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## Policy Brief: The Legal Status of Low Speed, Electric, Automated Vehicles in Texas

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### Executive Summary

This report explores whether vehicles that are both Neighborhood Electric Vehicles (NEVs) and Automated Vehicles (AVs) may operate legally on public roads in Texas. First is an examination of Neighborhood Electric Vehicles and how they are governed in the state of Texas. Next, the report examines the new Texas law governing AVs, Senate Bill 2205 (SB 2205). The report then analyzes both federal and state registration requirements for AVs and NEVs. Finally, the report describes a governance conflict between the law governing NEVs and the law governing AVs.

The report concludes that the legality of vehicles that are a combination of AVs and NEVs (or “automated NEVs”) is unclear in Texas. While the intent of SB 2205 was to legalize the operation of AVs, there is still confusion surrounding the legality of automated NEVs due to a conflict of authority between the existing statutes governing NEVs and the new statute governing AVs.

### Introduction: The Promise of Low Speed, Electric, Automated Vehicles

Low density environments like college or corporate campuses, sporting event venues, transportation hubs, convention centers, retirement communities, or suburbs with few-and-far-between transit stops have long suffered from the unfilled needs of travelers whose trips are too far to walk or who cannot drive. Manufacturers including Induct, EasyMile, Navya, Auro Robotics, SB Drive, and Local Motors have begun producing low-speed, electric, automated passenger shuttles that, while not equipped for highway driving, are well designed for many of these other lower speed applications (1, 2).

Many of these AV shuttles that are not designed to be operated by a human driver may not need, and indeed may not come equipped with, some of the standard features necessary for human operation such as a steering wheel, brake pedal, or mirrors.

These shuttles may operate along a set route, and may stop at all stations along the route, on passenger request, or on demand, and could be hailed by a passenger like a rideshare service, using a smartphone app. They might operate in a loop, going in one direction, or traverse back and forth along a single route without turning around (3, 4, 5, 6, 7).

In Texas, shuttles used for these purposes would likely be registered with the state of Texas as Neighborhood Electric Vehicles (NEVs). However, if these vehicles are also automated, they may also be subject to Texas’ new law governing AVs, enacted during the 85<sup>th</sup> legislative

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session through SB 2205 (8). This brief explores how these laws work together, and what questions remain after applying each law to this vehicle classification.

## **What Is a Neighborhood Electric Vehicle?**

“Neighborhood Electric Vehicles” (NEVs) are governed in Texas under Section 551, Subchapter D, of the Texas Transportation Code (hereinafter the “NEV Statute”) (9). The NEV Statute defines a “neighborhood electric vehicle” as a vehicle that can attain a maximum speed of 35 mph on a paved surface (10). Under the NEV statute, NEVs may operate on Texas streets or highways with speed limits of 45 mph or less and may cross streets with speed limits that exceed 45 mph (11).

NEVs must also comply with 49 C.F.R. Section 571.500, a federal safety standard meant to ensure that low-speed vehicles operated on public streets, roads, and highways are equipped with the minimum motor vehicle equipment appropriate for motor vehicle safety (10, 12).

A potential conflict is present in that the state NEV Statute and federal regulation 49 C.F.R. 571.500 allow for two different top speeds at which the vehicles may operate: the NEV Statute requires that a neighborhood electric vehicle not surpass a speed of 35 mph, while 49 C.F.R. 571.500 of the federal code requires that vehicles not surpass a speed of 25 mph (10, 12). Any operators that plan to operate NEVs at a speed above 25 mph, and those that regulate them, should note this conflict in law.

Additionally, pursuant to the NEV Statute, a county or municipality may prohibit the operation of NEVs on a street or highway if it determines that the prohibition is necessary in the interest of safety (11). Likewise, the NEV Statute allows the Texas Department of Transportation to prohibit operation of NEVs on a highway if it determines that the prohibition is necessary in the interest of safety.

## **What Is an Automated Vehicle?**

### *Definitions*

In Texas “automated motor vehicles” are governed under Section 545, Subchapter J of the Transportation Code (hereinafter the “AV Statute”) (13). The AV Statute was added to the Texas Transportation Code via Senate Bill 2205, passed during the 85<sup>th</sup> legislative session in 2017. In Texas, an “automated motor vehicle” is defined in the AV Statute as a motor vehicle in which an “automated driving system” is installed (14). The code provides a detailed definition of an automated driving system. However, it can be summarized essentially as hardware and software that, when combined, are capable of performing all aspects of an “entire dynamic driving task” for a vehicle, as well as any fallback maneuvers necessary to respond to a failure of the system without any supervision or intervention by a human operator.

The AV Statute allows for AVs to be operated on Texas roads without a human operator in the vehicle, so long as the vehicle meets various registration and compliance requirements defined in

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detail in the code (15). This means that complying AVs may be lawfully operated on Texas roads even if there are no human operators in the vehicles. The vehicles must still meet the registration and compliance requirements within the code, including applicable federal law and federal motor vehicle safety standards.

### *Equipment: Data Recording System*

Under the new AV statute, AVs must be equipped with a “data recording system” (16). The statutory definition of a data recording system that follows is found in Texas Transportation Code § 547.615(a)(2).

(2) "Recording device" means a feature that is installed by the manufacturer in a motor vehicle and that does any of the following for the purpose of retrieving information from the vehicle after an accident in which the vehicle has been involved:

- (A) records the speed and direction the vehicle is traveling;
- (B) records vehicle location data;
- (C) records steering performance;
- (D) records brake performance, including information on whether brakes were applied before an accident;
- (E) records the driver's safety belt status; or
- (F) transmits information concerning the accident to a central communications system when the accident occurs (17).

“Data recording systems” are commonly referred to as “event data recorders” (“EDRs”). They are used to collect vehicle data immediately before, during, and after a vehicle is involved in a crash. Vehicles equipped with EDR’s must also comply with federal regulations found in 49 CFR 563, which states that any vehicle equipped with an EDR must meet the EDR requirements specified in 49 CFR 563.7, 563.8, 563.9, 563.10, and 563.11 (18). These sections describe technical specifications of the data that must be collected, conditions where collection is required, and the language of disclosure that must be used to communicate these requirements in an owner’s manual.

Since the AV Statute expressly requires that all AVs be equipped with recording systems (16), vehicles need to be equipped with a data recording system that meets the definition provided in the Texas Transportation Code to operate legally in Texas.

### *Governance*

Under the new AV statute, AVs are governed exclusively by the AV Statute and by the Texas Department of Public Safety, in conjunction with applicable traffic and motor vehicle laws (19). The AV Statute expressly prohibits political subdivisions or other state agencies from imposing regulations related to the use of automated motor vehicles (20).

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## **What Are the Compliance Requirements of NEV and AV Laws?**

### *Federal Safety Regulations*

The Texas NEV Statute requires NEVs to comply with 49 CFR 571.500, a federal regulation of the National Highway Safety Administration (NHTSA) that describes how low speed vehicles must be equipped. This section lists the attributes of physical design features necessary for a vehicle to safely operate on a roadway such as head and tail lights, windshields, parking brakes, reflectors, and so on.

The Texas AV Statute also references NHTSA requirements (21), stating that all AVs must be “equipped with an automated driving system in compliance with applicable federal law and federal motor vehicle safety standards” (21). To date, there are no federal motor vehicle safety standards (FMVSS) regulating automated vehicles, but in the event NHTSA does release any FMVSS for AVs, AVs in Texas will be required to comply with them. Regardless of any FMVSS that may be developed for AVs in the future, automated NEVs must currently comply with the existing FMVSS that apply to low speed electric vehicles.

If a vehicle does not comply with FMVSS for low speed vehicles, an exemption must be granted by NHTSA in order for it to legally operate. The Secretary of Transportation has the authority to exempt motor vehicles from a FMVSS on a temporary basis and under specified circumstances. This authority, granted to NHTSA, is set forth in 49 USC 30113 (22). An application for exemption must be filed pursuant with the informational guidelines provided by 49 CFR 555.5 (23). The petitioner must set forth a basis for the application pursuant with 49 CFR 555.6 (24).

Small manufacturers may be eligible to apply for a “hardship exemption.” To be eligible as a small manufacturer, pursuant to 49 USC 30113(d), a manufacturer’s total vehicle production in the most recent year must be under 10,000 vehicles.

### *State Inspection Requirements*

All vehicles registered in the state, including NEVs, are subject to inspection by the state, pursuant to Section 548.051 of the Texas Transportation Code (25). Section 548.051 also specifies what parts and systems on the vehicle are to be inspected. It is possible that automated NEVs may encounter certain difficulties during inspection, given that their systems may be different than what traditional inspection providers are accustomed to working with. For example, the brake and steering systems on some AVs may be designed to operate without a human driver, whereas those of traditional NEVs are designed for human operation.

Additionally, AVs designed to operate without a driver simply may not be equipped with some of the items normally inspected, such as mirrors, front seat belts, and sun screening devices.

## **Governance Conflict**

There is a potential conflict between the NEV Statute and the AV Statute regarding the governance of an automated NEV (26, 19). The NEV statute allows a county or municipality to prohibit the use of NEVs on streets or highways in the interest of safety, and allows the

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Department of Transportation to prohibit NEVs on highways (26). However, the AV Statute states that AVs are only governed by the state of Texas and regulated by the Department of Public Safety (DPS). As noted above, it explicitly prohibits a political subdivision or other state agency from imposing regulations related to the use of automated motor vehicles (19). Since there will likely be vehicles that are both NEVs and AVs, this regulatory conflict regarding what governmental entity has the power to regulate automated NEV activities could create confusion among travelers as to the roads on which they are permitted to operate automated NEVs. For example, if a city prohibited an automated NEV provider from offering first- or last-mile service on a particular street or route, but the state asserted that operation of the automated NEV was permitted, the entity that offered the automated NEV service would not know whether it was legal to provide services on that street or route. This conflict requires resolution in order to establish legality of these vehicles.

Section 311.025 of the Code Construction Act (27) may offer some guidance in resolving this issue. This provision states that if two statutes created by the same body are irreconcilable, the statute latest in date of enactment prevails, suggesting that the new AV Statute may overrule the existing NEV Statute. Therefore, if the Code Construction Act is applied, only the State of Texas through the Department of Public Safety would be able to regulate the use of automated NEVs.

This interpretation raises the question of whether a vehicle that is both a NEV and an AV would be subject to the NEV Statute at all. The language of the AV Statute seems to signal an intent for the section to govern all automated vehicles. But a later section of that law makes clear that the AV Statute must work in conjunction with existing, applicable state traffic and motor vehicle laws (28). This suggests that the AV Statute is meant to work together with the already existing NEV Statute.

One example of where the AV Statute must work with the existing state NEV laws is in the area of vehicle registration. All vehicles are required to be registered in order to operate on Texas roads. Currently, there is no separate registration process for automated vehicles (the AV Statute permits owners to identify vehicles as automated vehicles or automated driving systems but does not require them to do so) (29). Therefore, for registration purposes, the classification that best fits vehicles that are both NEVs and AVs in Texas is the NEV classification, as there is currently no AV classification. In this example, we see that existing state law applies in places where the AV statute is silent.

From the example above we can see that the AV statute cannot solely govern the use of automated vehicles, but instead is meant to be used together with other existing regulations. However, there still remains a point of conflict between the AV Statute and the NEV Statute regarding governance. The AV statute expressly prohibits political subdivisions and state agencies other than DPS to regulate AVs. However, the NEV statute allows state municipalities and the Texas Department of Transportation to prohibit NEVs. It is unclear, therefore, who may prohibit the use of automated NEVs. Because these two requirements appear to be in conflict, the

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AV and NEV laws cannot be used together on this issue, as the drafters of the AV law had seemingly hoped.

## **Conclusion**

New automotive technologies are emerging rapidly and in different ways throughout the country, making for a fast-changing and inconsistent new landscape. Texas's new AV Statute begins to provide much-needed clarity to issues of defining new vehicles, where they may operate, and who has the authority to regulate them.

However, in at least one case, these broad new rules have created a conflict with existing law that may, if the conflict is considered material, make it difficult to know whether AVs that are also NEVs may legally operate in Texas. The NEV Statute allows counties, municipalities, and the Texas Department of Transportation to prohibit NEVs in the interest of safety. The AV statute expressly prohibits political subdivisions, or any state agency other than the Department of Public Safety, from regulating AVs. The result is that it is not currently clear who may prohibit the use of vehicles that are both NEVs and AVs.

These potential governance conflicts may be resolved by interpreting the NEV Statute to regulate traffic and motor vehicle compliance, and the AV Statute to govern all other matters related to NEV/AV shuttle operation. Just as automated vehicles registered as traditional vehicles, for example, are not immune from all laws and regulations related to traditional vehicle operation, it follows that other traffic and motor vehicle laws related to automated vehicles, even if not addressed or contradicted by the AV Statute, would still apply. The AV Statute could be construed to simply carve out certain restrictions or exceptions for vehicles that qualify as automated vehicles rather than rendering all other laws related to the vehicle inapplicable. However, given that the conflict concerns the ability to determine the legal operation of these vehicles on Texas roads, it may be considered a material and dispositive conflict.

One option that the State legislature could consider is to address this conflict with legislative action. Reconciliation of these statutes in future legislation may provide sufficient clarification to determine the legality of these vehicles. In any case, this question requires more research in order to offer a definitive analysis.

## **Authors**

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