SHARED AUTONOMOUS VEHICLES (SAV)
Recommended Features

Summary

For people with disabilities, the usability needs of Shared Autonomous Vehicles (SAV) focus on ensuring accessibility, safety, and user-friendly interaction. SAV interfaces must be adaptable to various disabilities, such as visual, hearing, mobility, and cognitive impairments, by including features like voice-activated controls, Braille or tactile feedback, visual aids, and simplified navigation systems. Entry and exit points should accommodate wheelchairs and other assistive devices, with vehicle interiors designed to offer sufficient space and securement. Clear audio-visual alerts, easy-to-use emergency functions, and personalized settings can further enhance the travel experience for individuals with disabilities, making SAVs an inclusive and practical option for all users.

SAV Exterior

COLLISION AVOIDANCE SYSTEM

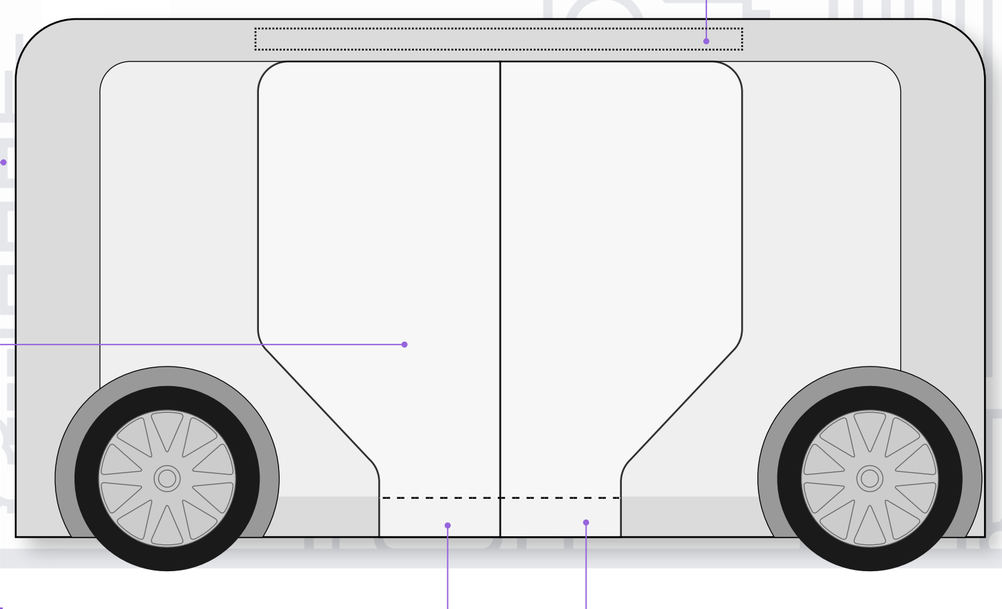
- Identifies vulnerable road users (VRU) in the immediate vicinity
- Recognizes wide variety of postures, statures and movement styles characteristic of PWD
- Feedback that vehicle has recognized a VRU and is responding – visible from all sides of vehicle

VEHICLE AND ROUTE IDENTIFICATION/STATUS

- In service/out of service
- Route number and name
- Dynamic schedule information (real time, historic, scheduled using color code) for previous vehicle and next two vehicles
- Route with stop list and current stop indicated
- Beacon to guide passengers to their vehicle
- Coded signal on time to depart (e.g. countdown timer, color code)
- Contrasting color door or frame
- Cameras provide 360 degree view of exterior

DOOR

- Automated with manual default
- Sliding or folding in
- 38 in. minimum wide
- 65 in. minimum high
- Handholds at side or immediately inside of door
- Contrasting color door or frame
- Obstacle detection in opening closes door when safe
- Audible and visual signal before door closes
- Manual activation option inside (back up and emergencies)
  - o Control button 3 in. min. width
  - o Audible/visual feedback
  - o Fail-safe open



RAMP

- Automated with manual default
- Audible/visual deployment warning
- Slow deployment
- Edge protection – 4 in. minimum
- Contrasting edge color
- 1:8 slope maximum
- 36 in. wide
- Railings
- Non slip surface
- Conveyor device for pulling WMD up ramp and guiding decent
- Manual operation option in case of failure

DOOR UNLOCKING/OPENING

- Profile sets up door opening condition
  - Unlocks and waits
  - Unlocks and opens
  - Does nothing
- Automatic door opens as rider approaches
  - GPS position within range
  - Face recognition by exterior camera
  - Camera detects any person
  - Wait for rider activation
- Door opens by rider activation
  - Scan with mobile device or smart card
  - Enter code on keypad
  - Contact remote assistant to open remotely
- Manual activation (emergency condition)

STEP

- 1 step
- 7 in. max riser height
- Contrasting color edge
- Non slip surface

RAMP DEPLOYMENT

- Warning before deployment or stowage
- Projection of deployment area onto ground surface
- Presence sensor under ramp
- Weight sensor on ramp
- Exceed capacity warning
- Ramp warning while deploying or stowing

WHEELCHAIR SECUREMENT

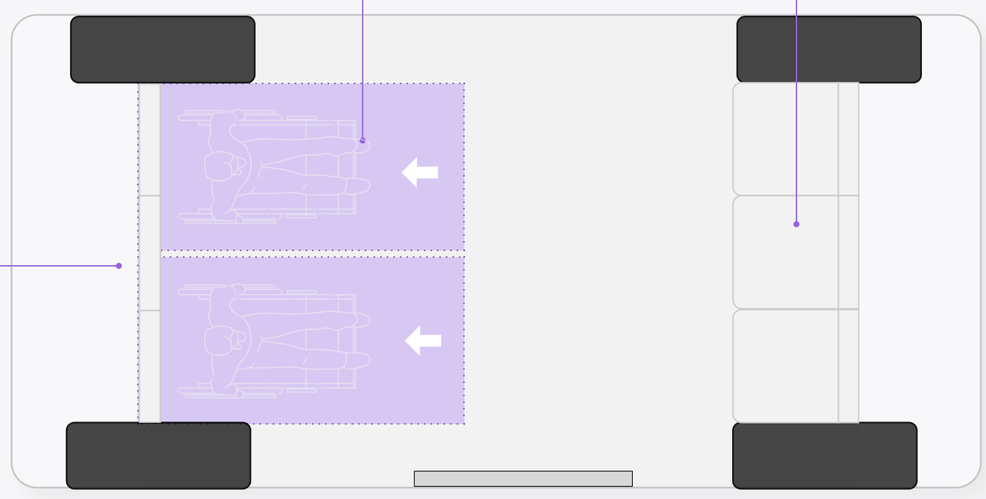
- Jump seats convert to wheelchair securement
- Audible announcement and instructions
- Graphic display with instructions
- Two securement areas
  - 30 x 60 in. CFS
  - Icon identifying
  - Feedback for guiding into position
- Securement system
  - One control activates all devices
  - Ideally, no manual connections needed
  - Manual connections
    - Color-coded and numbered devices for steps
    - All connection devices requiring within reach of WMD users(need accommodation model)
    - All connection devices within view without twisting body
- Opposite or corner seating plan for conversation

SEATING

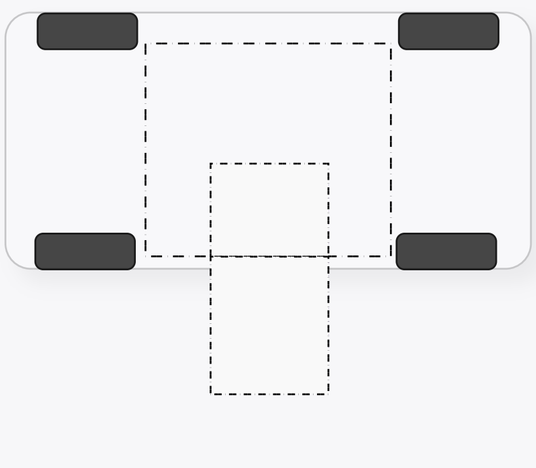
- Seat belts for high speeds
- Low contour with back support
- Low friction material
- Anti-bacterial, easy clean materials
- Jump seats
  - Fold down, not up
  - Arm rests can be pulled up to make more space
  - Latched in place in down position
  - Releasing latch releases both armrest and seats together
  - Latch within reach and visible
- Anti-motion sickness measures... therapeutic light pulses, sensor activated fresh air ventilation, positioning screens and active suspension
- Seat belts
- Controls within reach and visible
- Service animal space under seat
- Level floors or only slight slope to reach all seats

STORAGE

- Announcement and instructions
- Dynamic graphic display
- Color-coded storage areas with icons
- Large heavy items stored separately – same level as floor

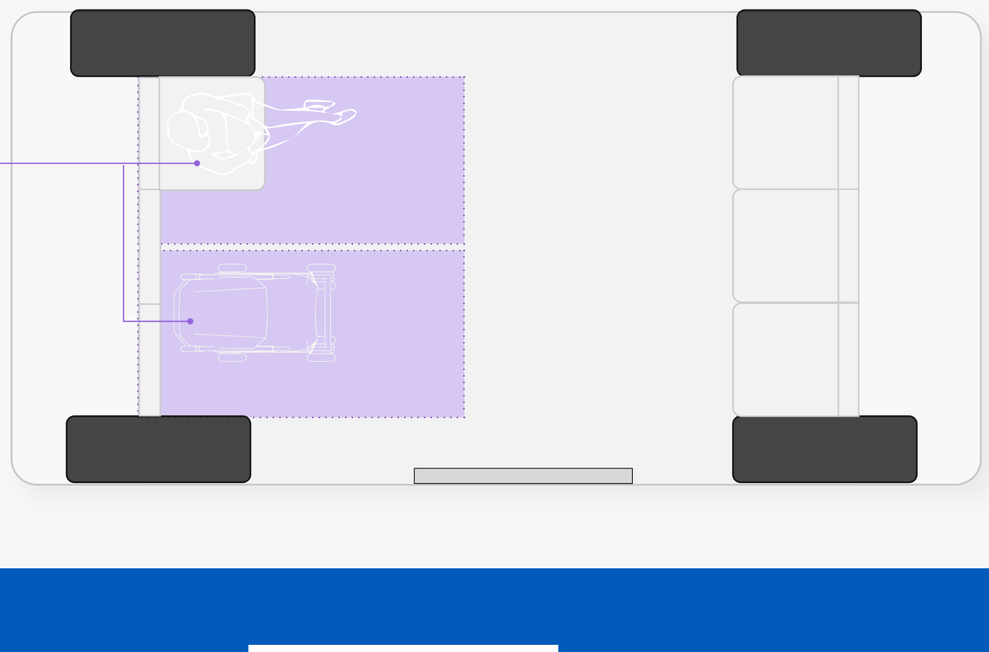


- Battery wraps around ramp
- 56” ramp, folding or telescoping



SEATING AND STORAGE

- Jump seats
  - 1 Fold down
  - 1 Fold Up
  - Large Storage for Stroller



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