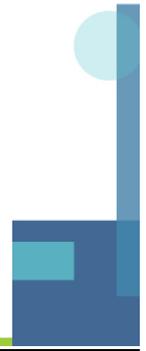


POLICY STATEMENT



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 and healthy communities.
2. APBP endorses active transportation as an integral part of transportation systems through all stages of planning, design, funding, and implementation.
3. APBP supports connected, convenient, and safe streets and pathways in every community and planning with the input of every member of a community.
4. APBP advances street designs that make walking and bicycling a viable option for everyone in every place.

Position:

APBP believes automated vehicles represent an emerging technology that carries great potential for both positive and negative outcomes, and must be designed and operated to ensure functional safety for all people using streets and highways. Automated Driving Systems (ADSs) must readily detect and protect people walking and bicycling – regardless of age, ability, location, time of day, and other factors – from serious injury or death. The APBP supports:

- Establishing minimum performance standards for detection and reaction capabilities of all ADS technologies, regardless of the level of automation
- Enhancing testing and regulation, including implementation of policies that emphasize actions to improve safety for people walking and biking
- Keeping low the number of ADS vehicles allowed exemptions from safety standards
- Building a public database of limitations, capabilities, and safety evaluation reports to increase consumer awareness of ADS performance

- Move 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.

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.

Policy Endorsements:

APBP endorses the work of the Advocates for Auto and Highway Safety and supports their position on AV testing and regulation. Specifically, that a vision test should be required and “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.¹ 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.²

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

Application:

¹ <https://www.regulations.gov/document?D=NHTSA-2012-0057-0015>

² <https://www.nhtsa.gov/vehicle-manufacturers/automated-driving-systems>

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 2020 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 responsibilities 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 responsibilities 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 pedestrian and bicyclist 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 and bicyclists 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.
- Refine and regularly update the database of speed limits supplied to motor vehicle and GPS navigation manufacturers to support context-based speed limiters in motor vehicles
- 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.
- Work with other agencies to unify around a vehicle occupancy monitoring and pricing policy whereby there would be an inverse cost related to occupancy such that higher costs would be incurred for zero occupant vehicles
- 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).

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:

- 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>
- American Motorcyclist Association Comments to Docket No. NHTSA–2012–0057 (September 4, 2012).
<https://www.regulations.gov/document?D=NHTSA-2012-0057-0015>

APBP's policy statement development process/member participation

The Association of Pedestrian and Bicycle Professionals (APBP) relied on widely available information to draft this policy statement on automated vehicles.

APBP sought comments on a draft policy statement from its Policy and Legislation Section members. APBP's Board of Directors approved the policy statement on April 19, 2018. This statement was updated and the updated policy statement was approved by APBP's Board of Directors on June 20, 2019. APBP members can suggest changes to any policy statement by contacting the association's executive director, policy committee chair, or board member. For more information, contact: Melanie Bowzer, Executive Director, at mbowzer@amrms.com.