



NEW YORK STATE
BAR ASSOCIATION

Report of the New York State Bar Association **Task Force on Autonomous Vehicles and the Law**

April 2020

AUTONOMOUS
DRIVE
START

A close-up photograph of a green, oval-shaped button with the words 'AUTONOMOUS DRIVE' and 'START' embossed on it. A person's finger is shown pressing the button. The button is set against a dark, textured background.

NEW YORK STATE BAR ASSOCIATION

REPORT OF THE TASK FORCE ON AUTONOMOUS
VEHICLES AND THE LAW

MARCH 2020

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EXECUTIVE SUMMARY

Autonomous Vehicles (AV) have the potential to provide significant societal benefits, including increased mobility and independence for the disabled, people who are legally blind, and our aging population. Over the past several months, the Task Force on Autonomous Vehicles (Task Force) invited expert guests to provide information regarding this highly specialized and rapidly developing area of law. The Task Force also examined existing legislation and existing policy frameworks from other states as well as other countries.

The Task Force feels it is important to make New York an attractive forum for AV testing and deployment. New York State provides unique advantages for testing and deployment, including the ability to test in a variety of weather conditions and terrains, and an existing framework for computer simulation, such as the research being done at the University at Buffalo.

The recommendations of the Task Force are:

- A. New York should position itself as an attractive AV testing forum by decreasing regulatory burdens and incentivizing a collaborative approach between the State, industry, and research institutes (See Report, p. 27) Areas outside of New York City, especially those with state universities like Binghamton, Buffalo and Albany, are ideal places for testing as they have four seasons and varying weather conditions, different areas to test in (such as small cities, mountainous terrain, and school campuses with students who, importantly, are open to this technology).
- B. To avoid potentially dangerous over-reliance on AV technology by consumers, campaigns should be developed to educate the public, in order to provide an accurate depiction of what AV features can and cannot do. (See Report, pp. 27-28)
- C. Consideration should be given to having mandatory training as a prerequisite to acquiring a driver's permit for highly automated vehicles. (See Report, p. 22, 28)
- D. New York State should focus on educating the public about the potential benefits of AVs, which include increased mobility for the disabled, the elderly, and people in rural areas. AV technology can also bolster the ability to deliver food, medicine and health care (in fact, AVs are currently being used to assist in fighting the COVID-19 epidemic in countries other than the U.S.), and job creation. (See Report, p. 28-29)
- E. New York State should emphasize computer simulation for testing, in addition to on-road testing. Leveraging existing expertise within the State, such as the AV research

program at the University at Buffalo, would promote the efficient use of State resources and could position New York at the cutting edge of this industry.

- a. Use computer simulations to test, validate and accumulate safety related data.
 - b. Involving State Police in simulation testing – they have expertise from testing that’s been done so far, and know the scenarios that law enforcement are concerned about – can be a valuable partnership with academia and others to create effective testing
- F. New York State should balance individual privacy rights against the state and local governments’ legitimate need for certain data. (See Report, p. 9-10)
- G. The State Bar Association should support AB 6014-B, which would establish a task force on automated vehicle technology. The State Task Force would address Level 3 and above if established. (See Appendix E.)
- H. Existing law should continue to be relied upon as this technology continues to develop, until a situation or case shows a need to create new law. Nothing to date has shown the need for new laws. Existing concepts of negligence, recklessness, misrepresentation, fraud, and product liability should continue to apply to ADAS and AV cases. For example, AV-related lawsuits are proceeding in state courts in CA and AZ under existing laws, without the need for the creation of any new laws. (See Report, p. 28)

I. TASK FORCE MISSION STATEMENT

The Task Force on Autonomous Vehicles and the Law is charged with examining how the law and legal profession should adapt to the development of autonomous vehicles.

II. PROCEDURAL BACKGROUND

Over the past seven months, the Task Force invited expert guests to present information to educate its members about autonomous vehicle technology and the issues relating to it.

Invited guests included representatives from industry, such as Ryan Chin, Co-Founder and CEO of Optimus Ride, and Burt Kaufman, head of corporate and regulatory affairs for Zoox; scientists and researchers, such as Suzanne Murtha, National Lead for Connected and Automated Technology at AECOM, Professor Chunming Qiao, SUNY Distinguished Professor and Chair of the Department of Computer Science and Engineering at the University at Buffalo, Carrie Long, Director of the University of Pennsylvania Center for Safe Mobility, Carlos Cardillo, PhD, Director of the Nevada Center for Applied Research at the University of Nevada, Amitai Bin-Nun, Vice President, Autonomous Vehicles and Mobility Innovation at Securing America's Future Energy (SAFE); members of the insurance industry, including Tom Karol, General Counsel for Federal Affairs at the National Association of Mutual Insurance Companies (NAMIC), and Brad Nail, of Converge Government Affairs; representatives of non-profit organizations, including Jay Stanley of ACLU's Speech, Privacy and Technology Project; Brad Stertz, Co-Chair of the coalition Partners for Automated Vehicle Education (PAVE); and both trial plaintiff and defense attorneys. The New York State Police, the New York State Department of Motor Vehicles, and the NYPD were invited to speak to the Task Force but declined our invitations. A full list of speakers can be found at Appendix A.

III. AUTONOMOUS VEHICLE LEGISLATION

A. Introduction

States' attempts to regulate the testing and deployment of AVs began as early as 2011.¹ These attempts have continued expanding and evolving and almost every state has now considered or passed legislation on the topic.² Federal legislation has been proposed, and some bills are pending in the Senate. NHTSA released non-binding guidance to promote uniform industry terms and harmonize legislation between states.³ The only proposed legislation being supported by the Task Force is AB 6014-B. Any other legislation mentioned in this report is for informational purposes only and is not, and should not be considered, an endorsement by the Task Force.

New York Legislation

Several bills are pending in the NYS legislature that would advance New York's AV legislative framework if passed, including several referred to committees in January 2020.⁴ The pending bills include the following: (1) NYS Senate Bill 1159, which would create an AV committee to study AVs and how best to support their testing on public roads;⁵ (2) NYS Assembly Bill 1554, which would create an AV Task Force to compare New York AV usage with other states;⁶ (3) NYS Assembly Bill 2643, which would define "autonomous technology,"

¹ Nevada was the first state to pass an AV law in 2011. National Conference of State Legislatures, LegisBrief, Vol. 25, No. 13, April 2017.

² *Id.*

³ *Id.*; Moving and Fostering Innovation to Revolutionize Smarter Transportation Act, H.R. 3388, 116th Cong. (2019); Automated Driving Systems: A Vision for Safety, AV 2.0, NHTSA 2016; Preparing for the Future of Transportation: Automated Vehicles 3.0, NHTSA 2018.

⁴ See NY S1159, 2019 (pending); NY A1554, 2019 (pending); NY A2643, 2019 (pending); NY A7980, 2019 (pending); NY S6014, 2019 (pending); NY A301, 2019 (pending); NY S1779, 2019 (pending); NY A1808, 2019 (pending).

⁵ NY S1159, 2019 (pending).

⁶ NY A1554, 2019 (pending).

exclude driver assist functions from classification as an AV, allow NHTSA regulations to supersede it in the event of any inconsistencies, deem a person to be “operating” an AV when they have engaged its autonomous technology regardless of physical presence in the vehicle, and allow AV testing with a human operator present in the vehicle;⁷ (4) NYS Assembly Bill 7980 and NYS Senate Bill 6014, which would both establish an AV task force and contain nearly identical language;⁸ (5) NYS Senate 1159, which would establish an AV committee;⁹ (6) NYS Assembly Bill 301, which would require the Department of Labor to study the impact of AVs on delivery and transport jobs;¹⁰ (7) NYS Senate Bill 1779, which would define “autonomous technology” in a nearly identical way to NYS Assembly Bill 2643;¹¹ and (8) NYS Assembly Bill 1808, which would enroll New York in federal AV data collection programs.¹²

On January 8, 2020, NYS Senate Bill 6052-B was referred to the judiciary committee for review.¹³ S.B. 6052-B, if passed, would authorize the testing of autonomous vehicles on public roads in and around the University at Buffalo’s North Campus.¹⁴

New York passed legislation effective in 2017¹⁵ that allows the testing of AVs, but only if a number of strict requirements are met. These requirements include that all tests must be directly supervised by state police, a human operator possessing a valid driver’s license must be

⁷ NY A2643, 2019 (pending).

⁸ NY A7980, 2019 (pending); NY S6014, 2019 (pending).

⁹ NY S1159, 2019 (pending).

¹⁰ NY A301, 2019 (pending).

¹¹ NY S1779, 2019 (pending); NY A2643, 2019 (pending).

¹² NY A1808, 2019 (pending).

¹³ NY S06052, 2020 (pending).

¹⁴ *Id.*

¹⁵ N.Y. Laws 2017, Ch. 55, Part FF, as amended by Laws 2019, Ch. 58, Part M (extending repeal date to Apr. 1, 2021).

in the vehicle, and the vehicle must be insured in an amount no less than \$5 million. S.B. 2005 also provides a definition of “autonomous vehicle technology” and “dynamic driving task.”¹⁶

B. Common Concepts in State AV Legislation

1. Testing

Most states have adopted standards for the testing of autonomous vehicles on public roads.¹⁷ Common concepts to AV testing legislation include training and licensing requirements for test operators, a bond as proof of financial responsibility, and specification that the vehicles be capable of following traffic regulations.¹⁸ Training and licensing requirements for test operators include possession of a valid driver’s license and status as a trained employee of the testing company.¹⁹ \$5 million is the amount most commonly required as a bond for AV testing.²⁰

2. Allocation of Liability

A concept common across state legislation is the allocation of liability for AV accidents and traffic violations. While it is common for states to address the issue, there has not been wide uniformity as to a particular liability allocation system.

A provision included by many states is that an original automobile manufacturer is not liable for AV-related incidents when a third party converts the vehicle into an autonomous

¹⁶ *Id.*

¹⁷ See Kells, Roetzer & Garber, Survey of Autonomous Vehicle Regulations, October 2019.

¹⁸ See Colo. Rev. Stat. §§ 42-1-102, 42-4-110, 42-4-242; Washington Executive Order 17-02 (June 7, 2017) https://www.governor.wa.gov/sites/default/files/exe_order/17-02AutonomouVehicles.pdf; S.D. Codified Laws § 32-26-50 (2019); S.B. 427, Gen. Assemb., Reg. Sess. (Pa. 2017), *et. al*; Arizona Executive Order 2018-04 (Mar. 1, 2018) https://azgovernor.gov/sites/default/files/related-docs/eo2018-04_1.pdf.

¹⁹ Arizona Executive Order 2015-09 (Aug. 25, 2015), <https://azmemory.azlibrary.gov/digital/collection/execorders/id/752/>; Cal. Gov’t Code § 14107(d) (Deering 2019); Conn. Gen. Stat. § 13a-260(d)(1) (2019); Washington Executive Order 17-02 (June 7, 2017); S.B. 427, Gen. Assemb., Reg. Sess. (Pa. 2017); 23 Vt. Stat. Ann. § 4202(10) (2019); B23-0232, Council of the Dist. of D.C. (D.C. 2019).

²⁰ Some states that have used the \$5 million amount are Vermont, Nevada, New York, Connecticut and Massachusetts. 23 Vt. Stat. Ann. § 4203(h)(2)(B) (2019); Nev. Rev. Stat. § 482A-060 (2019); N.Y. Laws 2017, Ch. 55, Part FF, as amended; Conn. Gen. Stat. § 13a-260(d)(2) (2019); H. 3143, 191st Gen. Ct. of the Commw. (Mass. 2019).

vehicle.²¹ Another often included provision is that a remote operator is liable for an AV's compliance with traffic laws even when not present in the vehicle.²²

Allocation of liability for traffic violations and collisions vary between states. Some states hold the owner or lessee of an autonomous vehicle responsible for all traffic violations²³ while others hold the operator liable for violations occurring only when he is physically controlling the vehicle and holds the AV manufacturer liable for violations occurring when the autonomous driving system is engaged.²⁴

3. Post-Collision Protocol

Some states have implemented some post-collision protocol for AVs while others have considered aspects of data reporting following a crash. There is some uniformity amongst states which have adopted post-collision protocol, but there are also many states which have not made any provision for AV action in the event of a collision.

Several states specify that, in the event of a collision, an AV must remain at the scene of the collision and its owner must report the crash.²⁵ In Nevada, a crash which caused damage amounting to \$750 or more must be reported.²⁶ Massachusetts legislators are considering a bill which would require “event data,” or indications of speed, brake usage, throttle, and whether the

²¹ *E.g.*, Nev. Rev. Stat. § 482A.90 (2019); A.B. 2643, Leg. 2019-2020 Reg. Sess. (N.Y. 2019); H.B. 1543, 66th Leg. Assemb., Reg. Sess. (N.D. 2019) (failed); H.B. 2770, Leg., Reg. Sess. (Or. 2019) (failed); Tenn. Code Ann. § 55-30-106 (2019); H.B. 119, 86th Leg., Reg. Sess. (Tex. 2019) (failed).

²² La. Rev. Stat. Ann. § 32:400.7 (2019).

²³ Ala. Code § 32-9B-4(a) (2019); N.C. Gen. Stat. § 20-401(e) (2019).

²⁴ LB142, 106th Leg., First Sess. (Neb. 2019) (pending); Tenn. Code Ann. § 55-30-106 (2019); Texas Transp. Code § 545.453 (West 2019); S.B. 218, Gen. Assemb., 2017-2018 Reg. Sess. (Ga. 2017).

²⁵ LB142, 106th Leg., First Sess. (Neb. 2019); Neb. Rev. Stat. § 60-3307 (2020); Utah Code Ann. § 41-26-105 (2020); B23-0248, Council of the Dist. of Columbia, (D.C. 2019); Fla. Stat. §§ 316.062, 063, 065 (2019).

²⁶ Nev. Rev. Stat. Ann. § 482A.095 (2019).

vehicle was driving autonomously, to be recorded and preserved after a crash.²⁷ A similar bill was considered, but failed in Georgia.²⁸

4. Data Collection and Usage

Some states have adopted provisions determining how data collected from AVs should be handled while other states have not provided for the issue. A frequently seen provision regarding data privacy and AVs is that only non-identifying data may be collected and used by anyone other than the vehicle's owner. Some states allow this data to be used in the aggregate, but prohibit its use when it identifies a particular person or vehicle.

Bills have been introduced in the District of Columbia and Massachusetts that would require AVs to have data recording devices.²⁹ Utah enacted a provision which would only allow location data collected from an AV to be used for aggregate, and not for identifying purposes.³⁰ A similar provision failed to pass in Arizona and North Dakota.³¹ Utah allows non identifying data collected by an AV to be used for studies of improving vehicle safety, medical study of the human body's reaction to vehicle crashes.³² Massachusetts has called for the Department of Consumer Affairs to adopt data privacy regulations concerning AV data.³³ The state is also considering the imposition of fines up to \$50,000 for destroying, deleting or altering AV data

²⁷ H.3672, 191st Gen. Court of the Commw. (Mass. 2019).

²⁸ HB 248, 2017-2018 Gen. Assemb., Reg. Sess. (Ga. 2017).

²⁹ 2019 DC B 232 (pending); 2019 MA Senate Bill 2115 (pending).

³⁰ 2019 UT S.B. 72 (enacted).

³¹ HB2684, 54th Leg., 1st Gen. Sess. (Ariz. 2019) (failed); HB 1197, 66th Leg. Assemb., Reg. Sess. (N.D. 2019) (failed); HB 1394, 65th Leg. Assemb., Reg. Sess. (N.D. 2017) (failed).

³² Utah Code Ann. § 41-1a-1503(g).

³³ S.2056, 191st Gen. Ct. of the Commw. (Mass. 2019) (pending).

following a collision.³⁴ North Dakota twice failed to pass a bill which would have made the owner of an AV the owner of any data gathered thereby.³⁵

5. Platooning

It has been commonly provided by states that AVs may travel on public roads in a platoon formation. Platooning is generally defined as individual vehicles travelling in a unified manner at electronically coordinated speeds.³⁶ Allowing AVs to travel in a platoon has required exemptions from following distance laws so that the AVs can hold a tight formation.³⁷ Some states impose additional requirements on platoons. Kentucky, for example, requires a human driver to be present within each AV in a platoon, and both Kentucky and Minnesota require carriers to give notice of a platoon plan to the state police prior to its operation.³⁸ Minnesota does not allow platoons to contain more than three vehicles.³⁹ Louisiana does not allow platoons to operate on a two-lane highway.⁴⁰

C. Unique AV Legislative Provisions

Some states' legislation contains provisions which stand out as unique from the others. One such provision is included in Arkansas' HB 1561, which allows a remote operator to control

³⁴ H.3672, 191st Gen. Ct. of the Commw. (Mass. 2019) (pending).

³⁵ HB 1197, 66th Leg. Assemb., Reg. Sess. (N.D. 2019) (failed); HB 1394, 65th Leg. Assemb., Gen. Sess. (N.D. 2017) (failed).

³⁶ *See, e.g.*, Code of Ala. §§ 32-1-1.1(83), 32-5A-89(d) (2019); Ark. Code Ann. § 27-51-305(c) (2019); Ga. Code Ann. § 40-6-49(e) (2019); Ind. Code Ann. § 9-21-8-14(a), 15(a), 16(a)(2) (2020); Ind. Code Ann. § 9-21-8-22 (2020); Miss. Code Ann. §§ 63-3-103(k), 63-3-619(3) (2019); N.C. Gen. Stat. § 20-152(c) (2019); N.D. Cent. Code § 39-10-18(4), (5) (2019); Okla. Stat. tit. 47 § 11-310(e), (f) (2019); 75 Pa. Cons. Stat. §§ 102, 3317, 8501-8503 (2020); S.D. Codified Laws § 32-26-50; Utah Code Ann. § 41-6a-711 (2020); Wis. Stat. § 346.14(1b), (2)(c) (2019). Unenacted or pending bills covering platooning include: 2019 FL SB 660 (failed); 2019 FL SB 1104 (failed); 2018 FL HB 1287 (failed); 2017 IL HB 4050.

³⁷ Ala. Code § 32-5A-89(d) (2019).

³⁸ Ky. Rev. Stat. Ann. §§ 281.010(39), 281.764, 189.340 (2019); Minn. Stat. § 169.011(3).

³⁹ Minn. Stat. § 169.011(4).

⁴⁰ La. Rev. Stat. Ann. § 32:81(F) (2019).

up to three AVs simultaneously and which provides that AVs need not be equipped with safety equipment like a steering wheel, seat belt, or rearview mirror.⁴¹

Another unique provision comes from California’s Public Utilities Code § 5446, which provides that the City of San Francisco may levy taxes on trips originating in that city and taken in AVs owned by a transportation company. Such taxes may not exceed 3.25% and are not to exceed 1.5% when trips are shared.⁴²

Pending in Washington D.C. is a provision that would allow the National Highway Traffic Safety Administration (NHTSA) to grant exceptions to AVs that do not comply with federal motor vehicle safety standards.⁴³

A failed Florida bill would have defined and funded a “grid integrated vehicle” program capable of a two-way power exchange with the electric grid.⁴⁴

D. The Uniform Automated Operation of Vehicles Act

In an effort to promote uniformity in state legislation of AVs, the Uniform Law Commission (“ULC”) in 2019 published its “Uniform Automated Operation of Vehicles Act” (“UAOVA”).⁴⁵

In the UAOVA, the ULC proposes individuals need not hold a driver’s license to take a completely automated trip.⁴⁶ A remote operator would likewise not be required to hold a driver’s license to operate an AV in autonomous mode.⁴⁷

⁴¹ HB 1561, 92 Gen. Assemb., Reg. Sess. (Ark. 2019).

⁴² Cal. Pub. Util. Code § 5446 (Deering 2019).

⁴³ B22-1010, Council of the Dist. of Columbia (D.C. 2018).

⁴⁴ HB 633, Leg., 2018 Reg. Sess. (Fla. 2018).

⁴⁵ National Conference of Commissioners on Uniform State Laws, UNIFORM AUTOMATED OPERATION OF VEHICLES ACT, § 4(a) (2019).

⁴⁶ *Id.*

⁴⁷ *Id.* at § 4(b).

As defined in the UAOVA, an “automated-driving provider” (“ADP”) refers to a person or entity that makes a declaration of ownership or control over an AV or autonomous system to a relevant state agency.⁴⁸ Such a declaration essentially assigns responsibility to the declarer as the point of contact for state agencies if issues arise with the AV. The UAOVA would require the ADP to represent by sufficient evidence that the AV system is capable of complying with state laws.

The UAOVA also introduces the term “associated automated vehicle.”⁴⁹ An associated automated vehicle is the particular AV associated with an ADP who has made a declaration to a state agency. Under the UAOVA, an ADP would bear responsibility for violations of state laws committed during the *automated* operation of its associated automated vehicles.⁵⁰ As ADPs could be manufacturers, system developers, software providers or others, the UAOVA as written could allocate liability to any such party if it has made a state agency declaration.

E. Federal AV Legislation

In September 2017, H.R. 3388 — the SELF DRIVE Act — passed the U.S. House of Representatives. The Act will be reintroduced to the Senate in the 116th Congressional Session to be considered for passage into law. [citation to this is needed] A similar bill, S. 1885 — the AV START Act — passed the Senate Commerce Committee in October 2017 and will be reintroduced in the next Congressional session as calendar number 268. [citation needed]

The SELF DRIVE Act and the AV START Act would both preempt the ability of state and local governments to regulate design, construction, and performance of highly automated vehicles unless such regulations are identical to, or at least as restrictive as, the federal

⁴⁸ *Id.* at § 6(a).

⁴⁹ *Id.* at § 7(a).

⁵⁰ *Id.* at § 9(c).

regulations.⁵¹ The AV START Act would not, however, preempt the applicability of state tort law to resolve liability issues involving AV accidents.⁵² The AV START Act specifies it will not impose additional duties upon state or local governments that would result in additional spending or loss of revenue.⁵³ The AV START Act would not preempt state and local authority to sell and repair AVs and requires that rules for the issuance of AV licenses not be discriminatory to people with disabilities.⁵⁴

On February 7, 2020, the National Science and Technology Council and the U.S. Department of Transportation released its most recent report on autonomous vehicles, *Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0 (AV 4.0)*. AV 4.0 builds on an earlier version and seeks to “to unify efforts in automated vehicles across 38 Federal departments, independent agencies, commissions, and Executive Offices of The President ... [by] providing high-level guidance to Federal agencies, innovators, and all stakeholders on the U.S. Government’s posture towards AVs.” The report seeks to ensure a consistent U.S. Government (USG) approach to AV technologies and details the authorities, research, and investments being made across the USG on AV research, development, and integration.⁵⁵

The report is structured around three key areas: (1) USG AV Principles; (2) Administration Efforts Supporting AV Technology Growth and Leadership; and (3) USG Activities and Opportunities for Collaboration.⁵⁶

⁵¹ H.R. 3388; S. 1885.

⁵² Mark Geistfeld, *The Regulatory Sweet Spot for Autonomous Vehicles*, 53 Wake Forest L. Rev. 337, 340 (2019).

⁵³ S. 1885.

⁵⁴ *Id.*

⁵⁵ USDOT Automated Vehicle Activities, Automated Vehicles (Feb. 7, 2020), <https://www.transportation.gov/AV>.

⁵⁶ *Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0*, U.S. Dep’t of Transportation (Feb. 7, 2020), <https://www.transportation.gov/av/4>.

Within the first key area, USG AV Principles, there are three sub-topics that the report focuses on; (1) Protecting Users and Communities, (2) Promoting Efficient Markets, and (3) Facilitating Coordinated Efforts.⁵⁷ The National Science and Technology Council developed an Automated Vehicle Fast Track Action Committee. That committee developed ten principles that fall within the three sub-topics mentioned above.⁵⁸

As it relates to protecting users and communities, the government articulates intent to consider safety, security and cybersecurity, privacy and data security, and mobility and accessibility concerns.⁵⁹

In an effort to promote efficient markets, the report specifies the government's intent to remain technology-neutral, work to protect American innovation and creativity, and modernize regulations.⁶⁰ AV 4.0 also articulates a desire to promote consistent standards and policies within state and local governments, ensure a consistent federal approach, and improve transportation system-level effects.⁶¹

AV 4.0, Section 8. Promote Consistent Standards and Policies, provides that, “the U.S. Government will prioritize participation in and advocate abroad for *voluntary consensus* standards and evidence based *and data driven regulations*. The U.S. Government will engage State, local, tribal and territorial authorities as well as industry to promote the development and implementation of voluntary consensus standards, advance policies supporting the integration of

⁵⁷ Nat'l Science and Tech. Council & U.S. Dep't of Transp., Ensuring American Leadership in Automated Vehicle Technologies 1 (Jan. 2020), <https://www.transportation.gov/sites/dot.gov/files/2020-02/EnsuringAmericanLeadershipAVTech4.pdf>.

⁵⁸ *Id.* at 3.

⁵⁹ *Id.* at 4.

⁶⁰ *Id.* at 5.

⁶¹ *Id.* at 5.

AVs throughout the transportation system, and seek harmonized technical standards and regulatory policies with international partners.”⁶²

At the same time, AV 4.0 identifies that the “USDOT is provided with significant research, regulatory, and enforcement authority to protect the safety of the American public pertaining to various aspects of AVs, *to include establishing manufacturing, performance, and operational standards...*” AV 4.0 continues to identify NHTSA as a “key modal” agency, since “NHTSA sets and enforces safety performance standards for motor vehicles and motor vehicle equipment, identifying safety defects, and through the development and delivery of effective highway safety programs for State and local jurisdictions.”

Finally, AV 4.0 lists a wide range of federal government agencies that have invested in AV research and development programs that aim to promote and develop safety, mobility, security and cybersecurity, infrastructure, and connectivity.⁶³

The report states that the DOT intends to be proactive in its approach to AV technology and its implementation as it recognizes the governmental role in assuring stakeholders can invest in the field. The DOT will also prepare for complementary technology to AVs: communication and data links, for example. The DOT states in AV 4.0 that it will not universally implement any single approach. AV 4.0 acknowledges the need to prepare for AV tech and the important role the DOT might have in sustaining technological advancements and investments in the field. It further emphasizes the importance of fostering innovation in technology that will complement AVs, and considers how best to promote America’s leadership role in the field of AV development.⁶⁴

⁶² *Id.* at 12-13.

⁶³ *Id.* at 8-37.

⁶⁴ *Id.* at 1.

IV. AV TESTING POLICIES

A. Arizona

Enacted in 2015, Executive Order 2015-09 allowed AV pilot programs to test on select college campuses and on certain public roads in Arizona.

The rules laid out in Executive Order 2015-09 for AV testing required only the following for AV testing: (1) the operator of an AV must possess a driver's license; (2) the operator must be employed or designated by the company developing the self-driving technology; (3) the AVs must be constantly monitored; (4) operators must be able to take control of the vehicle in the event of a malfunction; and (5) vehicle owners must submit proof of financial responsibility in an amount determined by the Arizona Department of Transportation.⁶⁵ The Order did not require the operator to be physically present in the vehicle while it operated.⁶⁶ Executive Orders 2018-04 and 2018-09 were passed in March 2018 and October 2018, and required, respectively, that a statement must be filed with the Arizona DOT before a vehicle may be operated in fully autonomous mode and established the Institute of Automated Mobility to develop and test AVs.⁶⁷

One of the first AV companies to act upon the 2015 Order was Waymo, Google's Self Driving Car Project.⁶⁸ Waymo deployed a test fleet of AVs on public streets in Chandler,

⁶⁵ *Id.*

⁶⁶ Arizona Executive Order 2015-09, 2015.

⁶⁷ Arizona Executive Order 2018-04 (March 1, 2018) https://azgovernor.gov/sites/default/files/related-docs/eo2018-04_1.pdf ; Arizona Executive Order 2018-09 (Oct. 11, 2018) https://azgovernor.gov/sites/default/files/eo_2018-09_iam_0.pdf?token=bmTM1RAS.

⁶⁸ Ryan Randazzo, *Who was really at fault in the fatal Uber crash?*, Arizona Republic, March 17, 2019, <https://www.azcentral.com/story/news/local/tempe/2019/03/17/one-year-after-self-driving-uber-rafaela-vasquez-behind-wheel-crash-death-elaine-herzberg-tempe/1296676002/>.

Arizona in April 2016.⁶⁹ Uber notified the Governor’s Office that it would be testing its AVs on Arizona public roads in August 2016, and General Motors followed suit.⁷⁰

On March 18, 2018, an Uber SUV collided with pedestrian Elaine Herzberg. Ms. Herzberg was struck and killed by the self-driving Uber while crossing the street on a bicycle.⁷¹

Upon investigation of the incident, authorities discovered Uber had disabled the operating system allowing its AVs to brake themselves in emergencies because the system had been causing erratic driving patterns, braking for minor obstacles such as birds flying in front of the cars.⁷² Evidence from the Uber’s interior monitoring camera also suggested the SUV’s operator had not been watching the road just before the collision occurred.⁷³ After the accident, public backlash against self-driving vehicles manifested itself in the form of public complaints, harassment of self-driving vehicles and drivers, the formation of groups opposed to the implementation of AVs, and some instances of violence.⁷⁴ A main component of the public outrage following the accident was that no registration approval, or public disclosure processes had been put in place by Executive Order 2015-09.⁷⁵ The public felt blindsided by news that companies had been testing their AVs on Arizona roads for years without its knowledge.⁷⁶

⁶⁹ *Id.*

⁷⁰ *Id.*; Sue Callaway, *The Country’s Hottest New City for Autos*, FORTUNE, July 22, 2016, <https://fortune.com/2016/07/22/phoenix-arizona-tech-centric-automotive/>.

⁷¹ Ryan Randazzo, *Who was really at fault in the fatal Uber crash?*, Arizona Republic, March 17, 2019.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Incidents of violence include attempts to force AVs off the road, rocks being thrown at AVs, and a man pointing a gun at a Waymo driver in an attempt to “intimidate” him. The opposition group mentioned is the Human Driving Association, and includes in its manifesto the belief that no car should be built without a steering wheel. *Id.*

⁷⁵ Ryan Ramdazzo & Jerod MacDonald-Evoy, *Fatal Uber collision highlights secrecy of tests in Arizona*, Arizona Republic, March 29, 2018, <https://www.azcentral.com/story/money/business/tech/2018/03/29/fatal-uber-collision-highlights-secrecy-self-driving-car-tests-arizona/466715002/>.

⁷⁶ Ryan Randazzo, *Who was really at fault in the fatal Uber crash?*, Arizona Republic, March 17, 2019, <https://www.azcentral.com/story/news/local/tempe/2019/03/17/one-year-after-self-driving-uber-rafaela-vasquez-behind-wheel-crash-death-elaine-herzberg-tempe/1296676002/>.

B. United Kingdom

1. Introduction – The Automated and Electric Vehicles Act of 2018

The UK formed the Centre for Connected and Autonomous Vehicles (“CCAV”) in 2016 which analyzed and recognized gaps for AV liability and insurance.⁷⁷ Coordination between the CCAV and the UK Department for Transportation led to the passage of the Automated and Electric Vehicles Act of 2018 (the UK Act) in July 2018.⁷⁸

The UK Act lays out regulations relating to liability for the insurer, the insured, the manufacturers, and injured parties. The CCAV commissioned two reports in September 2018 to study and identify gaps in the legislation and to put forth recommendations for parliament to consider in amending the UK Act.⁷⁹ We include a discussion of the UK Act for informational purposes, recognizing that the insurance and legal processes in the UK are not identical to those in the U.S.

2. Liability

The UK Act stipulates if an accident is caused by an uninsured AV driving itself, the owner of the AV will be liable for damages.⁸⁰ If an insured AV is driving itself and is involved in an accident, the insurer is directly liable for the damage.⁸¹ Once the insurer has settled the

⁷⁷ Araz Taeihagh & Hazel Si Min Lim, *Governing autonomous vehicles: emerging responses for safety, liability, privacy, cybersecurity, and industry risks*, 39 *Transport Reviews* 103, 110 (2018).

⁷⁸ Automated and Electric Vehicles Act, 2018, c. 18 (U.K.).

⁷⁹ Centre for Connected and Autonomous Vehicles, UK Connected & Autonomous Vehicle Research & Development Projects 2018 (Sept. 2018), <https://www.gov.uk/government/publications/connected-and-autonomous-vehicle-research-and-development-projects>; Centre for Connected & Autonomous Vehicles, Code of Practice: Automated Vehicle Trialling (Feb. 2019) <https://www.gov.uk/government/publications/trialling-automated-vehicle-technologies-in-public>.

⁸⁰ “Uninsured” in this context refers to a vehicle uninsured at the time of the accident. Automated and Electric Vehicles Act, 2018, c. 18, § 2(2) (U.K.).

⁸¹ *Id.* at § 2(1).

claim with the injured party, it may then reclaim damages from other parties that are liable for the accident, such as the vehicle manufacturer.⁸²

This provision makes an effort to increase efficiency and cut costs in compensating the victim of an accident by making the insurer the default payor. However, it does not delegate final responsibility for the accident. The imposition of liability on the insurer, or vehicle owner, does not affect any other party's liability with respect to the accident. If it is found that the cause of the accident was faulty equipment in the AV, for example, the insurer can claim against the manufacturer to recover costs.⁸³

The law also stipulates this default liability may not be limited or excluded by a term of an insurance policy, except in accidents found to be the result of software alterations or failure to update software.⁸⁴

3. Contributory Negligence

The UK Act applies the same principles of contributory negligence to AV accidents that apply to standard, human driven vehicles in the UK.⁸⁵ This standard contributory negligence principle dictates compensation to the injured party will be reduced by the amount a court determines the injured party is at fault for the accident.⁸⁶ Further, the insurer or owner of an AV is not liable under the Act to the operator of the vehicle where the operator was negligent in engaging autonomous mode.⁸⁷

⁸² *Id.* at §§ 4, 5.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.* at § 3.

⁸⁶ *Id.*

⁸⁷ *Id.* at § 3(2).

4. Software Updates

The UK Act lays out a variety of situations in which an insurance policy may exclude or limit the insurer's liability where alterations or updates affect AV software.⁸⁸ First, any software alterations prohibited under the policy made by or with the knowledge of the insured person can limit the insurer's liability. For an insured who is not the policyholder, an insurer only escapes liability when the insured knows that prohibited software alterations are in effect at the time of the accident.⁸⁹

Additionally, failure to install safety-critical software updates that the insured person knows, or should reasonably know, are safety critical will limit the insurer's liability.⁹⁰ Updates are considered safety-critical if it would be unsafe to use the AV without the updates.⁹¹ If the accident is found to be the result of software alterations or failure to install software updates, the amount paid by the insurer is recoverable from the insured to the extent provided by the policy.⁹²

5. Insurer's Claims Against Responsible Party

Under the UK Act, an AV insurer or owner must pay damages to the injured party after an accident even if a third party is responsible for the accident.⁹³ After an insurer or owner has settled a claim with an injured party, any other responsible party is then liable in the same amount he would owe the injured party to the insurer or owner who has already paid damages.⁹⁴

⁸⁸ *Id.* at § 4.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

If the insurer or owner recovers damages from the responsible party that exceed the amount paid to the injured party, the insurer or owner must repay the difference.⁹⁵

6. Additional Reports

The CCAV has produced two reports analyzing the UK Act and projecting future needs for AV regulation in the UK.⁹⁶ The first was published in November of 2018, the second was published in October of 2019, and a third will be published in 2020 with final recommendations for the UK government to improve its AV laws.⁹⁷ These papers report findings from technology experts, industry veterans, and other stakeholders for AV technology and integration. The reports cover topics including consumer information, driver training, causation, data retention, software, criminal liability and sanctions, and AVs used as public transport (HARPS).⁹⁸

a. Gaps in Consumer Information and Marketing

The CCAV estimated a problem with AVs and consumer information will be over-reliance on AV technology once it becomes mainstream.⁹⁹ To address this issue, the CCAV recommended marketing campaigns presenting an accurate depiction of what AV features can and cannot do. For example, marketing campaigns should tell consumers whether the lane assist AV feature is able to steer around a parked vehicle or whether adaptive cruise control can gauge the speed of a motorcycle driving directly in front of it. The main goal of such campaigns is to

⁹⁵ *Id.*

⁹⁶ Centre for Connected & Autonomous Vehicles, UK Connected & Autonomous Vehicle Research & Development Projects 2018 (Sept. 2018), <https://www.gov.uk/government/publications/connected-and-autonomous-vehicle-research-and-development-projects>; Centre for Connected & Autonomous Vehicles, Code of Practice: Automated Vehicle Trialling (Feb. 2019), <https://www.gov.uk/government/publications/trialling-automated-vehicle-technologies-in-public>.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper 20 (2018) https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jxsou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf.

increase the availability of accurate and explicit consumer information so that consumers do not over-rely on the technology.¹⁰⁰

b. Gaps in Driver Training

The CCAV's study also contemplates introducing both compulsory and voluntary training for AV drivers.¹⁰¹ Compulsory training could be added as a prerequisite to acquiring a driver's permit for highly automated vehicles.¹⁰² Voluntary training could be offered as a way to acquire an insurance discount.¹⁰³ Whether voluntary or compulsory, the CCAV recommends additions to driver training courses to include instruction about how to manage and master the various technology features in an AV.¹⁰⁴

c. Gaps in Causation

For the liability framework outlined in the UK Act to apply, the AV itself must be the legal cause of the accident. There is associated debate as to whether this causation also implies an element of fault.¹⁰⁵ To illustrate this dilemma, the CCAV provides an example where an AV swerves to avoid an erratic cyclist and hits a parked car.¹⁰⁶ Because the AV caused the accident, would the cyclist be absolved from fault for creating a dangerous situation?¹⁰⁷ The CCAV does not directly answer this question. It recommends, however, leaving the determination of causation to the courts on a case-by-case basis and applying the same principles of civil liability

¹⁰⁰ *Id* at 30, 80-81.

¹⁰¹ *Id* at 88-9.

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper (2018) https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf.

¹⁰⁵ *Id.*

¹⁰⁶ *Id* at 110.

¹⁰⁷ *Id.*

currently used for vehicle accidents.¹⁰⁸ The main issue with applying the same vehicle accident civil liability framework to AVs is that insurers will need greater certainty when it comes to causation to accurately price their insurance and avoid lengthy litigation.¹⁰⁹

d. Gaps in Data Retention

Data retention requirements for AV manufacturers are anticipated to be important to litigation following AV accidents. In the event of an accident, insurers will need data from the AV to verify details like location, direction, speed, and whether the vehicle was actually driving itself at the time of the accident.¹¹⁰ The anticipated issue with this data collection is that the vast amount of data AVs generate could be too much for vehicles to store for an extended amount of time.¹¹¹ Thus, the question as to which type of data must be stored for insurers to defend claims and bring actions against third parties must be resolved. The CCAV recommended two solutions in its report: (1) that a new time limitation be introduced dictating when one must bring an AV-related injury claim, and (2) that a standard be adopted dictating which type of data must be preserved for AV-related liability suits.¹¹²

e. Gaps in OTA Updates

The report presents the question of how current product liability laws in the UK will apply to “over-the-air” (“OTA”) software updates.¹¹³ An OTA update is the wireless delivery of

¹⁰⁸ *Id.*

¹⁰⁹ Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper 110 – 111 (2018) https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jxou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf.

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.* at 114.

new software or data to a device.¹¹⁴ Current UK laws allow product liability claims to be brought against defective software that is within a physical medium, such as a vehicle.¹¹⁵ However, it is uncertain whether these product liability laws would apply to software sold separately from a physical product.¹¹⁶

This is an important question for AVs because safety-critical software updates are likely to be produced and offered by a different entity than the AV manufacturer.¹¹⁷ The UK report contemplates whether product liability law will apply to software updates and the providers thereof in situations where the software was a standalone product added to an AV.¹¹⁸ The CCAV Law Commission called for the UK to pass new legislation to answer this question.

f. Gaps for Liability and Sanctions

The CCAV examined the attribution of liability for driving offenses set forth in the UK Act and found the UK's existing legal definition too flexible. The Commission believes when an automated driving system is engaged and conducting the entire dynamic driving task, complying with traffic laws should be the legal responsibility of the automated driving system entity rather

¹¹⁴ Margaret Rouse, "OTA Update," TARGET TECH, August 2018, <https://searchmobilecomputing.techtarget.com/definition/OTA-update-over-the-air-update>.

¹¹⁵ Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper 115 (2018), https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf. The 1987 Act is the UK law defining "product" for purposes of products liability suits. This definition includes "any goods or electricity" including "a product which is comprised in another product, whether by virtue of being a component part or raw material or otherwise." Consumer Protection Act 1987, s 1(2). It is unclear whether this definition would include OTA software updates.

¹¹⁶ *Id.* at n.440, citing European Commission, Brief Factual Summary on the Results of the Public Consultation on the Rules on Producer Liability for Damage Caused by a Defective Product (2017) p 3, <http://ec.europa.eu/docsroom/documents/23471>, discussed in Pinsent Masons, Legal aspects of connected and automated cars, White Paper, May 2018, at p 8.

¹¹⁷ Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper (2018), https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf.

¹¹⁸ *Id.*

than the human user.¹¹⁹ The CCAV criticized the UK Act as being too flexible because it defines a person in an AV as the driver — even if the AV is driving autonomously.¹²⁰ The Commission proposed an amendment be made to the law that would clarify a user in a vehicle is not a “driver” for legal purposes if the accident was caused by the way a vehicle was driven by the automated system.¹²¹

The CCAV also recognized situations in which the human driver should be held responsible when the AV is operating autonomously. These situations include: a driver who is unfit to drive, an intoxicated driver, a driver who fails to responsibly manage the AV, and a driver who fails to take steps to avoid obvious dangers they are or should be aware of.¹²²

The CCAV also recommended a sanctioning system being considered by Australia’s transport commission as a desirable method to discipline certain AV-related offenses. It would require that AV manufacturers and developers back every automated driving system they sell, taking responsibility for each automated system as its designated Automated Driving System Entity (“ADSE”).¹²³ This proposed system would require that each automated driving system sold be backed by an ADSE, and, in the event of a system failure, the ADSE would be subject to regulatory sanctions.¹²⁴

¹¹⁹ *Id.* at 9.

¹²⁰ *Id.* at 128-29.

¹²¹ *Id.* at 129.

¹²² Law Commission & Scottish Law Commission, Automated Vehicles, a Joint Preliminary Consultation Paper 134-35 (2018), https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/11/6.5066_LC_AV-Consultation-Paper-5-November_061118_WEB-1.pdf.

¹²³ *Id.* at 150.

¹²⁴ *Id.*

g. Gaps for AVs as Public Transport

Although the UK Act doesn't directly address AVs used for public transport, the CCAV's second consultation report recommended a structure and system for AV public transport be added to the law.¹²⁵ The CCAV coined a term for AV public transportation systems, calling them "Highly Automated Road Passenger Services" ("HARPS").¹²⁶ The Commission defined HARPS as any business which carries passengers for hire or reward using highly automated vehicles on a road without the services of a human driver or user-in-charge.¹²⁷

The CCAV recommended HARPS operators be required to routinely update maps and software and maintain the highest levels of cyber security.¹²⁸ The Commission also recommended HARPS utilize remote supervisors — much like air traffic control personnel or remote supervisors for railways — who could respond to requests from the AVs and decide on a course of action for the AV to carry out.¹²⁹ Additionally, the CCAV recommended reporting requirements for HARPS operators whereby they would be required to report consecutive miles driven or passengers carried without the occurrence of a negative event. In the event of an accident, HARPS operators should be required to report contextual data such as weather and road conditions, type of road, and other risk factors in order to put accident statistics into context.¹³⁰

¹²⁵ Law Commission & Scottish Law Commission, *Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport* (2019), <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jxou24uy7q/uploads/2019/10/Automated-Vehicles-Consultation-Paper-final.pdf>.

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.* at 34.

¹²⁹ *Id.* at 75-78

¹³⁰ *Id.* at 78-79.

V. AV POLICIES TO MEET NEW YORK'S NEEDS

A. New York Testing Standards

Current New York AV testing standards have been described as burdensome and make New York a less attractive forum for AV deployment than states with fewer restrictions.¹³¹ Chapter 55, Part FF of the Laws of 2017¹³² which became effective on April 1, 2017, allows for the testing of AVs on public roads in New York, but only under the direct supervision of the New York State police.¹³³ As a result, few AV manufacturers have chosen New York as the state in which to test their products.¹³⁴ Therefore, one of New York's most pressing needs is to reduce the regulatory burdens on AV manufacturers in order to attract companies to test AV technology on New York roads.

B. Terminology and Education

To avoid over-reliance on AV technology by consumers, campaigns should be developed to educate the public, in order to provide an accurate depiction of what AV features can and cannot do. Consideration should also be given to having mandatory training as a prerequisite to acquiring a driver's permit for highly automated vehicles.

NY State should also focus on educating the public about the potential benefits of AVs, which includes increased mobility for the disabled, the elderly, and people in rural areas. AV

¹³¹ "New York's law has been seen by some as heavy-handed with its AV legislation, which has likely limited its ability to attract AV manufacturers." Bill Covington et al., *Legislating Autonomous Vehicles in Washington: An Analysis of Current Autonomous Vehicle Law with Recommendation for Washington 33* (Univ. of Wash. School of Law Tech., Law and Public Policy Clinic 2018), <https://wstc.wa.gov/wp-content/uploads/2019/11/2018-0717-BP7-UWFullReportAVLawScan.pdf>.

¹³² Amended by Laws 2019, Ch. 58, Part M (extending repeal date to Apr. 1, 2021).

¹³³ S. 2005C, Part FF, §1(a), Jan. 23, 2017.

¹³⁴ *Audi Tests Autonomous Vehicle in Albany*, Times Union, June 13, 2017, <https://www.timesunion.com/local/article/Audi-tests-autonomous-vehicle-in-Albany-11218108.php>; David Lombardo, *Self-driving Vehicles Still a Work in Progress for NY*, Times Union, July 2, 2018, <https://www.timesunion.com/news/article/Fits-and-starts-on-the-way-to-autonomous-vehicles-13043589.php>.

technology also can bolster the ability to deliver food, medicine and health care (in fact, AVs are currently being used to assist in fighting the COVID-19 epidemic in countries other than the U.S.), and job creation.

C. Preserve Existing Liability Frameworks

Both New York's driver obligations and product liability rules are well understood and do not need to be reworked to specifically address automated vehicles.

Whether future changes in the law are called for will depend upon the circumstances that arise if or when automated vehicles permeate society. Suggestions such as no-fault liability placed on the ADS manufacturer, or self-insurance against harms by the users of automated vehicles, are premature and could either over or under incentivize investments in automated driving safety. For the near to mid-term, the existing liability rules that hold human drivers and autonomous car manufacturers accountable for unlawful driving or producing a defective product should provide a robust and efficient incentive for appropriate investments in safe automated driving systems.

D. Insurance Considerations

As mentioned above, any suggestions for changes to the existing NY insurance laws are premature.

In a July 2019 panel discussion involving Uber, Ford, NAMIC, Liberty Mutual and others conducted by the National Council of Insurance Legislators (NCOIL), the following points were raised:

- For no-fault states (like New York), the law already provides for each owner taking care of their own injuries lest they exceed a certain threshold, thus limiting in that case the implications of AVs on third parties;

- Permissive operator regulations, and the recognition of autonomous driving systems constituting a permissive operator, would cover a significant issue concerning responsibility of the owner, to wit, the current structure of insurance and liability would appear sufficient for such purposes;
- While the technology is new, the risk is actually more traditional in nature and the current automobile insurance form issued by the Insurance Services Office (ISO) would appear sufficient to cover an event involving an AV.

In the opinion of the participants in the NCOIL panel, many insurers agree that there will be significant data privacy issues associated with autonomous vehicles, and black-box technology and the data privacy issues associated with that feature have already become commonplace in the automobile and auto insurance industries, and many issues relating thereto have already been litigated.

APPENDIX A

Task Force on Autonomous Vehicles and the Law 2019-2020 Panel Presentations

To view video recordings of these presentations, go to:
<https://nysba.org/committees/task-force-on-autonomous-vehicles-and-the-law/>

August 20, 2019
University at Buffalo
Buffalo, NY

Presenters:

Chunming Qiao
SUNY Distinguished Professor and Chair, Department of Computer Science and Engineering,
University at Buffalo

Ben Husch
Natural Resources and Infrastructure Committee Director, National Conference of State Legislatures

Peter Kurdock
General Counsel, Advocates for Highway & Auto Safety

September 17, 2019
Greenberg Traurig LLP
New York, NY

Presenters:

Brad Stertz
Co-Chair, Partners for Automated Vehicle Education

Carlos Cardillo, PhD
Director, Nevada Center for Applied Research, University of Nevada

September 18, 2019
Greenberg Traurig LLP
New York, NY

Presenters:

Amitai Bin-Nun
Vice President of Autonomous Vehicles, Securing America's Future Energy (SAFE)

Ryan Chin
CEO and Co-founder, Optimus Ride

October 15, 2019
Greenberg Traurig LLP
New York, NY

Presenters:

Carrie Sauer
Director, University of Pennsylvania Center for Safe Mobility

Suzanne Murtha
National Lead for Connected and Automated Technology, AECOM

Bert Kaufman
Head of Corporate & Regulatory Affairs, Zoox

November 6, 2019
Albany Law School
Albany, NY

Presenters:

Tom Karol
General Counsel, Federal, National Association of Mutual Insurance Companies (NAMIC)

Brad Nail
Partner, Head of Multistate Practice, Converge Government Affairs

Libby Snyder
Legislative Counsel, Uniform Law Commission

January 21, 2020
Gibson Dunn & Crutcher
New York, NY

Presenters:

Jay Stanley
Senior Policy Analyst, ACLU's Speech, Privacy and Technology Project

Ron Plesco
Principal, KPMG's Cyber Response Services

Dorothy Glancy
Professor of Law, Santa Clara University School of Law

Joseph DeMarco, Esq.
Partner, DeVore & DeMarco LLP

January 29, 2020*
New York Hilton Midtown
New York, NY

Presenters:

Nicholas Papain
Partner, Sullivan Papain Block McGrath & Cannavo P.C.

Meagan Dean
Senior Associate, McGivney Kluger Clark & Intoccia, P.C.

February 18, 2020
Via Zoom Meeting

Presenter:

Senator Timothy M. Kennedy
New York State Senate

*Video recording not available.

APPENDIX B

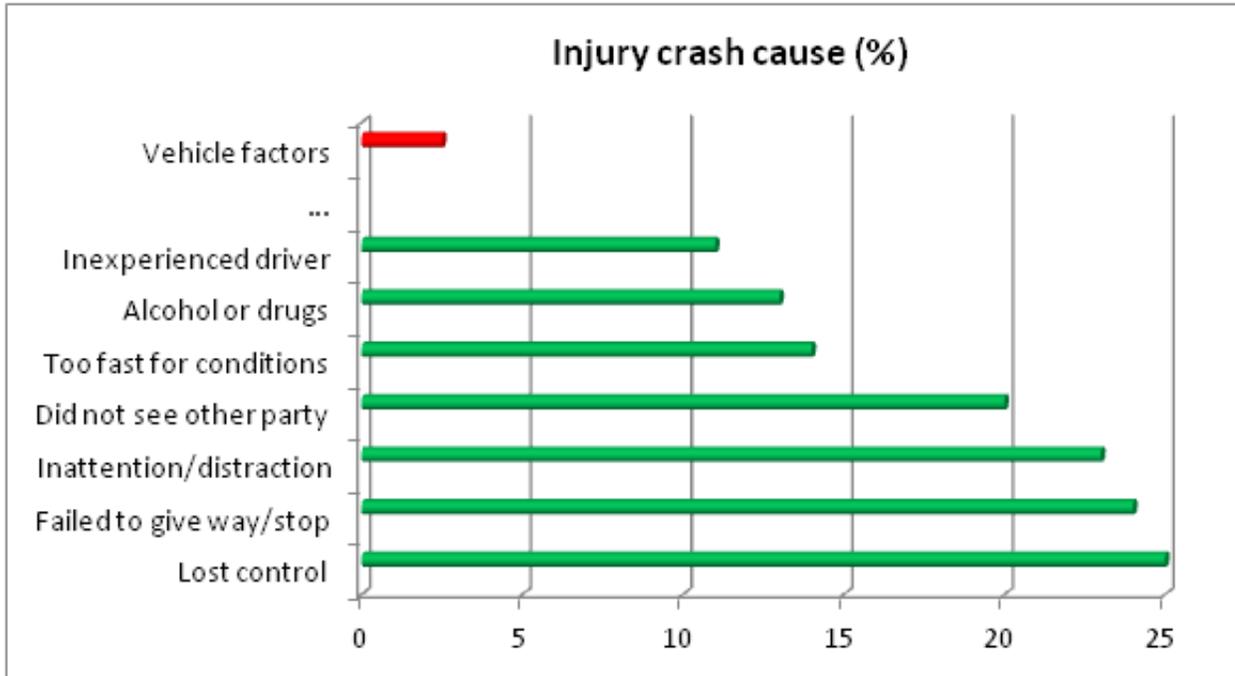


SAE J3016™ LEVELS OF DRIVING AUTOMATION

	SAE LEVEL 0	SAE LEVEL 1	SAE LEVEL 2	SAE LEVEL 3	SAE LEVEL 4	SAE LEVEL 5
What does the human in the driver's seat have to do?	You <u>are</u> driving whenever these driver support features are engaged – even if your feet are off the pedals and you are not steering			You <u>are not</u> driving when these automated driving features are engaged – even if you are seated in “the driver's seat”		
	You must constantly supervise these support features; you must steer, brake or accelerate as needed to maintain safety			When the feature requests, you must drive	These automated driving features will not require you to take over driving	
What do these features do?	These are driver support features			These are automated driving features		
	These features are limited to providing warnings and momentary assistance	These features provide steering OR brake/acceleration support to the driver	These features provide steering AND brake/acceleration support to the driver	These features can drive the vehicle under limited conditions and will not operate unless all required conditions are met		This feature can drive the vehicle under all conditions
Example Features	<ul style="list-style-type: none"> • automatic emergency braking • blind spot warning • lane departure warning 	<ul style="list-style-type: none"> • lane centering OR • adaptive cruise control 	<ul style="list-style-type: none"> • lane centering AND • adaptive cruise control at the same time 	<ul style="list-style-type: none"> • traffic jam chauffeur 	<ul style="list-style-type: none"> • local driverless taxi • pedals/steering wheel may or may not be installed 	<ul style="list-style-type: none"> • same as level 4, but feature can drive everywhere in all conditions

APPENDIX C

Why Autonomous Vehicles Could Be Safer*



*Source: Chunming Quio (August 2019). Connected and Autonomous Vehicles (CAV): The New Frontier. Presentation, University at Buffalo School of Law.

APPENDIX D

Google/Waymo Accidents

7/15, CA: one of many accidents during tests



05/18 CHANDLER, AZ



02/16, CA: the first accident caused by AV: merging back into traffic, and struck the side of the bus while doing so

06/18, MESA, AZ



TESLA 05/16 FLORIDA



TESLA 03/18 CA



UBER 03/18 AZ



TESLA 01/16 HEBEI



TESLA 09/17 CA



TESLA 01/17 AUS



TESLA 05/18 CA

Source: Chunming Quio (August 2019). Connected and Autonomous Vehicles (CAV): The New Frontier. Presentation, University at Buffalo School of Law.

APPENDIX E

STATE OF NEW YORK

6014--B

2019-2020 Regular Sessions

IN SENATE

May 16, 2019

Introduced by Sen. KENNEDY -- read twice and ordered printed, and when printed to be committed to the Committee on Transportation -- reported favorably from said committee, ordered to first and second report, ordered to a third reading, amended and ordered reprinted, retaining its place in the order of third reading -- recommitted to the Committee on Transportation in accordance with Senate Rule 6, sec. 8 -- committee discharged, bill amended, ordered reprinted as amended and recommitted to said committee

AN ACT establishing the New York task force on automated vehicle technology; and providing for the repeal of such provisions upon the expiration thereof

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

1 Section 1. Legislative findings. The Legislature finds that automated
2 vehicle technology offers widely anticipated and revolutionary potential
3 for the transportation sector. Among the unprecedented opportunities
4 offered by this technology are inclusive mobility options to benefit
5 disadvantaged, disabled and elderly residents; congestion and emissions
6 mitigation; improved livable land use, and better road usage. Further,
7 the legislature has amended section 2 of part FF of chapter 55 of the
8 laws of 2017, relating to motor vehicles equipped with autonomous vehi-
9 cle technology, as amended by section 2 of part H of chapter 58 of the
10 laws of 2018, as amended by section 1 of part M of chapter 58 of the
11 laws of 2019, to allow for a two-year testing program for automobile
12 manufacturers and technology leaders to test and demonstrate automated
13 vehicle technology in New York, which will expire and be deemed repealed
14 April 1, 2021. Consequently, the legislature finds that there is a
15 pressing need for policymakers to study automated vehicle technology and
16 formulate comprehensive laws and regulations to ensure the state is
17 prepared for the safe deployment of automobiles equipped with this tech-
18 nology and to help prepare the state for a future where automated vehi-

EXPLANATION--Matter in italics (underscored) is new; matter in brackets [-] is old law to be omitted.

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1 cle technology plays a role in shaping our roadways, economy, education
2 system, and society.

3 To this end, it is in the public interest to establish an automated
4 vehicle task force to study, evaluate and develop recommendations relat-
5 ing to specific actionable measures that address how automated vehicle
6 technology will transform the state's roadways, economy, education
7 system, and society.

8 § 2. Automated vehicle task force. The New York task force on auto-
9 mated vehicle technology is hereby established to study and assess the
10 future of automated vehicle technology. For purposes of this act, "auto-
11 mated vehicle" shall mean a motor vehicle that has the capability to
12 drive the vehicle without the active control or monitoring of a human
13 operator including any automation level at or above SAE J3016 level 3.
14 Such task force shall consist of seventeen members with demonstrated
15 expertise in issues relating to the work of the task force. The members
16 of the task force shall be appointed as follows:

17 (a) five members shall be appointed by the governor, such members'
18 expertise shall encompass, but not be limited to, the areas of transpor-
19 tation, research and development, education, education for or assisting
20 people with disabilities; one of these members shall be the commissioner
21 of the department of motor vehicles and shall serve as chairperson of
22 the task force; and one member shall be the commissioner of the depart-
23 ment of transportation and shall serve as vice chair;

24 (b) two members shall be appointed by the temporary president of the
25 senate;

26 (c) two members shall be appointed by the speaker of the assembly;

27 (d) one member shall be appointed by the senate minority leader;

28 (e) one member shall be appointed by the assembly minority leader;

29 (f) one member shall be appointed by the chancellor of the state
30 university of New York; such member shall be a member of a research
31 faculty of an engineering department at a state university of New York
32 campus;

33 (g) one member shall be appointed by the commission on independent
34 colleges and universities from a New York private university research
35 faculty of an engineering department;

36 (h) two members shall be appointed by the alliance of automobile
37 manufacturers and shall be representatives of two differing original
38 equipment manufacturers;

39 (i) one member shall be appointed by the president of AFL-CIO; and

40 (j) one member shall be appointed by the New York state business coun-
41 cil.

42 § 3. All appointments shall be made no later than the thirtieth day
43 after the effective date of this section. Vacancies in the membership of
44 the task force shall be filled in the same manner provided for by the
45 original appointments. The task force shall organize as soon as practi-
46 cable following the appointment of its members. The chairperson shall
47 appoint a secretary who shall not be a member of the task force. The
48 members of the task force shall receive no compensation for their
49 services.

50 § 4. The task force shall study, evaluate and develop recommendations
51 relating to specific actionable measures that address how automated
52 vehicle technology will transform the state's roadways, economy, educa-
53 tion system and society. The automated vehicle task force shall study
54 how to support the safe testing, deployment and operation of automated
55 vehicle technology on public highways. It shall take all of the follow-
56 ing into consideration: (a) the measures necessary to successfully

1 implement automated vehicles, including necessary legislative and regu-
2 latory or administrative changes; (b) the difficulties and liabilities
3 that could arise by allowing automated vehicles on public highways and
4 proper mechanisms to manage risks and ensure adequate risk coverage; (c)
5 how automated vehicle technology can promote research and development in
6 this state; (d) potential considerations and resource needs for law
7 enforcement; (e) potential infrastructure changes needed and capital
8 planning considerations; and (f) any other issue the committee deems
9 relevant.

10 § 5. The task force shall be entitled to request and receive, and
11 shall utilize such facilities, resources and data of any court, depart-
12 ment, division, board, bureau, commission or agency of the state or any
13 political subdivision thereof as it may reasonably request to properly
14 carry out its powers and duties.

15 § 6. In carrying out its functions, the task force shall hold five
16 public hearings around the state to foster discussions in accordance
17 with article seven of the public officers law, and formal public hear-
18 ings to solicit input and recommendations from statewide and regional
19 stakeholder interests.

20 § 7. The task force shall report its findings and recommendations to
21 the governor, the temporary president of the senate and the speaker of
22 the assembly on or before April first, two thousand twenty-two.

23 § 8. This act shall take effect immediately and shall expire and be
24 deemed repealed 2 years after such date.



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