

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Transportation

BILL: SB 712

INTRODUCER: Senator Brandes

SUBJECT: Autonomous Vehicles

DATE: January 23, 2018

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Price	Miller	TR	Pre-meeting
2.	_____	_____	BI	_____
3.	_____	_____	RC	_____

I. Summary:

SB 712 revises various provisions of law relating to autonomous vehicles. The bill repeals certain existing definitions, and revises and adds others, consistent with recent federal guidance adopting such definitions. The bill provides that a licensed human operator is not required to operate a fully autonomous vehicle and authorizes operation of a fully autonomous vehicle on Florida roads regardless of whether a human operator is physically present in the vehicle. The bill deems an automated driving system to be the operator of an autonomous vehicle while operating in autonomous mode, regardless of whether a person is physically present in the vehicle.

The bill also revises the requirements for registration of an autonomous vehicle, including revisions based on the vehicle's functioning level of autonomy; and provides that the provisions of Ch. 322, F.S., relating to driver licenses, do not apply when a fully autonomous vehicle is operated in autonomous mode without a licensed human operator physically present in the vehicle. The bill provides that certain duties under Ch. 316, F.S., such as the duty to give information and render aid, do not apply to a fully autonomous vehicle operating in autonomous mode in the event of a crash involving the vehicle under certain conditions. Provisions relating to unattended motor vehicles or property are also deemed inapplicable to a fully autonomous vehicle while operating in autonomous mode.

Additionally, the bill authorizes certain television and pre-recorded video displays that are visible from the driver's seat while the vehicle is in motion and authorizes use of a wireless communications device for texting, emailing, or instant messaging, if the vehicle is an autonomous vehicle operating in autonomous mode. Various other statutory provisions are amended to incorporate the new definitions.

The bill has no impact on state or local revenues or expenditures. The traveling public may also experience certain benefits relating to the environment, travel costs, and traffic crashes. See the "Fiscal Impact Statement" heading below.

II. Present Situation:

The present situation for each section of the bill is discussed below in conjunction with the effect of Proposed Changes.

Federal Policy and Guidance

According to the National Highway Traffic Safety Administration¹ (NHTSA), 37,641 lives were lost on roads in the United States in 2016. This figure represents a 5.6 percent increase over calendar year 2015.² Further, “the major factor in 94 percent of all fatal crashes is human error.”³ NHTSA views the country as being “on the verge of one of the most exciting and important innovations in transportation history – the development of Automated Driving Systems, commonly referred to as automated or self-driving vehicles.”⁴

Use of automated driving systems, according to NHTSA, offers a variety of benefits, such as helping people avoid crashes, reducing time spent commuting, helping millions (including the elderly and people with disabilities) gain access to transportation and, most importantly, significantly reducing highway fatalities and injuries.⁵

No mandatory federal regulations relating to autonomous vehicles currently exist, but in an announcement on January 14, 2016, the USDOT outlined a number of commitment milestones with respect to autonomous vehicles:

- NHTSA will work with industry and other stakeholders within six months of the announcement to develop guidance on the safe deployment and operation of autonomous vehicles, providing a common understanding of the performance characteristics necessary for fully autonomous vehicles and the testing and analysis methods needed to assess them.
- In the same six months, NHTSA will work with state partners, the American Association of Motor Vehicle Administrators, and other stakeholders to develop a model state policy on automated vehicles that offers a path to consistent national policy.
- Manufacturers are encouraged to submit rule interpretation requests where appropriate to help enable technology innovation.⁶
- Manufacturers are encouraged to submit requests for use of the agency’s exemption authority to allow the deployment of fully autonomous vehicles, which allows NHTSA to authorize deployment of up to 2,500 vehicles for up to two years if it determines an exemption would ease development of new safety features.⁷

¹ NHTSA is a part of the United States Department of Transportation (USDOT). See the USDOT’s website available at: <https://www.transportation.gov/administrations>. (Last visited January 18, 2018.)

² See NHTSA’s website available at: <https://www.nhtsa.gov/>. (Last visited January 18, 2018.)

³ See NHTSA’s *Automated Driving Systems 2.0, A Vision for Safety*, at p. i, available at: https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13069a-ads2.0_090617_v9a_tag.pdf. (Last visited January 18, 2018.)

⁴ *Id.* Florida law currently refers to “autonomous vehicles” equipped with “autonomous technology.” See s. 316.003(2), F.S.
⁵ *Id.*

⁶ As an example, see the NHTSA response to a BMW request for an interpretation confirming that BMW’s remote self-parking system meets the FMVSSs, available at: <https://isearch.nhtsa.gov/files/15-005347%20BMW%20Brake%20Transmission%20Shift%20Interlock%20v5.htm>. (Last visited January 17, 2018.)

⁷ See 49 C.F.R. 555.5 (10-1-17).

- The USDOT and NHTSA will develop new tools necessary for this new era of vehicle safety and mobility and will consider seeking new authority when necessary to ensure that fully autonomous vehicles, including those without a human driver, are deployable in large numbers once they are demonstrated to provide an equivalent or higher level of safety than is now available.⁸

In September of 2016, the USDOT issued a model state policy on autonomous vehicles, with the objective of ensuring the establishment of a consistent national framework, rather than a patchwork of incompatible laws. The model state policy addresses issues regarding autonomous vehicle testing, what would be considered the “driver” of an autonomous vehicle, registration and titling of autonomous vehicles, law enforcement considerations, and liability and insurance issues.⁹

In September of 2017, the USDOT released new federal guidance for automated driving systems.¹⁰ The voluntary guidance “updates the Federal Automated Vehicles Policy released in September 2016 and serves as NHTSA’s current operating guidance for [automated driving systems].”¹¹ The guidance builds on the previous policy and incorporates feedback received through public comments and Congressional hearings. The document paves the way for safe deployment of advanced driver assistance technologies by providing voluntary guidance that encourages best practices and prioritizes safety. The document also provides technical assistance to states and best practices for policymakers.

While multiple definitions for levels of vehicle automation exist, as part of the voluntary federal guidance and, “For overall awareness and to ensure consistency in taxonomy usage, NHTSA adopted SAE International’s¹² Levels of Automation and other applicable terminology.”¹³ The SAE International Standard J3016¹⁴ focuses on automated driving systems that function at Levels 3, 4, and 5 of driving automation and, along with related terminology, specifies the following six levels of driving automation:

- Level 0: The human driver performs all driving tasks, even when enhanced by warning or intervention systems. (No automation.)
- Level 1: The automated driving system assists the human driver by a driver-assistance system of either steering or acceleration/deceleration using information about the driving

⁸ See NHTSA’s press release available at: <https://www.nhtsa.gov/press-releases/secretary-foxx-unveils-president-obamas-fy17-budget-proposal-nearly-4-billion>. (Last visited January 18, 2018.)

⁹ See USDOT *Federal Automated Vehicles Policy* (September 2016), available at: <https://www.transportation.gov/sites/dot.gov/files/docs/AV%20policy%20guidance%20PDF.pdf>. (Last visited January 18, 2018.)

¹⁰ *Supra* note 3.

¹¹ *Supra* note 3 at p. 1.

¹² The SAE’s website describes itself as follows: “SAE International is a global association of more than 128,000 engineers and related technical experts in the aerospace, automotive and commercial-vehicle industries. SAE International’s core competencies are life-long learning and voluntary consensus standards development. SAE International is a global body of scientists, engineers, and practitioners that advances self-propelled vehicle and system knowledge in a neutral forum for the benefit of society.” See the SAE’s website available at: <http://www.sae.org/about/>. (Last visited January 18, 2018.)

¹³ *Supra* note 11.

¹⁴ See the SAE’s website available at: <https://www.sae.org/news/3550/>. (Last visited January 18, 2018.) (Copy also on file in the Senate Transportation Committee.)

environment, with the expectation that the human driver performs all remaining aspects of the driving task. (Driver assistance.)

- Level 2: The automated driving system executes one or more driver assistance systems of both steering and acceleration/deceleration using information about the driving environment, with the expectation that the human driver performs all remaining aspects of the driving task. (Partial automation.)
- Level 3: The automated driving system performs all aspects of the driving task, with the expectation that a human driver will respond appropriately to a request to intervene. (Conditional automation.)
- Level 4: The automated driving system performs all aspects of the driving task, even if a human driver does not respond appropriately to a request to intervene. (High automation.)
- Level 5: The automated driving system performs all aspects of the driving task at all times under all roadway and environmental conditions that can be managed by a human driver. (Full automation.)

III. Effect of Proposed Changes:

Florida Law

Florida was one of the first states to enact autonomous vehicle legislation. The Florida Legislature has revised relevant statutes from time to time as industry developments have occurred and federal guidance has been updated. The bill seeks to update Florida law in light of the most recent federal guidance.¹⁵

Definitions (Section 1)

Present Situation:

Section 316.003, F.S., provides definitions relating to uniform traffic control. Specifically, with respect to autonomous vehicles, that section defines in subsection (2):

- “Autonomous vehicle” to mean “any vehicle equipped with autonomous technology.”
- “Autonomous technology” to mean “technology installed on a motor vehicle that has the capability to drive the vehicle on which the technology is installed without the active control or monitoring by a human operator.”^{16, 17}

¹⁵ Legislation is also pending at the federal level. See H.R. 3388, the “SELF DRIVE Act,” with text and current status, available at: <https://www.congress.gov/bill/115th-congress/house-bill/3388>. See also S. 1885, the “AV START Act,” with text and current status available at: <https://www.congress.gov/bill/115th-congress/senate-bill/1885>. (Last visited January 18, 2018.)

¹⁶ Further, autonomous technology “excludes a motor vehicle enabled with active safety systems or driver assistance systems, including, without limitation, 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 assistant, unless any such system alone or in combination with other systems enables the vehicle on which the technology is installed to drive without active control or monitoring by a human operator.”

¹⁷ “Operator,” is currently defined as “any person who is in actual physical control of a motor vehicle upon the highway or who is exercising control over or steering a vehicle being towed by a motor vehicle.” Section 316.003(46), F.S.

Effect of Proposed Changes:

Section 1 amends s. 316.003(2), F.S., to add, revise, and repeal certain definitions in recognition of NHTSA's adoption of the SAE standard. The bill:

- Defines the term, “automated driving system,” to mean “the hardware and software that are collectively capable of performing the entire dynamic driving task of an autonomous vehicle on a sustained basis, regardless of whether it is limited to a specific operational design domain, as specified in SAE International Standard J3016 (Revised September 2016).”
- Revises the term, “autonomous vehicle,” to mean “a vehicle equipped with an automated driving system designed to function at a level of driving automation of Level 3, 4, or 5, as specified in SAE International Standard J3016 (Revised September 2016).”
- Defines the term, “fully autonomous vehicle,” to mean “a vehicle equipped with an automated driving system designed to function at a level of driving automation of Level 4 or 5, as specified in SAE International Standard J3016 (Revised September 2016).”
- Repeals the current definitions of “autonomous vehicle” and “autonomous technology.”

Autonomous Vehicle Operation and Registration (Sections 8 and 9)***Present Situation:***

Section 316.85, F.S., entitled “Autonomous vehicles; operation” authorizes a person possessing a valid driver license to operate an autonomous vehicle in autonomous mode on roads in this state if the vehicle is equipped with autonomous technology, as defined in s. 316.003(2), F.S.

Regardless of whether a person is physically present in an autonomous vehicle while operating in autonomous mode, that person is deemed to be the operator when the person causes the vehicle's autonomous technology to engage.

Section 319.145, F.S., addresses requirements with respect to registration of an autonomous vehicle. That section currently requires an autonomous vehicle registered in this state to continue to meet applicable federal standards and regulations for such vehicle. Additionally, the vehicle must:

- Have a system to safely alert the operator if an autonomous technology failure is detected while the technology is engaged. When an alert is given, the system must:
 - Require the operator to take control of the autonomous vehicle; or
 - If the operator does not or is not able to take control, be capable of bringing the vehicle to a complete stop.
- Have a means inside the vehicle to visually indicate when the vehicle is operating in autonomous mode.
- Be capable of being operated in compliance with applicable Florida traffic and motor vehicle laws.

In recognition of the potential for federal preemption of state laws relating to autonomous vehicles, current law¹⁸ provides that NHTSA regulations supersede this section of Florida law when found to be in conflict with those regulations.

¹⁸ Section 319.145(2), F.S.

Effect of Proposed Changes:

Section 8 amends s. 316.85, F.S., revising the title to read, “Autonomous vehicles; operation; compliance with traffic and motor vehicle laws.” The bill provides that a licensed human operator is not required to operate a *fully* autonomous vehicle (Levels 4 and 5). Additionally, the bill authorizes operation of a fully autonomous vehicle in Florida regardless of whether a licensed human operator is physically present in the vehicle. Thus, an unlicensed human may “operate” a fully autonomous vehicle and may do so without being physically present in the vehicle; *i.e.*, by remote means.

The bill deems the “automated driving system” to be the operator of an autonomous vehicle while operating in autonomous mode, regardless of whether a person is physically present in the vehicle, instead of deeming a person as the operator when that person causes the vehicle’s autonomous technology to engage. While liability for actionable events relating to a “traditional” motor vehicle rests with that vehicle’s owner or operator, the bill places responsibility for actionable events related to an autonomous vehicle while operating in autonomous mode with the automated driving system, potentially including the owner, manufacturer,¹⁹ or seller of the system.

The bill also specifies that unless otherwise provided by law, applicable Florida traffic or motor vehicle laws may not be construed to:

- Prohibit the automated driving system from being deemed the operator of an autonomous vehicle operating in autonomous mode.
- Require a licensed human operator to operate a fully autonomous vehicle.

Section 9 amends s. 319.145, F.S., to revise the conditional requirements for registration of an autonomous vehicle. Under the bill, all autonomous vehicles registered in this state must:

- Have been certified by the vehicle manufacturer as meeting applicable federal standards and regulations for such vehicle at the time of its manufacture;
- Be capable of being operated in compliance with the applicable traffic and motor vehicle laws of this state, whether or not the vehicle is operating in autonomous mode; and
- Have a means inside the vehicle to visually indicate when the vehicle is operating in autonomous mode.

The bill further revises current requirements, depending upon an autonomous vehicle’s functioning level of autonomy. If the vehicle is not fully autonomous (Level 3), the vehicle must have a system to safely alert a *licensed* human operator *physically present* in the vehicle if an automated driving system failure is detected while the automated driving system is engaged. The system must require the licensed human operator to take control of the autonomous vehicle when an alert is given. Thus, if the vehicle’s automated driving system functions at a Level 3 of automation, a licensed driver must be physically present in the vehicle.

¹⁹ Section 316.86, F.S., currently provides that “the original manufacturer of a vehicle converted by a third party into an autonomous vehicle is not liable in, and shall have a defense to and be dismissed from, any legal action brought against the original manufacturer by any person injured due to an alleged vehicle defect caused by the conversion of the vehicle, or by equipment installed by the converter, unless the alleged defect was present in the vehicle as originally manufactured.” The bill does not amend this provision.

If the vehicle is fully autonomous (Levels 4 and 5), the automated driving system must be capable of bringing the vehicle to a complete stop if a failure of the system occurs.

Driver Licensing (Section 10)

Present Situation:

Section 322.03, F.S., prohibits a person from driving any motor vehicle on highways in this state unless such person has a valid driver license, except as otherwise authorized in Ch. 322, F.S. That section does not specifically address driver licensing as it relates to operation of autonomous vehicles.

Effect of Proposed Changes:

Section 10 creates s. 322.15, F.S., entitled *Exemption*. The bill provides that the requirements of Ch. 322, F.S., relating to driver licenses, do not apply when a fully autonomous vehicle (Level 4 or 5) is operated in autonomous mode without a licensed human operator physically present in the vehicle.

Uniform Traffic Control Duties (Sections 2 – 5)

Present Situation:

Various provisions of current law contain certain duties relating to vehicle operation by a *driver*²⁰ in Ch. 316, F.S. Among those duties, in general:

- Section 316.062, F.S., requires the driver of any vehicle involved in a crash resulting in any person's injury or death, or property damage to any vehicle or other property which is driven or attended by any person, to provide personal and vehicle identification information and to render reasonable assistance to any injured person.
- Section 316.063, F.S., requires the driver of any vehicle involved in a crash with any *unattended* vehicle or other property, resulting in damage to the vehicle or property, to stop, locate, and notify the operator or owner of the vehicle or property to provide similar personal and vehicle identification information; and to notify the nearest police authority.
- Section 316.065(1), F.S., requires the driver of a vehicle involved in a crash resulting in any person's injury or death, or damage to any vehicle or other property apparently exceeding \$500, to give notice of the crash to the appropriate law enforcement office.
- Section 316.1975, F.S., prohibits a person driving or in charge of any motor vehicle from letting the vehicle stand unattended without first stopping the engine, locking the ignition, and removing the key; and from standing unattended on any perceptible grade without stopping the engine, setting the brake, and turning the front wheels to the curb or side of the street.

Effect of Proposed Changes:

Under the bill, the automated driving system in a fully autonomous vehicle (Level 4 or 5) is deemed the "operator," and the vehicle may be operated in autonomous mode with no human

²⁰ "Driver" is currently defined as "any person who drives or is in actual physical control of a vehicle on a highway or who is exercising control of a vehicle or steering a vehicle being towed by a motor vehicle." Section 316.003(19), F.S.

operator or driver at all. Thus, sections 2, 3, and 4 amend ss. 316.062, 316.063, and 316.065(1), F.S., respectively, to provide that the provisions contained therein do not apply to a fully autonomous vehicle operating in autonomous mode in the event of a crash involving the vehicle if:

- The vehicle owner, or a person on behalf of the owner, promptly contacts a law enforcement agency to report the crash, or
- The autonomous vehicle has the capability of alerting a law enforcement agency to the crash.

Section 5 amends s. 316.1975, F.S., providing that the provisions relating to unattended motor vehicles contained in that section do not apply to a fully autonomous vehicle operating in autonomous mode.

Electronic Displays in Vehicles/Wireless Communication Devices (Sections 6 and 7)

Present Situation:

Section 316.303, F.S., prohibits operation of a motor vehicle on the highways if the vehicle is actively displaying moving television broadcast or pre-recorded video entertainment content that is visible from the driver's seat while the vehicle is in motion, unless the vehicle is equipped with autonomous technology, as currently defined in s. 316.003(2), F.S., and is being operated in autonomous mode, as currently provided in s. 316.85(2), F.S.

However, the use of an electronic display used in conjunction with a vehicle navigation system; an electronic display used by an operator of a vehicle equipped with autonomous technology; or an electronic display used by an operator of a vehicle equipped and operating with driver-assistive truck platooning technology, as currently defined in s. 316.003, is not prohibited.

Section 316.305(3)(a), F.S., generally contains provisions prohibiting a person from operating a motor vehicle while using a wireless communications device for texting, emailing, or instant messaging. Paragraph (b) of that section provides that the prohibition in paragraph (a) does not apply to a motor vehicle operator who is, among other items, operating an autonomous vehicle, as defined in s. 316.003, F.S., in autonomous mode.

Effect of Proposed Changes:

Section 6 amends s. 316.303, F.S., to replace the phrases, "vehicle equipped with autonomous technology," with "an autonomous vehicle, as defined in s. 316.003(2)," to incorporate the new definition. This revision allows the identified displays in autonomous vehicles with automated driving systems that function at Levels 3, 4, and 5.

Section 7 amends s. 316.305(3)(b)7., F.S., to revise the cross-reference to the new definition of "autonomous vehicle" contained in s. 316.003(2), F.S., thereby incorporating the new definition. This revision allows a person to use a wireless communications device in autonomous vehicles with automated driving systems that function at Levels 3, 4, and 5.

Additional Revisions (Sections 11 -14)***Present Situation:***

Section 339.175(7), F.S., currently requires each metropolitan planning organization to develop a long-range transportation plan which, in part, must make the most efficient use of existing transportation facilities to relieve vehicular congestion, improve safety, and maximize the mobility of people and goods. Such efforts currently include, but are not limited to, consideration of infrastructure and technological improvements necessary to accommodate advances in vehicle technology, such as “autonomous technology” and other developments.

Section 339.64(3), F.S., with respect to updates of the Strategic Intermodal System (SIS) Plan, requires the Florida Department of Transportation (FDOT) to coordinate with federal, regional, and local partners, and industry representatives, to consider infrastructure and technological improvements necessary to accommodate advances in vehicle technology, such as “autonomous technology” and other developments, in SIS facilities. Subsection (4) of that section requires the SIS Plan, among other items, to include a needs assessment that must include, but is not limited to, consideration of infrastructure and technological improvements necessary to accommodate advances in vehicle technology, such as “autonomous technology” and other developments.

Section 339.83, F.S., authorizes the FDOT secretary to enroll the State in any federal pilot program or project for the collection and study of data for the review of federal or state roadway safety, infrastructure sustainability, congestion mitigation, transportation system efficiency, “autonomous technology,” or capacity challenges.

Section 627.0653(6), F.S., authorizes the Office of Insurance Regulation to approve a premium discount to any rates, rating schedules, or rating manuals for the liability, personal injury protection, and collision coverages of a motor vehicle insurance policy filed with the office if the insured vehicle is equipped with “autonomous driving technology” or electronic vehicle collision avoidance technology that is factory installed or a retrofitted system that complies with NHTSA standards.

Effect of Proposed Changes:

Sections 11 – 13 amend ss. 339.175, 339.64, 339.83, F.S., respectively, to replace each occurrence of the phrase “autonomous technology” with the phrase “automated driving system,” to incorporate the new definition of the latter term.

Section 14 amends s. 627.0653, F.S., to replace the phrase “autonomous driving technology” with the phrase “automated driving system,” to incorporate the new definition.

IV. Constitutional Issues:**A. Municipality/County Mandates Restrictions:**

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:**A. Tax/Fee Issues:**

None.

B. Private Sector Impact:

The traveling public may benefit from reduced congestion and commute times, increased mobility, and potential reductions in fatalities and injuries.

Manufacturers and distributors of autonomous vehicles and automated driving systems may benefit to the extent that the bill facilitates growth of the number of autonomous vehicles on the road.

C. Government Sector Impact:

The bill has no impact on state or local revenues or expenditures.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends the following sections of the Florida Statutes: 316.003, 316.062, 316.063, 316.065, 316.1975, 316.303, 316.305, 316.85, 319.145, 339.175, 339.64, 339.83, and 627.0653.

This bill creates the following sections of the Florida Statutes: 322.015.

IX. Additional Information:**A. Committee Substitute – Statement of Changes:**

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.

This Senate Bill Analysis does not reflect the intent or official position of the bill's introducer or the Florida Senate.
