



**ODEP**

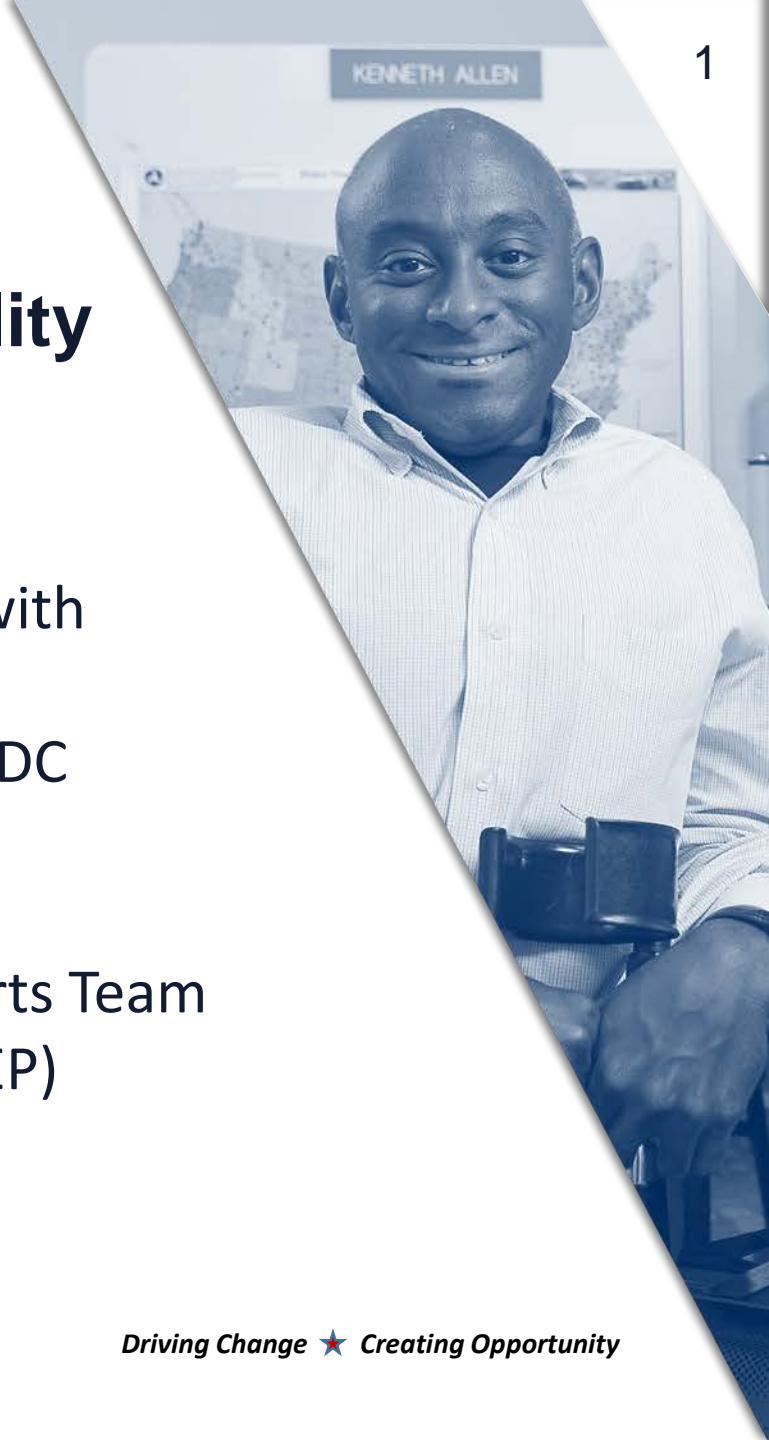
Office of Disability  
Employment Policy

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# Expanding Cognitive Accessibility for Transportation Innovation and Automated Vehicles (AVs)

Assessing Transportation Needs of People with  
Disabilities, Older Adults, and Children  
Auto Alliance | May 3, 2019 | Washington, DC

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# Outlining the Presentation: Learning Objectives

- Spotlight ODEP's mission for increasing employment
- Define and frame cognitive accessibility for people with cognitive and neurological disabilities in transportation
- Describe cognitive access for the example population group of autistic people as transportation users
- Situate cognitive accessibility for emerging transportation technology (e.g., automated vehicles)



# ODEP Seeks to Increase Employment Access for Americans with Disabilities

Only non-regulatory federal agency that promotes policies and coordinates with employers and all levels of government to increase workplace success for people with disabilities

- **Mission:** Develop and influence policies that increase the number and quality of employment opportunities for people with disabilities
- **Vision:** A world in which people with disabilities have unlimited employment opportunities

# ODEP's Initiatives Include...

- Accessible Autonomous Vehicles
- Partnership on Employment & Accessible Technology ([peatworks.org](http://peatworks.org))
- Apprenticeship Inclusion Models initiative ([spra.com/aim](http://spra.com/aim))
- Employer engagement and EARN ([askearn.org](http://askearn.org))
- Job Accommodation Network ([askjan.org](http://askjan.org))
- Pathways to Careers projects at community colleges
- Employment 1st: Provider Voice and Veterans RICE
- RETAIN Demonstration Projects
- Workforce Recruitment Program ([wrp.gov](http://wrp.gov))

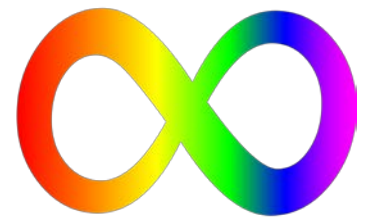


# Define and Frame Cognitive Accessibility

- Supports to improve access for atypical thinking, learning, information processing, and sensing (cognitive)
- Affordances for heterogeneous cognitive disabilities, such as:
  - Autism, intellectual disability, ADHD, learning disabilities, etc.
  - Mental health disabilities (e.g., bipolar, PTSD)
  - Brain injury (traumatic), aphasia, etc.
- Coleman Institute's Declaration on the Rights of People w/ Cognitive Disabilities to Technology and Information Access



Diverse brains



Multi-colored  
infinity symbol



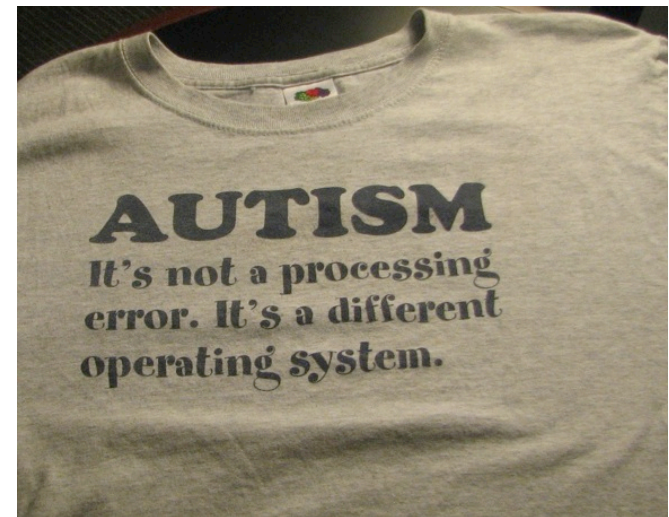
# Discuss Cognitive Access in Transportation

- Historical under-focus on cognitive access for infrastructure—buildings, transportation systems, etc.
- Need to expand travel training for youth and adults with cognitive disabilities
- Emerging cognitive access features for transportation:
  - Prompts, including just-in-time prompting supports
  - Multi-sensory access (audio, visual, tactile)
  - Informational displays with plain English
  - Apps that interface to accessible and assistive technology



# Describe autism and cognitive access

- Neurological developmental disability with an estimated prevalence of 1-2% in U.S. and worldwide
- Heterogeneous lived experiences and service needs
- Significant transportation barriers, including lower rates of driver's licenses and public transit use
- Common neurological profile:
  - Language and communication
  - Social interaction
  - Sensory processing and motor performance and execution
  - Executive functioning (planning, organization, etc.)



Autistic info processing t-shirt



# Situate Cognitive Access for Emerging Transportation Technology and AVs

- Prioritize accessibility, including cognitive access, at the forefront of design and development
- Include people with cognitive disabilities in usability and user research for transportation technology and AVs
- Integrate accessibility features to enhance cognitive access:
  - Prompts, reminders, and multi-sensory supports (audio, visual)
  - Cognitive scaffolding for the full trip (apps, vehicle displays, etc.)
  - Informational displays with plain language and specific info
- Incorporate travel training on AV use for people with cognitive disabilities





# ODEP Provides Resources on Autism

- ODEP Topic Resources Webpage on Autism:  
<https://www.dol.gov/odep/topics/Autism.htm>
- JAN's Info Resources on Autism:
  - Accommodation Series on Autism:  
[https://askjan.org/disabilities/Autism-Spectrum.cfm?cssearch=1909520\\_1](https://askjan.org/disabilities/Autism-Spectrum.cfm?cssearch=1909520_1)
  - Interviewing Tips for Job Seekers:  
<https://askjan.org/publications/consultants-corner/vol10iss01.cfm>



# Contact ODEP for More Info

- ODEP's website: <http://www.dol.gov/odep>
- ODEP's transportation webpage: <https://www.dol.gov/odep/topics/Transportation.htm>
- ODEP's main email address: [odep@dol.gov](mailto:odep@dol.gov)
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