support options available and how to use them. The following sections discuss the types of educational materials, with illustrative images, that passengers will receive.



⁶ See Exec. Order N-07-21, Exec. Dep't State of California (Jun. 11, 2021), <u>https://www.gov.ca.gov/wp-content/uploads/2021/06/6.11.21-EO-N-07-21-signed.pdf</u>.



Figure 4: In-app onboarding (provided as example; actual may vary)

Cruise also has designed a passenger experience with in-vehicle contextual cues that provide guidance in real-time about what is happening during the ride and expectations for passengers. As detailed in Section 4.3, these contextual cues include guidance ranging from buckling seat belts to closing doors before the ride begins. These cues make rides more safe, accessible, and intuitive for passengers.



Figure 5: In-vehicle screen onboarding (provided as example; actual may vary)



4.2. Understanding Cruise's autonomous vehicle technology

Before taking a ride, Cruise will provide passengers with onboarding materials that explain the technical basics of how our AVs safely navigate San Francisco. The passenger onboarding materials have been developed from our <u>Safety Report</u>, included as Exhibit B, which Cruise previously shared with the California DMV and National Highway Traffic Safety Administration.⁷

For example, to contextualize the experience, passengers will learn how the Cruise AV is engineered to operate safely on its own — with no human driver. Passengers will learn that they should not assume, nor will they be asked to assume, the role of a driver or take operational control of the Cruise AV at any point during a ride. The onboarding materials also will make clear that passengers will remain passengers at all times and are not responsible for the Cruise AV's operations in any capacity. Further, passengers will be educated on how Cruise's self-driving system works by rapidly synthesizing information collected by the sensors to inform driving behavior through perception (understanding the environment), prediction and planning (evaluating possible safe paths or trajectories for the vehicle given the environment), and controls (the driving maneuver). These learnings are important to educate passengers who have not yet been exposed to self-driving technology and enable them to have a more integrated and informed understanding of what a ride might entail.

Prior to taking their first ride, passengers will be made aware that they are being offered driverless autonomous service and will need to provide affirmative consent to receive such service by affirmatively accepting the Customer Agreement in the mobile app, as illustrated below in Figure 6.



Figure 6: Customer Agreement acceptance flow for driverless ride-hail service (provided as example; actual may vary)

⁷ The 2018 Self-Driving Safety Report is available also at <u>https://www.gm.com/content/dam/company/docs/us/en/gmcom/gmsafetyreport.pdf</u>.



4.3. The passenger experience and safety

Prior to their first ride, passengers will gain access to the Cruise mobile app. The mobile app will guide passengers on how to properly hail, identify, confirm, and enter the Cruise AV.



Figure 7: In-app contextual cues (provided as example; actual may vary)

During the ride, in-vehicle contextual cues will help passengers understand what is happening throughout the ride. For example, the mobile app and in-vehicle touchscreens will display to passengers the route and estimated time of arrival, reminders to check doors and buckle seat belts (as illustrated above), and guidance on how to safely exit the vehicle upon arriving at their destination with consideration for other road users.



At any time during the ride, passengers also will be able to contact Customer Support by pressing the in-vehicle communications button in the Cruise AV or through the mobile app using its live chat or phone support function. In addition, passengers may send a written message to Customer Support through the mobile app at any time before, after, or during the ride.

Cruise also will provide passengers with helpful reminders to guide them on how to complete their ride. We have intentionally designed these reminders to be easy-to-understand for passengers to increase their comfort and awareness of how to engage with a driverless vehicle. For example, prior to pickup, Cruise will send passengers a reminder to unlock the doors using the mobile app on their phone. In addition, if passengers were to start the ride without buckling their seat belts or closing doors, Cruise provides an audible and visual alert on the in-vehicle touchscreens to passengers to close the doors and buckle up.

During the ride, a passenger will be able to change their destination using the mobile app. As illustrated in Figure 8 below, passengers will tap an "Edit" button and can type in a new destination to make this change.



Figure 8: Change destination feature (provided as example; actual may vary)

If a passenger feels the need, they will also be able to request to end the ride prior to reaching their destination using an in-vehicle button or through the mobile app. If the Cruise AV encounters a roadblock, such as an unexpected street closure, or is otherwise directed by law enforcement personnel to avoid a particular area, the Cruise AV will adjust its route and Cruise will inform the passenger of any changes to the route through the in-vehicle touchscreens.

If the Cruise AV is unable to continue the ride at any time, Customer Support will automatically initiate a call to the passenger. Passengers will also be able to initiate a call through the in-vehicle two-way communications button or live chat with Customer Support at any time during a ride.



Finally, passengers will receive an audible notification and a notification on the in-vehicle touchscreens that the ride has ended. There also will be audible and visual reminders to remind the passenger to exit safely.

One of Cruise's foundational pillars is to provide excellent passenger service from day one of our service. As with any service, we want to learn and improve our service over time. As such, Cruise also has developed an efficient in-app feedback system to ensure we are integrating passenger feedback and experiences to improve our service. For example, passengers provide structured feedback, including a ride rating, after every ride, as depicted in Figure 15 in Section 5.4 below.

4.4. Passenger safe ingress and egress

Each Cruise AV is distinguished by orange branding and the Cruise emblem visible on the exterior of the vehicle. Each vehicle has a unique vehicle name that is displayed on the front hood, rear hatch, and the right and left rear quarter panels.



Figure 9: Cruise AV branding and unique vehicle name (provided as example; actual may vary)

After connecting to the Cruise AV through the Cruise mobile app, passengers will be able to find their designated Cruise AV through a user interface in the mobile app that will display the precise location of the passenger's specific vehicle, the vehicle's name, and its estimated time of arrival. If there is insufficient space for the vehicle to stop at pick up, the Cruise AV will select a nearby area with adequate space to stop to pick up the passenger. The mobile app will convey this change to the passenger while they are waiting.

The Cruise AV name displayed in the mobile app should match the name on the vehicle assigned to each passenger for their ride. Passengers will be able to confirm the name before entering the Cruise AV by looking for the name on the Cruise AV (as shown in the two images above). Passengers also will be able to use the mobile app to call Customer Support to confirm the vehicle or receive audible way-finding cues to access the Cruise AV. Passengers will be able to unlock their assigned vehicle only through the mobile app, which will prevent a passenger from entering the wrong vehicle and ensure the correct person enters the AV. If a passenger does not unlock the



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Cruise AV after it arrives, the Cruise AV will briefly unlock shortly before the AV departs. This will allow a passenger whose phone has stopped working or loses service to enter the Cruise AV. However, the passenger will be required to enter a verification code (the last four digits of the passenger's phone number) on the in-vehicle touchscreen after entering the vehicle to start the ride.



Figure 10: In-app ride-hailing experience (provided as example; actual may vary)

Once the Cruise AV arrives, only authorized passengers will be able to start the ride through the mobile app or in-vehicle touchscreens. For the initial phase of our service, passengers will be able to ride only in the backseats. The Cruise AV front doors will be locked by default, and passengers will not be able to unlock those front doors. In the unlikely event a passenger is able to open the front car doors to enter the driver or front passenger seat, the Cruise AV will give an audio invehicle warning and a visual warning through the in-vehicle touchscreens. In any such instance in which a passenger (or anyone else) is detected in the front seats, the ride will not start, and the Cruise AV will not operate until an Incident Expert (described below) authorizes the Cruise AV to continue. In addition, a label on the Cruise AV steering wheel will warn against attempting interactions with the driver controls (e.g., steering wheel and pedals), and a physical barrier will be in place to separate backseat passengers from driver controls in the front seat.

We also have automatic tamper detection mechanisms and fallback stopping maneuvers programmed in the event of any critical AV tampering. For example, these mechanisms include physical barriers between the front and rear seat and tamper protection covers and warning labels to dissuade passengers from accessing unauthorized interfaces. In the event a minor accompanies an adult passenger for a ride, such mechanisms are an additional safeguard to prevent them from tampering with AV controls. For example, if a passenger attempts to exit while the Cruise AV is still in motion, the Cruise AV will detect the vehicle door opening during a ride and will respond by coming to an immediate but controlled stop to maximize passenger safety.



4.5. Safe arrival and exiting

When the Cruise AV is approaching its destination, there will be an audio in-vehicle reminder, a notification visible on the in-vehicle touchscreens and a notification in the mobile app informing the passenger of the end of ride. The passenger also will be reminded to exit safely, with consideration for other road users (see Figure 11 below).

If the Cruise AV stops due to a problem and has not arrived at the passenger's destination (for example, if it stops due to a detected weather condition that prevents the Cruise AV from continuing), the Cruise AV will inform the passenger of the AV's status. Customer Support also will automatically connect to the passenger through the two-way communications button to assist the passenger on next steps, as further described below in Section 5.



Figure 11: In-vehicle end-of-ride notification (provided as example; actual may vary)

In the event a passenger arrives at their final destination and there is an external threat, such as a hostile individual or some other safety hazard, the passenger will have the option not to exit the vehicle immediately. The passenger will be able to contact Customer Support and request that the doors of the Cruise AV remain locked or change their destination to avoid the safety concern in their immediate vicinity.

4.6. Minimizing safety risks to passengers

4.6.1. Minimal Risk Condition

The Cruise AV meets the description of a Level 4 automated driving system under SAE International's *Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-*



*Road Motor Vehicles.*⁸ The Cruise AV's self-driving system is designed to perform the entire dynamic driving task within a defined ODD and has the capability to achieve a Minimal Risk Condition (MRC)⁹ without any expectation that a human driver will intervene. If a Cruise AV is in a situation where it has exited its ODD or experiences a system failure, by design, the Cruise AV will achieve a MRC at a safe location.

Sophisticated diagnostics are integrated into the Cruise AV's hardware and software systems that will initiate the appropriate dynamic driving task to bring the vehicle safely to a MRC in the event of any single or multi-point failure in any hardware or software system. Additionally, the Cruise AV has redundant hardware and software systems that support the safe execution of achieving a MRC in the presence of a system failure.

The maneuver performed to achieve a MRC depends on residual AV performance and urgency of the response. The current range of potential maneuvers includes a pullover at the nearest available safe stopping location and a controlled stop in lane, and the range of potential maneuvers will expand over time. The Cruise AV will avoid pulling over in front of certain spots, such as fire stations or ambulance loading areas. In most MRC scenarios, the Cruise AV will prioritize moving out of high risk areas, such as intersections, before it achieves a MRC. The Cruise AV will always activate hazard lights once a MRC is achieved.

4.6.2. Operational Design Domain and avoidance areas

Cruise's ODD will be the ODD set forth in Cruise's DMV Deployment permit. It will include a geofenced area within the City and County of San Francisco.¹⁰ The Cruise AV will operate at a maximum speed of 30 miles per hour on local and arterial roads. Certain roadway types will be excluded, such as bridges, tunnels, and roundabouts. Cruise's initial ODD does not contain any active heavy rail crossings, and streets with light rail are excluded from AV routable streets. The Cruise AV also is designed to avoid dedicated transit lanes in compliance with the California Vehicle Code and San Francisco traffic laws. We will not extend our ODD into areas with active heavy rail crossings and streets with light rail unless and until we determine through supervised testing and simulations that we can do so in compliance with all applicable laws and safety requirements.

Cruise will initially not operate driverless passenger service in heavy rain or heavy fog as we continue to improve our technology in these conditions. In addition, Cruise may further restrict its driverless operations to evaluate various aspects of its system.

For example, Cruise may opt to limit its driverless operations during:



⁸ See SAE International, Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, J3016_202104 (Apr. 30, 2021), <u>https://www.sae.org/standards/content/j3016_202104/</u>.

⁹ An MRC is a low-risk operating condition that an autonomous vehicle automatically resorts to when either the automated driving system fails or when the human driver fails to respond appropriately to a request to take over the dynamic driving task. *See* Cal. Code Regs. tit. 13, § 227.02(i).

¹⁰ Cruise's ODD is subject to change pursuant to DMV regulations, including section 228.10 of Title 13 of the California Code of Regulations.

- Certain environmental conditions.
- Certain times of day.
- Certain routes.

Cruise can dynamically respond to conditions in the ODD, like parades, San Francisco Slow Street designations, or roadway closures due to an emergency scenario. Cruise responds to these situations by restricting its operations until the situation ends. The benefit of a 24/7 fleet-managed system is that if one AV experiences a temporary or new roadway closure or issue, Cruise can transmit the information to the entire fleet to ensure that area is avoided.

In addition to minimizing safety risks through the AV design and ODD, Cruise also has developed robust Customer Support and Incident Response functions to minimize safety risks to passengers. Those functions are discussed below.

4.6.3. Passenger Health Issues

If a passenger is alert and experiencing a health issue, the passenger can contact Customer Support either through the mobile app or the two-way communications buttons described in Section 5.2. Depending on the severity of the health issue, the passenger can request that the Cruise AV pull over at the nearest safe location, change the Cruise AV's destination to a medical provider, or request the dispatch of first responders to the Cruise AV.

If a passenger is unable to proactively alert Cruise regarding a health issue (e.g. heart attack, cognitive inability, intoxication), Cruise has implemented safeguards to assist the passenger in such situations. In situations where a passenger does not press the "Start" ride button after entering the Cruise AV, presses the two-way communications button but fails to respond to Customer Support, or does not exit the Cruise AV in a timely manner at the end of the ride, Cruise will follow an escalation protocol. In these scenarios, Customer Support first will attempt to communicate with the passenger. If the passenger is unresponsive, Customer Support will escalate the issue to our Incident Expert team and OnStar. An Onstar Advisor will attempt to engage with the passenger and dispatch first responders if needed while an Incident Expert will request Field Support to be dispatched to the Cruise AV. Throughout the escalation, the two-way communication link will always remain active between Cruise and the passenger.

5. Contacting Cruise

5.1. Response times to passenger requests

During the ride, as discussed earlier, passengers will have multiple ways to contact Cruise based on their individual preference. Cruise has teams available to assist passengers 24/7 through the two-way communications button inside the vehicle or through the mobile app on their personal devices. Passengers can expect their requests during a ride to be handled immediately. In addition, the Cruise AV is equipped with OnStar functionality, which includes Automatic Crash Response for low or high speed collisions. For more than 20 years, OnStar has offered peace of mind for any emergency that may arise. As discussed below in Section 5.5, in the event of an emergency, Cruise





and OnStar teams, trained in incident response, are available within seconds and can contact public safety and first responders as needed.

A passenger can provide post-ride feedback, questions, or concerns to Cruise through the mobile app for an associated ride or to offer broader written feedback. Parties who are not yet mobile app users can also reach out to Cruise through email at support@getcruise.com. Passengers should expect an immediate response to feedback delivered through phone call or in mobile app chat during the course of a ride. For post-ride feedback delivered through email or the mobile app, passengers should expect a response within 24 hours. As our passenger service grows, we intend to maintain the same response turnaround times through appropriate staffing.

5.2. Passenger contact and communications

Cruise Ride Communications: As discussed above and further below, Cruise will communicate with passengers throughout their ride through in-vehicle audio communications, the in-vehicle touchscreens, and the mobile app on passengers' personal devices, providing safety notifications and ride updates.



Figure 12: In-vehicle touchscreen ride progress tracking (provided as example; actual may vary)

In-Vehicle Two-Way Communications Link: Each Cruise AV is equipped with a two-way audio communications link inside the vehicle through a clearly marked button above the passenger seats. Cruise's response time from the two-way communications link is immediate.

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Figure 13: In-vehicle two-way communications buttons (provided as example; actual may vary)

In-App Customer Support: Passengers can initiate a voice call to Customer Support by pressing the in-vehicle communications button or calling directly through the mobile app on their personal devices. Customer Support triages calls by escalating high severity incidents to the Incident Expert team. Passengers will also be able to use the live chat feature in their mobile app to receive immediate assistance or send a written message to Customer Support through the mobile app and Cruise will respond within 24 hours.



Figure 14: In-app customer support and emergency help (provided as example; actual may vary)



Cruise is alerted to potential incidents by both automated and human review processes monitoring the vehicle at all times. For example, in the event of a collision, unwanted public interaction, or law enforcement traffic stop, Cruise will respond promptly whether or not the passenger initiates a call through the two-way communications link or their personal devices. In addition, Cruise's Incident Experts monitor and review every active detected incident.

If a passenger contacts Customer Support regarding a lost item, Cruise will summon the Cruise AV to its facilities, retrieve the item, and place it in a secure location. Cruise will then communicate to the passenger regarding the place and time where the passenger can retrieve the lost item. We are building towards being able to send the AV back to the passenger's drop-off location so they can directly retrieve any items left in the vehicle.

5.3. Accessible Customer Support

As discussed above, passengers will receive onboarding materials that explain how to use the invehicle button that provides a two-way communications link to Customer Support. The two-way communications link is accessed through a clearly marked, tactile button that is designed for use by blind and low vision passengers. Passengers also will be able to access Customer Support through the mobile app on their personal devices.

Live chat will be available through the mobile app to provide accessible support to deaf and hard of hearing passengers.

Based on its research in partnership with the disability community, Cruise has learned that passengers value customization. For example, Cruise has heard repeatedly from blind and low vision individuals that their phone is their device of greatest comfort. As a result, customer support settings in Cruise's mobile app include preferences for support. Cruise also intends to use insights and feedback from passengers during the initial phase of our service to continue improving user experience and confirm which options are the preferred modes of communication.

5.4. Feedback

Feedback is extremely important to our company at all times of our development, and even more so as we begin our initial passenger service. Cruise has collected and will continue to collect passenger and public feedback through our support channels and in-app ratings request after each ride. The support channels through which passengers can contact Cruise are discussed above. Other road users and the general public can submit comments or complaints to Cruise by emailing community@getcruise.com.

We currently classify comments and complaints into the following general categories: mobile app (i.e. software, pricing or payment issues), pickup (i.e. wait time, location, identification issues, safety, accessibility), route, comfort, in-car display (i.e. issues relating to announcements or visual displays, accessibility), and drop off (i.e. location, arrival time, safety). A comment or complaint may track across multiple categories. For example, a comment about an accessibility feature or safety may relate to both the mobile app and a pickup experience. We have chosen this taxonomy because it allows us to monitor the frequency and types of comments that are most likely to arise in the context of ride-hailing and continuously enhance the passenger experience, and we will adjust



the taxonomy over time as we identify adjustments that help us to better meet those goals. When we receive complaints, we escalate concerns to the relevant internal teams responsible for the associated AV behavior or product feature, take action to remediate any identified issues, and track resolution of such issues.

If passengers provide information or feedback by sending a message to Customer Support from the mobile app, Cruise will respond within 24 hours. Information will be retained for a period of three years in compliance with General Order 157-E. Recorded communications during the ride from the passenger in the vehicle with Customer Support, Incident Experts, and OnStar Emergency Response¹¹ will be retained for a period of one year.¹²



Figure 15: In-app passenger feedback collection (provided as example; actual may vary)

5.5. Cruise teams supporting passenger safety

Teams across Cruise work together closely so that passengers are safe, supported, and protected should any circumstance interfere with their ride, or if they have any questions along the way. Cruise has more options available to support passengers than they may have experienced in traditional ride-hailing.

Cruise's robust passenger support operation consists of five teams dedicated to ensuring the safety, health, wellbeing, and comfort of our passengers:



¹¹ Customer Support, Incident Experts, and OnStar Emergency Response are the only teams that remotely communicate with Cruise passengers and fulfill the role of a "remote operator" for purposes of the CPUC's requirement that each AV permit-holder"[r]ecord all communications from the passenger in the vehicle with the remote operator while Driverless Autonomous Vehicle Passenger Service was being provided and retain the recording for one year from the date of the recording." *See* D. 20-11-046, at Ordering Paragraph 7(I).

¹² See D.20-11-046, at Ordering Paragraph 7(I). The confidentiality of the recordings will be governed by General Order 66-D. *Id.*

- <u>Remote Assistance</u>: Supports the Cruise AV when it needs help as further described below. Remote Assistance does not interact with passengers directly, nor does Remote Assistance perform dynamic driving tasks.
- <u>Customer Support</u>: Interacts with the passenger through two-way communications link, inapp live chat and messaging, phone, and email; escalates to OnStar and Incident Experts during live support interactions when necessary.
- <u>Incident Expert</u>: Interacts with passengers through two-way communications link during incidents and assesses potential emergencies and escalates to OnStar as needed; navigates the Cruise AV through particularly challenging situations.
- <u>OnStar Emergency Response</u>: Dispatches First Responders to scene when there is an emergency requiring police or medical help.
- <u>Field Support</u>: Serves as the on-scene response unit to provide direct, in-person support to passengers or to interact with third parties and public safety officials when necessary.

Although not all teams will interact with passengers directly, all play a crucial support role in ensuring the highest level of passenger safety. All of Cruise's teams supporting passenger safety undergo rigorous, specialized training and continued education for their specific functions and roles. Below is a more detailed description of the function of each of these five teams.

5.5.1. General support for Cruise passengers

Remote Assistance: Remote Assistance is a team of Remote Assistance Advisors that will not communicate with passengers or perform dynamic driving tasks. Rather, Remote Assistance will continuously and proactively monitor a queue that Cruise AVs join if they are in need of assistance. Remote Assistance Advisors can also access an interface to monitor video feeds from the Cruise AV's externally-facing cameras and the Cruise AV's lidar map. If the Cruise AV is unable to navigate the environment independently due to unforeseen circumstances (e.g., road blockages), within a matter of seconds, the Cruise AV initiates a call to Remote Assistance and is automatically matched with a Remote Assistance Advisor. The Remote Assistance Advisor assists the Cruise AV to determine how to proceed. The Remote Assistance Advisor can see what the Cruise AV sees and can help confirm the Cruise AV's classification of the object and/or assist the Cruise AV to navigate around the unexpected situation. More complex scenarios that require simultaneous passenger and AV support are managed by Incident Experts.

Each member of the Remote Assistance team is required to have a valid driver's license, complete rigorous training, and is responsible for responding to any issues that arise concerning Cruise vehicles in real-time. Remote Assistance Advisors receive one week of classroom training, two hours of training on General Motors' closed course in Michigan, and 10 weeks of shadowing experience. They also must pass certification exams in all assistance types before beginning to support Cruise AVs on public roads. Remote Assistance Advisors will be shadowed by more experienced Remote Assistance Advisors until they demonstrate the highest level of proficiency and accuracy to safely assist Cruise AVs without being shadowed. In addition, their sessions will continue to be internally audited by Cruise and they will receive weekly coaching on an ongoing basis regardless of tenure.

Customer Support: The Customer Support team consists of Customer Support Advisors who will handle communications with passengers. They also will escalate emergency situations to OnStar



Emergency Response and the Incident Expert, as discussed below. Passengers will be able to reach a Customer Support Advisor for voice support through the two-way communications link in the Cruise AV. Passengers also will be able to reach a Customer Support Advisor through the phone support function using their personal devices or the live chat, messaging, and email support in the mobile app. Customer Support will have visibility into the state of the Cruise AV and be able to guide the passenger through self-help within the mobile app to update their ride or account details as needed. In addition, Customer Support may control Cruise AV in-vehicle cabin settings, such as locking and unlocking doors, rolling down windows, honking the horn, or turning on hazard lights.



Below is an illustration of the Customer Support channels:



Customer Support Advisors undergo one week of classroom training and remain in trainee status for two months, during which time their communications with passengers are thoroughly reviewed for quality assurance and to identify training opportunities. Their communications are regularly audited and they receive performance coaching on an ongoing basis.

Incident Expert: Incident Experts are specially trained to remotely manage and triage various situations. Passengers will be connected with an Incident Expert in situations such as the following: (a) the passenger requests to end their ride early and the Incident Expert checks to make sure the passenger is not experiencing some kind of emergency, (b) the Cruise AV detects a possible collision, or (c) the Cruise AV detects that an emergency vehicle is attempting to pull over the Cruise AV. Incident Experts can communicate directly with passengers through the two-way communications link in the Cruise AV while simultaneously viewing the state and location of the Cruise AV. When necessary, they can change the autonomous state of the vehicle or direct the vehicle with navigation, such as instructing the vehicle to pull over to the side of the road (similar to Customer Support, Incident Experts also may control Cruise AV in-vehicle cabin settings like locking and unlocking doors, rolling down windows, honking the horn, or turning on hazard lights. If



a passenger first reports an emergency to Customer Support, then a Customer Support Advisor will escalate to the Incident Expert as needed. In some cases of a confirmed collision or a passenger-reported emergency, an Incident Expert will conference in OnStar Emergency Response to facilitate a three-way call with the passenger.

To qualify as an Incident Expert, the Incident Expert must:

- Complete all of the same training that Remote Assistance experts receive (e.g., classroom training, closed course training, shadow training, certification).
- Reach the highest level of Remote Assistance training before becoming an Incident Expert. This training takes a minimum of 3 months and also requires meeting extremely high safetybased performance thresholds.
- Complete one week classroom training on handling emergency situations and hazardous driving scenarios and pass multiple certification exams on the topics covered.
- Complete an additional one week of shadowing and closed course training.
- Complete one month of shadowing by a more senior Incident Expert.

5.5.2. Incident Response

As discussed in Section 5.5.1, in the event of an emergency, Cruise's Incident Experts are available on-demand to our passengers for immediate assistance and are responsive to a broad range of scenarios, including medical emergencies. OnStar Emergency Response and Field Support also are available to support passengers and respond to incidents. Cruise's Incident Experts and OnStar Emergency Responders are highly trained and work with first responders as necessary to prioritize the safety of passengers and to maximize efficiency and response times.

OnStar Emergency Response: A passenger can be connected with OnStar Emergency Response in one of two ways. First, if the passenger reaches out to Customer Support and alerts them to an emergency requiring medical response or law enforcement, Customer Support can escalate the call to Incident Expert and Onstar Emergency Response simultaneously. In the event that Customer Support escalates to Incident Experts, Incident Experts can also conference in Onstar Emergency Response with the passenger. Second, OnStar's Automatic Crash Response can automatically initiate contact with a Cruise Incident Expert and a trained OnStar Emergency Response Advisor, who will notify 9-1-1 dispatch without relying on passenger action.

Field Support: In any situation where the Cruise AV is unable to continue autonomously, Cruise has the ability to dispatch a Field Support team, which consists of two Field Support representatives. Field Support provides another layer of safety for passengers as remote teams can conduct a handoff to the Field Support team seamlessly. Field Support can provide direct, in-person assistance to any passenger to ensure full resolution of any ride interruption, including information exchange with a third-party in the event of a collision. Field Support also can work with public safety officials who may be on the scene and can facilitate retrieval of a disabled Cruise AV, including towing.

6. Incident Response



6.1. Public safety

Cruise works closely with public safety officials and has conducted training and demonstrations that have provided guidance and walk-throughs to show how first responders and law enforcement can safely interact with the Cruise AV. Public safety officials, including those in San Francisco, are equipped with contact information on how to reach Cruise in emergency and non-emergency situations through the <u>Driverless Deployment Program Guidance for First Responders</u>, which has been approved by the California DMV and the California Highway Patrol and is available through a link on Cruise's Resources for First Responders public webpage.¹³ Public safety officials also are familiar with our vehicles and the associated technologies. As a result of our continued collaboration, we are confident that we can coordinate with first responders effectively and efficiently in any emergency situation to provide a safe service for our passengers in our initial deployment ODD and as we expand.

6.2. Passenger-reported incidents

The safety of our passengers and those sharing the road with Cruise AVs are of utmost importance to Cruise. Cruise is prepared to support our passengers through any possible or perceived threat to their safety, health, or well-being. In the event that a passenger's safety could be compromised due to external factors like a collision, hostile individual, regional emergency, or personal factors like a passenger health emergency, Cruise's teams are prepared to respond in real-time. Concurrently, passengers have multiple pathways inside the vehicle or through the mobile app to communicate that an incident is occurring. In addition, Cruise will initiate communications automatically with passengers when Cruise detects these events.

This passenger communication will allow Cruise to:

- Determine the best response to the incident, which could include requesting assistance of first responders through OnStar.
- Remotely direct the vehicle to take a different path or safely achieve MRC.
- Send out a Field Support team to provide in-person, direct support to address passenger needs.
- End the ride at the passenger's request.

6.3. Fleet monitoring and learning

Cruise continuously monitors its driverless fleet while it is in operation. Cruise uses a suite of internal tools to oversee its fleet of AVs, including information about each Cruise AV on the road, such as current location, operating condition, and passenger state.

¹³ See Cruise, Cruise Resources for First Responders (updated Sept. 30, 2021),

<u>https://www.getcruise.com/firstresponders</u>. A copy of the Driverless Deployment Program Guidance for First Responders also is attached as Exhibit C.



Figure 17: Example of Cruise internal fleet monitoring tool

In traditional driving, each new driver has a learning curve and individual experience matters (e.g. teenage drivers are more likely to get in crashes than older, more experienced drivers¹⁴). Moreover, there are no learnings from driver to driver. In contrast, Cruise's fleet operates by fleet learning. For example, if one car detects that a road is closed, that information can be shared with the fleet. Or if there's a dangerous road hazard, a single car can notify the fleet to avoid a potentially unsafe situation. As a result, the combined learning accrued minute-by-minute across Cruise's entire fleet allows each Cruise AV to continually improve from the experience of every other Cruise vehicle, enabling continuing safety improvements over time.

6.4. Unsafe scenarios

Cruise has thoughtfully designed an integrated system of automated monitoring and response to passenger feedback to appropriately detect and respond to unsafe scenarios outside the vehicle. As discussed above, we seek to support passengers at all phases of their journey and may be reached immediately at any time of day if a passenger has a safety concern. When safety scenarios occur, we have well-trained Customer Support, Incident Expert, and OnStar teams to provide passenger support, in addition to a Field Support team that can be dispatched to passengers, as



¹⁴ National Highway Traffic Safety Administration. (2020, October). *2018 Data: Young Drivers*. NHTSA. <u>https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812968</u>.

discussed in Section 5.5. As stated in Section 2.2,, during its initial phase of its Driverless Deployment Program, Cruise will not be providing driverless pooled rides.

In the case of a hostile individual outside the Cruise AV, we follow a protocol honed through millions of miles of San Francisco driving:

- If possible, take safe evasive action to attempt to remove the Cruise AV and passenger from the situation.
- If necessary (likely due to continued escalation or passenger request), escalate to OnStar Emergency Response including notifying local emergency responders to scene if needed.

Our Crisis Management Team ("CMT") also proactively prepares for emergency preparedness and incident response. CMT mobilization is tailored based on the nature of the situation but can include representatives from our safety, security, engineering, operations, legal, government affairs, communications, people, and other teams. To date, this capability has been used to coordinate response to COVID-19, civil unrest, wildfires and other contingency situations. We also conduct regular preparedness exercises for our readiness to respond to safety-related incidents. These exercises range from "tabletop" discussions in which key responders walk through a response to hypothetical crisis situations to full-scale exercises designed to simulate a real event as closely as possible.

If a natural disaster occurs, such as a fire or earthquake, we have protocols in place to respond quickly and ensure passengers receive support to safely navigate the situation. In the event a fire occurs, our team will place an avoidance area in the AV map to prevent vehicles from entering the area. If a Cruise AV is already present in the area of the fire, we will summon the AV out of the area. If summoning the vehicle cannot safely occur, an Incident Expert will coordinate with OnStar to dispatch emergency responders to the Cruise AV. If an earthquake occurs, Cruise will ground individual AVs or the entire fleet depending on the severity of the event. If it is not possible to safely recall all AVs or dispatch Field Support, Cruise Incident Experts will coordinate with OnStar to dispatch emergency responders to the scene.

We are also aware that unsafe scenarios can occur in the absence of hostility or regional disasters due to the dynamic nature of city streets. As noted previously, prior to taking their first ride, passengers will receive the Cruise Community Rules that remind them to watch for other road users when exiting the Cruise AV. In addition, as noted in Section 4.3 and illustrated in Figure 11, when passengers exit the Cruise AV, they will receive guidance on how to safely exit the vehicle upon arriving at their destination with consideration for other road users. As the Cruise AV navigates city streets, it will communicate its intent and actions to other road users through traditional methods used by human drivers, such as the turn signal to indicate an approaching turn, hazard lights to signal a stop, and horn to be used sparingly in emergency situations.

6.5. System failure

Redundancy is built into the Cruise AV design. However, should any issue arise with any part of the Cruise AV, or if a change is detected in the operating environment, the Cruise AV is designed to come to a stop at the nearest available safe stopping location and achieve a MRC.



Cruise Incident Experts will then reach out to passengers to provide guidance, assistance, and next steps, including reassurance that the Cruise AV will continue its operation, or dispatch a Field Support representative as necessary.

6.6. Collisions

The Cruise AV meets all federal crashworthiness standards.

As discussed above, the Cruise AV is based on the NCAP 5-Star safety-rated Chevrolet Bolt EV. Working with General Motors, we analyzed the vehicle's structural integrity to account for the addition of several new key systems to the vehicle (e.g., the sensor roof module, sensor cleaning and drying system, power backup system, and data management system). To best protect passengers, we:

- Engineered load paths to manage crash forces to protect the passenger space during frontal, side, rear and rollover crashes.
- Designed a battery housing structure to protect the internal battery space in a crash and minimize lithium battery fire risks for passengers and first responders.
- Installed vehicle floor reinforcements to distribute loads and maintain passenger space in a crash.

Together, Cruise and General Motors have completed robust and sufficient simulations and crash testing of the Cruise AV to show the effectiveness of the above requirements.

The air bags and seat belts in the Cruise AV meet Federal Motor Vehicle Safety Standards, including injury protection. Our all-electric self-driving vehicle also incorporates battery safety measures. In addition to the reinforced structure for the battery compartment, the Cruise AV is equipped with a crash-safety system that cuts power in the event of a collision, making it safer for first responders.

Cruise's requirements for post-crash behavior account for both physical safety and standard practices in the event of a crash. After a crash, the Cruise AV will enter a safe state MRC. The vehicle will automatically apply brakes to bring the vehicle to a complete stop in a controlled manner after the initial impact. Built-in sensors will automatically alert a Cruise Incident Expert when there is a collision. In the event of a high-severity collision, both a Cruise Incident Expert and an Onstar Emergency Response Advisor will be connected automatically through the Automatic Crash Response system to see if a passenger needs help and to communicate with first responders on the scene. For every collision, Cruise will also dispatch a Field Support team to the scene to provide passenger support and liaison with public safety officials and other third-parties that may be on the scene. If passengers do not respond, or none are present, the OnStar Emergency Response Advisor will communicate with the Incident Expert to gain situational awareness and communicate with local responders.



7. Conclusion

At Cruise, safety drives everything we do. We are committed to implementing best practices and improving over time with essential feedback from passengers to ensure that our all-electric Cruise AV passenger service can safely connect people to the places and experiences that they care about. Although Cruise's service will be limited initially, we believe it is an important incremental step in providing a safe all-electric self-driving service ultimately advancing the transportation landscape as we know it. We look forward to welcoming you aboard.



8. Appendix

8.1. Operational Design Domain



Initial Operational Design Domain from Cruise's DMV Deployment Application



Planned Future Operational Design Domain in San Francisco from Cruise's DMV Deployment Application



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EXHIBIT A

cruise

COVID-19 Response Plan for Ride-hail in California

Purpose

Pursuant to California Public Utilities Commission ("CPUC") Resolution TL-19131 effective August 17, 2020, Cruise LLC ("Cruise") has created this COVID-19 Response Plan for its ride-hail services in California. This COVID-19 Response Plan for Ride-hail was developed based on best practices from the Center for Disease Control ("CDC") as well as guidance and orders from the California Department of Public Health ("CDPH") and San Francisco Department of Public Health and Cruise's own learnings over the past year. The COVID-19 Response Plan for Ride-hail will be updated and scaled appropriately to reflect the current state of the COVID-19 pandemic and comply with all applicable public health requirements and laws.

Symptom and Exposure Screening and Face Coverings

Cruise strongly discourages passengers from riding who have had a recent COVID-19 infection or who may be at higher risk for COVID-19. Risks include:

- Symptoms that are new or not explained by other conditions: fever, chills, sore throat, cough, shortness of breath/difficulty breathing, fatigue, loss of taste or smell, body aches, headache, diarrhea, runny or congested nose, nausea or vomiting.
- **Recent COVID-19 Infection:** In the past 10 days you have been diagnosed with COVID-19 or had a test confirming you have COVID-19.
- **Close contact:** If you're not fully vaccinated and have had close contact with someone who has been diagnosed with COVID-19 in the past 14 days during their contagious period.
 - A close contact is anyone who has been within 6 feet of an infected person (laboratory-confirmed or a clinically compatible illness) for a cumulative total of 15 minutes or more over a 24-hour period. An infected person can spread SARS-CoV-2 starting from 2 days before they have any symptoms or, for asymptomatic infections, 2 days before the positive specimen collection date.
 - Individuals are considered "fully vaccinated" 14-days after their last dose of a two-dose vaccine series or 14 days after their first dose of a one-dose vaccine series.

Preventing and stopping the spread of possible COVID-19 cases relies on being prepared, acting promptly, and being proactive when it comes to assuring our methods are effective. Cruise has developed comprehensive protocols to ensure our workforce is safe. As part of that plan, we have rigorous procedures and technology in place to track and manage potential or confirmed COVID-19 cases, including contact tracing for Cruise personnel. Our onsite workforce undergoes COVID -19 symptom and exposure screening prior to their scheduled shifts. Thus, in the unlikely event that a Cruise team member needs to interact with a passenger, that team member will have received COVID -19 symptom and exposure screening.

All passengers will be asked to follow CDC guidelines and public health requirements, including guidelines on face coverings. Below is an illustrative example of the type of COVID-19 screening that Cruise will request of passengers prior to requesting a ride:

cruise

9:41
0
COVID-19 safety check
To keep everyone safe, please confirm that these apply to you and any guests:
 I will wear a mask or face covering inside the vehicle.
 I do not have COVID-19 or any associated symptoms.
 I have not had close contact with someone diagnosed with COVID-19 in the last 14 days.
 I will keep the windows down when possible.
Confirm
Cancel

*In-app images are provided as an example and may vary.

Disinfection and Cleaning Practices

Cruise performs routine and non-routine disinfections of the AVs in accordance with current CDC and CDHP requirements. Products used for disinfection are <u>EPA Registered Antimicrobial Products for Use</u> <u>Against Novel Coronavirus SARS-CoV-2</u>. Manufacturer instructions for concentration, application method, and contact time will be followed for all cleaning and disinfection products. Cruise provides its workforce with the appropriate training, instruction, and personal protection equipment (such as chemical resistant gloves and eye/face protection) to safely perform routine and non-routine disinfections throughout our fleet.

If a passenger reports that they have have been diagnosed with COVID-19 and it has been less than 24 hours since the rider was inside the AV, Cruise will pull the AV out of service to perform a non-routine disinfection if the AV has not been disinfected following the ride as part of the our routine cleaning protocols.

Hand sanitizer and disinfecting wipes will be available to passengers in each AV to encourage passengers to disinfect high touch areas they may touch inside the AV.

Ventilation

Ventilation is a key part of Cruise's layered strategy to prevent airborne spread of the COVID-19 virus. Cruise has increased its default airflow in the AVs to a complete air change every 1.5 minutes to reduce risk to our passengers. However, passengers have the ability to change these settings based on their preferences. Passengers will be encouraged to keep windows open (approximately 1 inch) unless it is not practical to do so.