PVA
Paralyzed Veterans of America

Autonomous & Electric Vehicles Are the Future

Will They Be Accessible?

Webinar Process

- Today's webinar will be recorded and available for viewing on PVA.org
- Closed Captioning is available. Click the CC button in the meeting controls bar at the bottom of your screen to turn it on.
- If you have a question, please type it in the Q&A box. Questions will be answered at the end of the program.

Introductions and Agenda

- Introductions – Lee Page, Senior Associate Advocacy Director
- Henry Claypool – AAPD Technology Consultant &We Will Ride Initiative
- Alan Hejl – Accessibility Strategy Manager, GM Able Co-President
- Josh Schorr – Accessibility Specialist, U.S. Access Board
- Q & A – Heather Ansley, Associate Executive Director of Government Relations

Henry Claypool – AAPD Technology Consultant

GM Journey towards Disability Inclusion

Alan Hejl

18 August 2022

Overview

- Introductions
- GM Able Overview
- Business advantage of Inclusion
- How to get involved in Disability Inclusion

“We aspire to be the most inclusive company in the world, but it’s not a title we want to hold by ourselves.”

Mary T. Barra

General Motors CEO

Introductions

Alan Hejl (He/Him/His)

- Accessibility Strategy Manager
- GM Able Co-President
- Disability Rights Advocate
  - Detroit Disability Power
  - United Spinal Association
  - Michigan Disability Rights Coalition
  - Ferndale Accessibility & Inclusion Advisory Commission

What is GM Able?

Mission:
Drive a culture of inclusion to better serve our customers, employees, and community through innovation, talent enrichment, awareness, and outreach for people with disabilities.

1150+ Members in 2022!

Activities: Mental Health Awareness, Quarterly Meetings, Lunch & Learns, Volunteering, Product Discussions

Dual purpose:

- **External focus** to improve universal design in GM products and services for customers; community outreach

- **Internal focus** for employee support, awareness and engagement; facilities design; providing resources to employees with disabilities, allies, and caregivers

general motors

Organizations with inclusive cultures are…

2x

as likely to meet or exceed financial targets

3x

as likely to be high performing

6x

more likely to be innovative and agile

8x

more likely to achieve better business outcomes

general motors

Bersin by Deloitte

Who are People with Disabilities?

COGNITIVE VISUAL AUDITORY MOTOR SPEECH

15–20% of Global population (1 Billion+)

26% of US population (61 Million+)

+5.6% Temporary Disabilities per year

20% of US adults are caregivers

x2 Population over 65 to double by 2050

Intersectionality:

- Race
- Gender
- Class
- Sex
- Age
- Education

Accessibility & Opportunity

Companies that focus on accessible design do better!

- **Revenue 30% higher**
- **Net income 100% higher**
- **Profit margins 30% higher**

GETTING TO EQUAL:
THE DISABILITY INCLUSION ADVANTAGE

$8 Trillion Global Market

- Includes one billion people with disabilities
- Plus 2.3 billion close friends and family

In the US:

- PwD represent a **$490 Billion market**
- Discretionary income of **$21 billion**

How we celebrate Disability Inclusion

A time to celebrate disability and the diversity it brings

Celebrate Disability Inclusion with GM!

- May: Third Thursday is **Global Accessibility Awareness Day** (GAAD), celebrating digital accessibility.
- July: **Disability Pride Month** is both a celebration of the ADA passing in the US (July 26, 1990), and in celebrating the intersectional identities of disability across society.
- October: **National Disability Employment Awareness Month (NDEAM)** in the US
- December 3rd : **International Day of Persons with Disabilities**

Disability Inclusion Call to Action

everybody in.

1. Include people with disabilities, from hiring to design & decisions **“Nothing About us, Without Us”**

2. Work to **remove barriers** in your space (physical & virtual)

3. The world is changing, and we need your help in finding the gaps that can help General Motors be **the most inclusive company in the world** for People with Disabilities

Accessibility Center of Excellence

Vision: Help drive GM to become the most trusted accessible mobility company in the world

- **Innovation:** Using global market research and data specifically focused on mobility to understand customer pain points and ensure their voices are heard.
- **Product & Services:** Providing a corporate accessibility roadmap for how to roll out solutions into GM products, guided by the customer's voice and needs.
- **Aftermarket Solutions:** Strengthening existing and building new relationships with after-markets and upfitters.
- **Building a Sustainable Ecosystem:** Owning role as the "Center of Excellence" to bring forward tools centered on accessibility/mobility and make key connections inside and outside the organization.

Accessibility & Barrier-Free Mobility
CONSUMER RESEARCH PANEL

- **Overview of the Panel: U.S. Nationwide Online Consumer Research Panel**
  - **Worked with online research panel providers and advocacy groups to find & recruit respondents**
    - Advocacy groups partnered with (i.e. sent invitation out to recruit consumers) included: United Spinal Organization, American Association of People with Disabilities (AAPD), Paralyzed Veterans of America, Communication Services for Deaf (CSD), Muscular Dystrophy Association (MDA), Disability IN (D:IN)
  - **Sign up today!**
    - http://www.rdswebsurveys.com/mobility **password: mobile**
    - If you have any questions at all about this project or our company, please call RDS office in Cypress, California at **1-800-736-7970**.

Thank you!

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U. S. Access Board: Accessibility for Electric Vehicle Charging Stations and Autonomous Vehicles

Josh Schorr, Accessibility Specialist

EV Charging Stations Guidance

- Absent a specific reference to EV charging stations in the ADA and ABA Standards, regulated entities must still ensure that they are accessible to and usable by people with disabilities

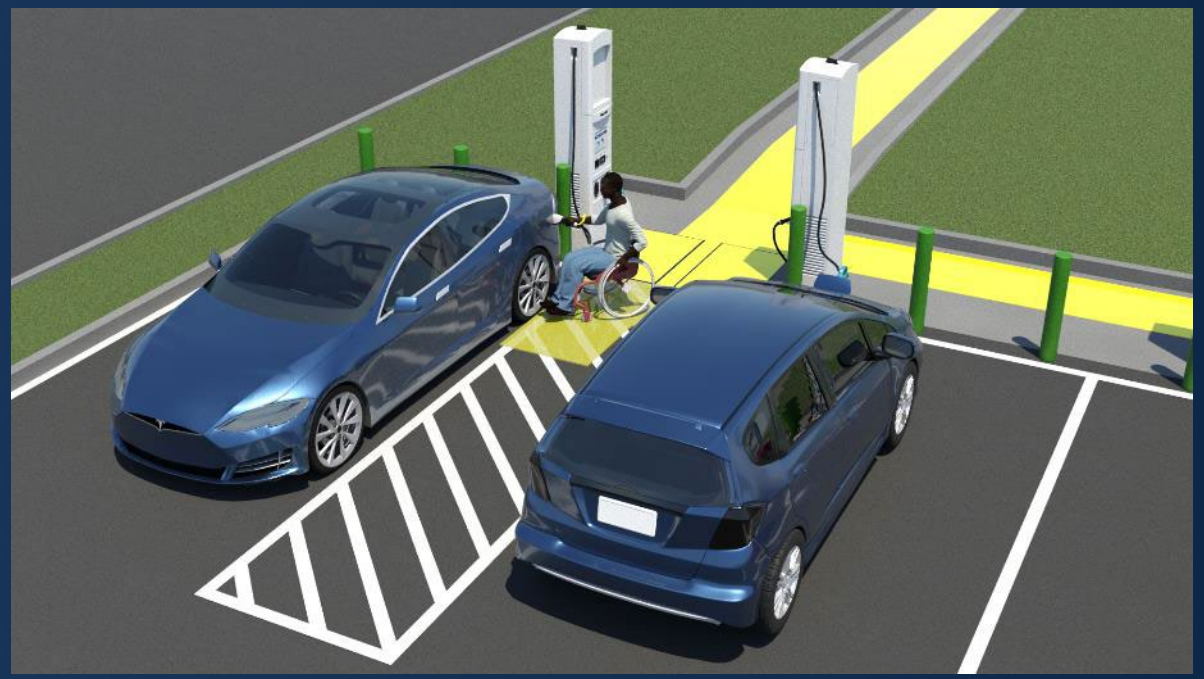
- Board issued design recommendations for accessible EV charging stations (July 21, 2022)

EV Charging Stations - Coverage

EV charging stations covered under the ADA or ABA include those installed at:

- State or local government offices
- Public parks
- Municipal building parking lots
- On-street parking in the public right-of-way
- Public EV charging stations provided by a private entity
- Fleet charging stations used by the federal government
- Commercial fleet charging stations available to corporate clients
- Rest stops along the Interstate Highway System

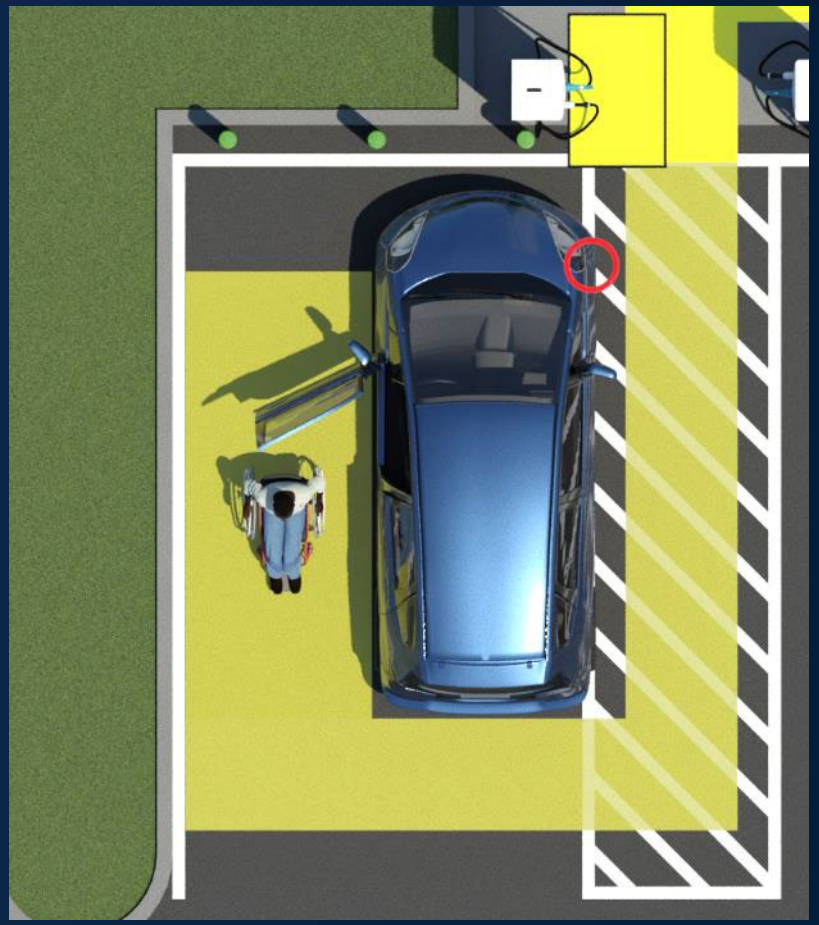
EV Charging Stations - Requirements



- Operable Parts
  - Clear Floor or Ground Space
  - Reach Range
- Connected to Accessible Route
- Accessible Communication Features
  - Only required under 508 (federal) – manufacturers unlikely to make a separate inaccessible version
    - Display Screens
    - Input Controls
    - Keys or Cards
  - Fare machine requirements

EV Charging Stations – Recommendations

- Vehicle Space Design
  - Size
  - Access aisle
- Signage
- Install at ground level
- Location within site



Autonomous Vehicles (AV)

- Covered by DOT 49 CFR Part 37
- Technical guidance in ADA Accessibility Guidelines for Transportation Vehicles
- Relevant technical guidelines applicable to AVs: Subpart B – Buses, Vans and Systems
    - Different requirements depending on length (greater or less than 22’)
- Updated ADAAG for Buses and Vans provides additional accessibility requirements, but has not yet been adopted by DOT

AV – Accessibility

- Mobility Aid Accessibility
  - level-change mechanism or boarding device (e.g., lift or ramp)
  - Securement
  - Maneuvering Clearances
- Doors, steps and thresholds
- Priority seating signs
- Interior circulation, handrails and stanchions
- Lighting
- Fare box (where provided)
- Destination and route signs (where provided)

AV – Boarding and Exiting

Entering and Exiting Vehicles

- At least one means of accessible boarding and alighting (ramps or bridge plates, lifts, level boarding)
- At least one means that can be deployed to the roadway

AV – Ramps

- Permitted to fold or telescope
- Surface must be continuous and slip resistant
- Minimum Clear Width
- Edge guards
- Slopes – Different requirements depending on deployment location
  - Ground level
  - Distance of vehicle floor above curb
- Marked with band of color
  - Runs full width of boarding edge

AV – Lifts

- Comply with NHTSA FMVSS:
  - 49 CFR 571.403 and 571.404
- Additional Requirements:
  - Emergency operation
  - Platform Barriers
  - Boarding direction (facing toward or away from vehicle)
  - Use by Standees

AV – Doorways

- Minimum vertical clearance
  - Finished edge of door opening to highest points of the deployed lift, ramp or bridge plate below
- Thresholds marked with band of color
  - Runs full width of threshold

AV – Maneuvering and Securement

- Wheelchair securement must be provided
  - Must face forward or backward
  - Secure common wheelchairs and mobility aids
  - Automated (if no employee on hand for securement)
- Sufficient turning and maneuvering space to permit passenger using a wheelchair to reach securement location from lift or ramp
  - Route must maintain a minimum interior height
- Handrails and stanchions
  - Provided at vehicle entrance
    - Configuration allowing persons to grasp from outside vehicle during boarding process
  - Permit on-board circulation, seating, and standing assistance

AV – Illumination

- Lights shielded (don’t project directly into eyes of passengers)
- Required at stepwells and doorways

Technical Assistance

www.access-board.gov
(202) 272-0080 ext 3
ta@access-board.gov

Resources

- AAPD Publishes 2021 Progress Report on Automobile Accessibility Scorecard Results – AAPD
- Fulfilling the Promise of Autonomous Vehicles: A Roadmap to Accessibility – AAPD
- Self-Driving Cars: Mapping Access to a Technology Revolution – NCD
- Autonomous Vehicles – U.S. Access Board
- CCD Transportation AV Principles – CCD
- GM Able Accessibility & Inclusion – General Motors
- Driving Electric Vehicles for Good – General Motors
- Conquering Moab - Again – Hummer EV Insider

Questions and Answers

Biography:

Henry Claypool – AAPD Technology Consultant – leads We Will Ride Initiative

Henry Claypool works as a technology policy consultant for the American Association of People with Disabilities. In this role, he leads the We Will Ride initiative which convenes national disability rights organizations to work with auto manufacturers and technology companies working to develop autonomous vehicle services. We raise issues about the accessibility of these services and the vehicles they use to provide the service. We look for opportunities to collaborate with industry to advocate for additional resources from the federal government on existing accessibility standards and to refresh guidance on operating a private on-demand transportation service.

Biography:

Alan Hejl – Co-President GM Able and Strategy Manager at General Motors

Alan Hejl (he/him/his) is the Accessibility Strategy Manager at General Motors, serving as a leader in a growing department working to improve vehicle accessibility for people with disabilities. He currently also volunteers as the Co-President of GM Able, the Employee Resource Group at GM supporting people with disabilities, caregivers, and allies.

Accessibility and removing barriers to intersectional inclusion is a personal passion of his, as he identifies with chronic nerve pain & neurodiversity and has a partner who is paralyzed and a manual wheelchair user. Outside of work when he isn't hanging out at his favorite local breweries or gardening, Alan serves with the Ferndale Accessibility & Inclusion Advisory Commission for the city of Ferndale, Michigan, and a Board Member of Michigan Disability Rights Coalition (MDRC).

Biography:

Josh Schorr - Accessibility Specialist, Office of Technical and Information Services at the Access Board

Josh Schorr serves as Accessibility Specialist in the Office of Technical and Information Services at the Access Board. Since 2010, Schorr's focus at the Access Board has been developing training material to help the general public better understand accessibility requirements under the Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA). Schorr has developed multiple animations that explain built environment requirements by showing how a person with disabilities interacts with their environment. In addition to the animations, Schorr has created the images and layouts for the agency's technical guides, which are developed for both print and online viewing, to synthesize concepts and clarify confusing issues for the purposes of better understandings of ADA and ABA requirements. In addition to developing the animations and guides, Schorr provides technical assistance to the general public via phone and email communication.