Senate Fiscal Agency
P. O. Box 30036
Lansing, Michigan 48909-7536

BILL ANALYSIS

Telephone: (517) 373-5383
Fax: (517) 373-1986

Senate Bill 169 (Substitute S-2 as reported)
Sponsor: Senator Mike Kowall
Committee: Transportation

Date Completed: 3-11-13

RATIONALE

The Michigan Vehicle Code does not address the regulation of automated vehicles, which have the technology to be operated without a human driver, but does allow vehicle manufacturers to obtain special plates in order to test vehicles on public roads. A company other than a manufacturer must rely on obtaining special plates in partnership with a vehicle manufacturer. Otherwise, that company is limited to testing on private testing grounds, which are not available to everyone and cannot replicate actual driving conditions. In addition, for companies that are able to test automated vehicles in this State, there are no statutory criteria governing the vehicles' operation.

According to industry experts and the Michigan Department of Transportation (MDOT), the testing of automated vehicles is increasing. Nevada, Florida, and California have enacted legislation regulating the testing and use of automated vehicles on public roads. It has been suggested that this State also enact legislation to provide new safety and liability standards with regard to automated vehicles, accommodate this new and growing industry, and encourage the industry's growth within the State of Michigan.

CONTENT

The bill would amend the Michigan Vehicle Code to do the following:

-- Prohibit the operation of a vehicle in automated mode except as provided in the bill.

-- Allow the operation of an automated vehicle for research or testing purposes.

-- Except when an automated vehicle was subject to researching, testing, or demonstration, on a closed course, require a human operator to be present in an automated vehicle to monitor its performance and intervene, if necessary.

-- Require a registered automated vehicle to 1) have a means to engage and disengage the automated technology, 2) clearly indicate to an occupant when it was operating in automatic mode, and 3) alert its operator of an automated technology failure affecting safe operation of the vehicle.

-- Grant manufacturers of automated vehicles, and upfitters recognized by the Secretary of State, immunity from civil liability for damages arising out of third-person modification of automated vehicles and automated technology.

-- Prescribe misdemeanor and civil penalties for unlawfully operating an automated vehicle.

-- Require MDOT, the Secretary of State, and industry experts, by February 1, 2016, to recommend to the Legislature legislative or regulatory action for the safe testing and operation of automated vehicles.

-- Refer to an automated vehicle and an automated technology upfitter in provisions regarding the operation of a vehicle for the purpose of testing a subcomponent system.

The bill would take effect 90 days after it was enacted.

"Automated vehicle" would mean a vehicle equipped with automated technology (defined below).

Operation of Automated Vehicle

The bill would prohibit a person from operating any vehicle on the State's highways or streets in automatic mode except as provided in Section 665 (described below).

("Automatic mode" would mean the mode of operating an automated vehicle when automated technology is engaged to operate the vehicle without any control or monitoring by a human driver. "Automated technology" would mean technology installed on a motor vehicle that has the capability to assist, make decisions for, and replace a human driver. The term would not include a motor vehicle enabled with one or more active safety systems or operator assistance systems, including a system to provide electronic blind spot assistance, crash avoidance, emergency braking, parking assistance, adaptive cruise control, lane keep assistance, lane departure warning, or traffic jam and queuing assistance, unless one or more of these systems, alone or in conjunction with others, enable the vehicle to operate without active control or monitoring by a human driver.)

The bill would add Section 665 to the Code to allow the operation of an automated vehicle by employees, contractors, or other people designated by manufacturers of automated technology or by upfitters for the purpose of researching or testing the technology. Unless the vehicle were being subject to testing, research, or demonstration, on a closed course, a human operator would have to be present in the vehicle so that he or she had the ability to monitor its performance and intervene, if necessary. ("Upfitter" would mean a person who modifies a motor vehicle after it was manufactured by installing automated technology in that motor vehicle to convert it to an automated vehicle.)

The operator would have to possess a valid operator's or chauffeur's license. Only a person who possessed a valid license could operate an automated vehicle in automatic mode on a Michigan highway or street for research or testing purposes. A person would be considered to be operating an automated vehicle when he or she caused the vehicle's automated technology to engage, regardless of whether he or she were physically present in the vehicle while it was in automatic mode.

Before beginning research or testing of an automated vehicle, the entity performing the research or testing would have to submit proof satisfactory to the Secretary of State that the vehicle was insured.

Automated Vehicle Requirements

The bill would add Section 666 to establish requirements that an automated vehicle registered under the Code would have to meet.

Specifically, a registered automated vehicle would have to satisfy each of the following requirements:

-- Have an easily accessible means for the operator to engage and disengage the automated technology.
-- Have a means to clearly indicate to its occupant that the vehicle was operating in automatic mode.
-- Have a means to alert its operator if an automated technology failure affecting the ability to operate safely in automatic mode were detected while the vehicle was operating in that mode.

In addition, the vehicle would have to be capable of being operated in compliance with the State's applicable traffic and motor vehicle laws.

Any conflicting Federal regulations promulgated by the National Highway Traffic Safety Administration would supersede the requirements in Section 666.

Penalties

As a rule, a person who operated a vehicle in automatic mode except as authorized by the bill would be guilty of a misdemeanor punishable by imprisonment for a maximum of 90 days and/or a maximum fine of $100.

A person who violated proposed Section 665 or 666 would be responsible for a civil infraction and could be fined as provided in

Section 907. (Under that section, a person who is determined to be responsible or responsible "with explanation" for a civil infraction may be ordered to pay a maximum civil fine of $100 and costs of not more than $100. In addition, unless the total fine and costs imposed do not exceed $10, the person must be ordered to pay a justice system assessment of $40.)

Report to the Legislature

By February 1, 2016, the Michigan Department of Transportation, in consultation with the Secretary of State (SOS) and experts from the automobile manufacturing and automated technology manufacturing industries, would have to submit a report to the Senate standing committees on transportation and economic development and to the House of Representatives standing committees on transportation and commerce. The report would have to recommend any additional legislative or regulatory action that could be necessary for the continued safe testing and operation of automated vehicles.

Manufacturer & Upfitter Liability

The bill specifies that manufacturers of automated vehicles and upfitters who were recognized by the SOS would be immune from civil liability for damages arising out of the modification of automated vehicles and automated vehicle technology by third persons, as provided in the Revised Judicature Act.

Subcomponent System

Under the Code, a producer of a vehicle subcomponent system essential to the vehicle's operation or the safety of an occupant may operate or move the motor vehicle upon a street or highway solely to transport or test the subcomponent system if the vehicle displays a special plate approved by the SOS. (To be eligible for the plate, the producer must be either a recognized subcomponent system producer, or a producer under contract with a vehicle manufacturer.) Under the bill, the reference to a motor vehicle in this provision would include an automated vehicle.

The bill would allow the SOS to determine that an upfitter was a recognized subcomponent producer for purposes of testing an automated vehicle under this provision and under proposed Section 665.

MCL 257.244 et al.

ARGUMENTS

(Please note: The arguments contained in this analysis originate from sources outside the Senate Fiscal Agency. The Senate Fiscal Agency neither supports nor opposes legislation.)

Supporting Argument

According to an article posted on Forbes.com on January 22, 2013, driverless cars could create $2 trillion a year in revenue for the U.S. To take advantage of this, Michigan needs to become a competitive participant in the development of automated vehicle technologies. Since several other states already have enacted legislation regulating the testing and use of automated vehicles on public roads, Michigan is losing out on a growing industry until it enacts similar legislation. Currently, suppliers and manufacturers must go to Nevada, Florida, or California for these purposes. According to MDOT, the price of sending each vehicle out of State for testing is estimated at $124,000.

The bill would send a signal that Michigan is a tech-friendly State, and would spur innovation, attract out-of-State business, and reduce the Michigan brain drain. Small businesses dedicated to automated technology are attracted to Michigan because of the close proximity to domestic automobile manufacturers. The diverse climate and terrain also provide one of the best locations in the country for automated technology testing. According to a representative of the National Center for Manufacturing Sciences, many automated cars are currently designed and developed in Michigan, but developers are considering sending these vehicles to Nevada for testing. Since only large manufacturers have access to special plates or own private testing tracks in Michigan, small businesses and nontraditional companies are discouraged or prevented from testing automated technology locally. The bill would expand access to special plates for on-road operation, allowing more businesses to take part in testing. Although simulations are a good method of testing this technology, they lack variations that real road conditions present. The bill would provide the opportunity for both small and big

businesses to gather more data and move forward with better technology.

The military is also a large consumer of automated technology. Michigan is home to TARDEC, the U.S. Army Tank Automotive Research, Development, and Engineering Center. The U.S. Department of Defense has been directed to convert one-third of the combat vehicle fleet to unmanned vehicles by 2015, and TARDEC is leading the research and development effort. According to a representative of Cybernet, a Michigan-based company, Cybernet currently has $5 million to $6 million in federally funded autonomous vehicle research. If Michigan does not take action to permit the testing of automated vehicles, these projects and funds may be sent out of the State.

Furthermore, any additional infrastructure costs would be nonexistent, according to the National Center for Manufacturing Sciences representative. Automated technology has adapted to the current system and infrastructure of roads. The industry therefore generally employs technology like sign reading, shape recognition, and on-board sensors.

Finally, the bill would promote public safety by establishing standards to protect the public from harm while still allowing for development of automated technology. The criteria for operating an automated vehicle would ensure that any company testing automated technology in this State would do so in a responsible manner and with limited risk to itself and those around the vehicle.

Opposing Argument

Under the bill, the SOS would have the discretion to determine if a business qualified as an upfitter. There would be potential for inconsistency since SOS employees are not technology experts.

Response: The SOS and MDOT would work together on these determinations. The Department could provide details on legitimate use of the special plates.

Opposing Argument

Under the bill, a person would be considered to be operating an automated vehicle when he or she caused its automated technology to engage, regardless of whether the person was physically present in the vehicle. While the person engaging the automated technology also could be the driver, it is possible that the driver could be a different individual. Whether or not the person in the driver seat engaged the technology, it would be that person's responsibility to take over and prevent a crash if there were a problem. The person in the driver seat, as well as the person who engaged the technology, should be responsible as an operator.

Legislative Analyst: Glenn Steffens

FISCAL IMPACT

The bill should have no fiscal impact on either the Department of State or the Department of Transportation. Any costs for the Secretary of State associated with determining that an upfitter was a recognized subcomponent producer, or any costs to the Secretary of State or the Department of Transportation for reporting, should be absorbed within the Department's current annual budget.

The bill would have a minor, likely, negligible, fiscal impact on State and local criminal justice costs associated with individuals' operating automated vehicles in a manner that did not comply with the proposed regulations. Any increase in fine revenue would benefit public libraries.

Fiscal Analyst: Joe Carrasco
Dan O'Connor

A1314\s169a