

Date of Hearing: April 26, 2017

ASSEMBLY COMMITTEE ON COMMUNICATIONS AND CONVEYANCE

Miguel Santiago, Chair

AB 1444 (Baker) – As Amended April 5, 2017

SUBJECT: Livermore Amador Valley Transit Authority: demonstration project

SUMMARY: Authorizes Livermore Amador Valley Transit Authority (LAVTA) to conduct a demonstration project for the testing of autonomous vehicles (AVs) without a driver seated in the driver's seat under specified conditions. Specifically, **this bill:**

- 1) Authorizes LAVTA to conduct a shared AV demonstration project for the testing of AVs that do not have a driver seated in the driver's seat and are not equipped with a steering wheel, a brake pedal, or an accelerator, as specified.
- 2) Requires the testing to be conducted only within the City of Dublin and authorizes the vehicles to traverse public roads within the area of the demonstration project.
- 3) Requires the specified AV to operate at speeds of less than 35 miles per hour.
- 4) Requires LAVTA or a private entity, or a combination of the two, prior to the start of the testing of an AV that does not have a driver seated in the driver's seat on or across a public road, to do both of the following:
 - a) Obtain an instrument of insurance, surety bond, or proof of self-insurance in an amount of \$5 million, and provide evidence of the insurance, surety bond, or proof of self-insurance to the Department of Motor Vehicles (DMV) in the form and manner required by the department; and,
 - b) Submit a detailed description of the testing program to DMV. The detailed description shall include all of the following:
 - i) Certification that, prior to testing on public roads, the AV has been tested under controlled conditions that simulate, as closely as practicable, the real-world conditions that the AV will be subject to during this demonstration project, and that LAVTA or a private entity, or a combination of the two, has made a reasonable determination that it is safe to operate the AV on public roads under these conditions;
 - ii) Evidence satisfactory to DMV that the local authorities with jurisdiction over the public roads in the designated area approve of the geographic area and environmental, traffic, and speed conditions authorized for purposes of this demonstration project;
 - iii) Certification that the AV can only operate in autonomous mode in the geographic area and environmental, traffic, and speed conditions authorized in this specific demonstration project;

- iv) Certification that the demonstration project complies, or will comply, with National Highway Traffic Safety Administration guidance, if any, on the safe testing, deployment, and operation of AVs;
 - v) Certification that the AV used in the demonstration project complies with all applicable federal Motor Vehicle Safety Standards, or written evidence that the National Highway Traffic Safety Administration either considers the absence of a steering wheel, a brake pedal, or an accelerator permissible under federal Motor Vehicle Safety Standards or has granted the AV an exemption from compliance with the relevant federal Motor Vehicle Safety Standards;
 - vi) Identify to DMV the AVs that are to be tested on public roads during this demonstration project. Requires, for each vehicle, the manufacturer to provide to DMV the make, model, and model year of the vehicle, the full vehicle identification number, and the license plate number and the state of issuance;
 - vii) Certification that the vehicle is equipped with a communication link between the vehicle and a remote operator to provide information on the vehicle's location and status and to allow two-way communication between the remote operator and any passengers if the vehicle experiences any failures that would endanger the safety of the vehicle's passengers or other road users while operating without a driver;
 - viii) Certification that the AV is designed to detect and respond to roadway conditions in compliance with all provisions of this code and local regulations applicable to the operation of motor vehicles; and,
 - ix) A copy of a law enforcement interaction plan, which includes information that LAVTA or a private entity, or a combination of the two, will provide to the law enforcement agencies whose jurisdiction covers the designated area to instruct those agencies on how to interact with the vehicle in emergency and traffic enforcement situations.
- 5) Requires the specified operator of the AV technology tested to disclose to an individual who participates in the demonstration project what personal information, if any, concerning the demonstration project participant is collected by an AV.
- 6) Authorizes DMV, for the testing of AVs within the designated area, to require data collection for evaluating the safety of the vehicles, including, but not limited to, both of the following:
- a) A report to DMV of any accident originating from the operation of the AV on a public road that resulted in the damage of property or in bodily injury or death. Requires accidents to be reported within 10 days in the form and manner specified by DMV pursuant to the specified regulations adopted by DMV; and,
 - b) The submission to DMV of an annual report in the form and manner specified by the DMV pursuant to specified regulations summarizing information on unplanned technology disengagements that occurred while the AV was being tested on public roads. Defines "disengagement" to mean a deactivation of the autonomous mode when a failure

of the autonomous technology is detected or when the safe operation of the vehicle required disengagement from the autonomous mode.

- 7) Requires LAVTA to comply with regulations promulgated by DMV to allow testing of AVs without a driver in the vehicle.
- 8) Sunsets the provisions of the bill on May 1, 2018, and, repeals it as of January 1, 2019.

EXISTING LAW:

- 1) Authorizes DMV to suspend, cancel, or revoke the registration of a vehicle or a certificate of ownership, registration card, license plate, or permit under specified circumstances, including when DMV determines that a registered vehicle is mechanically unfit or unsafe to be operated or moved upon the highways. (Vehicle Code (VEH) Section 8800)
- 2) Requires CHP to prepare and on request supply to police departments, coroners, sheriffs, and other suitable agencies or individuals, specified forms for accident reports, which reports shall call for sufficiently detailed information to disclose with reference to a traffic accident the cause, conditions then existing, and the persons and vehicles involved. (VEH Section 2407)
- 3) Requires CHP to tabulate and authorizes it to analyze all accident reports and publish annually or at more frequent intervals statistical information based thereon as to the number and location of traffic accidents, as well as other information relating to traffic accident prevention. (VEH Section 2408)
- 4) Requires the driver of a motor vehicle who is in any manner involved in an accident originating from the operation of the motor vehicle on a street or highway, or is involved in a specified reportable off-highway accident, that has resulted in damage to the property of any one person in excess of \$1,000, or in bodily injury, or in the death of any person to report the accident, within 10 days after the accident, either personally or through an insurance agent, broker, or legal representative, on a form approved by CHP, as specified. (VEH Section 16000)
- 5) Defines “autonomous vehicle” to mean any vehicle equipped with autonomous technology that has been integrated into that vehicle. Specifies that a AV does not include a vehicle that is equipped with one or more collision avoidance systems, including, but not limited to, electronic blind spot assistance, automated emergency braking systems, park assist, adaptive cruise control, lane keep assist, lane departure warning, traffic jam and queuing assist, or other similar systems that enhance safety or provide driver assistance, but are not capable, collectively or singularly, of driving the vehicle without the active control or monitoring of a human operator. (VEH Section 38750)
- 6) Authorizes an AV to operate on public roads for testing purposes by a driver who possesses the proper class of license for the type of vehicle being operated if specified requirements are met. (VEH Section 38750)

- 7) Prohibits an AV from operating on public roads until the manufacturer submits an application to DMV, and that application is approved by DMV pursuant to the specified regulations adopted by the DMV. (VEH Section 38750)
- 8) Requires DMV, as soon as practicable, but no later than January 1, 2015, to adopt regulations setting forth requirements for the specified submission of evidence of insurance, surety bond, or self-insurance, and the submission and approval of an application to operate an specified AV. (VEH Section 38750)
- 9) Requires DMV's AV regulations to include any testing, equipment, and performance standards, in addition to those established, as specified, that DMV concludes are necessary to ensure the safe operation of AVs on public roads, with or without the presence of a driver inside the vehicle. (VEH Section 38750)
- 10) Requires DMV to approve an application submitted by a manufacturer, as specified, if it finds that the applicant has submitted all information and completed testing necessary to satisfy DMV that the AVs are safe to operate on public roads and the applicant has complied with all requirements specified in the specified regulations adopted by the department. (VEH Section 38750)
- 11) Authorizes DMV, for an application seeking approval for AVs capable of operating without the presence of a driver inside the vehicle, to impose additional requirements it deems necessary to ensure the safe operation of those vehicles, and may require the presence of a driver in the driver's seat of the vehicle if it determines, based on its specified review, that such a requirement is necessary to ensure the safe operation of those vehicles on public roads. (VEH Section 38750)
- 12) Authorizes the Contra Costa Transportation Authority (CCTA) to conduct a pilot project for the testing of AVs that do not have a driver seated in the driver's seat and are not equipped with a steering wheel, a brake pedal, or an accelerator under specified conditions. (VEH Section 38755)

FISCAL EFFECT: Unknown. This bill is keyed fiscal by Legislative Counsel.

COMMENTS:

- 1) **Authors Statement:** According to the author, "In order for California to remain on the cutting edge of transportation technology and a potential hotbed for investment, development, and new jobs, it is imperative that the State continues to support the growth of testing programs that advance autonomous vehicle technology. The author intends to authorize [LAVTA] to conduct a pilot project for the testing of autonomous vehicles not equipped with a steering wheel, brake pedal, accelerator or operator in the City of Dublin."
- 2) **Background:** California law regulates different modes of passenger transportation for compensation. The California Public Utilities Commission is responsible for the permitting and regulation of passenger carriers, such as shuttles and tour buses, as well as limousines and household goods carriers. The DMV is responsible for the registration of motor vehicles and CHP is responsible for certain vehicle inspections and patrol over California highways.

Over the past few years, California has seen the rapid development of automotive technology. This means that within the next decade, partially and fully automated vehicles are nearing a point in which widespread deployment becomes a reality. Deployment of AVs has the potential to transform personal mobility and safety. In 2015, over 35,000 people died on US roadways, of those, 94% of crashes can be tied to human error. Automated driving has the potential to decrease the number of crashes tied to human choices and behavior. In addition, AVs opens new doors and opportunities for a new class of people and communities, such as people with disabilities, the elderly, or low-income. AVs have the potential to transform how cities, and the state, think about urban planning and public transit, as well as energy use and pollution.

Although, the rise of new technology is inevitable, in order for the state to keep pace, society must find a balance between the development of emerging technology and the unknown socioeconomic impacts and safety concerns. Essential to safe deployment and reassuring the public about the impact of AVs is rigorous testing conducted in collaboration between the public and private sector to ensure that sufficient data is available to determine safe performance in order for policymakers to make informed decisions over the speed of which AVs are deployed on our public roads.

- 3) **DMV Autonomous Vehicle Regulations:** In 2012, the Legislature passed SB 1298 (Padilla) Chapter 570, Statutes of 2012, which established conditions for the operation of AVs upon public roadways. SB 1298 required DMV to adopt regulations for the operation of AVs by January 1, 2015. The DMV rolled out its regulation in two stages. In the first stage, DMV established regulations for insurance requirements for the purposes of testing AVs , while stage two established regulations for the full deployment of AVs for non-testing purposes. Although, the DMV adopted testing regulations by May 2014, it is still finalizing regulations for non-testing purposes. The DMV has submitted proposed regulations for non-testing purposes in March 2017 for public comment. The DMV anticipates adopting finalized regulations before the end of 2017. The final regulations will not take effect for 120 days after they have been adopted.
- 4) **AV Testing Exemptions:** In 2016, the Legislature passed AB 1592 (Bonilla), Chapter 814, Statutes of 2016, which allowed CCTA to conduct a pilot project for the testing of AVs that do not have a driver seated in the driver's seat under specified conditions. CCTA intends to test vehicles at the GoMentum Station, located at the former Concord Naval Weapons Stations, before testing the transportation of employees at the Bishop Ranch business park in San Ramon.

The original legislation directing DMV to adopt AV regulations included several requirements for the operation of AVs, including requiring the presence of an operator inside the vehicle and the ability of the operator to take control of the vehicle from the autonomous technology through the use of the brake, accelerator pedal, or steering wheel. In addition, DMV has authority to authorize the operation of vehicles without such features subject to requirements that DMV deems necessary to ensure the safe operation of such vehicles. The DMVs current proposed regulations for the deployment of AVs include standards and requirements for AVs that do not have an operator inside the vehicle.

This bill would authorize LAVTA to conduct a demonstration project for the testing of AVs without a driver seated in the driver's seat under specified conditions. LAVTA intends to use

small shuttles with a capacity of 12 people and fully-laden weight of approximately 6,000 pounds. The bill requires the AVs to operate at speeds of less than 35 miles per hour.

While the DMV has not finalized its regulation for the deployment of AVs, the proposed regulations would allow for the testing of vehicles contemplated by the LAVTA demonstration project established under this bill. In addition, this bill would require LAVTA to comply with regulations promulgated by DMV to allow testing of AVs without a driver in the vehicle once they are adopted. Although DMV anticipates adopting final regulations by the end of 2017, the intent of this bill is to give LAVTA the authority to start demonstration pilot project as soon as possible in case there is any further delay by DMV.

The author may wish to consider an amendment to implement the bill only if DMV has not adopted AV regulations by December 31, 2017.

5) **Suggested Amendment:**

38756 (x) This section shall become operative only if the department has not adopted regulations related to autonomous vehicles by December 31, 2017.

- 6) **Arguments in Support:** According to LAVTA, “On March 10, 2017, [DMV] released draft regulations regarding the testing of [AVs]. AB 1444 (Baker) is aligned with the draft DMV regulations, and supports safe testing of low-speed, multi-passenger, electric [AVs] at GoMentum Station and in the City of Dublin in a project area designated by LAVTA. Testing allows the transit agency to fully test integration of another mode with the mass transit system, an essential step to the exploration of new first/last mile connections.”
- 7) **Arguments in Opposition:** According to California Teamsters Public Affairs Council, “AB 1444 would establish a yet another demonstration project for autonomous cars, this one on city streets within the City of Dublin under the auspices of [LAVTA]. The vehicles would be fully autonomous, with no driver, no steering wheel, and no effective way to stop the vehicle in the event of an accident. We feel that it is time to put the brakes on the rapid speed with which policy makers are embracing the introduction of [AVs] without any plan whatsoever for dealing with the economic damage that will be caused by the loss of millions of jobs as a result. Proponents of automation admit that millions of jobs will be lost, some estimating that by 2030, ten million transportation jobs will be lost due to introduction for [AVs]. This does not take into account the permanent loss of jobs in other sectors of the economy from other forms of automation.”
- 8) **Related Legislation:** AB 87 (Ting) of 2017 requires DMV to revoke the registration for the vehicle if it determines that an AV is being operated in violation of specified requirements. *Status: Pending in the Assembly Committee on Transportation.*

AB 399 (Grayson) of 2017 authorizes CCTA to conduct a pilot project for the testing of AVs that do not have a driver seated in the driver’s seat and are not equipped with a steering wheel, a brake pedal, or an accelerator if the testing is conducted only at specified locations and the AV operates at speeds of less than 35 miles per hour, for an additional 12 months. *Status: Pending in the Assembly Committee on Transportation.*

AB 623 (Rodriguez) of 2017 requires the operator of an AV to follow existing motor vehicle accident reporting requirements, and requires CHP or any other peace officer to specify an AV was involved in the traffic collision in any manner. *Status: Pending in the Assembly Committee on Communications and Conveyance.*

AB 1141 (Berman) of 2017 require DMV, to adopt regulations, in consultation with the Department of Transportation and CHP, setting forth standards for the testing of AVs used to transport freight by September 30, 2018, as specified. *Status: Pending in the Assembly Committee on Communications and Conveyance.*

AB 1160 (Bonta) of 2017 expands the definition of AV to also include any vehicle equipped with technology that makes it capable of operation that meets the definitions of Levels 3, 4, or 5 of the Society of Automotive Engineers' "Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems, Standard J3016." *Status: Pending in the Assembly Committee on Communications and Conveyance.*

SB 251 (Cannella) of 2017 authorizes the County of Merced to conduct a pilot project for the testing of AVs without a driver in the driver's seat under specified conditions. *Status: Pending in the Senate Committee on Transportation and Housing.*

- 9) **Prior Legislation:** AB 1592 (Bonilla) of 2016 authorizes CCTA to conduct a pilot project for the testing of AVs under specific conditions. *Status: Chaptered by the Secretary of State, Chapter 814, Statutes of 2016.*

AB 1298 (Padilla) of 2012 establishes conditions for the operation of AVs upon public roadways. *Status: Chaptered by the Secretary of State, Chapter 570, Statutes of 2012.*

- 10) **Double-referral:** This bill is double referred, having been previously heard by the Assembly Committee on Transportation on April 17, 2017 and approved on a 9-1 vote.

REGISTERED SUPPORT / OPPOSITION:

Support

Alameda County Transportation Commission
Livermore Amador Valley Transit Authority

Opposition

California Conference Board of the Amalgamated Transit Union
California Conference of Machinists
California Teamsters Public Affairs Council

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