# THE
# REMOTE A.V.
# SERVICE PROVIDER
# PROCESS

AV onDemand connects a service provider to an AV that operates on existing ride-sharing infrastructures and acts as a facilitator when the vehicle experiences technical difficulties in dynamic environments.



CARRIED OUT BY
PASSENGER

CARRIED OUT BY
SERVICE PROVIDER

## 1. A day in the life of a service provider

Service providers work in office buildings or remotely at home and are equipped with multiple monitors per desk, headsets, and a strong Wi-Fi connection. Each service provider is assigned to an autonomous vehicle automatically upon dispatch. A service provider monitors confidence levels of multiple autonomous vehicles at once until one of them requires their assistance.

## 2. Passenger orders a taxi from service

The passenger enters the vehicle and is prompted to confirm or modify their destination. The vehicle waits until the passenger is securely fastened before the trip begins. A service provider can be summoned at any time throughout their trip.t

## 3. Obstacle Detection

Testing AVs in urban areas create large data sets that indicate areas where they fail. When the AV is active, a confidence percentage level is determined at every instance to determine whethe the car is in a predetermined hazard zone. AVs record a 360° view of the environment and do a comparative analysis (in real time) to environments stored in the database.
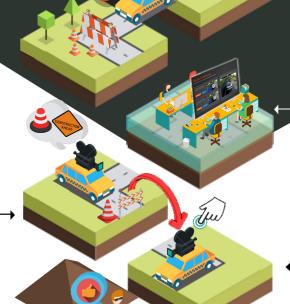
Machine learning allows the AV to see a few cones and then verify – to a percent confidence level – that it is in a construction zone. The same principles apply for roads with unclear lane markings, areas with heavy snow or rain, and dirt roads.

## 4. Options for Passenger

Depending on the time at which the obstacle is noticed, the passenger is given the choice to reroute or request help. If help is requested, the service provider remotely maneuvers past the obstacle.

If the passenger is sleeping or does not respond, the service provider selects the best option that gets the passenger to their destination.

## 5. AV and Service Provider Collaboration

The service provider assesses the context of the situation at hand and considers maneuvers that the AV considers viable through machine learning. All options provided are based on acceptable maneuvers from previous encounters with the environment. These encounters are drawn from a large database which allows AVs to make data driven predictions to navigate safely.

## 6. Manual Override

If the service provider determines that options recommended by AV software are unfit for the situation, the service provider implements manual override.

The service provider is given access to a real time 360° view of the environment via cameras on the AV. A route is mapped on the road by pointing and clicking on interactive displays, and speeds are allocated to segments of the route. Trajectory arrows map onto the landscape to combat perspective issues that could otherwise arise.

## 7. Passenger reaches final destination

Once reaching the final destination, the autonomous vehicle notifies the rider that they have reached their destination through vibration and auditory cues.

## 8. A hard day of work, finished

The service provider relinquishes control back to the vehicle, and goes back to monitoring another until it is requested by another rider.