MASS MOBILITY HUB

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Steering the Autonomy Transition in Massachusetts

Building Massachusetts' Institutional and Government Capacity for the Autonomous Mobility Era

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Executive Summary

Autonomous technology – and specifically autonomous vehicles – is expanding commercial deployment and service across the United States. Today, however, Massachusetts has no driverless operations, as well as no law authorizing them.

Yet autonomy is already here in other forms including driver-assistance systems on our roads and will only continue to scale. Whether and when to authorize driverless service is an ongoing policy discussion. This report tackles a different question, one that should not wait: How should the Commonwealth prepare to effectively govern autonomy in all its forms?

What we heard from conversations across government, industry, advocacy, and academia produced four findings:

- **Inevitability.** Whether supporter, skeptic or opposed, many believe it is mostly a matter of when autonomous technology will be further deployed at a greater scale in Massachusetts. All, even those who disagree, frame the discussion around the concept of "inevitability."[1]

- **Exposure Gap.** While the technology is pervasive in some parts of the country, most people in Massachusetts have very limited or no hands-on experience with the technology.

- **Desire for Agency.** Publicly stated goals and transparent data may help to combat the feeling that change is happening *to* them rather than *through* them.

- **No Blueprint.** No existing state model fits the Commonwealth's needs.

This report provides an "act now, no regrets" series of recommendations - our foundational pillars. None depend on legislation, while all would inform it.

For any emerging technology, deciding whether it may operate is not the same as being ready to effectively oversee it day-to-day. This is capacity building, which takes skilled staff, quality data, a calibrated regulatory framework, and most critically, the time to methodically assemble these ingredients. Regulators will be expected to know what is happening on the roads, verify it independently, and act when something goes wrong. But effective capacity is also the ability to *steer*: to set goals for safety, access, economic impact and transit connections, and to hold operators accountable to them.

To address those findings, we strongly recommend the follow actions by the Commonwealth:

1. **Authority and Roles:** Designate the Massachusetts Department of Transportation (MassDOT) by Executive Order as the lead regulatory agency for the Commonwealth. Appoint a senior MassDOT AV lead. Plan dedicated staffing for data and Registry of Motor Vehicle (RMV) functions.
2. **Public Engagement, Awareness and Education:** Create opportunities for direct public exposure to the technology. Publish an updated testing permit with modernized reporting requirements. Open direct dialogue on economic impact and workforce concerns.
3. **Providing Agency with Goals and Data:** State publicly what Massachusetts wants autonomy to deliver before any AV service begins. Help lead a national data standard governed jointly by states and cities, rather than by the federal government or industry alone.
4. **Groundwork for a Massachusetts Model:** Convene a MassDOT-led technical advisory group. Resolve state and local roles with cities now. Advance detailed analysis on insurance and liability, TNC law updates, user fees, and RMV powers built for fleets rather than individual drivers.

Why now? Ride hail showed what happens when state government waits too long: industry reaches scale, data arrives late and with limitations, and roles get settled through conflict. Massachusetts can do this in the right order: set goals now, evaluate authorization, then conduct oversight. The work takes time, and it should start before the technology further arrives, not after.

This report does not advocate for or against any technology, company, or pending bill. It is about building an orderly system and the government capacity that the next mobility transition will demand.



PARK STREET CHURCH AND TREMONT STREET, 1897

Courtesy of the Boston Public Library

In 1887, Boston's horsecar companies consolidated into a single system to address the immense limitations, costs, and public health impacts of horse-drawn lines, introducing one-year later Boston's first electric powered streetcar ride. When narrow streets, urban gridlock and transit chaos threatened public safety and restrained economic growth, Massachusetts engineered the first underground transit system in North America, creating a blueprint for a modern American municipal subway infrastructure.

Introduction

"The question of transportation lies at the root of all industrial success … In the old days the highway of commerce, whether by water or by a road on land, was open to all … At present the railway is this highway, and we must do our best to see that it is kept open to all on equal terms … What we need to do is to develop an orderly system, and such a system can only come through the gradually increased exercise of the right of efficient Government control."

– President Theodore Roosevelt

Transportation technology evolves constantly and, at times, quite rapidly. Yet, our mobility network requires a balance between innovation and maintaining an orderly framework and the capacity for effective government oversight. President Roosevelt's Fifth Annual Message to Congress in December 1905 regarding railroads still resonates as autonomous vehicles reshape how people and goods move. His letter underscored the importance of a government equipped to guide technological development, establish the conditions for safe deployment, and ensure that innovation delivers broad public benefits. In a recently published National Strategy for Autonomous Vehicles, the U.S. Department of Transportation expressly acknowledged that:

"Technologies can introduce new and unique risks to motor vehicle safety… [DOT is] being deliberate and thoughtful in establishing new regulatory tools to address the needs of these new AV technologies while empowering American innovation."

The Commonwealth of Massachusetts has often been a proud pioneer, forging American democracy to some of the most innovative breakthroughs in science, medicine, and manufacturing; and at the same time stewarding innovation, technology, and change in ways that drive responsible, equitable outcomes.

This report is focused on what is most certainly the next mobility frontier and how to navigate this balance between innovation and outcomes. After many years of testing, autonomous technology and vehicles (AVs) have swiftly moved beyond experimental development to commercial deployment. Technological advancement, and disruptive technology in transportation in particular, follows a familiar pattern.[2] Early adoption appears on the margins, but moves quickly. For example, ride hailing services first appeared in Massachusetts in 2011, but grew so dramatically that there were 91.1 million rides by 2019.[3] As of the publication of this report, there are still distinct, divergent paths, and uncertain trajectories being witnessed for autonomy. But, as we have repeatedly learned, growth and adoption do not move in linear or predictable directions. Nor does the role of government in guiding this process.

In some parts of the United States, residents, drivers, bikers, and pedestrians live and interact with autonomous technology every day, predominately in the form of AVs as robotaxis. Waymo alone has provided at least 20 million paid driverless trips in the United States. In other instances across the Midwest and Sun Belt, long-haul autonomous trucking routes are currently in active use; while in other parts of the country, autonomous drones fulfill grocery, retail and medical supplies directly to consumers. Additionally, driver-assistance features, such as adaptive cruise control, have become widely available. Newer Level 2+ systems[4], including Tesla's Full Self-Driving (FSD), are capable of handling steering, braking, and lane changes on the road. These incremental technological advancements are released steadily, blurring the line between assistance and autonomy without the permits, reporting, or oversight that apply to full AVs.

This rapid growth[5] is generating strong conflicting views and perspectives. While the early safety evidence is compelling[6]; some remain concerned about rising congestion risks and threats to employment. In places without active AV operations like Massachusetts, and among those without firsthand experience with AV technology, there is unease.

However, significantly few believe that this technology will be fleeting, or minor in its impact. Should - or perhaps *when* - AV deployment arrives in the Commonwealth, addressing these gaps and differing viewpoints among stakeholders will be a challenging but worthwhile conversation.

In the near term, we should expect Massachusetts to be on the front lines for the debate about how game-changing technology is implemented; a moment that requires the Commonwealth to once again step in to fill the gaps of the unknown, and forge a positive path forward at a time of profound technology disruption.[7]

Why now?

On the topic of autonomy, and autonomous vehicle technology, the Mass Mobility Hub (MMH) has co-hosted and led a series of conversations and events regarding the global transition to autonomy. In the past few months, this work has focused on substantive outreach, academic and industry meetings, and participation in national conferences led by the American Association of Motor Vehicle Administrators (AAMVA), and others. For a more detailed discussion of our focus on innovation and delivering positive mobility outcomes, including in autonomy, please see Appendix 2.

Which brings us to this report – why now?

History has often taught us that if we do not act, technology and industry will be a lone and powerful voice in shaping the future of autonomous deployment.

So we would pose – why not now?

This preliminary report is therefore narrowly focused on actionable steps that the Commonwealth must take to develop the necessary capacity in this shifting environment, while ensuring all stakeholders are provided a role and voice in the transition. Specifically, the recommendations are focused on building ***foundational pillars*** to Massachusetts' approach. With them, we forge an "*act now, no regrets*" roadmap to ensure the Commonwealth – **largely through the Massachusetts Department of Transportation (MassDOT)** – has the necessary resources, tools, skills, and authority to manage a foreseeable technological and mobility shift.[8]

Importantly, we do not seek to advocate for or against any particular autonomous technology, industry, or company. Nor do we intend to delve into particular pending federal or state legislation. We expect the robust debate and discussion on autonomous technology to only accelerate in the coming months. ***Accordingly, this report is exclusively about the very specific work of beginning the process of building government capacity.***

Defining Capacity and Why It Matters

What do we mean in building government "capacity"?

We often look to our public leaders to help manage societal change, particularly when major technological shifts and social impacts are anticipated. But too often, we also mistake passing laws or stating a policy approach, as sufficient to deliver the results we anticipate or desire.[9]

With some exceptions, the national conversations around autonomous technology to date have largely focused on the question of whether AVs may operate. *Again, we strongly emphasize that this underestimates that certain forms of autonomy are already present, continuing to grow and evolving on our streets in the Commonwealth.* But as AVs migrate from testing, permitting and permission, to routine deployment and scaling operations, stakeholders and the public expect a broader role from their government, particularly at the state level.[10]

This includes knowledge and visibility as to what is happening on our roads, the ability to verify it independently, and the power to act when something goes wrong. In short, we expect the government to possess real capacity and provide an *orderly system* that builds public trust, and steers positive outcomes, while mitigating the negative ones.

Collectively, capacity can mean the difference between a government that processes paperwork, and one that decides what it wants from its streets, and asks operators to meet it.

The first level is a precondition for the second – a state cannot steer toward outcomes it lacks the prerequisite capacity to measure.

There is considerable scholarship and writing on the importance of capacity and well-researched examples of capacity gaps leading to poor public outcomes.[11] The risks of autonomous technology, without adequate capacity to address them, are clear. Jurisdictions cannot merely decide to authorize deployment, but require durable and sustainable capacity to competently measure, verify, and enforce applicable laws and regulations.[12]

Consequently, capacity is used within to mean two things:

1. Oversee

To regulate and administer services or operations that it must determine whether to authorize, or for which it has already authorized. For autonomous technology, beyond issuing permits and approvals, this includes collecting performance data, reports from operators, and conducting audits of safety and other key operations.

2. Steer

To set goals that emerging or authorized technology or services are expected to deliver, and the applicable legal and regulatory power to effectuate these outcomes. In this report, we will explore potential goals, including safety outcomes, access for underserved riders, and connections to transit.

Collectively, capacity can mean the difference between a government that processes paperwork, and one that decides what it wants from its streets, and asks operators to meet it.

Real investment in capacity is not a concession or determination on the merits of autonomous technology – the Commonwealth can have the right tools and elect not to use them.

In this regard, it is not a pre-judgment; it is diligent preparation for the foreseeable future. Ultimately, we believe this requires time, real investment, stakeholder input, and coalition building amongst states and cities.[13]

The time to begin building capacity is now – not when or if autonomous technology is authorized.

Emergency Planning Needs More Pro-Active Capacity Planning

In December 2025, Waymo twice paused its robotaxi service in San Francisco, citing National Weather Service flash flood warnings in one instance, and in another, a regional blackout which left intersections dark, contributing to gridlock from confused and stalled AVs in mid-traffic. For state and local governments, regulation requires the technical expertise to prepare, respond and evaluate unpredictable events. Here, this event raises the concern that the California Public Utilities Commission lacks sufficient proactive emergency planning capabilities to evaluate the potential risks in a storm or blackout, limited authority and access as emergencies unfold, and the unclear authority to require certain responses. While we will fail to anticipate what exact events will transpire, undoubtedly long-term and effective capacity is needed for external situations impacting AV operations.[14]

Law Enforcement and First Responder Interaction Plans

Preparing law enforcement and first responders for driverless vehicles illustrates why building capacity begins before AVs are authorized.

1. **It takes time.** Police, fire and EMS need plans, training, contact protocols and shared data.

2. **Industry cannot do it alone.** Agencies control the scene, how 911 dispatch works and what first responders are trained to do.

3. **Lessons already exist.** Cities with driverless service, and California's new law, provide models that other states can adapt.

In most places with active operations, first responder protocols have taken time to refine, improve and develop. This has led to challenges and some disruptions. The Commonwealth should do this differently. We can bring police, fire, EMS, dispatch, cities and industry together now to begin discussing emergency action plans, set two-way communication standards, train responders and agree on what data to share. Because this is essential and time-consuming work, it is a practical place to start building state and local capacity before authorization.

Autonomy is Not Just Robotaxis

Autonomy in Massachusetts is already here in preliminary forms.[15] It is a very dynamic and growing technology and industry, including a widening range of automated driving features. Today, most consumer vehicles with automation offer Level 2 driver assistance, with some manufacturers adding on Level 2+ features to increase autonomous driving features. PwC posits that original equipment manufacturers (OEMs) are beginning to abandon Level 3 AV systems and splitting investment between Level 2 technology and Level 4 technology.[16]

To underscore this point, it is important to appreciate that, presently, Waymo has around 4,000 driverless vehicles nationwide. By contrast, Tesla, in its most recent SEC filing, reported 1.7 million active FSD subscriptions. Notably, in other regions, autonomous trucking is growing and dominant from a regulatory and capacity framework.

These changes are already leading to different implications for motor vehicles agencies and road safety. In some instances, a human driver remains responsible. Here, regulators will need to consider driver monitoring, accident reporting practices, and driver education. For other technologies which operate without drivers within a defined geographic area, regulators' areas of focus shift to permitting, operational oversight, data reporting, and accident liability. In both cases, governments will need to understand and manage the integration of these systems on shared infrastructure alongside human drivers and pedestrians.

Moreover, autonomous technologies will continue to expand across our transportation modes and blur boundaries. For example, in Westborough, Massachusetts, Amazon announced and then abruptly withdrew plans to implement an Amazon Prime Air drone delivery service after residents voted in favor of regulating noise, nuisance, and privacy issues related to commercial drone deliveries. Physical AI will likely be a constant discussion in 2027 in some business and government circles.

~4,000

driverless Waymo vehicles nationwide (Semafor, October 2026)

1.7M

active Tesla FSD subscriptions (Tesla SEC filing)

What is Capacity Aiming to Solve?

Applying these concepts to the road ahead for autonomous technology in Massachusetts requires us to look closely at what we actually want government capacity to address. The Mass Mobility Hub began stakeholder conversations to understand the varying points of view on just that.

This report, therefore, has tightly tailored its initial high-level findings and recommendations in response. How can Massachusetts build the institutional knowledge, model, and capacity to effectively lead this transition in a way that steers trust – and what are those "*act now, no regrets*" ***foundational pillars*** critical to doing so.

What we heard can be summarized in four key findings:



Inevitability

Regardless of one's background in industry, advocacy, academia, government, or otherwise, many, not all, believe it is a matter of when autonomous technology is further deployed at a greater scale in Massachusetts. All, even those who disagree, frame the discussion around this concept of "inevitability."[17]



Exposure Gap

An acknowledgement that many in Massachusetts have had very limited if any hands-on experience with the technology itself, while it has become pervasive in other parts of the United States.



Desire for Agency

Many people express or experience a lack of agency or control over this transition. Fueled by the absence of publicly stated goals, and exacerbated by exposure gaps and limited data, skepticism exists about technology and the state's capacity to address the many unresolved questions on the impacts to mobility, safety, accessibility, the workforce, and transit.



No Blueprint

There is no complete, existing model of governance – statutes, regulations or otherwise – that Massachusetts could simply adopt to begin building capacity and stewarding trust in an orderly transition.

An Overview of Our Four Foundational Pillars and Recommendations

PILLAR 1

Defining Authority and Roles to Guide Transition

The Commonwealth should act now to steer smart policy objectives and outcomes.

We recognize that autonomy has mobility, safety, environmental and economic impacts. Many state agencies need to participate and contribute to the development of objectives and outcomes. To begin, the Commonwealth should promptly fill the void by designating MassDOT as the lead regulatory agency for autonomous technology, while delineating clear roles among supporting state agencies, and recruiting senior leadership with industry or technical expertise, among other tools and planning efforts.

PILLAR 2

Educating Through Public Engagement and Awareness

Government and industry share responsibility and a role in educating the public, regulators, stakeholders through information, awareness and an ongoing dialogue to help us collectively understand and see autonomous technology in limited action.

The Commonwealth can lead by providing opportunities to direct exposure through demonstrations, potential limited pilots, and a new testing permit regime.

NOTE ON SCOPE AND MATTERS FOR FUTURE CONSIDERATION

Keen eyes will note that some questions, concerns and impacts related to autonomy will be mentioned only briefly in this report, or are perhaps omitted. Key topics such as accessibility, transit connections, and enhancing service outside of metro Boston, merit separate and deeper study. Further, this is not a comprehensive review of the potential benefits and various risks and concerns regarding autonomous technology or a specific technology, industry, or company. We believe these topics are extensively covered in other reports, media, and sources.[18] As stated previously, we are not delving into pending statutory or regulatory proposals at the state or municipal level in Massachusetts.

Also, in parallel to this report, the MIT Mobility Initiative, who MMH closely works with on a range of topics, has just conducted detailed research into potential safety, labor, access and mobility impacts. Because of this forthcoming work, we did not independently examine these issues and, instead, rely on this research for our thinking.

We fully expect that this work and conversation will continue more deeply, well into the future. Our brevity in those areas is by no means intended to resign ourselves to any inability to address or strategize all issues in parallel. But it does presume for us that the core topics within are required to lead on and succeed in addressing all areas of interest and an effective transition – to define and set goals, to watch outcomes, to act on those goals and outcomes, to ensure accountability, and to coordinate when systems fail.

PILLAR 3

Providing Agency and Stewarding Trust Through Mobility Goals and Transparent Data

Establishing publicly stated goals and principles for autonomy - now - is essential to building trust. The Commonwealth should create measurable objectives and goals and engage actively with national discussions to coalesce around data standards and governance for industry and technology.

PILLAR 4

Building the Massachusetts Model and a National Standard

The Commonwealth has an opportunity to do what others have not, in not just choosing to authorize or react to the technology's arrival, but establishing a governance framework that builds capacity towards an orderly transition and outcomes the public wants to see.

Massachusetts should strive for consensus on the roles and responsibilities of state and local governments, take initiative to address questions of insurance and liability, update related laws governing transportation network companies (TNCs), restructure user fees, and ultimately enhance the state's ability to be flexible and dynamic as technology evolves.

PAST LESSONS SHOWCASE TODAY'S OPPORTUNITY

We must learn from our experience with ride hail. Deployment and adoption were especially challenging and disruptive to the existing taxicab industry. (for a deeper exploration of lessons learned from ride hail, see Appendix 3). Likewise, autonomy and AVs must be considered within the context of a broader mobility system. In doing so, governments can integrate this technology in transportation planning and serve all riders, especially those who may have limited options.

These lessons matter because of how quickly autonomous technology and AVs are scaling. How should state government prepare itself with the capacity to steer the transition towards safe and inclusive or equitable outcomes, while also preserving a role for local governments?

CRITICAL NOTE ABOUT SAFETY

This report also does not state a specific conclusion on the present safety case for AVs. To be clear, safety is a baseline necessity for any legally authorized operations on our streets and roads. However, because there are better research sources and more focused reviews regarding the substantive safety benefits and risks associated with the significant AV operations already active in the United States, we will not review those here.[19] We are firmly committed to dramatically improving safety for all users in the Commonwealth, and instead here look exclusively long-term at building government capacity to oversee this technology. To us, this is fundamentally safety focused work. In short, we want to begin the process of ensuring that MassDOT and the Registry of Motor Vehicles (RMV), are sufficiently staffed, resourced, and supported to oversee and regulate this technology in the years ahead.

Brief Background and Overview on Autonomous Technology

Standard Definition of Autonomy

The Society of Automotive Engineers (SAE) classifies driving automation on a six-level scale from 0 to 5, divided by who is determined to be the driver. In Levels 0-2, a human must be supervising all features. In Levels 3-5, the responsibility shifts from human to the technology. Since existing laws, licensing, and regulatory systems were built around human drivers, policy must now address what it means when software becomes the decision-maker.

	LEVELS 0–2 **Driver support**			LEVELS 3–5 **Automated driving**		
	A human must be supervising all features.			The responsibility shifts from human to the technology.		
Level	Level	Level	Level	Level	Level	
0	1	2	3	4	5	
WHAT THE FEATURE DOES						
Warnings and brief, momentary help	Steering or speed support	Steering and speed support at the same time	Drives in set conditions; a human must take over when asked	Drives in set conditions, with no human needed	Drives anywhere, in all conditions	
EXAMPLES						
Emergency braking, blind-spot warning	Lane centering or adaptive cruise control	Lane centering and adaptive cruise control	Traffic jam chauffeur	Local driverless taxi	Level 4 features, everywhere	

Based on SAE J3016 (2021), Levels of Driving Automation, SAE International.

Current Market Overview

In 2026, autonomous technology, and specifically the AV market, is in the midst of an expansion from localized pilot programs to commercial deployment. This expansion has the potential to reshape mobility across personal and public transportation options, ride hail networks, and freight transportation, as well as across operations. The Autonomous Vehicle Industry Association (AVIA) reported that 21 million robotaxi rides have been completed in the U.S. as of May 2025, with Massachusetts identified as one of the top states with opportunity for AV expansion. As of March 2026, Waymo averages 500,000 rides weekly. Goldman Sachs predicts that the number of ride hail AVs deployed will increase rapidly, scaling from the current estimate of 4,000 vehicles to 35,000 by 2030. By 2030, AVs will capture an estimated eight percent of the ride hail market. For robotaxis alone, Goldman Sachs forecasts that there will be a compounded annual growth rate of 90 percent from 2025 to 2030, depending on the pace of scale and competition.

AVs are projected to rise as a competitor and disruptor in the transportation sector. As the AV market continues to scale, the costs of manufacturing, driving costs per mile, and insurance costs are predicted to decline. These costs are among the largest components of what consumers pay for a ride hail or personal vehicle. Lower costs would allow AVs to become a more affordable option, and AVs may soon become a leading competitor in the transportation industry. PwC highlights that the economic advantage is currently most prevalent for low-mileage consumers traveling fewer than 3,000 miles annually. Compared to ownership of AVs, consumers may be more drawn to the cost-efficiency of low-mileage rides, which may position robotaxis as the first AV category likely to reach mainstream adoption.

AV SERVICES TODAY

Today, Waymo has consumer operations in 15 cities, while Tesla runs more limited services in 6 cities, Zoox operates in Las Vegas along with Motional, and Avride (Dallas) and May Mobility (Atlanta and Minnesota) are also active.

Current Federal, State and Local Landscape

It is important to set some context on the regulatory landscape nationally, including at a federal level and in other state and local jurisdictions. This is not intended to be a comprehensive review of the merits of each, but to illustrate at a high-level the gaps in defined roles between the federal government and the states, as well as the current patchwork of models across states, and that as stated previously, there is no clear or existing model of governance for Massachusetts to adopt in its entirety.

Limited Federal Role

As of November 2026, there is no comprehensive federal law or regulation for emerging autonomous technologies, nor a durable consensus among industry, key stakeholders and state jurisdictions on the appropriate roles or delineation between federal and state government. Certainly, it remains a key uncertainty whether current or future federal leadership, as well as Congress, eventually seek to assert federal preemption over autonomous technology authorization or regulation.

Federally, U.S. DOT published "America Leads: DOT's National Strategy for Automated Vehicles" in September 2026, highlighting four primary goals to achieve over FY 2026-2030: prioritizing safety, providing regulatory certainty, promoting American innovation, and facilitating interoperable corridors. While federal agencies retain exclusive domain over vehicle design, manufacturing standards, and system safety performance, state and local governments maintain responsibility over operational regulation, driver licensing and registration, liability frameworks, traffic law enforcement, and municipal right-of-way management. Additionally, a range of pending legislation could alter aspects of AV manufacturing and deployment, as noted in Appendix 1, although the prospects for any near term action on these bills seem limited.

Early State Experience and Models

Traditionally, state motor vehicle agencies such as the RMV, have been responsible for the licensing of drivers and the registration and titling of vehicles on the roads in their respective jurisdiction. Likewise, depending on the state, state DOTs and major cities share power regarding authorized vehicle types and other associated rules such as speed limits that impact mobility. To date, and in lieu of federal preemption, this remains the framework nationally for autonomous technology, with state and local governments retaining the operational authority applicable to their respective local context. This balance of roles should be maintained and strengthened, not dramatically altered for autonomous vehicles.

Massachusetts currently has no law that expressly authorizes driverless vehicles.

Because the initial enabling laws addressed AVs at a foundational level and the permitting of their operation, states like California have faced gaps in their ability to effectively oversee the technology. If the federal government continues to play a minimal role and forgo preemption, industry will continue to forge ahead – leaving the responsibility to state governments to play the role of developing an 'orderly system' of rulesetting to balance innovation, mobility and safety. The alternative presents more challenges for states and potential for disorder.

California, for instance, has developed its system to enable state authority to intervene at any stage of the process. In contrast, Arizona has opted to allow industry more authority in the scaling and deployment process, limiting the state's ability to regulate or intervene in emergency scenarios. Texas has also adopted a strong preemption model, adjusting over time from a limited oversight model to now stronger AV-specific regulations. While California has a more regulatory-centric framework, the state's stance has been an ongoing process to adjust laws and regulations as emerging scenarios arose.

As to the role of local governments, early adopting states like Arizona and Texas tend toward state preemption. While California's policies are different, they also functionally limit local authority. With AV operations expanding, or preparing to do so, conflicts between states and cities, and even within cities, continue to emerge over their respective roles.

Collectively, the current landscape lacks an easy model to simply plug into the Commonwealth, but it does allow for a learning opportunity. We can design policy with more extensive scenario planning, striking a balance between the existing models and curating regulations that will address state-specific needs.

Where Massachusetts Stands
Massachusetts currently has no law that expressly authorizes driverless vehicles.

SEE THE APPENDIX
Appendix 4 provides a side-by-side comparison of three existing models developed to date for approaching the question of AV operations at the state level.

Go to the appendix ›

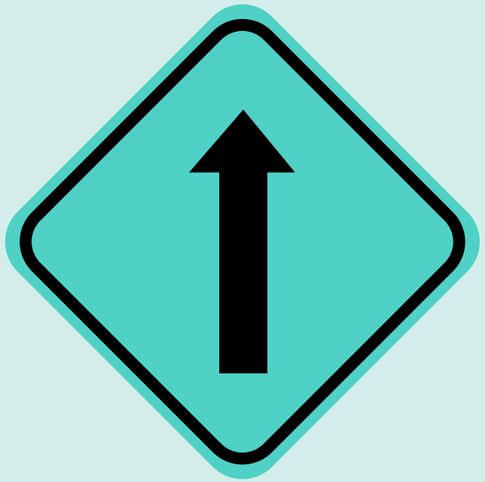
Ongoing Disputes over Roles: Local Government Dynamic in Minnesota & Connecticut

In Minneapolis, the City Council recently passed an ordinance to regulate autonomous rideshare vehicles, requiring a human to sit in the driver's seat of a robotaxi which the mayor then vetoed, stating that it defeated the purpose of AVs potential benefits for the disability community, safety, and reliability. He also noted the ordinance's lack of acknowledgement of emergency response, privacy, liability, and insurance. Meanwhile, bills at the state level in Connecicut loom over the possibility of preemption, which would render any attempts at local legislation void.[20]

A Massachusetts 2016 Executive Order (E.O. 572), rescinded in December 2022, assigned MassDOT the authority to manage AV testing. Under this process, companies were required to apply to MassDOT for testing permission, sign a Memorandum of Agreement (MOA) with the municipality where they wanted to test, and ensure a human remained in the vehicle during testing. While this process functionally remains in place, the absence of any executive or legislative authority creates some ambiguity in AV policy and testing. Waymo began mapping roads across greater Boston in May 2025 and returned in early 2026 to continue this process. No other companies are testing or mapping, to our knowledge.

While there are proposals before the Massachusetts General Court (Refer to Appendix 5 for details), the current legislative session is coming to a close soon. If authorization does proceed in the future, we believe that comprehensive statutory updates are critical in the long-term, and Massachusetts should look beyond the approach other states have taken in merely deciding to authorize the technology, or not. Issues such as liability and data management will need to be addressed, and we respect that any legislation will be informed by an ongoing deliberative process. The capacity-focused recommendations set forth in this report should be put in motion in the near-term, before the rate of autonomous technology acceleration surpasses Massachusetts' ability to manage it, and as a means to inform legislative efforts.

Key Findings & Foundational Pillar Recommendations
From here, we aim to elaborate on both our key findings outlined previously, and requisite foundational pillar recommendations for how the Commonwealth can begin to address those findings and its capacity needs.



KEY FINDING #1

The Inevitability Feeling

V
Volatile

U
Uncertain

C
Complex

A
Ambiguous

Leadership in a Volatile, Uncertain, Complex, and Ambiguous (VUCA) Environment

History demonstrates that the introduction of new technology on our streets risks being volatile, uncertain, complex and ambiguous.[21] Change will not arrive in a uniform, predictable or readily controllable way.

What if AVs are approved in neighboring states or peers to Greater Boston, like Philadelphia or New York or Chicago in the months ahead? The standards for governance, data and operations will begin to take a more fixed shape. And the pressure will build for the Commonwealth to follow these patterns.

What if different forms of autonomy continue to appear on our streets, generating new safety and oversight responsibilities? New safety and other issues will emerge.

States and cities should not overrely on their exclusive ability to approve or reject new technology. Their role is more nuanced. The overlapping and conflicting roles of the federal government, states, and major cities are both unresolved and unclear for autonomy. States and cities have to prepare, set the conditions, and build the capacity to manage change in our transportation system and on our streets. That includes building internal capabilities: the staff, expertise, data, and tools to oversee these technologies well. Whether or not they're ready to approve AVs, they have both the responsibility and the opportunity to lay the groundwork for that shift now.

Avoiding The Trap of a False Binary

As outlined above, autonomy is here, as cars and drivers are using these features on an increasing basis. Put simply, the conventional “wait until authorized” approach should no longer be followed here.

Instead, we believe that this classic VUCA environment and seemingly inevitable arrival of AVs lead us to a simple recommendation - begin today to build capacity.

PILLAR 1

Defining Authority and Roles to Guide Transition

The Commonwealth should take prompt action to identify its primary staff and agency leads who will be accountable for autonomous technology regulation. We recognize that legislation is typically the best vehicle to resolve these matters. Given the contentious nature of this topic, this recommendation could present policy and political challenges, perceived as tacitly supporting autonomy. However, as described above, this is the false binary trap, and waiting with any ambiguity in roles diminishes the necessary and immediate work of capacity building. By contrast, this action demonstrates a proactive, affirmative response to prepare, consider and drive the approach to pending technology.

RECOMMENDATION I

Designate MassDOT - via Executive Order - as Commonwealth's Lead Regulatory Agency

Therefore, we *recommend the Governor designate MassDOT via Executive Order as the Commonwealth's lead agency* responsible and accountable for planning for autonomous technology in Massachusetts.

We also recognize that autonomy has significant environmental, safety, economic, and labor impacts. Given the complexity of impacts and issues related to autonomy, a number of state secretariats and agencies have roles and responsibilities, especially if further AV operations proceed in Massachusetts, including, but not limited to: MassDOT and the RMV, the Massachusetts Bay Transportation Authority (MBTA), the Executive Offices of Economic Development (EOED), Labor and Workforce Development (EOLWD), Technology Services and Security (EOTSS), Public Safety and Security (EOPSS), as well as Energy and Environmental Affairs (EOEEA), the Department of Public Utilities (DPU), Massachusetts State Police (MSP) and Division of Insurance (DOI). In particular, DPU will substantially contribute to any future AV implementation.[22]

It's important to note, however, that after reviewing the experience in other jurisdictions, especially California, mixed or shared responsibility between two agencies can present considerable challenges. For that reason, we believe that effective capacity building begins with a single lead agency guiding the process and reviewing the impacts associated with this technology.[23] Especially with the key role played by motor vehicle agencies in licensing and titling, we believe that MassDOT, through the RMV, is best equipped to perform this function. Lastly, as noted previously, autonomy is broader than robotaxis and will expand over the years to come; requiring the capabilities of MassDOT's Office of Performance Management and Innovation (OPMI), the RMV, the Office of Transportation Planning, and the Highway Division.

RECOMMENDATION II

Appoint Senior MassDOT Leader for AV Policy

MassDOT should promptly identify and appoint a full-time, responsible senior official to lead this effort. Furthermore, MassDOT needs to identify and invest in additional staff and resources to prepare for and support this transition. In particular, one immediate responsibility of the senior AV leader should be to develop a more specific staffing plan to assist in developing job descriptions and budget estimates for medium term needs for MassDOT, which at a minimum in our view includes additional staffing for OPMI and the RMV.

This recommendation does not intend to reduce or limit staffing on other functions. Instead, to highlight the long-term importance of resourcing these needs, we will address below some appropriate mechanisms to support these costs. As this technology, and its growth here, will be long-term, this recommendation intentionally does not overly prescribe the exact needs as of today. However, successful capacity planning should include in the near term a data engineer, at least 1 or 2 data analysts, and a UX/communications designer and specific senior leader at the RMV.

RECOMMENDATION III

Establish Express Delineation of Roles and Responsibilities Among Differing Agencies

Autonomy impacts are going to require participation from a range of state agencies mentioned previously. Despite our recommendation that a single lead agency be identified, we also recommend identifying lead and responsible staff at those state agencies and key municipal contacts for this topic. This is a conventional model in other policy settings and other states have done this for ongoing autonomy policy deliberations. As debates and discussions proceed regarding this technology, we reiterate that this does not reflect any view either way, instead merely enables more direct engagement and learning.



KEY FINDING #2

Exposure Gap

76%

consumer confidence in robotaxis among people who have ridden in one

20%

among people who have not had the experience (J.D. Power, 2024)

General Lack of AV Exposure
With ubiquitous deployment in some cities, and no service in others, it should not be surprising that people begin at various stages of exposure and experience with AVs. With some autonomy present, and more growth under debate, public education has tremendous value. Absent action, from our outreach, and stakeholder engagement, we believe that this gap may continue to grow and exacerbate challenges in future consideration of autonomy if not specifically addressed.

A J.D. Power study from 2024 indicates how that may impact trust and views on the technology, as it found consumer confidence is 56 percentage points higher among those who have ridden in a robotaxi (76%) than people who have not had the experience (20%). In fact, trust was even altered for non-riders in cities with operations, improving confidence by 34%.

Taken together, we recommend a focused effort on stakeholder engagement and building awareness regarding this pending technology. Matched with a strong sense of inevitability expressed by some, altering this dynamic seems both an opportunity and responsibility for the Commonwealth in the coming months.

PILLAR 2

Educating Through Public Engagement and Awareness

Despite the challenging and contentious views here, we believe that a concerted effort in the coming months on stakeholder engagement is necessary. More tactically, we believe that MassDOT can take specific actions to assist public and stakeholder awareness regarding this technology.
To be clear, we believe these actions are fundamental to long-term effective capacity building, not a means towards enhancing or diminishing support for this technology. For agency staff, a lack of exposure risks limiting its ability to prepare, respond and steer changes on our roads. Likewise, a better informed stakeholder community can improve our ability collectively to proactively and harmoniously discuss scenarios regarding autonomy.

RECOMMENDATION IV

Create Opportunities for Direct Public Exposure to See and Experience Autonomous Technology

MassDOT should take specific actions to address the exposure gap. Consequently, we recommend that MassDOT, through the RMV, partner with a leading academic institution locally, or an organization such as Partners for Automated Vehicle Education (PAVE) that offer "demonstrations allowing the public to see and experience driverless technology."[24] We also note that these activities can independently foster learning and knowledge for state and municipal staff as well.

RECOMMENDATION V

Revise and Publish New Testing Permit Process

As discussed previously, the rescission of Massachusetts E.O. 572 has left some ambiguity and uncertainty regarding the current testing and demonstration process in the Commonwealth. Presently, all parties would benefit from MassDOT reissuing and clarifying the current testing regime. The currently available permit application points applicants to the National Highway Safety National Highway Traffic Safety Administration's (NHTSA) September 2017 guidance and to E.O. 572. An updated permit should: be consistent with recent federal guidance; add new reporting requirements including monthly miles by municipality, any crash reports filed with NHTSA; and, to the extent feasible, be consistent with the City of Boston's MDS data format. We recommend that an updated testing framework incorporate best practices from other jurisdictions on first-responder interaction plans, and emergency geofencing or response measures. Lastly, due to the passage of time and turnover in municipal governments, the MOU should be renewed and updated to confirm currently active communities, including providing updates regarding any geographic restrictions in participating communities.

RECOMMENDATION VI

Potential Demonstration or Limited Pilot Opportunities

Demonstrations and pilots are a proven, limited-risk means towards allowing the public and staff to learn considerably more about risks, needs and opportunities. In the course of our project and outreach, we have heard different ideas about limited demonstration or pilot opportunities in the near term. Without delving into the particular merits or attributes of these specific concepts, pilots are not always successful or positive, but they do enable learning, awareness and a step towards capacity building.

RECOMMENDATION VII

Engage Directly on Workforce and Labor Issues

We want to acknowledge the issues that are at the forefront of concerns regarding autonomy in the Commonwealth. Labor unions, and in particular the newly organized Ride Apps Union, have actively opposed autonomy based on the feared impacts and potential job losses associated with robotaxis. And, due to this impasse between operators and labor, these issues remain the dominant front in the political discourse to date locally.

In our view, we believe that an opportunity exists now to facilitate engagement on this topic- as demonstrated by the MIT Mobility Initiative's detailed research on potential labor impacts- To not leave this exclusively as a legislative matter for resolution. In the end, we believe that all parties will be better off with direct dialogue. Through EOLWD, we recommend that an ongoing dialogue be convened regarding this technology, its risk to jobs and potential strategies and solutions to address these concerns.

For agency staff, a lack of exposure risks limiting its ability to prepare, respond and steer changes on our roads.



KEY FINDING #3

Desire for Agency

Public unease may exist due to a growing distrust of new technology. But in our view, and based on our discussions, we often heard this expressed as a deeper feeling of a lack of agency or control over change. Many feel that change is happening to them, not for them or through them. The best solution is to provide more visibility and voice through publicly-stated principles, goals and preferred outcomes for this technology and transparent data and reporting requirements for emerging autonomous technology. Building that trust, and sense of agency, is not something we believe can be addressed exclusively through legislation or after deployment. This is core capacity building the Commonwealth can do now.

PILLAR 3

Providing Agency and Stewarding Trust Through Mobility Goals and Transparent Data

Massachusetts has an opportunity to establish principles and define outcomes that the public should expect from AVs, before commercial service begins.[25] Many states and cities either lacked, or were not afforded, the opportunity for negotiating laws or permits in the formative period of ride hail (see Appendix 3). The Commonwealth and other states and cities can still do the reverse. Whether full operations are coming here or not, Massachusetts can still take a pro-active approach. Setting standards and establishing operating principles does not mean agreeing to any company or particular use. Instead, we believe this is a return to first principles: what problems can this technology help solve?[26]

RECOMMENDATION VIII

Set Goals, Objectives and Desired Outcomes Now

The time is now to articulate mobility principles, then set measurable goals, resulting in a mechanism for authorization or permits associated with those goals, ending with oversight and reporting regarding these outcomes. Pittsburgh is an example of this sequence. Its 2019 executive order started from goals the city's mobility department had already adopted, covering safety, access, health, enjoyment, preservation of public assets, and community values, which it applied as principles for autonomous mobility. Testing permits then were connected to how they advanced these principles. The American Association of State Highway and Transportation Officials (AASHTO)'s principles set broad goals of

equity, accessibility, sustainability, and quality of life within a national strategy that preserves traditional federal and state roles. AAMVA's guidelines, which take no position on whether a jurisdiction should authorize AVs, provides a framework for the administrative core of lead agency, permitting, licensing, and law enforcement. The National Association of City Transportation Officials (NACTO)'s 2024 principles call for safety excellence from operators and for empowering cities as stewards of AVs on urban streets. Notably, NACTO supports acting to set priorities first, then deciding how AVs can help achieve them. And a recently published report in London centered around the opportunity for Transport for London (TfL) recommends focusing on ways autonomy would support London's Transport Strategy and long-term goals.

RECOMMENDATION IX

Establish Quality Data Standards, Transparent Reporting Requirements, and Capacity

To build effective capacity, state and local governments need reliable and legally sustainable access to quality, consistent data in a reliable format. They require meaningful investment in the internal ability to digest and interpret this data and the legal authority to create public, transparent dashboards. Without this capacity, states (and cities) may be immediately hamstrung in their ability to govern this technological shift.

Throughout our outreach and research, we have heard and seen considerable emphasis on the critical importance of obtaining data for states and cities with AV operations. Specifically, for jurisdictions evaluating whether to authorize AV operations, or managing active operations in their state or city, access to quality data is presently the top priority.

Consequently, for the Commonwealth, access to data is the most important and achievable pre-condition to building long-term capacity to govern autonomous technology.

Existing Models. California, which has had active AV operations for some time and several updates in its applicable laws and regulations, may offer the most complete model (see Appendix 4). The California Public Utilities Commission (CPUC) goes beyond safety/crash data reporting. It now requires AV permit holders to file quarterly reports with aggregated pick-up and drop-off locations, wheelchair-accessible ride volume, service levels in disadvantaged communities, and vehicle and passenger miles traveled. Furthermore, the California Department of Motor Vehicles requires crash reports, and its recently promulgated April 2026 rules add required reporting on how remote assistance is staffed, how fast it responds, and how operator fatigue is managed. Lastly, SB 1246, a new law enacted in September 2026, requires operators to notify cities and counties of the status and location of vehicles affected by a system failure or outage. However, notable gaps remain. Most importantly, to state the obvious, California has repeatedly updated and modified these requirements; for states like Massachusetts, we will likely get one chance to enact a dynamic and sufficient law. Our TNC law, and its limitations, is a compelling example of what we must learn from regarding how to develop a legal framework that adapts as technology and services evolve (see Appendix 3). Also, we do not recommend distributing data management among multiple public entities; instead, one agency must have the clear lead responsibility. Lastly, it bears noting that data remains a point of contention and concern that some have raised.

Although exclusively for testing and demonstration, New York City's DOT permit is quite granular. In particular, permits require monthly, detailed data reporting, and quarterly compliance reports. The compliance reports notably are based on performance standards, not actual citations. Other states, such as Arizona, have limited reporting requirements. By contrast, due to the fact that Texas law preempted cities from regulating AVs, the City of Austin built its own public dashboard from publicly available data. Phil Koopman – recognized as an international expert on AV safety – in a post from October 10, 2026, articulated three concepts for AV metrics: 1. Each metric should map directly to something important to a public good or other stakeholder goal. 2. Each metric should be based on publicly observable behaviors. and 3. Each incident should be associated with the relevant automation operational concept.

In sum, there is no common or comprehensive standard yet established for states and cities to adopt. For now, states must confront establishing their own standard, or collaborating with a coalition of cities or states to establish a durable model that industry and governments can accept.

Massport's Approach to Ride Hail

The Massachusetts Port Authority (Massport), responsible for its roads, curbs and ground transportation at Logan Airport, was substantially impacted by the rise of ride hail. To navigate this change, Massport focused on measurable goals for ground transportation: less traffic, proper curb management and more travellers using shared rides and buses like Logan Express. To accomplish these goals, in 2019, most ride hail pickups and drop-offs were moved from the terminal curbs to set areas, starting with the Central Parking Garage, adding $3.25 drop-off fee to the $3.25 pickup fee that already existed, and reducing the shared ride fee. Recently, in 2025, this fee was adjusted to $5.50 a trip in an attempt to continue to manage towards these goals. Undoubtedly, ride hail continues to be a major part of how people get to the airport and AVs, if authorized, would have major impacts at Logan immediately. This experience shows that clear goals and access to good data lead to improved outcomes and is a reminder past experience needs to be drawn upon for shifts towards autonomy.

Who governs the standard matters as much as its format.

WE DO NOT SUPPORT

1. Federal governance of the standard

2. An exclusive state-centric standard

THE STRONGEST MODEL

A neutral third party

Chartered and governed jointly by states and cities, with AV and insurance industry as participants.

Strong Foundation with Opportunities to Build Upon.

Importantly, MassDOT already has impressive data capabilities, skilled staff and demonstrated expertise in building public-facing dashboards across modes and topics, including working closely with DPU regarding TNC data and reporting. The City of Boston also has expertise and leadership in data collection, analysis and use. In particular, MassDOT's OPMI team has run an effective performance reporting program since 2009. OPMI possesses the data analytic skills to intake, review and report on autonomous-related issues when required. Through its Curb Lab project, the City of Boston has developed a complete digital representation of every curb regulation. It is updated nightly to maintain near-real-time accuracy and shared through open data feeds directly with navigation providers, ride hail companies, and delivery platforms, all built on the Curb Data Specification (CDS), an open standard developed by the Open Mobility Foundation (OMF).

For AV oversight and capacity, at a state and local level, the same building blocks must be deployed: standardized data, open interfaces to operators, and routine measurement of outcomes publicly.

As outlined in Recommendation II, MassDOT, through its senior AV lead, should develop a specific staff and resource plan for these ongoing needs. Absent further investment and dedicated staff, these needs may diminish important existing functions. We also recommend that MassDOT, through OPMI and the RMV, analyze the incident, crash, and testing data already available from NHTSA's crash reporting and MassDOT's own applications. A priority should also be to identify any system updates required, including but not limited to the RMV Crash Data system, to enable planning for necessary investments to support appropriate data capabilities.

Lead From the Front on National Standards.

The data standards for this industry are being established now. And, if a national standard or further best practices develop, it likely will not wait or sequence its efforts with the progress of local authorization. Massachusetts and the City of Boston are active and respected leaders in these forums, but participation requires dedicated staff, resources and a commitment to be present in peer-exchanges and industry meetings.

Most notably, today, federal crash reporting under NHTSA's Standing General Order relies on self-reporting. As discussed above, early adopter states are addressing this gap on their own, with California's SB 1246 being the most current and comprehensive example. This legislation requires operators to share vehicle location and status with cities during system failures. The risk of recreating the challenges of the early ride hail era, or worse, is foreseeable if states and cities do not establish a different approach.

There are potential alternatives that include advancing common standards through third party standard setting and convenings. The Mobility Data Specification (MDS) is now governed by the Open Mobility Foundation (OMF), a coalition founded by cities including Boston, Austin, Chicago, Los Angeles, New York, San Francisco, and Washington, D.C. MDS 2.0 extended the standard beyond scooters to passenger services such as taxis and ride hail, car sharing, and delivery robots. Waymo, Zoox and some robotics companies are now participating in data specifications through their membership with OMF. One potential limiting factor is that OMF is more city-centric, and less engaged with states and motor vehicles historically.

A different precedent is the General Transit Feed Specification (GTFS). Although this began with one agency in 2005, Portland's TriMet, with Google, GTFS is now a community-governed standard maintained by the nonprofit MobilityData and consumed by Google Maps, Apple Maps, Transit, Citymapper, and other apps, with more than 2,000 feeds cataloged worldwide. GTFS as a model is distinctive through its singular focus on this opportunity for industry, transit agency and public engagement.

Early adopters, cities and leading states define the standards in their infancy. For this reason, in our view, states like the Commonwealth actually have the most to gain by participating actively now. In contrast, by waiting and letting other states or cities define standards, there is a risk of having little or no voice in this process. Likewise, action now empowers the Commonwealth by establishing a baseline expectation that can be adopted in enabling legislation and in operating permits with AV companies. Furthermore, common standards allow later adopting states to evaluate actual performance of AV operators prior to permits being issued, building trust with the public surrounding this significant technology shift.

In sum, we believe that who governs the standard matters as much as its format. We do not support federal governance of this standard. We also do not support an exclusive state-centric standard. We believe that the strongest model is a neutral third party chartered and governed jointly by states and cities, with AV and insurance industry as participants.



KEY FINDING #4

Lack of a Model Blueprint

PILLAR 4

Building the Massachusetts Model and a National Standard

As described previously, in states and cities that have active AV operations, there are considerable disparities in the role of local and state governments. Furthermore, in our view, there is also no comprehensive model for insurance and liability for long-term autonomous operations that Massachusetts can readily adopt. Additionally, states have not fully begun to wrestle with the legal or enforcement implications of adapting a statutory framework that has largely been built around the concept of a human "operator." Collectively, based on our discussions with a range of interested parties, we did not find a model or active example that Massachusetts could wholesale adopt to govern autonomous technology.[27] We are mindful that this report cannot cover the full range of recommendations to build a durable, balanced legal framework for long-term governance here. Nor do we wish to address all necessary elements of an enabling statute. Instead, we do believe that there are core areas that require deliberate focus and potential action now, consistent with a measured, effective approach to capacity development, that we should highlight. Our recommendations in this section are necessary consensus building and technical work to inform quality and effective legislation.

RECOMMENDATION X

Establish via Executive Order, an Autonomous Vehicle (AV) Technical Advisory Group, Led By MassDOT

Pursuant to an executive order, the Governor should create a new Autonomous Vehicle (AV) Technical Advisory Group, led by MassDOT. This group should include relevant state agencies, academic and technical experts. The purpose of this working group is to provide ongoing detailed technical guidance to the Commonwealth regarding this emerging technology, including assistance in guidance, internal policy and procedures and recommended regulatory updates. Further, consistent with focus on this report, this group can assist in identifying internal functions and resources needed to continue to adapt to nascent technology. As we have addressed above the vital importance of stakeholder engagement, including direct engagement on contentious issues, we would note that this panel is intended for different purposes, particularly to enable staff to stay informed regarding changes and trends in rapidly changing technology.

Other states have active models worth exploring, if only to inform a Massachusetts approach. For instance, Maryland has a Connected and Autonomous Vehicle Working Group, dating back to 2015, that serves a broader and strategic role, working to elevate new ideas in support of the state's CAV Vision and Strategic Framework (See Appendix 7).

The Commonwealth's Special Commission on Micromobility

The Legislature created the Special Commission on Micromobility in Chapter 238, Section 306 of the Acts of 2024. The purpose was to review state and local laws and regulations for micromobility vehicles, recommend how to regulate them, and find ways to support the growth of micromobility. MassDOT led and staffed the Commission. It held a series of public meetings in 2025, and filed its final report, with 16 recommendations, with the Legislature on January 31, 2026. While there are some differences in purpose and design, we note that this commission worked on substantive and technical issues such as device classification, operations and enforcement. This was impressive work, led by the MassDOT staff, in building consensus and resolving issues that had begun to generate real concern. Despite the effective and valuable work performed by this Commission, *it is not a model that should be repeated. Instead, we think the operative lesson is that a technical committee should be empowered before issues have arisen.* Further, blending consensus building and technical guidance is challenging; thus our recommendation to establish this separately from our stakeholder recommendations. Do not wait until years after technology arrives, act before to build expertise and recommendations. Autonomous technology will require technical, regulatory and legislative adaptations to its dynamic nature and pace, and a standing commission can help ensure the Commonwealth has the requisite powers to administer its regulatory role.

RECOMMENDATION XI

Foster a Fair Balance in Roles Between State and Local Governments

Recent experiences in ride hail and, to date, ongoing challenges in other jurisdictions have shown the divisions that can emerge between state and local roles.

To avoid these past and ongoing problems before conflict defines them, we recommend that MassDOT and the Metro Mayors Association negotiate an updated MOU regarding potential roles and responsibilities for testing and fair division of responsibility for oversight of AV operations. We also recommend that MassDOT, the City of Boston and Metropolitan Area Planning Commission (MAPC), with assistance from the Massachusetts Municipal Association (MMA), convene representatives from communities across the Commonwealth to engage in dialogue regarding their specific roles and responsibilities over this emerging technology.

Previously, MassDOT and a number of municipalities entered into a MOU regarding testing. For this reason, to establish a shared approach and vision, we recommend that MassDOT renew this engagement. To do this, promptly, through MassDOT, the Commonwealth and representatives from cities likely to see early AV services, should discuss and establish a collaborative and shared framework for their roles and responsibilities. In this system, at a minimum, cities would control curb management while states would carry the authority to control licensing and registration of vehicles. These two powers align already with the common division of labor between state and local governments, and designating them as official authorities would increase accountability and improve coordination. For instance, who controls curb access, who licenses, permits and sets operating conditions for vehicles and who has the power to geofence emergency response areas deserves a consensus approach. In the 2026 National Strategy for Automated Vehicles, U.S. DOT similarly recognized that "[t]he introduction of new technologies can create jurisdictional questions for regulators, including questions about licensing and traffic enforcement. DOT's posture has remained consistent over time. The division of responsibilities of Federal and State governments continues, and existing DOT authorities can be applied to both automated and manually driven vehicles."

We recognize that this process would precede a legislative process. However, in the long run, this discussion will be beneficial for government and industry to have a clear, effective balance of power resolved and, from a capacity perspective, will yield better ability to focus on preferred outcomes and oversight, without unnecessary conflicts or ambiguity regarding roles.

RECOMMENDATION XII

Prepare Now for Updates to Insurance and Liability Frameworks

A report on autonomy cannot ignore the importance over time of developing a viable framework for insurance and liability. Notably, here too, there is no consensus or agreed upon model law or framework that Massachusetts can readily adopt. And, for this report, we are not able to propose a simple answer. However, we do want to note several core principles to consider:

Most importantly, states and industry (both insurance and operators) should build this at a state level, as our current automotive insurance and liability market is structured this way, including vehicle registration, financial responsibility, insurance regulation, and tort law. Pending proposals would preempt or alter this structure (See Appendix 1).

Not only is there no current federal model; federal authority exists only over vehicle safety standards and recalls. Federal agencies do not regulate auto insurance or crash claims. We have a multi-state insurance system for a reason: states have different models, minimums, and laws. Consequently, this mirrors the overall balance of responsibility between federal, state and local governments for autonomy.

At the same time, just like our foundational pillars for state capacity, substantial work remains to develop durable practices for AVs; states (and state legislatures) must play an active and engaged role in the development of these standards and model laws. Massachusetts faces real

risks of federal preemption or industry models developing without active voice or engagement.

Consequently, a future report should explore in detail the best practices that should develop here. Likewise, we recommend that the Commonwealth, through DOI, the RMV and other key partners, actively engage in exploring models for insurance here in the Commonwealth. This effort can be incorporated into the functions of the working group recommended above, or separately addressed.

RECOMMENDATION XIII

Prepare for Technical Updates to TNC Law

Initial robotaxi service, if authorized, will serve customers and operate through an app-based platform, which is presently regulated by DPU through its Transportation Network Company (TNC) division. However, the TNC law is predicated upon a human driver, including its specific requirements regarding background checks, insurance, assessments, trip data and other elements. Consequently, any future AV legislation will require modifications in this area.

There are well-known gaps and challenges under the existing law. With any new autonomous uses, responsibility for a mixed fleet (AV and TNCs) needs to be allocated amongst state agencies. Moreover, as covered extensively prior, the proper trip and incident data that should be reported and shared publicly needs to be addressed. Also, we believe that this is an opportunity to clarify what accessibility obligations will be available.

Consequently, we want to highlight these topics as specific legislative changes that must be considered now. Further, consistent with Pillar 3, there is a renewed opportunity to set goals for this future service, including safety, access, and connections to transit, before driverless service arrives at scale. In short, here is where Massachusetts can move from permission to operating towards the capacity to oversee future AV operations.

CITIES
Curb management

STATES
Licensing and registration of vehicles

NEEDS A CONSENSUS APPROACH

Who controls curb access

Who licenses, permits and sets operating conditions for vehicles

Who has the power to geofence emergency response areas

Collectively, based on our discussions with a range of interested parties, we did not find a model or active example that Massachusetts could adopt to govern autonomous technology.

RECOMMENDATION XIV

Update User Fees and Fund Staff and Needed Resources

We recommend that research begin on options for how to restructure user fees, including the TNC per-ride fee. Options include commissioning a specific study on potential pricing scenarios or including this within the scope of the AV Working Group.

In 2016, the Commonwealth became the first state to charge a per-ride fee on TNC's like Uber and Lyft with a $0.20 assessment on every ride. Notably, this fee has not changed since 2016 and is not indexed to inflation. The Governor's Transportation Funding Task Force, created by Executive Order 626 in January 2024, identified TNC fees among the user-based fees that could better be aligned with peer states. Specifically, the Task Force recommended considering ways to "rationalize the collection of user-based fees currently employed" while weighing "climate impacts, affordability, equity and competitiveness." While this report does not address autonomy, it does recommend that a review "should also contemplate new strategies and technologies." We agree and would highlight the fact that AVs are EVs so long-term fleet growth and rides will impact transportation revenues significantly.

More broadly, we would stress that this is why establishing goals now matters. User fee discussions must be connected to outcomes and policy design: such as replacing revenue, managing congestion, supporting transit or mitigating impacts on jobs. Similarly, data is what makes the decision possible. Without investing and preparing now, decision makers will have to make these calls without the evidence they need. The Governor's Task Force echoed this point, urging the state to build and keep "the capacity to do the analysis and planning work needed" to enhance and transform the system.

Lastly, any new revenue has many potential uses. For this reason, we have consistently stressed articulating mobility-focused goals, to help identify the best uses for any net new revenue. However, a top priority must be to use fee revenues to pay for long-term staffing needs at MassDOT, including, but not limited to, at OPMI and the RMV. In Recommendation II and IX, we noted immediate staffing investments that cannot wait until authorization or legislation is resolved and have intentionally broken out these urgent needs versus long-term funding solutions.

RECOMMENDATION XV

Enhance RMV Authority with Appropriate Safety-Focused Powers

Any long-term adaptation to autonomy in the Commonwealth will entail new powers and responsibilities for the RMV. One significant example is that a significant number of state laws regarding motor vehicles, insurance, safe operations and enforcement are centered around the concept of an "operator." A fundamental shift will be required for our registration and enforcement system as more autonomy is introduced, altering the concept of an operator. In short, the migration from human drivers to fleets with autonomous operations will strain the functions and powers of the RMV to ensure safe operations of the roads and streets of the Commonwealth. We believe that the AAMVA framework (see Appendix 6) presents an effective outline of a forward-looking motor vehicle agency. But this requires staff, investment and updated statutory powers and regulations to implement this vision.

We addressed the purpose and need of investing in capacity development at MassDOT, including identifying and investing in lead staff. However, we believe that specific attention should be given to the RMV and its role. Presently, the RMV has statutory powers to license drivers and register and title vehicles that are designed around a human driver. As experience has demonstrated in other jurisdictions, motor vehicles agencies have a narrow and focused power - the power to grant or deny a license. As they migrate to an owner/operator model with autonomy, the RMV will require more calibrated powers to regulate operators. Likewise, its staff and systems will need to match these modified powers. For example, under existing state law, the power to register is for vehicles, not companies. As we switch to fleets, and to software and models that manage broad fleets, the RMV's underlying statutory powers will need a comprehensive rewrite to ensure it can continue to serve its safety function.

Likewise, unlike the existing licensing and suspension system, the RMV must possess the internal functions and capabilities to issue licenses and registrations on a more flexible operational domain, including scaling ability regarding number of vehicles, geography, time of day, emergency events and other dynamic regulatory powers.

All of these changes require time, thoughtful consideration of internal positions and functional powers necessary. We do not seek to comprehensively address all of these changes; instead, emphasizing the value of beginning this hard work now.

We recommend that this process begin immediatly, in consultation with the Working Group, to identify best practices and powers for a future RMV.

Conclusion

Steering the Transition with Purpose and Capacity

The transition to autonomous technology and mobility is not a distant hypothetical; it is an evolving reality unfolding in states and across the nation. As this report emphasizes, the core challenge facing the Commonwealth is not simply deciding whether or when to authorize driverless operations, but whether state government will act now to put in place the components necessary to build institutional capacity for effective oversight, evaluation, and agency.

History has repeatedly demonstrated the cost of waiting for a crisis, or industry or stakeholder-led consensus. The rapid, reactive expansion of first-generation ride hail left regulators and communities scrambling for data and to catch up.

Massachusetts has a rare opportunity to break this cycle. By acting proactively, rather than reactively, the Commonwealth can avoid those pitfalls of the past, and build a durable, orderly system grounded in public trust and clear strategic goals.

This report has outlined an "act now, no regrets" roadmap centered on four foundational pillars:

- **Defining Authority and Roles:** Designating MassDOT as the lead regulatory agency and appointing dedicated leadership to eliminate ambiguity and establish clear accountability across state entities.
- **Public Engagement and Awareness:** Closing the exposure gap through public demonstrations, modernized testing permits, and direct dialogues addressing workforce and labor concerns.
- **Providing Agency Through Goals and Data:** Articulating clear mobility objectives upfront and securing robust, transparent data access to ensure the public retains control over street-level outcomes.
- **Building a Sustainable Massachusetts Model:** Convening a technical advisory group, balancing state and local responsibilities, updating insurance frameworks and TNC laws, and modernizing RMV powers for a fleet-based future.

Preparing today is not a pre-judgment on the merits of autonomous technology, nor a mandate for its adoption; it is an exercise in diligent governance. The state must be equipped to know what is happening on our roads, verify it independently, and intervene decisively when systems fail. True government capacity is the ability not just to process paperwork, but to set goals for safety, equity, and transit integration, holding operators and ourselves accountable to the

Summary of Outreach and Stakeholder Engagement

Throughout the fall of 2026, the Mass Mobility Hub held over 20 information sessions, outreach meetings, and stakeholder conversations related to this engagement, while also convening an expert panel. Participants came from academia, industry, advocacy organizations, and public and elected office, along with practitioners from jurisdictions where AVs already operate.

The conversations were deliberately open-ended. Rather than a formal survey or rigid format, we instead asked participants what they expected from autonomy, what concerned them, and what state government would need to do its job well. To encourage candor, we committed that all conversations would remain confidential and unattributed. Except where drawn from published sources, nothing in this report is attributed to any individual or organization.

The four key findings presented emerged from these conversations. They reflect themes that recurred across very different perspectives, not a consensus view or a formal survey. Participants did not agree on the merits of AVs or on how quickly Massachusetts should move. The recommendations are our own, but they were shaped throughout by what we heard.

We acknowledge again that this report does not in any way reflect a consensus view of those we spoke with, nor any one contributor's opinion, agreement with, or opposition to what we have published. Assuredly, those conversations were essential to our process, but the opinions expressed, recommendations and final product are our own.

Acknowledgements

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We would also like to thank the diverse range of stakeholders referenced previously who contributed to this report either through their wealth of expertise and background, published or unpublished research, real-world experience in autonomy's implementation, or general conversations and feedback on this topic.

AI Disclosure

Artificial intelligence tools were utilized to assist in the preparation, drafting and editorial process of this document. All core concepts, research, and final conclusions remain the original work and responsibility of the author(s).

Appendices

APPENDIX 1

Federal Legislation Status

BILL	STATUS	PURPOSE
H.R. 7390 SELF DRIVE Act of 2026	Introduced February 2026	Aims to create a unified federal framework by expanding NHTSA's authority to establish safety standards, requiring manufacturers to develop and submit safety cases, and addressing cybersecurity
H.R. 8870 BUILD America 250 Act	Introduced May 2026	Primarily establishes federal funding baselines for infrastructure - highways, bridges, public transit, and freight corridors; incorporates provisions
H.R.4661 AMERICA DRIVES Act	Introduced July 2025	Aims to harmonize federal deployment rules, expand testing corridors across state lines, and secure domestic supply chains and data privacy for vehicle software

APPENDIX 2

Innovation and Massachusetts Competing in the Global Economy

Our mission at the Mass Mobility Hub is to foster innovation in the mobility sector for safe, sustainable and inclusive mobility outcomes. As a result, it is important to provide some context to the innovation and economic opportunities here.

Massachusetts has long been where new mobility technologies are invented. Autonomy itself has deep roots here. nuTonomy, an MIT spinout founded in 2013, ran the world's first autonomous taxi trial in Singapore in 2016 and began autonomous driving in Boston in 2017. Its successor, Motional, remains headquartered in Boston's Seaport and although the corporate and engineering talent was built in the Commonwealth, its deployment, and the operating jobs that come with it, went elsewhere.

While not the focus of this report, we wanted to identify this trend and continued opportunity. Invention creates research and engineering jobs. We created the Mass Mobility Hub, in part, to better enable the creation and growth of mobility innovations here.

Going forward, Massachusetts can compete for that next stage, on its own terms, by offering what companies and the public both need: a clear and predictable framework, defined roles, transparent data, and the government capacity to oversee it all. We want to continue to convene all parties and stakeholders to find ways for the Commonwealth to convert its research leadership into jobs, better mobility outcomes, and broad economic benefit.

APPENDIX 3

Lesson From Ride-Hail 1.0

There are important lessons from how the government prepared for and adapted to ride hail.[28] In simple terms, the ride hail industry (statutorily defined in the Commonwealth as transportation network companies or TNCs), is a natural comparator to the potential robotaxis industry, including some of these operators. More importantly, the ride hail industry's meteoric and still recent growth represents a relatively fresh and consequential example of a substantial change in mobility. And, memories still linger in states and cities that went through the contested processes and negotiations to establish capacity to regulate and adapt to the surge in rides. To put into context, ride hail's growth exemplified the exponential growth curve that technology adoption can follow: in five years, Uber went from zero to one billion trips, then it took only six months to reach two billion. Once rapid adoption takes hold with consumers, governments that wait to build capacity for AVs may find that industry has reached a vast scale and key decisions are already made.

Additionally, the TNC growth repeatedly demonstrated the distinction between passing authorization or permitting regimes and building durable capacity to oversee the mobility impacts of ride hail. In the Commonwealth, our experience shows both the value of establishing an early, effective framework and its limitations. The 2016 law established a TNC division within DPU, enacted a 20-cent per-ride assessment, and, critically, launched a reporting and data regime predicated on where rides originate. The state published data online, setting a key standard for transparency. However, over time, limitations with the reported data became evident and the capacity to steer outcomes by DPU or other state or municipal entities surfaced. Eventually, in 2021, the reported data was updated to include pickup and drop-off points within 100 yards, time of day, and vehicle miles.

Delve deeper into the specifics of data and reporting, and we believe there is much to learn. At a broad level, unfortunately, after the passage of 15 years or so since the overnight expansion of ride hail, there is a vast patchwork of laws, permits, and requirements across many federal, state and local jurisdictions. Most jurisdictions set their own definitions, formats, schedules, and confidentiality rules. Resulting in ride hail providers producing a host of different reports, leaving regulators (whether state or city) unable to compare or contrast with other places.

The Commonwealth, and other jurisdictions, have an opportunity to avoid a similar outcome by learning some key lessons and acting now to avoid the negative consequences.

Most importantly, do not wait to establish roles internally and between states and cities. If delayed or postponed until approval, then it weakens the government's capacity to manage the transition to the new technology.

Guide the public's expectations on outcomes and goals. Don't defer to industry.

It is vital to begin with the right tools and authority. The statutory authority to establish data and reporting requirements should be resolved at the time of permitting or authorizing new operations. Moreover, as we learned through the growth and deployment of ride hail, state governments (and cities) need the ongoing authority to adjust terms commensurate with changes in services or issues that arise. Here, the history and growth of food delivery serves a vivid example of the limits of one-time statutory resolution of data requirements. Seeking company data or reports after riders and consumers have become familiar with a service is not a viable position for effective state capacity to govern.

Create transparency data and dashboards. As discussed in the section above, state agencies need to establish up-front transparent and shared access for cities, especially regarding data that impacts their management of curbs, local streets and emergency response**.**

Adapt together. When consumers rapidly adopt new technologies, like ride hail, our built-environment is impacted in unpredictable ways. For instance, cities suddenly had to learn how to negotiate "pick-up and drop-off" sites and a host of new challenges at the curb, once ride hail arrived in a city. Suddenly, our cities and our streets had materially changed. Industry and government can engage in zero-sum battles over this change. Or, instead, both parties recognize that they must adapt, collaboratively, to how new patterns emerge in our cities.

Do not act alone. National, industry-accepted standards for data collection, transparency and reporting will be advantageous to everyone, avoiding the negative consequences thathave ensued from the early days of ride hail with divergent laws, standards and capabilities.

Lastly, **commit to sharing data, but build proper protections for all parties**. Industry and consumers have legitimate concerns regarding privacy, security and proprietary information. Prepare for and be able to address these concerns from day 1.

APPENDIX 4

Comparison of State AV Legislative Models

	CALIFORNIA	ARIZONA	TEXAS
Regulatory Models	Dual-agency, statutory system	Permissive model	Limited initial oversight with gradual regulatory expansion
Lead Oversight Agencies	DMV for vehicle operation, and CPUC for commercial passenger service	ADOT with law-enforcement coordination via DPS	TxDOT for task force, TxDMV for registration and permitting, and TxDPS for first responder
Permitting Process	Separate tiered processes for DMV and CPUC	Operators file directly with state authorities without multi-stage agency approval	Annual permits are mandatory, with companies submitting comprehensive safety and compliance plans
Municipal Preemption	State law preempts local traffic codes, while cities retain rights-of-way management and curb allocation	State law prohibits local municipalities from imposing additional fees, permits, taxes, or operational restrictions	State law preempts with an explicit ban on regulation of AVs at the sub-state level
Data Management	Mandatory disengagement and collision reporting	No mandatory disengagement reporting	No reporting requirements beyond vehicle crashes
Overall Effect	High control and compliance burden leading to slower market entry; state can shut down operators	Rapid testing and scaling, but state is limited in visibility and emergency intervention	Start with limited role, but enact legislation from a more reactionary standpoint

APPENDIX 5

AV Legislation at Massachusetts State Legislature

BILL	STATUS	PURPOSE
S.2379/H.3634	Converted into study order as of April 2026	**Allows** fully driverless vehicles under 10,000 pounds operate with a MassDOT license with $1 million in liability coverage, and preempts local authority.
S.2393/H.3669	Converted into study order as of July 2026	**Requires** human operators in all AVs.

APPENDIX 6

AAMVA Summary

The American Association of Motor Vehicle Administrators (AAMVA) offers a framework for jurisdictions to begin taking proactive measures in AV regulation:

1) Identify a lead agency to manage the ADS-equipped vehicle committee and its efforts

2) Establish an ADS-equipped vehicle committee

3) Develop strategies to address testing and deployment of ADS-equipped vehicles in the jurisdiction

4) Examine jurisdictional laws and regulations to consider barriers to safe testing, deployment, and operation of ADS-equipped vehicles

5) Take steps to establish statutory authority

6) ADS-equipped vehicle committee members, regulators, and policy makers should perform knowledge-gathering and information-sharing

7) Designate an AV lead staff person for agencies involved with, but not leading AV policy.

APPENDIX 7

Potential Model for State Working Groups

Maryland

Maryland DOT established the Connected and Automated Vehicles (CAV) Working Group in 2015, as the state's "central point of coordination" for CAV technology. Members act as liaisons to their own organizations and pass information back and forth. The working group assigns tasks to subgroups, which "openly discuss CAV efforts, create documentation, and elevate new ideas" in support of the state's CAV Vision and Strategic Framework.

Notes

EXECUTIVE SUMMARY

1 This is not a universal consensus, some disagree. We also stress that our report is broader than AVs and this inevitable feeling is reflective of the broader technology development than the pending debate on AVs.

INTRODUCTION

2 See *Diffusion of Innovations* (1962) by Everett Rogers, *Crossing the Chasm* (1991), and the Gartner Hype Cycle research methodology.

3 Eventually recovering to these pre-pandemic numbers in 2024.

4 See page 19 for a graphic depicting how experts define the Levels of Autonomy. Here, and for this report, we will not attempt to resolve whether certain autonomous features, such as full self-driving, are properly considered Level 2+ or Level 3; instead, our focus is that these shifts require new skills and powers for motor vehicle agencies to improve safety on our roads.

5 Waymo, for instance, raised an additional $16 billion investment in 2026, valuing the company at $126 billion. The company became independent in 2016.

6 With approximately 40,000 annual traffic fatalities in the United States, it is critical to consider the implications of AV technologies on traffic safety.

7 Substantial concern and anxiety regarding broader technology change, especially the growth of artificial intelligence, is impacting how state and local government officials responsibly plan and build regulatory frameworks.

8 We recognize the importance of municipalities developing the requisite capacity as well. In this report, we touch on these needs through our discussion on data and a fair, consensus balance between state and local government, but believe this topic merits future detailed analysis.

DEFINING CAPACITY AND WHY IT MATTERS

9 See Pressman and Wildavsky in their foundational study *Implementation* (1973). Also, Jennifer Pahlka *Recoding America* (2023), where she describes how outcomes are dependent on the capacity of the government to deliver the policy.

10 See Bryan Reimer (October 2026) describing this ongoing statutory and regulatory evolution in California from "pushing regulation beyond how the vehicle drives to how the system operates."

11 See some select examples of insufficient capacity to implement or oversee laws, including in the transportation and infrastructure sector: Joint Authorities Technical Review, *Boeing 737 MAX Flight Control System: Observations, Findings, and Recommendations* (Oct. 11, 2019) (45 FAA staff overseeing roughly 1,500 Boeing employees performing delegated certification work); U.S. Department of Transportation, Office of Inspector General, *Inadequate Data and Analysis Undermine NHTSA's Efforts to Identify and Investigate Vehicle Safety Concerns*, Report No. ST-2015-063 (June 18, 2015) ; National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (Jan. 2011); Damien Bérubé, Mark Fagan, Lior Sirkis, William Stevenson, and Jamey Tesler, "It Is Time to Change the Autonomous Vehicles Regulatory Approach: Policy Lessons from the Cruise Incident October 2, 2023," Taubman Center for State and Local Government, Harvard Kennedy School (Oct. 2024).

12 The D.C. Department of Transportation published a comprehensive AV Policy Report, a study that was tailored in-depth to local needs. Rather than focus on specific policy recommendations, the report provides guidance on capacity building through researching existing regulatory approaches and highlighting insights from interviews.

13 Since 2012, the State of California has needed at least five AV statutes and three major DMV rulemakings to keep its framework current: SB 1298 in 2012, AB 1592 in 2016, and AB 1444 in 2017; AB 1777 in 2024; SB 1246 in 2026; and rule packages in 2014 and 2018 and April 2026. Each law exposed a gap that the practical implementation of AVs

exposed, and subsequent legislation was created to address it at the moment.

14 See https://cyberlaw.stanford.edu/blog/2025/12/on-waymos-traffic-jams/, discussing specific actions needed to plan and respond to emergency situations/.

15 Autonomous technology use cases expand as far as Doordash drones, to Flock cameras, to autonomous lawnmovers.

16 We would note, and argue, that this is more about the long-term diminishment of these definitions as Level 2+ begins to function as Level 3 was originally envisioned.

WHAT IS CAPACITY AIMING TO SOLVE?

17 We again stress that autonomy is already present and, apart from robotaxis, we anticipate different forms of autonomy to continue to develop and impact surface transportation. We do focus here exclusively on robotaxis to express this "inevitability" feeling.

NOTE ON SCOPE AND MATTERS FOR FUTURE CONSIDERATION

18 For instance, refer to the NHTSA Standing General Order crash reporting data, the documentary *Autonomy* (2019), and a comprehensive review from NIH.

CRITICAL NOTE ABOUT SAFETY

19 See the IIHS Research paper or Waymo's safety report.

CURRENT FEDERAL, STATE AND LOCAL LANDSCAPE

20 For another example, in the United Kingdom, there remains an ongoing discussion regarding who should govern and with what authority this transition.

KEY FINDING #1 · THE INEVITABILITY FEELING

21 "What VUCA Really Means for You," *Harvard Business Review*, January–February 2014.

22 See current rulemaking by DPU that demonstrates extensive and important rule in present and future TNC oversight. https://www.mass.gov/info-details/proposed-changes-to-tnc-regulations

23 In part, based on the prior EO 572 and past practice for testing permits, we do not believe this is a shift or change in roles, but a needed clarification.

KEY FINDING #2 · EXPOSURE GAP

24 At MMH's June 2026 Autonomy Summit, PAVE Executive Director Tara Andringa provided an overview of the events and activities that they host.

KEY FINDING #3 · DESIRE FOR AGENCY

25 Other global cities have identified the same opportunity. For instance, in an October 2026 report, the London Transport Committee quoted Professor Jack Stilgoe, Professor of Science and Technology Policy, UCL, "that London has an opportunity 'to be the place that helps write those rules to help say this is what a safe and useful rollout of the technology looks like'."

26 "Rather than just accepting the autonomous passenger service model proposed by operators, London should be looking at the transport problems it is trying to solve and then considering what solutions this technology could provide."

KEY FINDING #4 · LACK OF A MODEL BLUEPRINT

27 We do note that the District of Columbia is actively debating an authorizing bill and this serves as an interesting example in many respects, but does not have the state/municipal roles to navigate in the same way.

APPENDICES

28 We do not want to review all the conflicts in this period or focus unduly on the actions of Uber and Lyft here. As our focus in building state and local capacity, this segment narrows our lens to the lessons for government.

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