

POLICY STATEMENT



ASSOCIATION OF PEDESTRIAN
& BICYCLE PROFESSIONALS

Expertise for Active Transportation



POLICY STATEMENT: AUTOMATED DRIVING SYSTEMS

Overview of APBP Policy Statements

The Association of Pedestrian and Bicycle Professionals (APBP) supports the community of professionals working to create more walkable, bikeable places through facilitating the exchange of professional and technical knowledge and by promoting fundamental positions that are broadly acknowledged and acted upon by APBP members.

APBP Policy Principles:

1. APBP represents the professional expertise and practical experience of its members in transportation policy discussions to advance active, healthy, and sustainable communities.
2. APBP recognizes the impacts of systemic and institutionalized racism, and we recognize our responsibility to identify and address inequities.
3. APBP endorses active transportation as an integral part of transportation systems through all stages of planning, design, funding, and implementation.
4. APBP supports connected, convenient, accessible, and safe streets and pathways in every community and planning with the input of every member of a community.
5. APBP advances a safe system approach that leverages active transportation to create equitable access for everyone in every place.

Vision:

To ensure automated vehicle operations meet our shared goals for safe, efficient, and equitable transportation, vehicles with automated driving systems should meet or exceed core driving competencies of a human operator and all requirements of local, state, and national vehicle and transportation codes while consistently and safely operating around all roadway users, especially pedestrians, bicyclists, or other vulnerable road users.

Position:

APBP believes automated vehicles represent an emerging technology that carries great potential for both positive and negative outcomes and must be primarily designed and operated to ensure functional safety for all people using streets and highways. Beyond the specific responsibilities of AV manufacturers, APBP believes that an integrated safety management system must be put in place to properly collect, monitor, disseminate (in real-time where required and where appropriate) anonymized safety data from AVs and from other

roadway, government, and user data sources. The anonymized data collected should be aggregated and shared with governmental agencies responsible for planning, building, operating, and maintaining transportation and safety systems.

Vehicles' Automated Driving Systems (ADSs) must readily detect and protect all vulnerable road users including those walking, bicycling, and using a mobility device— regardless of age, race, ability, location, time of day, and other factors – from serious injury or death. APBP supports:

- Moving immediately to leverage existing technologies and systems to improve the design of motor vehicles for the safety of vulnerable users, for example by requiring all new motor vehicles to include context-based speed limiters.
- Establishing minimum performance standards for detection and reaction capabilities of all ADS technologies, regardless of the level of automation including:
 - Mandating pedestrian automatic emergency braking (PAEB) on light and heavy vehicles.¹
 - Recommending NHTSA conducts new rulemaking to establish minimum performance requirements for automated driving systems.
- Enhancing testing and regulation, including implementation of policies that emphasize actions to improve safety for people walking and biking.
- Keeping low the number of exemptions from safety standards given to manufacturers for ADS vehicles. Manufacturers may request temporary exemption from Federal motor vehicle safety standards and bumper standards under 49 CFR Part 555. Many automated vehicle manufacturers are applying for Part 555 exemptions on the basis of making easier the development or testing of a new motor vehicle safety feature (49 CFR 555.6(b)). Under this basis, Part 555 currently limits the number of exempted vehicles sold in the U.S. in a 12-month period to 2,500. Recent proposals allow each manufacturer to sell up to 100,000 vehicles per year and APBP recommends either keeping the number of exemptions at 2,500 per year or tying the exemptions to safety regulations based on their ability to detect and respond to vulnerable road users. The number of exemptions per year does not affect testing, as manufacturers are already allowed to test with as many vehicles as they need.
- Development of a legislative framework for regulation that considers manufacturer liability when ADS systems are in place. Safety exemptions should not be increased from 2,500 per year until this is established.
- Building a public database of limitations, capabilities, and safety evaluation reports to increase consumer awareness of ADS performance.
- Features on vehicles and infrastructure that provide feedback to vulnerable road users that they have been sensed by the vehicle.
- Not requiring vulnerable road users to carry a device in order to be detected by an ADS.
- Requiring all motor vehicles to be equipped with Event Data Recorders (EDRs) as defined by 49 CFR Part 563².
- Requiring a reporting system that records information for near-miss crash events, especially when pedestrians, bicyclists, or other vulnerable road users are involved.

¹Notice of proposed rulemaking for FMVSS No. 127: Automatic emergency braking systems for light vehicles, 2023.

² Part 563 is an "if equipped" standards that applies to light vehicles that are required to have frontal airbags.

- Creating a system of information dissemination (possibly similar to FAA’s Air Traffic Control System NOTAMs), where notices of specific types of issues are shared to all users, at no fault to those involved in specific issue types.

Immediate and long-term impacts deserve careful consideration and must be oriented to strengthen streets as human environments that support safe, sustainable, healthy, and equitable outcomes. This necessarily means using automated vehicle technology to halt and reverse the deadly impact of car-first design upon the walking and bicycling environment. While automated vehicles may become one tool for improving safety, as an industry we must continue to make other decisions, like through roadway design changes, to improve safety for all modes.

Policy Endorsements:

APBP endorses the work of the Advocates for Auto and Highway Safety and supports their position on AV testing and regulation. Specifically, APBP supports a vision test being required: “in order for an AV to properly interact with its surrounding environment, it must not only detect other vehicles and roadway infrastructure but also other participants using our nation’s transportation systems such as pedestrians, bicyclists, wheelchair users, construction workers in work zones, first responders providing assistance after crashes, and law enforcement officers directing traffic.”

APBP also endorses the public comment submitted by the American Motorcyclist Association (AMA) on September 4, 2012 in response to the National Highway Traffic Safety Administration’s (NHTSA’s) request for comment on advanced braking technologies that rely on forward-looking sensors.³ AMA expressed concerns that motorcyclists were not included in the testing of these safety systems, despite the increased risk of injury that motorcyclists have in rear-end crashes compared to passenger cars. Almost seven years later, the common ADS tests still do not test for the detection and protection of motorcyclists, or bicyclists.

Definition:

According to NHTSA, automated vehicles (AVs) operate without direct driver input to control the steering, acceleration, and braking and are designed so that the driver is not expected to constantly monitor the roadway while operating in self-driving mode.⁴

NHTSA has adopted the Society of Automotive Engineers (SAE) definitions of six levels of automation, from zero to five. Each succeeding level of automation builds increasing vehicle connectivity and autonomy functionality.

- 0 No Automation
- 1 Driver Assistance
- 2 Partial Automation
- 3 Conditional Automation
- 4 High Automation
- 5 Full Automation

³ <https://www.regulations.gov/document?D=NHTSA-2012-0057-0015>

⁴ <https://www.nhtsa.gov/vehicle-manufacturers/automated-driving-systems>

Application:

Many new vehicles and aftermarket systems are already at Level 2 and approaching Level 3 with Advanced Driver Assistance Systems (ADAS). Some experts estimate 80% of vehicles will have some automated driving system features by the year 2030 and be fully automated by 2050. Other experts think full autonomy will never be achieved. Regardless of the extent and timeframe of AV adoption, there is an urgent need to continue making safety part of the street fabric. We have the tools we need to eliminate traffic-related injuries and fatalities and we shouldn't wait to prioritize safety over speed. Until technology proves otherwise, the basics of Complete Streets design remain the same—agencies should design streets to provide space for people walking, biking, and using transit and limit driving speeds ideally to 25 miles per hour or less where interactions and conflicts with other modes are possible.

APBP recognizes an ADS that relies upon vehicle-to-vehicle or vehicle-to-infrastructure communications could adversely affect people walking and biking if they are not part of the connected environment. APBP believes that reliance on such technologies would shift the burden of avoiding a crash to the most vulnerable road users and give rise to serious equity concerns. The burden of detecting and reacting to people walking and biking should rest entirely on the ADS and the associated physical and technological infrastructure. Pedestrians and bicyclists should not be required to carry a device in order to be detected by an ADS.

APBP also recognizes the responsibilities and authority that federal regulators and state governments have. NHTSA has the responsibility to set safety standards for ADS, enforce compliance with those standards, investigate and manage safety-related recalls of ADS, and communicate with the public to educate on ADS safety issues. State governments have the responsibility to license “drivers” (which will include ADSs) and register motor vehicles, enact and enforce traffic laws, conduct safety inspections if desired, and regulate motor vehicle insurance and liability.

One of the primary influencing factors in the severity of crashes for people walking and biking is motor vehicle speed. ADS provides the opportunity to lower speed differentials between motor vehicles and vulnerable users in a context-based manner. Technology and networks already exist to broadcast posted speed limits to motor vehicles and GPS navigation devices. This should be leveraged to communicate with dynamic speed limiters in all new motor vehicles to prevent the vehicle from traveling above the posted speed limit. Emergency services vehicles may be allowed exemptions.

Recommendations:

In preparation for deployment of automated vehicles, APBP recommends:

- Automated Driving System Developers and Manufacturers:
 - Explicitly make vulnerable user safety a governing principle of AV development, testing, and operation.
 - Move immediately to incorporate context-based speed limiters in all new motor vehicles.
- Local Agencies:
 - Take a Complete Streets approach to roadway design.
 - Establish and implement a Vision Zero policy or approach.

- Consider the safety of pedestrians, bicyclists, and other vulnerable road users when approving planning routes for AV testing on public roads or shared-use paths.
- State Agencies:
 - Take a Complete Streets approach to roadway design.
 - Establish and implement a Vision Zero policy or approach.
 - Set licensing and registration laws that focus on safe operations and maintenance requirements to ensure the testing of ADSs on public roadways addresses the safety of all road users, including bicyclists and pedestrians.
 - Work with other agencies to unify around a set of policy requests and create a protocol for ADSs that may include data ownership, crash reporting, transit protections, prohibitions on empty circling vehicles, speed limits.
- Federal Regulators (NHTSA):
 - Move immediately to require all new motor vehicles to include context-based speed limiters that prevent the vehicle from traveling above the posted speed limit
 - Preserve the ability of state and local governments to set policy and laws governing the testing and licensing of AVs on public roadways
 - Establish federal safety requirements for detecting and reacting to bicyclists, pedestrians, and other vulnerable road users, building off of NHTSA's Pedestrian Automatic Emergency Braking (PAEB) research.
 - Create an automated vehicle design advisory team to provide oversight of automated vehicle testing and deployment, continuing on the work of the USDOT Advisory Committee on Automation in Transportation.
 - Create a public database of limitations, capabilities, and safety evaluation reports to increase consumer awareness of ADS performance, such as building on the information already provided in NHTSA's New Car Assessment Program (NCAP).
 - Develop future regulatory and data sharing requirements for creating a real-time auto safety management system, utilizing safety data collected from ADS and other roadway and environmental sensing.

APBP also supports recommendations developed by industry experts, including Advocates for Auto and Highway Safety, to establish guidelines for interactions with Automated Vehicles or ADSs.

Resources:

For further information, APBP suggests these recognized sources:

- National Highway Traffic Safety Administration, Automated Vehicles Policy, Automated Vehicles 3.0: Preparing for the Future of Transportation 3.0 (October 4, 2018) <https://www.nhtsa.gov/vehicle-manufacturers/automated-driving-systems>
- American Motorcyclist Association, Response to Comments on Advanced Braking Technologies that Rely on Forward-Looking Sensors (Docket NHTSA-2012-0057-0015) <https://www.regulations.gov/document?D=NHTSA-2012-0057-0015>

- The American Vision for Safer Transportation Through Advancement of Revolutionary Technologies. S. 1885 — 115th Congress: “AV START Act.” (April 6, 2018).
<https://www.govtrack.us/congress/bills/115/s1885>
- Advocates for Auto and Highway Safety AV START Act Summary with Advocates Positions (October 2017). <http://saferoads.org/wp-content/uploads/2017/10/AV-Start-Act-Summary-With-Advocates-Positions.pdf>
- National Highway Traffic Safety Administration, Automated Vehicles for Safety.
<https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>
- American Planning Association Principles for Automated Vehicle Policy (January 26, 2018).
<https://www.planning.org/policy/principles/av/>
- National Association of City Transportation Officials Blueprint for Autonomous Urbanism (2017).
<https://nacto.org/publication/bau/>
- National Association of City Transportation Officials Policy Statement on Automated Vehicles (June 23, 2016) <http://nacto.org/wp-content/uploads/2016/06/NACTO-Policy-Automated-Vehicles-201606.pdf>
- Pedestrian and Bicycle Information Center Discussion Guide for Automated and Connected Vehicles, Pedestrians, and Bicyclists. http://www.pedbikeinfo.org/pdf/PBIC_AV.pdf
- Federal Highway Administration Environmental Justice Considerations for Automated and Connected Vehicles.
https://www.fhwa.dot.gov/environment/environmental_justice/publications/cv_av/index.cfm
- MIT News on autonomous vehicles <http://news.mit.edu/topic/autonomous-vehicles>
- APBP Statement in Response to Automated Vehicle Pedestrian Fatality (March 23, 2018).
<https://apbp.site-ym.com/general/custom.asp?page=Policy>

APBP’s policy statement development process/member participation

APBP sought comments on a draft policy statement from its Policy Committee members. APBP’s Board of Directors approved the initial version of this policy statement in April 2018, a revision in June 2019, and this most recent revision on October 19, 2023. APBP members can suggest changes to any policy statement by contacting the association’s executive director, Policy Committee co-chairs, or a board member. For more information, contact: Lauren Santangelo, Executive Director, at lsantangelo@amrms.com.