

Provisions within HB 4063 Section 4 are inherently hazardous, are out of date, would unnecessarily limit Oregonians' ability to take advantage of autonomous vehicle (AV) technology, and would handicap Oregon's economic competitiveness.

Handoff from AV control to human drivers while the vehicle is in motion is inherently hazardous.

A 2014 University of Leeds study "Transition to manual: Driver behaviour when resuming control from a highly automated vehicle," Merat et al, found that drivers needed 40 seconds to fully gain manual control in transition from automated vehicle systems. Waymo (née Google) gave up on SAE level 3 autonomy after finding that its employees had difficulty maintaining situational awareness and regaining control when using AVs, "Google ditched autopilot driving feature after test user napped behind wheel," Reuters, October 31, 2017.

Requirements for licensed drivers in SAE level 4 & 5 AVs are nonsensical and out of date.

The whole point of level 4 & 5 automation is to allow for entire trips to be conducted without manual control from a licensed driver. To that end, Waymo is now testing Chrysler Pacifica based AVs on the public streets of Chandler, Arizona in traffic and without human backup drivers. Small low-speed autonomous shuttles, such as those built by Easymile and Navya, provide transportation to the general public in projects worldwide. General Motors plans mass-production of autonomous Chevy Bolts without driver controls {i.e. no driver's seat as specified in subsection (2)} next year. Ford had previously announced that it would begin mass-production of AVs without driver controls for fleet-use-only by 2021. An autonomous BRT system in Zhuzhou, China using large 300 passenger buses has completed its test track phase and is set to begin regular service within the next few months.

Section 4 requirements would severely hamper Oregonians' ability to utilize AV technology.

A primary benefit expected from AVs is greatly enhanced mobility for those, for whatever reason, can not or should not drive their own cars. For example, transit agencies now provide very expensive and limited demand response, or 'dial-a-ride', services to those who cannot use regular transit. On-demand self-driving 'cabs' would be a win-win godsend, massively cutting costs while increasing convenience and availability by orders of magnitude for those who are able to use the services without physical assistance from drivers.

AV operators absolutely need the ability to deadhead (i.e. to travel without passengers or cargo between missions). It may seem counterintuitive, but with good public policy, deadheading could actually foster lower VMT and reduced parking requirements. For example, on-demand AV fleet operators will want to encourage carpooling, at least during high demand periods, because it's in their own economic interest. It minimizes their capital expenses and individual rider fares while maximizing return on investment. Since operators' computers will know trip details for every customer, it will be a natural fit to put together carpools. With deadheading, one car could make multiple trips. Each of those could reduce VMT and the total number of cars on the road as long as the revenue portion carried an average of at least two riders.

Section 4 requirements would handicap Oregon's economic competitiveness.

Out-of-state businesses which are not restricted by statutory language similar to Section 4 would have a real cost advantage over Oregon enterprises.

Recommendations:

1. Section 4 subsections (2) through (4) should apply only to SAE level 3 operation.
2. SAE level 3 operation should be restricted to specially trained professional drivers testing AVs.

While AV technologies promise to lower societal costs related to motor vehicle operation, to increase mobility for those who can't or shouldn't drive, and to significantly reduce the amount of space required to park our vehicles the average 90% plus part of the day that they're not in use, it's the potential to save tens of thousands of lives annually in the US alone that makes the efficient and universal use of these technologies imperative. AV technology will be disruptive and many decent-paying jobs that don't require long apprenticeships or college will be lost. We can't lose sight of that and we'll need to help Oregonians adjust, but we must move forward.