BUILDING A STRATEGY FOR SAFE AUTOMATION FOR ALL PEOPLE

Ken McLeod
Policy Director
202.621.5447
ken@bikeleague.org | @kenmclld

THE LEAGUE » BICYCLE FRIENDLY AMERICA

1612 K STREET, NW, SUITE 1102
WASHINGTON, DC 20006
202.822.1333 | @BIKELEAGUE
WWW.BIKELEAGUE.ORG
THE LEAGUE’S WORK

» Founded in 1880, the League is a membership organization of people who want to improve bicycling

» We began working on automated vehicle issues in 2014

» https://bikeleague.org/content/automated-vehicles

Our basic ask

» Make sure that automated vehicles see people bicycling and walking and do not make people bicycling and walking less safe
**RECENT WORK**

» The League opposed AV START in 2018

» [https://bikeleague.org/content/why-league-opposed-av-start-act](https://bikeleague.org/content/why-league-opposed-av-start-act)

<table>
<thead>
<tr>
<th>AV START Act</th>
<th>League Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV START required manufacturers to describe their process for testing their vehicles for the “avoidance of unreasonable risks to safety, including … sense of objects, motorcyclists, bicyclists, pedestrians, and animals in or crossing the path of travel” in a safety report.</td>
<td>A ‘vision test’ requiring manufacturers to prove the ability of autonomous vehicles to accurately detect, recognize, anticipate, and respond to the movements of all road users, including bicyclists.</td>
</tr>
</tbody>
</table>
WHERE ARE WE NOW?

- We expect AV START to be re-introduced
- We are working with other organizations to introduce alternative legislation
  - With a greater focus on testing and standards
  - With provisions for innovation zones to facilitate on-road testing with data sharing and funding
- We are working more aggressively on lower-end automation technology advocacy
  - Automated Emergency Braking (AEB)
OPPORTUNITIES AT THE LOWER END

Euro NCAP has moved forward on automation
» Pedestrian AEB in 2016
» Bicyclist AEB in 2018

US NCAP has no published plans to include either system
NCAP testing is illustrative of scenario testing.
EUROPE HAS A ROADMAP, USA DOES NOT

NHTSA NCAP had a NPRM in 2015 and a meeting in 2018, and no meetings are scheduled, no roadmaps published
A “vision test” is needed to understand strengths and weaknesses of how automated vehicles see the world.
EDGE CASE ISSUES

Algorithms need “edge cases” to learn
» But also may be less safe in those cases
SCHOOL ZONES ARE “EDGE CASE” FACTORIES

Dynamic environment
Varying speeds
Varying sizes
Human traffic control
Backpacks, posters, sports equipment, etc…
PERMITTING AND TESTING ENTITIES SHOULD BE DEFERENTIAL TO SCHOOL ZONES

It might be reasonable to exclude school zones from Operational Design Domains that permitted entities can test in

» Or subject them to additional requirements for automated use in school zones, such as:
  » Strict liability for all crashes and potential criminal liability
  » Enhanced data reporting
  » Pay for outreach to and training of crossing guards, bus drivers, and other school administrators
CONSIDER LOW-END AUTOMATION ISSUES

» Adopt vehicle fleet requirements for inclusion of AEB for pedestrians and bicyclists
» Pursue trials of AEB equipped vehicles by school crossing guards, administrators and other decisionmakers who can champion automation
» Pursue intelligent speed assist equipped vehicles for vehicle fleets or school zone trials
» Include safety cameras and other infrastructure in trials
PROPOSED STRATEGY FOR SAFE AUTOMATION

» Coordinate testing areas with infrastructure investment, data sharing/monitoring, and stakeholder engagement

» Focus on safe systems, not just disruptive technologies
  » Goal is public good not private innovation