Testing Automated Vehicles Collaboratively and Avoiding Legal Potholes

Wednesday, September 13, 2017    General Session; 3:30 – 5:00 p.m.

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Almost all existing laws around the operation of vehicles on our roads were written at a time when there were only human drivers. In fact, the State of New York arguably prohibits automated vehicles from operating on its roads with a law that requires drivers to keep one hand on the wheel at all times. We now face a world where a computer is the driver. (No, no need to call John Connor just yet.) Accordingly, lawmakers must consider how to modernize existing laws and regulations around the safe operation of self-driving vehicles on our roads. Whether this effort requires states or local governments to meticulously review and modify existing laws to prevent potential impediments to the deployment of automated vehicles, or the drafting and passing of new laws and regulations separately focused on these transformative transportation technologies is not yet clear.

As of the date of this publication, 20 states have passed legislation concerning the operation of automated vehicles on public roads and 4 states have issued Executive Orders related to automated vehicles. As will be discussed in more detail herein, the California Department of Motors Vehicles (“DMV”) is on its third version of proposed regulations to regulate automated vehicles. With the number of state laws being enacted, which contain different definitions of \textit{“automated”} or \textit{“autonomous”} vehicle, and other varying requirements related to insurance, privacy, and user fees in some cases, the private industry, which is investing billions of dollars in

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1 A provision in section 1229 of the New York State Vehicle and Traffic Law enacted in 1971 expressly prohibits a motor vehicle from being operated without at least one hand of a driver being on the steering wheel at all times. However, the recent New York State budget for FY17-18 allows a one-year testing program of self-driving and self-parking vehicle technology on public roadways under direct supervision of the New York State Police.

2 For those unfamiliar with the classic movie \textit{“The Terminator”} starring the former Governor of California, it is another example of the vision of science fiction writers and directors to address issues around technology and the future.

3 The Federal Automated Vehicles Policy (\textit{“Policy”}) recommends the evaluation of current laws and regulations to address unnecessary impediments to the safe testing, deployment, and operation of highly automated vehicles. (Policy p. 39.)


5 Pursuant to California Vehicles Code Section 38750(d)(1), the DMV was to have adopted regulations “no later than” January 1, 2015.
the development of automated technology, continues to strongly call for Congress to use its powers of preemption to overcome what is labeled as a “patchwork quilt” of regulations. This call is being answered with both the United States House and Senate introducing, or planning to introduce, legislation concerning the regulation of automated vehicles and the inclusion of language preempting states and local governments from regulating the performance of highly automated vehicles.6

The tensions between regulations and innovation are clear, and the law does not have the best track record for keeping up with technology, especially at the current pace that “smart city” technologies are speeding ahead and being deployed within cities. Although cases are still proceeding through the courts on privacy rights associated with the use of cell phones, we are now in an era where data is being collected by traffic signals, Fitbits, robot vacuums7, thermostats, speakers8 and apps on our smartphones. As if that were not enough to grapple with, we are now looking at the projected deployment of automated fleets as early as 20219. For states and local governments, the challenge is accommodating innovation and the economic opportunities technology can bring with it, but not overlooking the many public safety concerns that arise with new technologies such as automated vehicles.

The opportunities associated with automated vehicles are great, including increased mobility for the disabled, seniors and those with lower incomes, but the challenges are also many in overcoming concerns related to increased congestion, privacy and cybersecurity, and gaining public trust in these transformative technologies. Without better and more efficient ways for the public and private sectors to contract for more testing and demonstration projects to understand the operational constraints and infrastructure needs of automated vehicles, the long-term success of automated vehicles and the realization of all the potential positive benefits for cities and their citizens may be not be realized.

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6 On July 27, 2017, the House Energy and Commerce Committee passed the SELF DRIVE Act (H.R. 3388) out of Committee by a vote of 54-0.
8 Sonos recently issued a privacy update that included the following message: “Know that we will be transparent about what data we’re collecting and why. We will protect your data as though it is sacred. And we will not sell your data. We’ve never sold it before, and we won’t sell it in the future.” (Emphasis added.)
9 http://www.govtech.com/fs/Fords-Chief-Technology-Officer-Tauts-Autonomous-Tech-Progress.html
This paper seeks to offer an introduction to the regulatory landscape and challenges that come with automated vehicles, but acknowledges upfront that there are more questions than answers at this early stage of development and deployment. However, with the testing of automated vehicles going on and gaining momentum in cities, now appears to be an ideal time for a multi-discipline effort to ensure there is a framework focused on safety for the continued testing and forthcoming deployment of self-driving cars. The proactive role of public agency lawyers in this effort is essential to identify and mitigate risks early on\(^\text{10}\).

**Introduction to Legal Issues for Automated Vehicles**

Automated vehicles do not fit neatly into existing laws or regulations. For example, the traditional vehicle codes of states do not cover complicated issues like data storage, privacy, and cybersecurity that now need to be considered with a computer operating a vehicle. Legal issues related to automated vehicles cross “legal borders.” Generally, states and local governments should be contemplating potential revisions to laws in the following areas:

*Land Use and Zoning:* Automated vehicles present the potential need to develop pick-up and drop-off zones and to rethink requirements associated with parking and new development\(^\text{11}\). In new areas focused on transit oriented development, automated vehicles offer the opportunity to forgo car ownership through “First/Last Mile\(^\text{12}\)” connections. However, the challenge with planning for automated vehicles is that there is still limited data on how self-driving cars will actually operate in city environments, not to mention how the public will use them – individual ownership or use through a subscription type model. Without more testing to produce such data, planners are essentially operating blind.


\(^{11}\) The “last-mile” or “first and last-mile” connection describes the beginning or end of an individual trip made primarily by public transportation. The gap from public transit to destination is termed a last mile connection...
Design Safety: Currently, municipalities enjoy the ability to take advantage of defenses like “design immunity”\(^{13}\) when it comes to the potential liability related to accidents on city streets. However, as there is no accepted industry standard for the safe design of roads that will have automated vehicles operating on them, the concept of design immunity may be called into question until the infrastructure requirements for the safe operation of automated vehicles are determined. In the meantime, municipalities need to consider and mitigate the risks from a potential gap in the law as more automated vehicles operate on public roads. Understanding the infrastructure needs to support the safe operation of automated vehicles in cities can be accomplished through more testing.

Telecommunications: With the possibility of vehicles not only being automated, but also connected, cities may have the burden of ensuring they have broadband infrastructure in place that supports the safe operation of connected vehicles within municipalities. Even with such infrastructure in place, there are concerns that cities will be liable in the event the network has an outage and results in an accident on public roads. Moreover, increased broadband deployment places a tension on traditional local control of the right-of-way\(^{14}\). Such risks need to be considered and addressed sooner rather than later and coordination with the private sector is warranted and necessary, but such coordination need to be a two-way street.

Insurance Requirements: Insurance requirements remain a significant unknown at this early stage of development of automated vehicles. In the short-term, claims are expected to rise with a potential “mixed use” environment of traditional and automated vehicles operating on roads, but over time if the programming of automated vehicles lives up to safety expectations, then accidents should reduce dramatically. With an environment where car accidents become a rare event, the need for individual insurance requirements is called into question, especially if automated vehicles are operated via a fleet subscription model instead of individual ownership.

Privacy and Data Sharing: Automated vehicles analyze and store large amounts of data. Not only are there privacy and ownership questions arising with data and technology, but in the event

\(^{13}\) California Govt. Code section 830.6.
that data is collected from vehicles by the “smart” infrastructure of a city, the question of whether citizens should be giving informed consent for the collection of such data is raised. Accordingly, cities should ensure they have privacy and data use policies in place not only addressing privacy issues, but also informing the public how information is stored in compliance with any applicable laws, regulations, or accepted industry standards. The issue of data storage by municipalities also raises legal issues associated with the potential contracting for the storage of data, or fiscal concerns related to budgeting for the storage of data on its own servers.

*Labor and Employment:* With automation comes the strong likelihood of job losses. Just as we are discussing the legal and infrastructure issues associated with automated vehicles, we should also be considering the skills that city staff will need to support the safe operation of automated vehicles on public roads. For example, in a connected vehicle environment, cities will likely need the ability to monitor source code to ensure the connected infrastructure is operating normally and has not been compromised. There are opportunities for collaboration between the public and private sector to plan for the jobs of the future.

While separate papers can be written on each of these issues, the summary above hopefully provides an introduction to the interwoven legal issues and challenges this transformative technology presents, and why it is important for lawyers to be included in the planning discussions for automated vehicles to ensure an adequate foundation for laws and policies is in place. As suggested above, one important question is whether resources should be used to modify existing laws, or whether time and money would be better spent crafting new “innovation” codes.

*The Federal Regulatory Environment Takes Shape*

In September of 2016, the Department of Transportation (“DOT”) through the National Highway Traffic Safety Administration (“NHTSA”) released the groundbreaking Federal Automated Vehicles Policy (“Policy”)\(^\text{15}\). It is important to note that the Policy is only guidance and not mandatory at this point.

\(^{15}\text{https://www.transportation.gov/AV}\)
With an overarching focus on safety, the Policy is divided up into four sections: Vehicle Performance Guidance; Model State Policy; Regulatory Tools; and Potential New Tools and Authorities. There was a notice and comment period where over 1,100 comments were submitted\(^\text{16}\). It is anticipated that the Policy will be updated later this year based on these comments and the arrival of a new administration; however, that timeframe is contingent upon the many infrastructure and programming issues that new DOT leadership is confronting.

Of consideration for local governments is the guidance in the Model State Policy section which seeks to carve out traditional roles of states and local governments around the operation of vehicles on roads, but maintaining NHTSA’s traditional oversight over the performance of vehicles. Through the Policy, NHTSA recommends that the hardware and software in “highly\(^\text{17}\)” automated vehicles that will perform functions previously performed by a human driver be regulated by NHTSA. In addition to recommending that states and local governments evaluate existing laws and regulations to address any potential impediments to the testing and deployment of automated vehicles, the Policy recommends states work together to standardize and maintain road infrastructure including signs, traffic signals and lights, and pavement markings\(^\text{18}\). Unfortunately, there is no recommendation for how to pay for such infrastructure improvements.

Due to concerns around a “patchwork quilt,” Congress is also becoming involved in the regulatory discussion. On July 27, 2017, the House Committee on Energy and Commerce unanimously voted out of Committee the “Safely Ensuring Lives Future Deployment and Research In Vehicle Evolution Act,” also known as the “SELF DRIVE Act.” H.R. 3388\(^\text{19}\) contains express preemption language providing that:

“No State or political subdivision of a State may maintain, enforce, prescribe, or continue in effect any law or regulation regarding the design, construction, or

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\(^{16}\) https://www.regulations.gov/docket?D=NHTSA-2016-0090  
\(^{17}\) The Policy adopts the 0-5 Levels established by SAE International; https://www.sae.org/news/3544/  
\(^{18}\) Policy p. 39.  
\(^{19}\) As of the date of publication, the SELF DRIVE Act was still pending consideration by the full House of Representatives.
performance of highly automated vehicles, automated driving systems, or components of automated driving systems…” (Emphasis added.)

Such language aligns with the Policy seeking to prevent any regulation of the performance of automated driving systems by states or local governments. The SELF DRIVE Act goes on to state that:

“Nothing…may be construed to prohibit a State or political subdivision of a State from maintaining, enforcing, prescribing, or continuing in effect any law or regulation regarding the registration, licensing, driver education, and training, insurance, law enforcement, crash investigations, safety and emissions inspections, congestion management of vehicles on the street within a State or political subdivision of a State, or traffic unless the law or regulation is an unreasonable restriction on the design, construction, or performance of highly automated vehicles, automated driving systems, or components of automated driving systems. (Emphasis added.)

For this discussion, it is very noteworthy that “unreasonable restriction” is not defined in the legislation, which leads to uncertainty around the effectiveness of such language seeking to preserve traditional oversight rights over the safe operation of vehicles on public roads by states and local governments. Such preemption language also does not address the tension between safety and performance due to highly automated vehicles being driven by a computer instead of a human. For example, when a citizen seeks to obtain a driving license for the first time, a person normally has to take a driving test administered by the applicable state agency. However, based on the language of the Policy and the SELF DRIVE Act, there is not a clear answer whether a state still has the ability to administer a driving test to a highly automated vehicle being driven by a computer for licensing and registration purposes.

Further, when implementing federal preemption, there must be a federal law or regulation that serves as the basis for the preemption. Here, there are no federal performance or safety standards around a highly automated vehicle. Thus, while the call for preemption is understandable to
avoid varying definitions and regulations around automated vehicles across the country, it appears that critical foundation for such preemption is missing, which will likely lead to further uncertainty and delay around the deployment of automated vehicles as time consuming and expensive litigation works its way through the courts.

The Senate Energy and Commerce Committee is also expected to mark-up similar legislation concerning the regulation of highly automated vehicles. Such legislation is anticipated to be based upon the bi-partisan principles released by Senators Thune (R – S.D.), Peters (D – Mich.) and Nelson (D – FL) focused on: prioritizing safety; promoting innovation and reducing roadblocks; remaining tech neutral; clarifying federal and state roles; strengthening cybersecurity; and, educating the public to encourage responsible adoption of self-driving vehicles.

To Legislate or Not to Legislate: The State Perspective

As noted above, 20 states have passed laws related to automated vehicles as of the date of publication. Generally, such laws seek to define what an “automated vehicle” is and address issues like testing and insurance. Some laws go farther and delve into issues associated with privacy, cybersecurity, and “user fees.” States that have most recently passed legislation include Colorado, Georgia, Nevada, North Dakota, Tennessee and Texas.

In California, California Vehicle Code section 38750 currently governs the operation of automated vehicles on California roads. Pursuant to section 38750, an autonomous vehicle shall not be operated on public roads until the manufacturer submits an application to and that application is approved by the California Department of Motor Vehicles (“DMV”). Further, section 38750 requires that a driver be seated in the driver’s seat to take back control of the vehicle in the event of disengagement, and there is a $5,000,000 insurance requirement.

However, section 38750 also requires that not later than January 1, 2015 (yes, things are a bit behind schedule), the DMV shall adopt regulations setting forth requirements for the submission of evidence of insurance and the submission and approval of an application to operate an
automated vehicle within California. For those that remember the “disagreement” between Uber, San Francisco and the State earlier this year, the fact that the DMV had yet to adopt such regulations was a part of Uber’s argument that it was not required to submit an application to test and operate automated vehicles in California.

The DMV is currently on its third draft of regulations concerning the testing and deployment of automated vehicles on California roads. The current draft moves far beyond the first draft’s requirement for a driver to be in car at all times to contemplating vehicles being operated without drivers subject to certain requirements. Two provisions of the draft DMV regulations that local governments should be aware of with regard to testing are: 1) the manufacturer is required to coordinate with the local authorities where testing will occur; and 2) the manufacturer must provide a law enforcement interaction plan. Additionally, the current draft of the proposed California regulations contemplates not only testing, but also post-testing deployment.

The approach being taken by California and other states that have passed laws concerning the operation of self-driving cars on public roads is contrasted with the “hands off” regulatory approach that Arizona and Washington have taken by signing Executive Orders seeking to promote testing in collaboration with state universities. There are advantages and risks of each approach, but both have the common goal of promoting the increased operation of automated vehicles on roads. While one avenue provides more flexibility on the regulatory front, neither approach may be an option in the near future with the looming preemptive approach being considered by Congress. Accordingly, it is important to keep apprised of not only state developments, but also federal happenings in this fast moving space.

Setting a Vision through a Resolution: Where do Cities Fit In?

With the need for roads and other public infrastructure, in addition to adoption by the general public, for self-driving vehicles to be successful, cities arguably play a more critical role in the

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20 https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/auto
21 See Section 227.38.
22 See Section 228.06.
safe, effective and efficient deployment of automated vehicles than they are being credited for. However, given the many obligations placed on local government resources and staff, municipalities may not have the time and budget to adequately and proactively prepare for the looming deployment of automated vehicles. Not having local governments at the table during policy and regulatory discussions, in addition to failing to ensure local governments have the tools to make sure they have monetary resources to support the safe operation of automated vehicles on public roads, puts at risk the long-term success of automated vehicles. The promotion of federal and state policies to encourage collaborative testing projects to bridge the public and private gap around the deployment of automated vehicles may be a better focus than short-sighted preemption at this early stage of development. Moreover, increased testing provides the opportunity to develop laws and regulations based on actual data from testing, rather than prescribing laws early on when little information is known about the operational needs of highly automated vehicles.

For those cities already working on integrating advanced transportation technologies into long-range transportation planning documents, local officials have determined that setting a vision for the future operation of self-driving vehicles in their jurisdictions is necessary. Examples of City resolutions establishing a vision and framework for the operation of automated vehicles within their jurisdiction include the following:

*City of Beverly Hills:* In April of 2016, the City of Beverly Hills, California passed a resolution laying the groundwork for the City to establish an automated vehicle program that includes a City owned fleet of self-driving vehicles to address “first and last mile” issues as it relates to the extension of the Metro Purple Line, increase mobility within the City, relieve traffic congestion, improve parking and create options for transporting senior citizens.

*City of Austin:* In March of 2017, the City of Austin, Texas passed a resolution directing the city manager to establish a “New Mobility Electric Vehicle/Autonomous Vehicle Solution.” The stated goal of such a plan is to shift the city's transportation system to one that enables "Shared, Electric, and Autonomous Mobility Services." While establishing a vision around not only

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automated vehicles, but also ensuring such vehicles operated in a shared and electric capacity, the City was also seeking to promote a vision focused on the potential environmental benefits that automated vehicles offer. Unfortunately, the City’s resolution appears to have been one of the factors that led to the state’s passage of legislation preempting local regulation related to the operation of automated vehicles within the state\(^{24}\).

*City of Portland:* In April of 2017, the City of Portland, Oregon adopted a “Smart Autonomous Vehicles Initiative\(^{25}\)” to “do AV right.” (Kudos to the City on the “SAVI” name for its balanced initiative.) In addition, the City also sent a letter\(^{26}\) to legislators opposing any preemption and instead promoting the creation of a working group to develop legislative recommendations. The letter goes in to state that developing a legislative framework for automated vehicles that maximizes potential benefits like reducing congestion will take “time and collaboration.”

Needless to say, there are tremendous economic opportunities with automated vehicles; however, it is important to balance such economic opportunities with the need to ensure the safety of residents. Without knowing how automated vehicles will operate in our cities, preempting local governments out of the discussion at this early stage may inhibit the safe and effective deployment of automated vehicles in cities. Not to mention, even the threat of preemption may hinder the investment in resources by local governments to engage in planning, outreach and the setting of goals and priorities for the operation of self-driving vehicles within their jurisdictions. All of this jeopardizes the full realization of the potential societal improving benefits that automated vehicles offer.

With requests for information (RFI's) and requests for proposals (RFP’s) increasing from cities, cities will continue to have an important, if not critical, role in the safe, efficient and effective deployment of automated vehicles. The question is as cities are fighting their way to the table, will they have the seat pulled out from under them before the first course is served, or will they be allowed to contribute to important policy discussions that need to be occurring, including

\(^{24}\) Texas Bill S. 2205.
\(^{25}\) https://www.portlandoregon.gov/transportation/article/636498
\(^{26}\) https://www.portlandoregon.gov/transportation/article/636497
around issues like privacy, wireless and broadband deployment, infrastructure funding and public safety.

Innovating Contracting

A challenge and potential solution to the suggestion that states and local governments cannot keep up with technology is finding ways to effectively “innovate” contracting. The continued integration of technology into cities offers an opportunity to focus on more collaborative procurements that seek to maximize the expertise and experience of cities and the private sector, rather than procurements that end at the negotiating table due to each side failing to understand the needs of their constituents. On the private side, those constituents tend to be investors. On the public side, the constituents are voting citizens. Ensuring collaboration early on in the contracting process can help ensure both sides understand each other’s goals and needs. Here, the common unifying goal is hopefully the successful long-term deployment of automated vehicles.

Public contracting laws can often be rigid, prescriptive, and cumbersome in the eyes of the private sector. From the public perspective, local government officials can often forget that significant financial investments are being made into the development and deployment of advanced transportation technologies and delays do not sit well with investors. That being said, it is important to remember the very worthwhile goals of public contracting. In California, Public Contract Code sections 100 and 102 note the following benefits of public contracting:

- Protecting the public from **misuse of public funds**
- To provide all qualified bidders with a fair opportunity to enter the bidding process, thereby **stimulating competition** in a manner conducive to **sound fiscal practices**
- To **eliminate favoritism, fraud, and corruption** in the awarding of public contracts

The benefits of ensuring sound contracting with automated vehicle pilot projects ensure such goals are realized, but also promote transparency, which is important for promoting public adoption and trust. Further, ensuring a contract is in place when engaging in an automated vehicle testing project also helps ensure the following: (i) a local government has a vision for
the project which can be included in the proposed scope of work communicated to potential private sector partners in a request for proposals and (ii) clear expectations and responsibilities for both sides that can be enforced. Although often seen as a burden, a sound procurement process is a tool to not only ensure transparency, but also ensure willing partners on both sides which helps ensure a smoother pilot project.

With such foundational principles in mind, a focus on establishing more streamlined technology procurements promoting collaboration is warranted. One potential approach is being piloted by the Los Angeles County Metropolitan Transportation Authority (“LA Metro”) through its Office of Extraordinary Innovation. LA Metro has established an “Unsolicited Proposal” process focused on creating more opportunities for the private sector to do business with LA Metro within the framework and goals of public contracting laws. This is an innovative approach to promoting increased partnership and collaboration with the private sector, and to reach out to the private sector to better understand potential innovative projects that the private sector may be interested in partnering on. Such a process also provides the opportunity for the private sector to educate the public sector about new innovations on the horizon that it may not be aware of, which helps when considering long-range planning around future construction projects.

A recent procurement at the federal level also focused on collaboration with proposers. This grant was known as the Smart City Challenge which was for forty million dollars ($40,000,000) in federal grant funding to develop a program focused on developing a framework for the adoption of advanced transportation technologies in cities. During the evaluation process, the seven semi-finalists collaborated and discussed their proposals with DOT to encourage the refinement of their final proposals.

A potential alternative to the preemption path is focusing on improving state and local procurement and contracting laws to promote more pilot and demonstration projects, and allowing laws and regulations for automated vehicles to develop with such pilots. However, two challenges that will need to be addressed in any such efforts are how to keep proprietary

27 https://www.metro.net/projects/oei/partnerships-ups/
28 https://www.transportation.gov/smartcity
information protected and harmonizing any collaborative preparation of scopes of work for a pilot project with conflict of interest rules and California Government Code section 1090. That being said, similar to the ongoing increased acceptance of alternative construction delivery methods such as design-build and construction manager / general contractor, there is the opportunity to modernize public contracting to promote more collaboration and trust between the public and private sector. Through increased trust and mutual understanding of goals and needs, more collaborative testing of new technologies like automated vehicles in cities can hopefully be promoted so that both sides have a better understanding of not only operational and infrastructure needs, but also the new laws and policies needed to support a framework focused on safety.

The Road Ahead

As noted above, the proactive role of public agency attorneys is important for helping clear the path for the successful near term deployment of automated vehicles, in addition to reducing the risks that technology brings to municipalities. As such, legal staff can be coordinating with policy staff to track national developments on technology issues like automated vehicles and ensuring opportunities to comment on proposed federal rules and regulations are taken advantage of. It is important for the voices of local governments to be heard on these complicated issues and submitting comments ensures the right to challenge any final rules and regulations.

Proactive engagement by lawyers can also be accomplished by “getting the right people to the table” and facilitating in-depth discussions with planning staff, public works staff, law enforcement, policy makers, procurement and information technology staff, and the private sector to lay the policy and legal foundations for ensuring advanced transportation technologies like automated vehicles operate safely and effectively in our cities. Such discussions also allow for important fact gathering that promotes the identification of legal issues and risk mitigation.

Public agency attorneys can also help make sure that opportunities for outreach and education on automated vehicles are being taken advantage of and completed without unnecessary legal risks. Tools for such outreach include the release of requests for information that can lead to request for proposals to conduct an automated vehicles pilot project. As discussed above, finding ways
to promote collaboration with the private sector within the framework of public contracting laws can help reduce the risks of speedbumps during such testing projects and ensure the important goals of transparency and the preventing misuse of public funds are realized.

Through the promotion of more collaborative testing of automated vehicles by the private sector and local governments at this early stage of development and deployment, opportunities to ensure the safety of citizens through the orderly deployment of automated vehicles can be realized. Further, by considering an alternative path to preemption and instead allowing laws and regulations to develop with such collaborative testing and learning, we can help ensure the transformative benefits, including enhanced access to mobility, is realized for all citizens through the long-term success of automated vehicles. Hopefully, we all get the opportunity to sit back and enjoy the ride.