

Fully Accessible Autonomous Vehicles Checklist

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Human Machine Interface

- Accessible Apps to hail a car (Section 508 compliant)
- Both print/visual (adjustable size/contrast by user) and audio I/O
- Voice-controlled systems (e.g., change route, unlock doors, lower/raise windows, etc.)
- Where's my ride, including finding it when it arrives (how will the car know you are blind? Could it detect a dog, or a cane?)
- Micro-navigation needs for Blind riders -- how will you know the car has arrived?
- Minimally complex directions and control identifiers
- Compatible with portable devices (phones, tablets, 'smart-glasses') with customized assistive technology, such as paperless Braille display for deaf/blind users
- Accessible operating surfaces (within reach; tactile cues, etc.)
- User enabled remote destination selection and trip monitoring with video and GPS for users with intellectual disabilities
- Alternate (accessible) drop off points for access (e.g., near curb ramps)
- Provides information (visual and audio) about environment surrounding the vehicle
 - Location, route, certain landmarks (e.g., Bay Bridge Toll Plaza), etc.
 - Weather, road conditions
 - Accidents, incidents (how will car communicate in an emergency?)
 - Deviations from route or why the ride may be stopping
- Orients user to drop off point including access features, directions to destination with orientation landmarks, construction, etc.

Hardware

- Compatible with existing hand controls (Levels 2 and 3)
- Space to stow wheelchair if transferring
- Lower floors to accommodate wheelchairs (don't put tech under the floor)
- Lift/ramp and securement system, or support for aftermarket modification
- Accessible securement for non-disabled people with limited upper body mobility, e.g., seat belts
- Accessible door handles, storage spaces (opening and closing the trunk or hood)

Policy & Legislation

- Anti-discriminatory licensing, insurance & liability requirements (No licensing for Level 5 passengers)
- Anti-discriminatory data & privacy requirements (not sharing disability/health status, or locations visited, without their consent)
- Ethical considerations (whose life is prioritized in a crash?)
- Funding for fully accessible vehicle R&D
- Fully accessible infrastructure development (sidewalks, curb ramps, complete streets)

Note: Anything that a car maker includes as a feature or enhancement for people without disabilities should be designed to be accessed by people who are blind, Deaf, have mobility disabilities, cognitive disabilities, etc. Please contact Carol Tyson, ctyson@dredf.org, with any questions or comments.