

The image shows the interior of a modern, futuristic vehicle, likely an autonomous car. The dashboard is sleek and minimalist, featuring a large central display screen. The car is positioned on a road, with a cityscape visible through the windshield. The skyline includes several tall buildings, with the Transamerica Pyramid being a prominent feature. The sun is low in the sky, creating a warm, golden glow. The overall atmosphere is clean, modern, and technologically advanced.

Autonomous Vehicles Inclusion and Innovation

Renee Arrington-Johnson
General Motors - Retired

Our Vision for Moving Humanity Forward

By Mary Barra, Chairman and CEO, General Motors Co.

“Autonomous vehicle technology will fundamentally change transportation, and because more than 90 percent of crashes are due to human error, it will save lives. Self-driving vehicles also will make transportation more accessible to the elderly and people with disabilities.”

http://www.generalmotors.green/product/public/us/en/GMGreen/home.detail.html/content/Pages/news/us/en/gm_green/2017/0914-moving-forward.html

AV technology is a catalyst for inclusion
& PWD have the opportunity to benefit

The Evolution of Innovation



Why Inclusion is Important to AV Design

- If you sit at the feet of [masters] and listen, they will enlighten you with nuggets of gold.
- You gain a significant edge in innovation when you listen and let that information take you out the equation and put those you are designing for into the equation.
 - General Motors Design Engineer

NHTSA on Autonomous Vehicles & PWD

A fully automated vehicle could provide new mobility options for older people and for those with disabilities. Some older Americans and people with disabilities are able to drive today by adapting or modifying their vehicles to meet their specific needs. Fully automated vehicles could offer new mobility options to many more people, helping them to live independently or to better connect them to jobs, education and training, and other opportunities.

<https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>

Legislation Impact on Inclusion of Use

- Current laws require licensing to drive vehicles
- Those who are legally blind are not eligible to receive a drivers license
- Conventional thinking would restrict the use of Avs by those who are legally blind.

Legislation Wins and Concerns

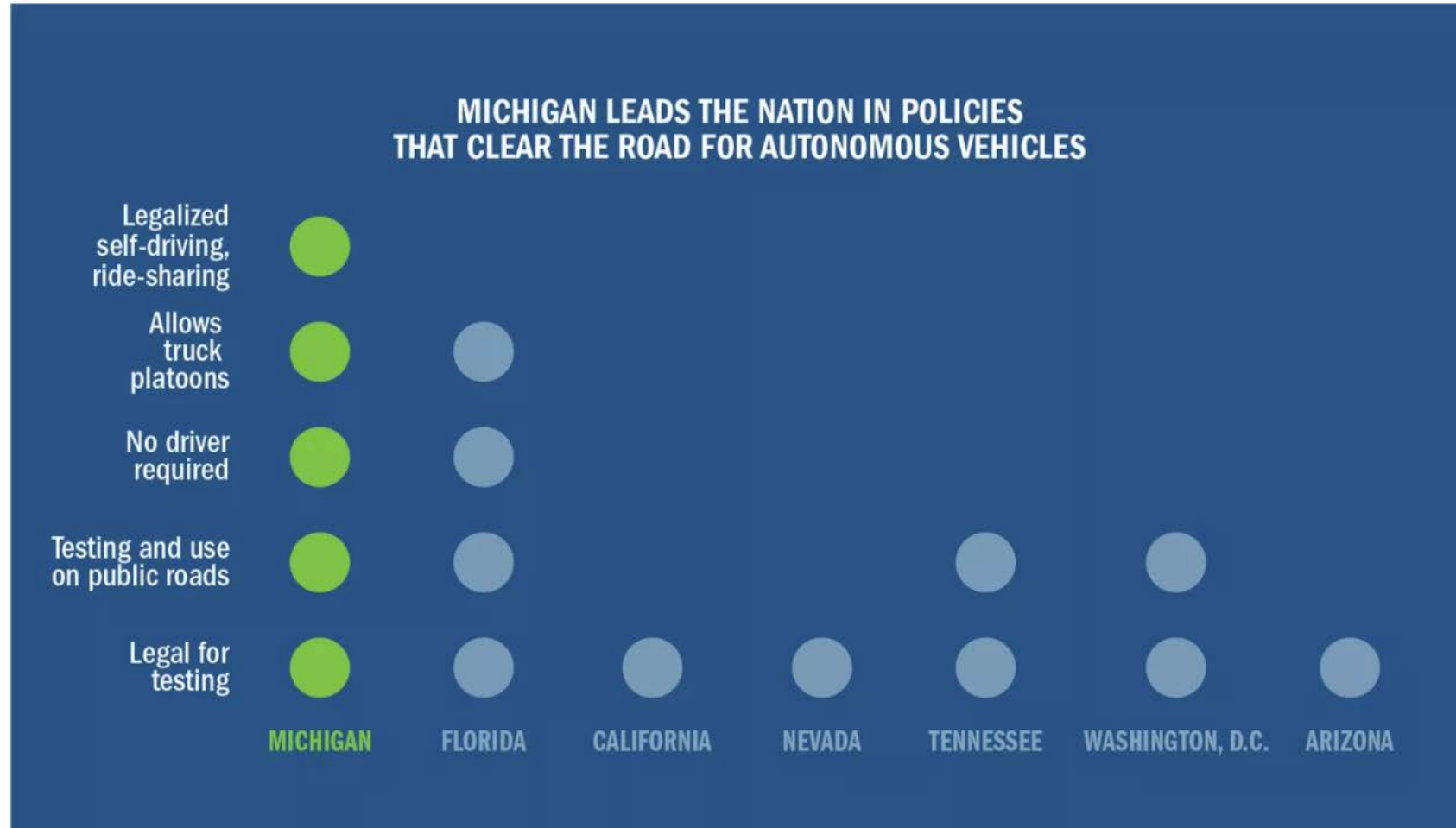
- State laws impact “licensing” rules for AVs
- As of Dec 2016, Michigan and Florida were the only states that did not limit people who are legally blind from benefiting from AVs.
- Indiana currently (as of March 10, 2018) has 2 versions of a Bill, one which is not favorable to those who are legally blind. (HB 1341)
- Since January 1, 2018 state laws impacting AVs have changed or are up for change in California, Utah, Minnesota and Nebraska.

Resources and References



<http://www.ncsl.org/research/transportation/autonomous-vehicles-self-driving-vehicles-enacted-legislation.aspx>

Dec 2016 Summary of Legislation impacting on Autonomous Vehicles



7 Principles of Universal Design

- Principle 1: Equitable Use.
- Principle 2: Flexibility in Use.
- Principle 3: Simple and Intuitive Use.
- Principle 4: Perceptible Information.
- Principle 5: Tolerance for Error.
- Principle 6: Low Physical Effort.
- Principle 7: Size and Space for Approach and Use.

Inclusive Design



<https://idrc.ocadu.ca/about-the-idrc/49-resources/online-resources/articles-and-papers/443-whatisinclusivedesign>