Draft Autonomous Vehicles Legislation for Washington State

Introduction

This draft legislation was researched and written by the University of Washington’s Technology Law and Policy Clinic at the request of Washington State Representative Chad Magendanz. Representative Magendanz is a member of the House Technology and Economic Development Committee, which is considering legislation to regulate the testing and operation of autonomous vehicles in Washington. The draft below is an independent product intended to inform the committee’s process. It is the result of extensive research by the University of Washington Clinic and reflects the thinking found in a 20-page report the Clinic submitted to the Uniform Law Commission on December 12, 2014. The report provided detailed analysis of the autonomous-vehicle provisions on the books in California, Nevada, Florida, Michigan, and Washington, D.C., made recommendations to the ULC, and offered draft provision language. Our draft legislation draws heavily from this report. It also draws substantially from California’s law because we have concluded it provides the best example among states with enacted laws (although California’s law provides limited guidance beyond AV testing regulations). While we root our draft in the sound thinking of other states, we fill many gaps and expand further into regulatory questions surrounding deployment, sale, and operation of autonomous vehicles by consumers.

Provisions

We propose the following for addition to Title 46 RCW as a new Chapter:

RCW Chapter 46.99 “Autonomous Vehicles”

Section 1 – Declarations:

The Legislature finds and declares the following:

(1) Researchers, automobile manufacturers, and technology companies are rapidly developing new technologies that – with the use of computers, sensors, and other systems – permit a motor vehicle to operate without the active control and monitoring of a human operator. Motor vehicles with this technology, referred to as “autonomous vehicles,” offer safety, mobility, and commercial benefits for individuals and businesses in Washington state and elsewhere.

(2) Autonomous vehicles have been operated safely on public roads in a number of states in recent years by entities developing and testing this technology.

(3) Washington state, which presently does not prohibit or specifically regulate the operation of autonomous vehicles, aims to encourage the current and future development, testing, and operation of autonomous vehicles on the public roads of the state. The state seeks to avoid interrupting these activities while at the same time creating appropriate rules intended to ensure that the testing and operation of autonomous vehicles in the state are conducted in a safe and efficient manner.

Section 2 – Purpose:

(1) Toward the ends expressed in Section 1, the Legislature finds it appropriate to authorize the establishment of specific requirements for the testing and operation of autonomous vehicles, and to require that future testing and operation of autonomous vehicles in the state comply with those requirements.
(2) A motor vehicle shall not be operated in autonomous mode on public roads in Washington except as permitted under RCW Chapter 46.99 - “Autonomous Vehicles”.

(3) This article shall become effective 120 days after the date of adoption by the department.

Section 3 – Definitions: For purposes of this Chapter, the following definitions apply:

(1) “Autonomous technology” is technology installed on a motor vehicle that can drive without the active physical control or monitoring of a human operator for any duration of time.

(2) An “autonomous vehicle” is a motor vehicle equipped with autonomous technology that can drive the vehicle without the active physical control or monitoring of a human for any duration of time.
   (a) The term “autonomous vehicle” does not include vehicles with independently-functioning automated systems, such as blind spot detection, emergency braking, adaptive cruise control, lane keeping, and lane changing.
   (b) The term does apply to a vehicle employing any combination of these automated systems that allows driving without active human monitoring and control for any duration of time.

(3) “Autonomous mode” means an autonomous vehicle is driving with the autonomous technology engaged and without the active physical control or monitoring by a human sitting in the vehicle driver’s seat.

(4) “Manual mode” means the vehicles is under the active physical control of a human sitting in the driver’s seat driving the vehicle with the autonomous technology disengaged.

(5) A “manufacturer” is a creator of autonomous technology or autonomous vehicles from raw materials, new basic components, or the installation of technology systems.

(6) An “operator” of an autonomous vehicle is the person seated in the driver’s seat.

(7) “Driving” means the operation and movement of a motor vehicle in any manner.

(8) A “designee” is a human identified by the manufacturer to the department as a person authorized to drive the manufacturer’s autonomous vehicle or vehicles on public roads.

(9) “Public road” means “highway” as defined in [RCW XXX], “offstreet public parking facility” as defined in [RCW XXX], and “street” as defined in [RCW XXX].

(10) “Department” means the Department of Motor Vehicles.

Section 4 – Primary Requirements for Testing on State Roads.

A manufacturer may not conduct testing of autonomous vehicles on public roads in Washington unless the following requirements are met:

(1) The manufacturer obtains an Autonomous Vehicle Manufacturer’s Testing Permit from the department, provides all necessary certifications for the permit, performs consistent with those certifications for the duration of its testing, and the permit remains valid.

(2) The manufacturer obtains certification from the department for its Test Driver Training Program, the test driver completes the training program, the manufacturer identifies the test driver to the department, the manufacturer certifies to the department that the driver meets all requirements of this statute, and the manufacturer and test driver perform consistent with those certifications for the duration of testing.

Section 5 – Requirements for a Manufacturer to Obtain a Testing Permit.
To obtain an Autonomous Vehicles Manufacturer’s Testing Permit, a manufacturer must submit an application to the department, containing all of the following:

1. Evidence of the manufacturer’s ability to respond to foreseeable damages for personal injury, death, or property damage arising from its testing of autonomous vehicles on public roads with:
   (a) An instrument of insurance issued by an insurer admitted to issue insurance in Washington;
   (b) A surety bond issued by an admitted surety insurers or an eligible surplus lines insurer;
   (c) Or a certificate of self-insurance.

2. Objective evidence from controlled tests simulating real-world conditions supporting the manufacturer’s reasonable belief that testing can be performed safely and efficiently on public roads under real-world conditions.

3. The manufacturer’s certifications that it will not test on public roads unless:
   (a) The manufacturer will, for the duration of its testing, continue to maintain insurance, a surety bond, or proof of self-insurance.
   (b) The manufacturer will only test an autonomous vehicle on roads and in conditions where it reasonably concludes the vehicle can safely and efficiently operate based on prior testing in controlled and public environments.
   (c) The autonomous vehicle has all of the following components:
      (i) A mechanism to engage and disengage the autonomous technology that is easily accessible to the test driver.
      (ii) A visual indicator inside the cabin to indicate when the vehicle is in autonomous mode.
      (iii) A system to alert the test driver if an autonomous technology failure is detected while the autonomous technology is engaged and that allows the test driver to take control of the vehicle.
      (iv) Systems to allow the operator to take control in multiple manners, including, without limitation, through the use of the brake, the accelerator pedal, or the steering wheel.
   (d) The manufacturer identifies to the department in writing: the identification number of the autonomous vehicle to be tested on public roads; its make, model, and model year; and the license plate number and state of issuance.
   (e) The manufacturer is conducting the testing and all test drivers are or will be employees, contractors, or designees of the manufacturer.
      (i) Test drivers will be trained in the manufacturer’s Test Driver Training Program.
      (ii) Test drivers will sit in the driver’s seat and either manually control the vehicle or actively monitor the vehicle’s operations and be capable of taking immediate physical control.
      (iii) The test driver is required as a condition of their employment or contract to obey all provisions of the Vehicle Code and local regulation applicable to the operation of motor vehicles, whether the vehicle is in autonomous mode or manual mode.
      (iv) The manufacturer ensures the test driver knows the limitations of the vehicle’s autonomous technology and is capable of safely operating the vehicle in all conditions under which the vehicle is tested on public roads.
(4) An application fee determined by the department for the processing of the application which will permit the operation of up to 10 autonomous vehicles and up to 20 autonomous vehicle test drivers.

(a) The manufacturer may supplement the application with additional pages to add more than 10 vehicles and more than 20 drivers by submitting a fee determined by the department for each set of 1 to 10 vehicles and 1 to 20 drivers.

(b) The manufacturer may also submit revisions to an existing permit if changes or modifications are required during the term of an existing permit.

(5) The signature of a person authorized to bind the manufacturer, with penalty of perjury under the laws of Washington, in order to certify the application and all materials submitted to the department.

Section 6 – Requirements for Test Driver Certification.
A manufacturer shall not allow any person to act as an autonomous vehicle test driver for testing autonomous vehicles on public roads unless all of the following conditions have been met:

(1) The manufacturer has certified to the department that each of its test drivers meets the following requirements:

(a) The test driver has completed the manufacturer’s autonomous vehicle Test Driver Training Program and received a certificate of completion from the manufacturer.

(b) The test driver has been licensed to drive a motor vehicle for the three years immediately preceding application to the department, and at that time the driver:

(i) Was not the at-fault driver of a motor vehicle involved in an accident that resulted in injury or death of any person.

(ii) For the ten years immediately preceding application to the department was not convicted for driving or operating a vehicle under the influence of alcohol or any drug, and did not suffer any driver’s license suspension or revocation for driving a vehicle under the influence of alcohol or any drug.

(c) The manufacturer has identified the autonomous vehicle test driver to the department in writing, providing the driver’s full name, his or her driver’s license number, and the jurisdiction of issuance of the license.

(2) The manufacturer has submitted the course outline of the Test Driver Training Program to the department and the department has approved the program.

(a) The program must include the following elements:

(i) Instruction on the automated driving system technology to be tested in the manufacturer’s vehicles, including behind-the-wheel instruction provided by an experienced driver on the capabilities and limitations of the manufacturer’s automated driving systems. For the purposes of this section, an “experienced driver” is one who through training and experience has developed skill and knowledge in the operation of the manufacturer’s autonomous technology.

(ii) Defensive driver training, including practical experience in recovering from hazardous driving scenarios.

(3) A person authorized by the manufacturer to bind the manufacturer, under penalty of perjury under the laws of Washington, has signed and certified all submissions and representations to the department.
Section 7 – Review of Manufacturer’s Permit Application and Driver Training Course Outline.
(1) The department shall review the application for a Manufacturer’s Testing Permit as well as the course outline for the Test Driver Training Program and notify the manufacturer within 10 days whether they are complete or deficient. The department shall, within a reasonable time, approve a complete permit application or certify a complete course outline only if they are sufficient.

Section 8 – Term of Permit and Certification of the Driver’s Training Program.
(1) Manufacturer’s Testing Permits shall be valid for a period of one year from midnight of the last day of the month of issuance unless sooner revoked or surrendered. Renewal of the permit for the ensuing year may be obtained by the manufacturer to whom the permit was issued upon application to the department more than 60 days prior to expiration date, payment of the same fee(s) required by subsection (X), and approval by the department.

Section 9 – Refusal, Suspension, and Revocation of a Manufacturer’s Testing Permit.
(1) The department may refuse an application for a Manufacturer’s Testing Permit or for the renewal of a Manufacturer’s Testing Permit, and may suspend or revoke a Manufacturer’s Testing Permit:
   (a) For a violation of Vehicle Code section XXX
   (b) For any act or omission of the manufacturer or one of its agents, employees, contractors or designees which the department finds makes the manufacturer’s testing on public roads an unreasonable risk to the public.

Section 10 – Demand for Hearing after Refusal, Non-Renewal, Suspension, or Revocation
(1) Upon refusal by the department to issue or renew a Manufacturer’s Testing Permit or upon suspension or revocation of a permit, the manufacturer shall be entitled to demand in writing a hearing before the director or his or her representative within 60 days after the notice.
(2) The hearing shall be conducted pursuant to standards established by the department.

Section 11 – Autonomous Vehicle Testing, Permitting, and Certification Categories.
(1) Manufacturers can test autonomous vehicles in private, controlled environments without a state permit, assuming they comply with common law workplace-safety and negligence standards.
(2) Manufacturers can apply for an Unlimited Public Test Permit, which allows a manufacturer to test on any public road under any driving conditions in which the manufacturer reasonably concludes and certifies the vehicle can safely and efficiently operate.
   (a) To qualify for an Unlimited Public Test Permit, manufacturers must:
      (i) Test an AV model for no less than 10,000 miles in controlled conditions and/or with a Limited Public Test Permit.
      (ii) Present in their application to the department evidence from controlled tests and/or limited public tests that the vehicle can safely and efficiently operate on any foreseeable public road under any foreseeable driving conditions.
(3) Manufacturers can apply for a Limited Public Test Permit, which allows testing on limited public roads and under limited testing condition in which the manufacturer reasonably concludes and certifies the vehicle can safely and efficiently operate.
   (a) A manufacture can apply for a Limited Public Test Permit selecting from any combination of the following:
(i) Road types: Interstate highways, state highways, urban environments, residential roads, unpaved or unmarked roads.
(ii) Environmental conditions: Day, night, clear weather (no precipitation, visual limitations, severe wind), rain, fog, snow/ice, high crosswinds (gusts above 30 mph).

(b) To qualify for a Limited Public Test Permit, manufacturers must:
   (i) Present in their application to the department evidence from controlled tests that the vehicle can safely and efficiently operate on any of the road types or environmental conditions specified.

(4) Manufacturers can apply for an Autonomous Vehicle Certification, which allows an autonomous vehicle model to be sold and/or used on public roads if:
   (a) The manufacturer presents evidence to the department that the autonomous vehicle model has been tested safely and efficiently on public roads for not less than 100,000 miles.
   (b) The manufacturer certifies that the vehicle can operate safely and efficiently on all reasonably foreseeable public roads and driving conditions.

(5) Manufacturers can apply for an Autonomous Technology Certification, which allows autonomous technology to be sold to autonomous vehicle manufacturers and used on public roads if:
   (a) The manufacturer presents evidence to the department that the autonomous technology has been tested safely and efficiently on public roads for not less than 100,000 miles.
   (b) The manufacturer certifies that the autonomous technology can operate safely and efficiently on all reasonably foreseeable public roads and driving conditions.

Section 12 – Requirements for Sale and Consumer Use of Autonomous Vehicles.
A manufacturer may not distribute or sell for use on public roads any autonomous vehicle unless:

(1) The manufacturer certifies to the department that the autonomous vehicle includes all of the following features:
   (a) A mechanism to engage and disengage the autonomous technology that is easily accessible to the operator.
   (b) A visual indicator inside the cabin to indicate when the vehicle is in autonomous mode or manual mode.
   (c) An auditory system to alert the operator that the autonomous technology has been engaged or disengaged.
   (d) A system to safely alert the operator if an autonomous technology failure is detected while the autonomous technology is engaged and that allows the operator to take immediate physical control of the vehicle.
   (e) Systems to allow the operator to take immediate control in multiple manners, including, without limitation, through the use of the brake, the accelerator pedal, or the steering wheel.
   (f) A mechanism to capture and store the autonomous technology sensor data for at least 30 seconds before a collision occurs between the autonomous vehicle and another vehicle, object, or natural person while the vehicle is operating in autonomous mode. The autonomous technology sensor data shall be captured and stored in a read-only format by the mechanism so that the data is retained until extracted from the
mechanism by an external device capable of downloading and storing the data. The mechanism must also be able to clearly and reliably indicate whether the vehicle was in autonomous mode at the moment of collision and if the autonomous technology was engaged or disengaged within 30 seconds of the collision. The data shall be preserved for three years after the date of the collision.

(2) The manufacturer certifies to the department that its autonomous vehicle:

(a) Meets Federal Motor Vehicle Safety Standards for the vehicle’s model year and all other applicable safety standards and performance requirements set forth in state and federal law and the regulations promulgated pursuant to those laws.

(b) Does not make inoperative any Federal Motor Vehicle Safety Standards for the vehicle’s model year, other applicable safety standards and performance requirements set forth in state and federal law, or the regulations promulgated pursuant to those laws.