

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 Infrastructure and Security

BILL: CS/SB 932

INTRODUCER: Infrastructure and Security Committee and Senator Brandes

SUBJECT: Autonomous Vehicles

DATE: March 22, 2019

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Price	Miller	IS	Fav/CS
2.			ATD	
3.			AP	

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 932 revises various provisions of law relating to autonomous vehicles. The bill repeals certain existing definitions and revises and adds others. 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 expresses legislative intent to provide for uniformity of laws governing autonomous vehicles throughout the state and prohibits a local government from imposing any tax, fee, for-hire vehicle requirement, or other requirement on automated driving systems, autonomous vehicles, or on a person who operates an autonomous vehicle.

The bill revises certain requirements relating to compliance with federal regulations and revises provisions relating to system alerts for vehicles that are not fully autonomous.

In addition, 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 with the automated driving system engaged 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 with the automated driving system engaged.

Further, the bill authorizes certain television and pre-recorded video displays that are visible from the driver's seat of any autonomous vehicle while the vehicle is in motion and being operated with the automated driving system engaged. Use of a wireless communications device for texting, emailing, or instant messaging is authorized, if the vehicle is any autonomous vehicle operating with the automated driving system engaged. Various other statutory provisions are amended to incorporate the new definitions.

Additionally, the bill applies provisions relating to the operation of transportation network companies (TNCs) and TNC vehicles to on-demand autonomous vehicle networks. The bill authorizes an autonomous vehicle or a fully autonomous vehicle equipped with a teleoperation system to operate without a human operator physically present in the vehicle when the teleoperation system is engaged. The bill requires that teleoperated vehicles meet requirements relating to federal certification and labeling, when required, and be capable of operating in compliance with applicable traffic and motor vehicle laws. The bill also deems teleoperated vehicles to meet the revised definition of "autonomous vehicle" for purposes of certain duties under ch. 316, F.S.

The bill also authorizes the Florida Department of Transportation (FDOT), in consultation with the Department of Highway Safety and Motor Vehicles, to explore the efficient implementation of innovative transportation technologies, including, but not limited to, vehicle electrification, shared vehicle use, automated vehicles, and other mobility technologies that provide transportation options intended to increase personal mobility, facilitate shorter urban trips, or provide connections to other modes of transportation. The FDOT must prepare an annual report outlining undertaken programs.

In the Florida Turnpike Enterprise Law, the bill authorizes the Florida Turnpike Enterprise (Turnpike Enterprise) within the FDOT to enter into one or more agreements to fund, construct, and operate facilities for the advancement of autonomous and connected innovative transportation technology solutions for specified purposes. The bill provides similar but not identical authorization within provisions relating to autonomous vehicles and their operation, with additional authority to fund, construct, and operate test facilities and undertake research and development projects for the same purposes.

The bill has an indeterminate fiscal impact on Turnpike resources within the FDOT. Otherwise, the bill does not appear to present an impact to state or local revenues or expenditures. See the Fiscal Impact Statement heading for details.

A portion of the bill prohibits a local government from imposing any tax or fee on automated driving systems, autonomous vehicles, or on a person who operates an autonomous vehicle. This provision may limit the ability of municipalities and counties to raise revenue, thus requiring approval of the bill by each house of the Legislature by two-thirds vote of its membership. However, whether such approval is required is indeterminate. See the Municipality/County Mandates Restrictions heading under IV. Constitutional Issues for details.

The bill takes effect July 1, 2019.

II. Present Situation:

For ease of organization and readability, the present situation for each issue in the bill is discussed below in conjunction with the effect of proposed changes.

III. Effect of Proposed Changes:

Federal Policy and Guidance

According to the United States Department of Transportation (USDOT), an estimated 37,133 lives were lost on U.S. roads in 2017. Ninety-four percent of all serious motor vehicle crashes involved human error and other driver-related factors, such as impaired driving, distracted driving, and speeding or illegal maneuvers.¹ The USDOT views automated vehicles as an important innovation in transportation: “Automated vehicles that accurately detect, recognize, anticipate, and respond to the movements of all transportation system users could lead to breakthrough gains in transportation safety... Their potential to reduce deaths and injuries on the Nation’s roadways cannot be overstated.”²

While multiple definitions for levels of vehicle automation exist, as part of previously-issued voluntary federal guidance and, “For overall awareness and to ensure consistency in taxonomy usage, NHTSA³ adopted SAE International’s⁴ Levels of Automation and other applicable terminology.”⁵ The SAE International Standard J3016⁶ 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 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.)

¹ See USDOT, *Automated Vehicles 3.0, Preparing for the Future of Transportation*, at p.1, available at <https://www.transportation.gov/av/3> (last viewed March 20, 2019).

² *Id.*

³ NHTSA, the National Highway Traffic Safety Administration, is a part of the U.S.D.O.T. See the USDOT’s website available at: <https://www.transportation.gov/administrations> (last viewed March 20, 2019).

⁴ 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.” See the SAE’s website available at: <http://www.sae.org/about/> (last viewed March 20, 2019).

⁵ See U.S. Department of Transportation, *Automated Driving Systems 2.0, A Vision for Safety*, at p. 1., available at https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13069a-ads2.0_090617_v9a_tag.pdf (last viewed March 20, 2019).

⁶ See the SAE International Standard J3016, *Taxonomy and Definitions for Terms Related to Driving Automation Systems of On-Road Motor Vehicles*, (Revised June 2018) at p. 19. (Copy on file in the Senate Transportation Committee.)

- 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.)

In October of 2018, the USDOT release new federal guidance for automated driving systems, building on previous policy and expanding the scope to all surface on-road transportation systems. The new guidance is structured around three key areas: advancing multi-modal safety, reducing policy uncertainty, and outlining a process for working with the USDOT.⁷

Additionally, to prevent confusion and support consistent terminology, the USDOT encourages state legislators to use terminology already being developed through voluntary, consensus-based, technical standards, such as SAE terminology.⁸ The USDOT recommends that state legislatures follow best practices, such as providing a technology-neutral environment, licensing and registration procedures, and reporting and communications methods for public safety officials. States should consider reviewing and potentially modifying traffic laws and regulations that may be barriers to automated vehicles.⁹

Definitions (Section 3)

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.”^{10, 11}

Effect of Proposed Changes

Section 3 of the bill defines the following terms:

- Automated driving system: “The hardware and software that are collectively capable of performing the entire dynamic driving task of an autonomous vehicle on a sustained basis,

⁷ *Supra* note 1 at pp. viii – x.

⁸ *Id.* at p. 20.

⁹ *Id.* at p. 19.

¹⁰ 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.”

¹¹ “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.

regardless of whether it is limited to a specific operational design domain.” This definition is identical to the SAE definition, except that the SAE definition expressly provides that the term is used specifically to describe a level 3, 4, or 5 driving automation system.¹²

- Autonomous vehicle: “Any vehicle equipped with an automated driving system.” The existing definitions of “autonomous vehicle” and “autonomous technology” are removed from current law.
- Dynamic driving task: “All of the real-time operational and tactical functions required to operate a vehicle in on-road traffic within its specific operational design domain, if any, excluding strategic functions such as trip scheduling and selection of destination and waypoints.” This definition is similar, but not identical to the SAE definition of the term.¹³
- Fully autonomous vehicle: “A vehicle equipped with an automated driving system designed to function without a human operator.” The SAE standard does not define this term. However, the standard assumes that the automated driving system performs the entire dynamic driving task, while engaged, for levels 3, 4, and 5 of driving automation.¹⁴
- Operational design domain: “A description of the specific operating domain in which an automated driving system is designed to properly operate, including, but not limited to, roadway types, speed ranges, environmental conditions such as weather and time of day, and other domain constraints.” This definition is not identical to that contained in the SAE standard but the SAE definition appears to use different words to define the same term: “Operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including, but not limited to, environmental, geographical, and time-of-day restrictions, and/or the requisite presence or absence of certain traffic or roadway characteristics.”¹⁵

This section of the bill also creates a definition for the term “on-demand autonomous vehicle network,” which is defined to mean “a passenger transportation network that uses a software application or other digital means to connect passengers to fully autonomous vehicles, exclusively or in addition to other vehicles, for transportation, including for-hire transportation and transportation for compensation.”

Further, this section creates a definition for the term “teleoperation system,” meaning “the hardware and software installed in a motor vehicle which allow a remote human operator to supervise or perform aspects of, or the entirety of, the dynamic driving task. The term ‘remote human operator’ means a natural person who is not physically present in a vehicle equipped with an automated driving system who engages or monitors the vehicle from a remote location. A remote human operator may have the ability to perform aspects of, or the entirety of, the dynamic driving task for the vehicle or cause the vehicle to achieve a minimal risk condition.”

Additionally, this section of the bill corrects a cross-reference necessitated by revisions in the bill.

¹² “Driving automation system” refers to any level 1-5 system or feature that performs part of all of the dynamic driving task on a sustained basis. This term should be distinguished from the term “automated driving system.” *Supra* note 6 at p. 3.

¹³ *Supra* note 6 at p. 6.

¹⁴ *Supra* note 6 at p. 19.

¹⁵ *Supra* note 6 at p. 14.

Uniform Traffic Control Duties (Sections 4 – 7)

Present Situation

Various provisions of current law contain certain duties relating to vehicle operation by a *driver*¹⁶ 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

Sections 4, 5, and 6 amend ss. 316.062, 316.063, and 316.065, F.S., to provide in each that the duties described above do not apply to a fully autonomous vehicle operating with the automated driving system engaged 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 if the fully autonomous vehicle has the capability of alerting a law enforcement agency to the crash.

Section 7 amends s. 316.1975, F.S., to provide that section does not apply to a fully autonomous vehicle operating with the automated driving system engaged.

The bill excludes application of these duties to a fully autonomous vehicle while the automated driving system is engaged; that is, an autonomous vehicle equipped with an automated driving system designed to function without a human operator.

Electronic Displays in Vehicles/Wireless Communication Devices (Sections 8 and 9)

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

¹⁶ "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(20), F.S.

autonomous technology, as currently defined in s. 316.003(3), F.S., and is being operated in autonomous mode.

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 as currently defined in s. 316.003(3), F.S.; 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 currently defined in s. 316.003(3), F.S., in autonomous mode.

Effect of Proposed Changes

Section 8 amends s. 316.303, F.S., to replace the phrases, “vehicle equipped with autonomous technology,” with “an autonomous vehicle” which is being operated “with the automated driving system engaged” to incorporate the new definition. This revision allows the identified displays in autonomous vehicles equipped with any automated driving system, as defined in the bill, not necessarily one designed to function without a human operator.

Section 9 amends s. 316.305, F.S., to revise a statutory reference to the new definition of “autonomous vehicle,” and revise the exclusion from the prohibitions against using a wireless communications device for texting, emailing, or instant messaging to an autonomous vehicle operating with the automated driving system engaged. This revision excludes autonomous vehicles; *i.e.*, those equipped with any “automated driving system,” from the prohibitions against use of a wireless communications device.

Autonomous Vehicle “Operator” and Driver Licensing (Sections 10 and 12)

Present Situation

Section 316.85, F.S., requires a person to possess a valid driver license to operate an autonomous vehicle on Florida roads. Under the statute, unless the context otherwise requires, a person is deemed to be the operator of an autonomous vehicle operating in autonomous mode when the person causes the vehicle’s autonomous technology to engage, regardless of whether the person is physically present in the vehicle while the vehicle is operating in autonomous mode.

Effect of Proposed Changes

Section 10 amends s. 316.85, F.S., revising the title to read, “Autonomous vehicles; operation; compliance with traffic and motor vehicle laws; preemption.” This section is revised notwithstanding any other law, to provide that a licensed human operator is not required to operate a “fully autonomous vehicle,” as defined in the bill. Additionally, this section of the bill authorizes a fully autonomous vehicle to operate in this state regardless of whether a human operator is physically present in the vehicle. This section of the bill also provides that, unless

otherwise provided by law, applicable traffic or motor vehicle laws of this state may not be construed to:

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

These revisions allows autonomous vehicles equipped with automated driving systems designed to function without a human operator to self-operate, with or without a licensed human occupant, or any occupant.

Unless the context otherwise requires, the bill deems the automated driving system, when engaged, to be the operator of an autonomous vehicle, regardless of whether a person is physically present in the vehicle while the vehicle is operating with the automated driving system engaged. 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 with an engaged automated driving system on the automated driving system, potentially including the owner, manufacturer, or seller of the system.¹⁷

Section 12 amends s. 322.015, F.S., to exempt a fully autonomous vehicle operated with the automated driving system engaged without a human operator from Chapter 322, F.S., relating to driver licenses, to conform to the revisions in the bill.

Autonomous Vehicle Compliance with Motor Vehicle and Traffic Laws and Vehicle Alerts

Present Situation

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.

¹⁷ 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.

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.

Federal regulations in 49 C.F.R. part 567 require each manufacturer of motor vehicles, with one exception, to affix to each vehicle a label, of the type and in the manner described, to each vehicle containing specified information.¹⁹ To the extent that such regulations can be applied to autonomous vehicles, the regulations would apply, and the required label would have to be affixed to an autonomous vehicle. However, no regulations specific to autonomous vehicles currently exist; rather, the existing regulations apply to “traditional” motor vehicles. In its most recent federal guidance, the USDOT announced its intention, through NHTSA, “to reconsider the necessity and appropriateness of its current safety standards as applied to ADS-equipped²⁰ vehicles:

In an upcoming rulemaking, NHTSA plans to seek comment on proposed changes to particular safety standards to accommodate automated vehicle technologies and the possibility of setting exceptions to certain standards—that are relevant only when human drivers are present—for ADS-equipped vehicles.²¹

Effect of Proposed Changes

Section 11 of the bill amends s. 319.145, F.S., to require an autonomous vehicle registered in this state to meet all of the following requires:

- When required by federal law, the vehicle must:
 - Have been certified in accordance with federal regulations in 49 C.F.R. part 567 as being in compliance with applicable federal safety standards.
 - Bear the required certification label or labels, including reference to any exemption granted under applicable federal law.
 - Be capable of being operated in compliance with the applicable traffic and motor vehicle laws of this state, regardless of whether the vehicle is operating with the automated driving system engaged.

Under current federal regulations, it appears a manufacturer may not be able to receive an exemption from one or more safety standards currently applicable to “traditional” motor vehicles. However, should such regulations be adopted, as announced by the USDOT, to accommodate automated vehicle technologies through exceptions to certain standards, the federal regulations would apply and supersede Florida law to the extent of any conflict.

In addition, if the autonomous vehicle is not fully autonomous, the bill requires the vehicle to 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.

¹⁸ Section 319.145(2), F.S.

¹⁹ 49 C.F.R. s. 567.4.

²⁰ *I.e.*, vehicles equipped with automated driving systems.

²¹ *Supra* note 1 at p. 7.

When an alert is given, the system must require the licensed human operator to take control of the autonomous vehicle or achieve a “minimal risk condition,” as defined in the bill.

If the vehicle is fully autonomous, the vehicle must be able to achieve a minimal risk condition if a failure of the system occurs which renders it unable to perform the entire dynamic driving task relevant to its intended operational design domain. The bill defines “minimal risk condition” to mean a reasonably safe state, such as bringing the vehicle to a complete stop and activating the vehicle’s hazard lamps.²²

On-Demand Autonomous Vehicle Networks (Sections 1 and 10)

Present Situation

Current law does not contain any provisions addressing on-demand autonomous vehicle networks.

Effect of Proposed Changes

Section 1 of the bill amending s. 316.003, F.S., also creates a definition for the term “on-demand autonomous vehicle network,” which is defined to mean “a passenger transportation network that uses a software application or other digital means to connect passengers to fully autonomous vehicles, exclusively or in addition to other vehicles, for transportation, including for-hire transportation and transportation for compensation.”

This section of the bill also creates a definition for the term “teleoperation system,” meaning “the hardware and software installed in a motor vehicle which allow a remote human operator to supervise or perform aspects of, or the entirety of, the dynamic driving task. The term ‘remote human operator’ means a natural person who is not physically present in a vehicle equipped with an automated driving system who engages or monitors the vehicle from a remote location. A remote human operator may have the ability to perform aspects of, or the entirety of, the dynamic driving task for the vehicle or cause the vehicle to achieve a minimal risk condition.”

Section 10 of the bill amending s. 316.85, F.S., also authorizes these networks to operate pursuant to state laws governing the operation of TNCs and TNC vehicles as defined in s. 627.748, F.S. The bill provides that any provision of s. 627.748, F.S., that reasonably applies only to a human driver does not apply to the operation of a fully autonomous vehicle; *i.e.*, one equipped with an automated driving system designed to function without a human operator, with the automated driving system engaged in an on-demand autonomous vehicle network.

On-demand autonomous vehicle networks will be subject to the same regulations and requirements (other than those that would reasonably only apply to a human driver) as transportation network companies under s. 627.748, F.S. Some of those requirements include:

- Designating and maintaining an agent for service of process in Florida,

²² The SAE standard defines this term as “A condition to which a user or an ADS may bring a vehicle after performing the DDT fallback in order to reduce the risk of a crash when a given trip cannot or should not be completed.” The SAE standard defines the term “DDT fallback” (dynamic driving task fallback) as “The response by the user to either perform the DDT or achieve a minimal risk condition after occurrence of a DDT performance-relevant system failure(s) or upon operational design domain (ODD) exit, or the response by an ADS to achieve minimal risk condition, given the same circumstances.”

- Providing identification of the vehicle’s license plate number and certain disclosures to passengers related to the collection of fares,
- Maintaining varying levels of automobile insurance and ride records, and
- Submitting specified examination reports to the Department of Financial Services.

This section of the bill also expresses Legislative intent to provide for uniformity of laws governing autonomous vehicles throughout the state. The bill prohibits a local government from imposing a tax, fee, for-hire vehicle requirement, or other requirement on automated driving systems or autonomous vehicles or on a person who operates an autonomous vehicle, including, but not limited to, a person who operates an autonomous vehicle for purposes of providing passenger transportation services. To the extent that any local government currently imposes such a tax, fee, or other requirement on such systems, vehicles, or persons, the tax, fee, or other requirement would be prohibited.

Innovative Transportation Technologies (Sections 1, 2, and 10)

Present Situation

The FDOT is currently broadly charged in s. 334.044, F.S.,²³ with the responsibility and duty to conduct research studies and to collect data necessary for the improvement of the state transportation system, to cooperate with and assist local governments in the development of a statewide transportation system and in the development of the individual components of the system, and to conduct research and demonstration projects relative to innovative transportation technologies. As an example, the FDOT’s Assistant Secretary’s Division for Strategic Development is comprised of offices and personnel that, among other functions:

- Provide the foundation for programming and project delivery through innovative planning and effective outreach to strategically advance the best transportation solutions at the right time;
- Oversee the alignment of information and operational technologies for the FDOT, with responsibility for the strategy and operations of the FDOT’s technology environment;
- Oversee the FDOT’s research program and contracts with state universities and other research service providers to conduct research in all areas of transportation.²⁴

The FDOT also produces innovative technology publications designed to be resources for transportation entities in researching both traditional and emerging technologies. For example, the FDOT in 2018 published its *Transit Technology Primer*,²⁵ noting “the challenges of deciding which emerging technology to pursue, whether to be an early adopter, or [] how the new technology will affect service delivery.” The report is described as “a synthesis of the policy and regulatory framework surrounding transit technology; past and ongoing research, prototype, and pilot efforts; commercially available products; and the experiences of transit agencies.”

²³ Section 334.044(20), (21), and (22), F.S.

²⁴ Florida Department of Transportation, *Strategic Development*, available at <https://www.fdot.gov/strategicdevelopment/default.shtm> (last visited March 21, 2019).

²⁵ Florida Department of Transportation, *Transit Technology Primer*, available at https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/transit/documents/transittechnologyprimer.pdf?sfvrsn=cf0c955a_2 (last visited March 21, 2019).

Additionally, s. 338.2215, F.S., expresses the Legislative intent that the Turnpike Enterprise maximize the advantages obtainable through fully leveraging the turnpike system asset, and that the additional powers and authority granted to the Turnpike Enterprise will provide it with the autonomy and flexibility to enable it to more easily pursue innovations and best practices found in the private sector in, among other items, operations. Section 338.2216(1)(d), F.S., directs the Turnpike Enterprise in part to “pursue and implement new technologies and processes in its operations.”

As an example of such efforts, the Turnpike Enterprise and other entities are participating in a project called SunTrax. According to the project website, “located off I-4 between Orlando and Tampa, SunTrax is a large-scale facility dedicated to the research, development, and testing of emerging transportation technologies in safe and controlled environments.”²⁶ Site construction began in June 2017. The site covers 400 acres containing a multi-lane 2.25-mile long oval track and a 200-acre infield designed specifically for development and testing of automated driving systems.²⁷ The first phase is expected to open in April of 2019, with a design that accommodates an urban area with shipping containers used to replicate buildings, a suburban area, and an airport pickup/drop off area, “all designed to challenge autonomous vehicles.”²⁸

Effect of Proposed Changes

Section 1 of the bill creates s. 316.0899, F.S., entitled “Innovative transportation technology pilot or demonstration programs,” more specifically authorizing the FDOT, in consultation with the DHSMV, to conduct pilot or demonstration programs to explore the efficient implementation of innovative transportation technologies, including, but not limited to, vehicle electrification, shared vehicle use, automated vehicles, and other mobility technologies that provide transportation options intended to increase personal mobility, facilitate shorter urban trips, or provide connections to other modes of transportation. Such pilot or demonstration projects may include innovative transportation technologies that improve delivery of transportation disadvantaged services.²⁹ The bill directs the FDOT to prepare an annual report for submission to the Governor, Senate President, and House Speaker outlining any undertaken programs, and also authorizes inclusion of any findings or recommendations the FDOT deems necessary for future implementation.

Section 2 amends the Florida Turnpike Enterprise Law by amending s. 338.2216, F.S. The bill authorizes the Turnpike Enterprise to enter into one or more agreements to fund construct and operate facilities for the advancement of autonomous and connected innovative transportation technologies for the purpose of improving safety and decreasing congestion for the traveling

²⁶ For more information, see the SunTrax website at <http://www.suntraxfl.com/#about-us> (last viewed March 20, 2019).

²⁷ See the SunTrax Brochure, <http://www.suntraxfl.com/wp-content/uploads/2017/11/SunTrax-Brochure-.pdf>. (last viewed March 20, 2019).

²⁸ SunTrax, *First phase of SunTrax to open in less than a year*, available at <http://www.suntraxfl.com/first-phase-of-suntrax-to-open-in-less-than-a-year/> (last viewed March 20, 2019).

²⁹ The Transportation Disadvantaged Program coordinates a network of local and state programs providing transportation services for elderly, disabled, and low-income citizens. The program assists the transportation disadvantaged; that is, persons who, because of physical or mental disability, income status, or age is unable to transport himself or herself or to purchase transportation and is dependent on others to obtain access to health care, employment, education, shopping, social activities, or other life-sustaining activities. The program also assists children who are handicapped or high-risk or at-risk as defined in s. 411.202, F.S. Section 427.011(1), F.S.

public. The agreements may include terms that authorize a private entity to sell or provide products or business opportunities at the facilities which benefit the traveling public, provide additional revenue, or otherwise advance the Turnpike Enterprise's objectives provided in the Florida Transportation Code.³⁰

Section 10 of the bill also amends s. 316.85, F.S., to authorize the Turnpike Enterprise to fund, construct, and operate test facilities and undertake research and development projects for the advancement of autonomous, connected, and innovative transportation technology solutions for the purposes of improving safety and decreasing congestion for the traveling public and to otherwise advance the Turnpike Enterprise's objectives as set forth in the Florida Transportation Code.

Technical Revisions (Sections 13-17)

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, PIP, 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.

³⁰ Chapters 334-339, 341, 348, and 349 and ss. 332.003-332.007, 351.35, 351.36, 351.37, and 861.011 may be cited as the "Florida Transportation Code." Section 334.01, F.S.

Effect of Proposed Changes

Sections 13, 14, and 15 amend ss. 339.175, 339.64, 339.83, F.S., respectively, to replace each occurrence of the phrase “autonomous technology,” “autonomous vehicle technology,” and “autonomous driving technology” with the phrase “automated driving system,” to incorporate the new definition of the latter term.

Section 16 amends s. 627.0653, F.S., to replace the phrase “autonomous driving technology” with the phrase “automated driving system,” to incorporate the new definition.

Section 17 amends s. 655.690, F.S., to amend a cross reference to an unrelated definition in ch. 316, F.S., necessitated by bill’s revisions to the definitions in s. 316.003, F.S.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

Article VII, s. 18 of the Florida Constitution governs laws that require counties and municipalities to spend funds or that limit their ability to raise revenue or receive state tax revenue.

Subsection (b) of Article VII, s. 18 of the Florida Constitution provides that, except upon approval by each house of the Legislature by two-thirds vote of its membership, the Legislature may not enact, amend, or repeal any general law if the anticipated effect of doing so would be to reduce the authority that municipalities or counties have to raise revenue in the aggregate. However, these requirements do not apply to laws that have an insignificant fiscal impact on local governments, which for Fiscal Year 2018-2019 is forecast at slightly over \$2 million.^{31, 32, 33}

The bill prohibits a local government from imposing a tax, fee, for-hire vehicle requirement, or other requirement on automated driving systems or autonomous vehicles or on a person who operates an autonomous vehicle, including, but not limited to, a person who operates an autonomous vehicle for purposes of providing passenger transportation services. It is unknown at this time the extent to which any local government currently imposes the prohibited taxes, fees, or other requirements, or the amounts imposed; thus, whether the bill would reduce the authority of municipalities or counties to raise in the aggregate revenue exceeding the “insignificant impact” ceiling is unknown. Approval of the bill by each house of the Legislature by two-thirds vote of its membership may be required.

³¹ FLA. CONST. art. VII, s. 18(d).

³² An insignificant fiscal impact is the amount not greater than the average statewide population for the applicable fiscal year times \$0.10. See Florida Senate Committee on Community Affairs, *Interim Report 2012-115: Insignificant Impact*, (Sept. 2011), available at <http://www.flsenate.gov/PublishedContent/Session/2012/InterimReports/2012-115ca.pdf>

³³ Based on the Florida Demographic Estimating Conference’s November 5, 2018 population forecast for 2019 of 21,170,399. The conference packet is available at <http://edr.state.fl.us/Content/conferences/population/ConferenceResults.pdf>

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

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

Section 10 of the bill prohibits a local government from imposing a tax, fee, for-hire vehicle requirement, or other requirement on automated driving systems or autonomous vehicles or on a person who operates an autonomous vehicle, including, but not limited to, a person who operates an autonomous vehicle for purposes of providing passenger transportation services. To the extent that any local government currently imposes such a tax, fee, or other requirement on such systems, vehicles, or persons, the tax, fee, or other requirement would be prohibited.

B. Private Sector Impact:

The traveling public may benefit from reduced congestion and commute times, increased mobility, and potential reductions in fatalities and injuries to the extent that the bill facilitates growth in the number and safe operation of autonomous vehicles on the road.

Insurance companies may benefit from increased sales resulting from application of insurance requirements to on-demand autonomous vehicle networks as provided in section 10 of the bill.

Manufacturers and distributors of autonomous vehicles and automated driving systems may benefit from the provisions in sections one, two, and ten of the bill authorizing the FDOT and the Turnpike Enterprise to conduct pilot or demonstration programs; to enter into one or more agreements to fund, construct, and operate test facilities, which may include private entity sales to the public; and to undertake research and development projects. The same entities may benefit to the extent that the bill facilitates growth of the number of autonomous vehicles on the road.

C. Government Sector Impact:

Section 1 of the bill authorizes the FDOT, in consultation with the DHSMV, to conduct pilot or demonstration programs to explore the efficient implementation of innovative transportation technologies. The number and the terms of any such agreements are unknown; therefore, the fiscal impact of the authorization on the FDOT's resources is indeterminate.

Section 2 of the bill also authorizes the Turnpike Enterprise to enter into one or more agreements to fund, construct, and operate facilities for the advancement of autonomous and connected transportation technologies, which agreements may include authorizing a private entity to sell or provide products or business opportunities at the facilities. This revision may produce additional revenue to the Turnpike Enterprise. However, because the number and terms of any such agreements is unknown, the fiscal impact of the authorization on the Turnpike Enterprise's resources within FDOT is indeterminate.

Section 10 of the bill authorizes the Turnpike Enterprise to fund, construct, and operate *test facilities and undertake research and development projects*, for the advancement of autonomous and connected transportation technologies. Again, because the number and details of any test facility to be constructed are unknown, and because the nature, complexity, and number of any research and development projects are unknown, the fiscal impact of the authorization is unknown.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill s 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, 322.015, 338.2216, 339.175, 339.64, 339.83, 627.0653, and 655.960.

This bill creates the following section of the Florida Statutes: 316.0899.

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

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

CS by Infrastructure and Security on March 20, 2019):

The committee substitute:

- Creates a definition for each of the terms “teleoperation system” and “remote human operator,” in relation to on-demand autonomous vehicle networks.

- Authorizes the FDOT, in consultation with the Department of Highway Safety and Motor Vehicles, to explore the efficient implementation of innovative transportation technologies, and requires the FDOT to submit an annual report outlining undertaken programs.
- Authorizes the Turnpike Enterprise to enter into one or more agreements to fund, construct, and operate facilities for the advancement of autonomous and connected technologies, which agreements may include terms that authorize a private entity to sell or provide products or business opportunities at the facilities.
- Authorizes the Turnpike Enterprise to fund, construct, and operate test facilities and undertake research and development projects for the advancement of autonomous, connected, and innovative transportation technology solutions.

B. Amendments:

None.