



February 10, 2023

Her Excellency Maura Healey, Governor
Office of the Governor
State House Room 280
Boston, Massachusetts 02133

Dear Governor Healey:

On behalf of the over 250 member companies of the Transportation Association of Massachusetts (TAM), I am writing relative to the rolling stock tax relief initiative. This initiative, which will lead to greater public safety and a cleaner environment, will also lead to additional tax revenue while creating numerous jobs with competitive salaries. Accordingly, I respectfully request that you include this initiative as part of any tax relief / tax reform proposal submitted to the Massachusetts legislature.

As you may know, TAM has been the voice of the trucking industry in Massachusetts since 1919. One of the oldest transportation associations in the United States, we represent a wide variety of companies ranging from small, family-owned trucking companies with a single truck to large national trucking companies with thousands of trucks. The trucking industry within the Commonwealth is responsible for transporting over 90% of all goods and products found in our homes and workplaces. In addition to being a key facilitator for the growth of other industries, the trucking industry is a significant creator of jobs within the Commonwealth. As a recent study by the Dukakis Center for Urban Research & Policy at Northeastern University stated “[t]he overall trucking industry (including private and for-hire tucking) represent about one in 12 jobs or about 300,000 jobs in Massachusetts in 2017. And, trucking companies meet all Massachusetts freight movement needs.” (“The Importance of the Trucking Industry to the Massachusetts Economy”, Pritchard, R. & Scott, A., p.3 (May 2018)). In terms of employment demographics, the trucking industry is quickly diversifying as companies seek drivers to meet the growing need for trucking. (“Truck Driver Shortage Analysis 2019”, Costello & Karickhoff, American Trucking Associations, July 2019)(“ In 2018, 40.4% of [truck] drivers were minorities, which has jumped 13.8 percentage points from 26.6% in 2001.).

Notwithstanding the significant impact of the COVID pandemic, rising fuel costs and a depleted workforce, the commercial trucking industry within the Commonwealth has been experiencing a decline as many trucking companies have moved to other states or simply closed down. Part of the reason that trucking companies have left the state is due to the Commonwealth’s tax policies. In particular, the Massachusetts Department of Revenue (DOR) collects sales and use tax for rolling stock purchased in other states which have an exemption in place for rolling stock. (i.e. tractors and trailers used in interstate commerce). As a result, any company with a substantial nexus within the Commonwealth is being charged sales and use tax by the DOR *even though the rolling stock was purchased in other states*. Accordingly, various truck companies, who may be domiciled in Massachusetts or have repair facilities in Massachusetts, are now seeking to locate them outside of the state to reduce the nexus necessary to collect such tax.

Exempting the sale and use of rolling stock from taxation will bring Massachusetts in line with a majority of other states (37) within which an exemption from sales and use tax for rolling stock already exists. In fact, every surrounding New England state, except Vermont which applies a *de minimus* fee, has a rolling stock exemption in place. That said, amending Mass. Gen. Laws ch. 64H (i.e. sales tax) and Mass. Gen. Laws ch. 64I (i.e. use tax) to specifically exempt rolling stock from the sales and use tax brings much more than simple tax relief to the trucking industry. According to the aforementioned study conducted by the Dukakis Center for Urban Research & Policy, the elimination of the sales and use tax on rolling stock will, following national trends, create “2,768 more employees and 2,076 more power units ... operating and generating an additional \$15.9 million in tax revenue per year; while not estimable, ... the impact on private fleets may be just as large.” (“The Importance of the Trucking Industry to the Massachusetts Economy”, Pritchard, R. & Scott, A., p.14 (May 2018)).

The need for eliminating the taxation of rolling stock cannot be overstated. First, this initiative will create a more attractive environment for trucking companies to remain in the Commonwealth. Trucking companies rely on constantly maintaining and upgrading their equipment. This means purchasing new rolling stock on a regular basis. If trucking companies know that their out-of-state purchases will incur an in-state tax, the companies will work to continue to reduce their nexus to the taxing state. As it stands, Massachusetts trucking companies are already at a competitive disadvantage when competing against carriers located in the neighboring states.

Second, but just as important, this initiative will have a significant positive impact on public safety and the environment. Exempting the sale and use of rolling stock from taxation will encourage the purchase of new equipment with the latest technology available as well incentivize companies to operate their newer trucks in the Commonwealth. This directly increases public safety and creates additional environmental benefits. In terms of public safety, new trucks include lane-departure, crash collision and speed regulator technology that significantly improve road safety. In terms of environmental benefits, newer trucks have more efficient engines and exhaust systems. This leads to greater fuel efficiency and reduces emissions of NOx and particulate matter to further support the Commonwealth’s fuel efficiency and clean air efforts. Given the Commonwealth’s recent interest in reducing emissions from the transportation sector, the rolling stock initiative makes even more sense.

Third, by keeping trucking companies in the Commonwealth, the good jobs and competitive salaries that these companies offer will remain within the state. According to the United States Bureau of Labor Statistics, Massachusetts is in the top ten for annual mean wage for heavy and tractor-trailer drivers within the country. (See <http://www.bls.gov/oes/current/oes533032.htm>). If more trucking companies find Massachusetts tax policy less favorable than neighboring states, it is likely the decrease in Massachusetts trucking companies will become even more significant.

Fourth, if the Commonwealth discourages trucking companies from domiciling in the state, transportation expenses will rise -- further impacting the high cost of living already experienced in the Commonwealth. The costs associated with transporting goods are fairly straightforward. (See <https://truckingresearch.org/2022/08/10/an-analysis-of-the-operational-costs-of-trucking-2022-update/>) (“Total marginal cost of trucking grew by 12.7 percent in 2021 to \$1.855 per mile, the highest on record. Leading contributors to this increase were fuel (35.4% higher than in 2020), repair and maintenance (18.2% higher than in 2020), and driver wages (10.8% higher than in 2020”). If the Commonwealth’s tax policies continue to cause trucking companies to domicile elsewhere, the additional fuel, tolls and vehicle maintenance, among other costs, will be borne by Massachusetts residents and businesses that already rely on the industry for their goods. If the COVID-19 pandemic demonstrated one thing about the trucking industry, it is that it remains essential to residents and businesses alike.

This initiative is a matter of common sense. Given that neighboring states such as New York, Rhode Island, Connecticut, New Hampshire and Vermont (partial) exempt rolling stock from sales and use tax, Massachusetts' current tax policy is causing higher costs for Massachusetts residents and businesses while driving economic opportunity to neighboring states. This initiative, which has been passed by the Massachusetts House of Representatives during the past three sessions, will not exclude trucking companies from the myriad of other taxes and fees the industry pays to the Commonwealth each year. This initiative simply tries to keep Massachusetts on par with the vast majority of states (37) with an exemption already in place.

On behalf of the thousands of men and women in Massachusetts who rely on the good jobs and competitive salaries these Massachusetts companies provide; I respectfully urge you to include relief for Massachusetts trucking companies and Massachusetts companies with truck fleets within any tax relief / tax reform proposal submitted to the Massachusetts legislature. Again, including language to create an exemption from the Massachusetts sales and use tax as applied to rolling stock for trucks will produce additional tax revenue in the future while strengthening the trucking industry in Massachusetts in a manner that also improves the environment and public safety.

For your review, I have attached a variety of information about this initiative for your review. If you have any questions or concerns, please do not hesitate to let me know. I appreciate your consideration of this important matter.

Sincerely,



Kevin Weeks
Executive Director

Enclosures

- SD1392, An Act Relative to the Taxation of Rolling Stock
- Fact Sheet – Rolling Stock Initiative Overview
- Fact Sheet – Environmental Benefits of the Rolling Stock Initiative
- Fact Sheet – Public Safety Benefits of the Rolling Stock Initiative

SENATE No.

The Commonwealth of Massachusetts

PRESENTED BY:

Brendan P. Crighton

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act relative to rolling stock.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Brendan P. Crighton</i>	<i>Third Essex</i>	
<i>Hannah Kane</i>	<i>11th Worcester</i>	<i>1/27/2023</i>
<i>Steven S. Howitt</i>	<i>4th Bristol</i>	<i>1/27/2023</i>
<i>Ryan C. Fattman</i>	<i>Worcester and Hampden</i>	<i>1/30/2023</i>
<i>Adam Scanlon</i>	<i>14th Bristol</i>	<i>2/14/2023</i>

SENATE No.

[Pin Slip]

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Third General Court
(2023-2024)**

An Act relative to rolling stock.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 SECTION 1. Section 1 of chapter 64H of the general laws, as appearing in the 2020
2 Official Edition, is hereby amended by inserting, after the definition of “Retail establishment”,
3 the following definition:-

4 “Rolling stock”, trucks, tractors, and trailers, used by common carriers to transport goods
5 in interstate commerce.

6 SECTION 2. Section 6 of chapter 64H, as so appearing, is hereby amended by inserting,
7 after subsection (xx), the following new subsection:-

8 (yy) Sales of rolling stock.

9 SECTION 3. Section 1 of chapter 64I, as so appearing, is amended by inserting in line 5,
10 after the words “retail establishment”, the following new words:- , “rolling stock”.

11 SECTION 4. Section 7 of chapter 64I, as so appearing, is hereby amended by inserting,
12 after subsection (e), the following new subsection:-

13

(f) Storage, use, or other consumption of rolling stock.



HD1706 (Jones), SD1392 (Crighton) and SD1248 (Tarr), An Act Relative to the Taxation of Rolling Stock

BRIEF SUMMARY:

This legislation seeks to bring Massachusetts in line with a majority of other states within which an exemption from sales and use tax for rolling stock (tractors and trailers used in interstate commerce) already exists. As drafted, the legislation amends Mass. Gen. Laws ch. 64H (i.e. sales tax) and Mass. Gen. Laws ch. 64I (i.e. use tax) to specifically exempt rolling stock used in interstate commerce from the sales and use tax. The legislation does not allow a motor carrier to avoid paying the multitude of fees otherwise required under federal, state and local law. Many other surrounding states (37) do not tax rolling stock; therefore, creating yet another incentive for interstate trucking companies to either leave Massachusetts or forego it in favor of other states. As importantly, this initiative will also incentivize trucking companies and companies with truck fleets to use newer, safer and more environmentally friendly trucks in the Commonwealth – whereas the current policy discourages this. Finally, a study by Northeastern University’s Dukakis Center has shown that the elimination of the rolling stock tax will potentially produce an additional \$15.9 million in additional taxes and, when factoring in private fleets as well, approximately \$30 million in new tax revenue. This legislation, which received a favorable report from the Joint Committee on Revenue last session, has been passed by the Massachusetts House of Representatives three times.

RATIONALE:

- The Trucking Association of Massachusetts (TAM), which represents the Commonwealth trucking industry, has seen the trucking industry in Massachusetts decline as many trucking companies move to other states. Part of the reason that trucking companies have left the Commonwealth is due to the Commonwealth’s tax policies.
- The Massachusetts Department of Revenue has also started collecting sales and use tax for rolling stock purchased in other states where those states have an exemption in place for rolling stock. The Commonwealth did not have a tax on rolling stock until 1996, but did not enforce the same until 2006. Again, 37 states still exempt rolling stock from taxation. In New England, every state, except for Vermont, which sets a very low maximum (\$1,850), exempts rolling stock from sales and use taxation.
- From a public safety and environmental perspective, this legislation will ensure that trucking companies and companies with truck fleets run their newer trucks in the Commonwealth. As companies now realize that have to potentially pay a tax on new rolling stock used in the state, companies are refusing to allow their new rolling stock to have any connection to the Commonwealth. This means that older, less safe and more environmentally unfriendly trucks remain in the state.
- This legislation will create a more attractive environment for trucking companies to remain in the Commonwealth. Trucking companies rely on constantly maintaining and upgrading their equipment. This means purchasing new rolling stock on a regular basis. If they know that their out-of-state purchases will incur an in-state tax, the companies will continue to reduce their nexus to the taxing state (i.e. Massachusetts). By keeping trucking companies in the Commonwealth, companies will continue to purchase their needed equipment within the state.
- Further, by keeping trucking companies in the Commonwealth, the good jobs and competitive salaries that these companies offer will remain within the state. According to the United States Bureau of Labor Statistics, Massachusetts has the fifth highest annual mean wage for heavy and tractor-trailer drivers within the country. (See <http://www.bls.gov/oes/current/oes533032.htm>). As more trucking companies find Massachusetts tax policy less favorable than neighboring states, the loss of Massachusetts trucking companies and the jobs they create will become even more significant.
- If the Commonwealth discourages trucking companies from domiciling in the state, transportation expenses will rise - further impacting the high cost of living already experienced in the Commonwealth. The costs associated with transporting goods are fairly straightforward. (See <https://truckingresearch.org/2020/11/24/an-analysis-of-the->

[operational-costs-of-trucking-2020-update/](#)). If the Commonwealth's tax policies continue to cause trucking companies to domicile elsewhere, the additional fuel, tolls and vehicle maintenance, among other costs, will be borne by Massachusetts residents and businesses.

- This legislation is a matter of common sense. If a company does not purchase a product within State (A), it is not fair for State (A) to tax the company for purchasing a product in State (B). The purpose of taxes and fees is to support the mechanisms that help the taxpayer. (i.e. road and bridges, police, fire, etc.). In the case of the trucking industry, gas taxes, tolls, vehicle registrations and other license fees and taxes cover the expense of the trucking industry. Collecting sales and use tax on rolling stock purchased in other jurisdictions creates a disincentive for companies to expand in the Commonwealth. Given that neighboring states in New England exempt rolling stock from sales and use tax, Massachusetts' current tax policy will simply lead to higher costs for Massachusetts residents and businesses while driving economic opportunity to the neighboring states. Various truck companies, who may be domiciled in Massachusetts or have repair facilities in Massachusetts, are now seeking to locate them outside of the state to reduce the substantial nexus necessary to collect such tax.

- The Dukakis Center at Northeastern University was asked by the Trucking Association of Massachusetts to study the economic impact of the trucking in the Commonwealth. Key findings from the Dukakis Center study included the following:

- “The overall trucking industry (including private and for-hire trucking) represent about one in 12 jobs or about 300,000 jobs in Massachusetts in 2017.”
- “Each local trucking employee on average generates \$3,396 per year in state and local payroll, income and property taxes and each local truck on average generates \$3,125 per year in taxes from support service activity.”
- “Most states—37 out of 50—exempt for-hire interstate trucking firms from paying sales tax on new equipment purchases to encourage interstate trade by local firms. States with full exemptions include four New England states—Connecticut, Maine, New Hampshire, and Rhode Island—and a fifth, Vermont, with the tax capped at \$1,850 per truck. Massachusetts is the only New England state with no sales tax exemptions for interstate for-hire trucking firms.”
- “The following occupations illustrate how well these production jobs pay: 1) diesel engine mechanic (2017 US average income=\$48,000 and MA=\$57,550); 2) riggers (US=\$50,270 and MA=\$56,650); 3) machinist (US=\$44,160 and MA=\$51,020); and, 4) heavy and tractor-trailer truck drivers (US=\$44,500 and MA=\$50,580). Source: Bureau Labor Statistics (2017).”
- “There are several problems with Massachusetts' application of sales and use taxes applied to trucks (aka, taxing rolling stock). First, doctrinal inconsistency: most states apportion and promote local trucking activity; Massachusetts does the opposite. Second, taxing rolling stock and increasing the relative tax burden motivates relocation (the impact of state and local taxes on location is well established). Third, the benefits of efficient trucking are broad, but the costs are disproportionately borne by local trucking companies (in a competitive industry passing along these costs to customers is impossible). Last, taxing local companies at a higher rate yields slower local company growth.”
- “Analysis of the number of for-hire trucking establishments in each state over time illustrates that states that apply sales tax on the purchase of trucks engaged in interstate carriage have significantly fewer firms. From this perspective, we presented a counterfactual consideration above: if Massachusetts for-hire trucking employment grew at the rate of the United States, 2,768 more employees and 2,076 more power units would be operating and generating an additional \$15.9 million in tax revenue per year.”
- “Hence, we find that if Massachusetts' for-hire trucking industry grew at the same rate as the overall United States rate, we would have 2,768 more employees and 2,076 more power units would be operating. *In total, an additional \$9.4 million in payroll, income and property taxes, and \$6.5 million in taxes related to purchase of support and ancillary services: hence, an additional \$15.9 million per year. As Massachusetts private fleets are also subject to the same sales and use taxes, we assume the impact will be similar; hence, total tax implication can twice as much when including supermarket, manufacturing and other private fleets.*” (emphasis added).

The Environmental Benefits of Eliminating the Tax on Rolling Stock in Trucking

Will Encourage Trucking Companies to Reduce Emissions and Increase Fuel Efficiency

HD1706 (Jones), SD1392 (Crighton) and SD1248 (Tarr), An Act Relative to the Taxation of Rolling Stock, will bring Massachusetts in line with a majority of other states (37 states, including the six neighboring New England states) within which an exemption from sales and use tax for rolling stock already exists. These bills do not allow a motor carrier to avoid paying the multitude of other taxes and fees otherwise required under federal, state and local law. However, most other surrounding states do not tax rolling stock; therefore, creating another incentive for interstate trucking companies to either leave Massachusetts or forego it in favor of other states. (i.e. potential companies in the future).

A study by Northeastern University’s Dukakis Center has shown that the elimination of the rolling stock tax will actually produce at least an additional \$15.9 million in taxes created by the growth of the for-hire portion of the trucking industry. From an environmental perspective, this initiative will incentivize trucking companies and companies with truck fleets to buy newer, safer and more environmentally friendly trucks and to operate them in the Commonwealth – whereas the current policy discourages this. HD1706, SD1392 and SD1248, which have been passed by the Massachusetts House three times, will promote a cleaner, greener Commonwealth by promoting the purchase of vehicles with higher emissions standards and greater fuel efficiency.

Emissions

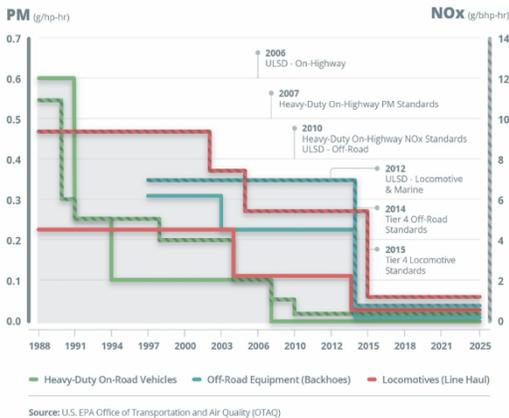
Removing the incentive to hold onto trucks as long as possible in Massachusetts will lead trucking companies to purchase new trucks. By purchasing new trucks, companies will be reducing the presence of particulate matter (PM2.5) by 99% and the presence of nitrogen oxide (NOx) by 98%. The key, however, is getting older trucks off of the road.

The environmental benefits of encouraging the purchase of new trucks is significant. The United States Environmental Protection Agency (EPA) recently reported that “[it] previously took action to reduce GHG emissions from heavy-duty trucks with its Phase 1 and Phase 2 GHG standards. The Phase 2 standards began in model year 2021, with two additional steps of increasing stringency that will take effect in model years 2024 and 2027. The Phase 2 program promotes a new generation of cleaner, more fuel-efficient gasoline and diesel trucks.” In December 2022, EPA proposed a new standard for NOx emissions from heavy duty trucks starting with model year 2027. “In this action, the agency will also explore updates to the Phase 2 GHG standards for certain heavy-duty fleets that are rapidly shifting toward zero-emission technologies. ... In recent years, zero-emission heavy-duty trucks have begun entering the market in volumes that were not foreseen when EPA began the Phase 2 GHG program. Many of these zero-





PROGRESS TO NEAR-ZERO PM & NOx EMISSIONS



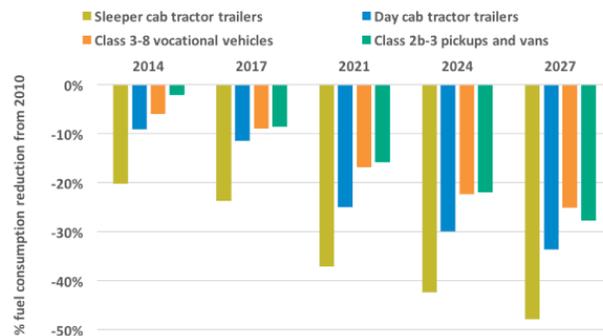
emission technologies are available today, and the number of products available, as well as production volumes, are expected to accelerate in the next few years.” See [EPA Regulatory Update](https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1012ON0.pdf), August 2021, accessed at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1012ON0.pdf>. While this new standard will impact newly manufactured trucks – meaning that older trucks, which are grandfathered when new standards are created, do not have the newest technology.

In all cases, however, Massachusetts’ current law on the taxation of rolling stock creates a disincentive where trucking companies are encouraged to keep their older, less clean trucks. Notwithstanding the impact Massachusetts current law has on the behavior of national trucking companies, who can simply cycle their older trucks through the state, the current policy is counter-productive to the Commonwealth’s environmental protection strategies. Bringing the rolling stock exemption back to Massachusetts will create an incentive for purchasing cleaner diesel trucks now and alternative field trucks in the future.

Fuel Efficiency

According to the Diesel Technology Forum (DTF), “while making commercial trucks much lower in emissions, diesel engine and truck manufacturers have also made them increasingly more fuel-efficient. Since 2011, new diesel commercial trucks realize an average 5% improvement in fuel economy, thanks to advanced emissions controls (selective catalytic reduction) than have enabled optimized engine design toward greater fuel efficiency. This translates into petroleum reduction equivalent to 5.8 billion barrels of crude oil. An owner of a single new Class 8 truck powered by the latest advanced diesel engine can expect to save about 2,200 gallons of fuel each year compared to previous generations of technology. This reduces greenhouse gas emissions by nearly 30 tons.”. See <https://dieselforum.org/trucking>.

Heavy-duty vehicles’ fuel consumption reduction in 2027 from 2010



Source: ACEEE calculation from Phases 1 and 2 standards



Again, the future opportunity for reducing the use of carbon fuels through the purchase of new vehicles will increase. As further reported by the DTF, “[n]ew diesel vehicles continue to increase their penetration in the marketplace in part, due to fuel efficiency requirements of Phase 1 of the U.S. Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) Fuel Efficiency standards that went into effect in 2014 and the more stringent Phase 2 rules that started in 2021. The Phase 2 rule is expected to eliminate over 1 billion tons of greenhouse gas emissions from new trucks between 2021 and 2027. More efficient diesel trucks will deliver the overwhelming majority of these benefits even as zero-emissions technologies are expected to gain some market share during the lifetime of the rule.” *Id.* But, again, without changing Massachusetts current laws relative to the taxation of rolling stock, companies will not update their vehicles until the last possible moment – thereby increasing our overall carbon fuel consumption.

The elimination of the Commonwealth’s tax on rolling stock will improve air quality now and reduce the use of fossil fuels in the future, in addition to creating jobs and supporting of the trucking industry in Massachusetts.

Please support HD1706 (Jones), SD1392 (Crighton) and SD1248 (Tarr) to bring these environmental benefits to the Commonwealth today

Public Safety Benefits from Eliminating the Rolling Stock Tax

Support HD1706 (Jones), SD1392 (Crighton) and SD1248 (Tarr)

Legislation before the Massachusetts legislature will bring Massachusetts in line with a majority of other states (37 states, including the neighboring New England states) within which an exemption from sales and use tax for rolling stock already exists. (Note: three additional states, Vermont included, have a small cap.). This initiative does not allow a motor carrier to avoid paying the multitude of other taxes and fees otherwise required under federal, state and local law. However, many other surrounding states do not tax rolling stock; therefore, creating another incentive for interstate trucking companies to either leave Massachusetts or forego it in favor of other states. (i.e. potential companies in the future).

One of the many benefits in passing HD1706 (Jones), SD1392 (Crighton) and SD1248 (Tarr), An Act Relative to the Taxation of Rolling Stock, is in public safety. Currently, there are eight major safety technologies in use or under development in the trucking industry: antilock braking systems, stability control, lane departure warning, collision avoidance systems, blind spot warning devices, interior cameras, rear view cameras and side monitor cameras and sensors. These technologies, which are included in new trucks, will make Massachusetts roadways safer. Unfortunately, under the current taxation system for rolling stock, trucking companies and companies with trucking fleets are incentivized to keep their old, less safer trucks on the road. For trucking companies with national fleets, Massachusetts' current law encourages these companies to prevent any of their new trucks from entering the Commonwealth to avoid tax exposure. Adopting this language, which has been passed by the Massachusetts House of Representatives three times and received a favorable report from the Joint Committee on Revenue in the past two sessions, will incentivize trucking companies to purchase new trucks for use in Massachusetts.

Example of some of the safety technology included in new trucks:

Active Brake Assist

Active Brake Assist 5.0 (ABA 5.0) is always on, detecting the distances to objects ahead in its path, calculating slowing, and determining if a warning or braking action is necessary. In addition, ABA 5.0 features full braking on stationary and moving objects. The camera and radar signals are fused together for greater object recognition, which allows for enhanced braking capabilities.

How Active Brake Assist Works
ABA 5.0 Dash Displays

- 1. INITIAL WARNING/ NO BRAKING**
The driver receives a simultaneous visual dash alert and pulsating warning tone.
- 2. WARNING/ PARTIAL BRAKING**
If the driver does not respond to the visual auto warning, the system will trigger a visual dash alert with solid warning tone, and engage in partial braking.
- 3. WARNING/ FULL BRAKING**
If there is a still no driver input, the system will trigger a visual dash alert with solid warning tone, and engage in full braking.
- 4. ABA FULL BRAKING, EVENT FINISHED, BRAKES ON HOLD**
If the driver does not respond to the visual auto warning, the system will trigger a visual dash alert with solid warning tone, and engage in full braking, followed by full braking if the driver does not react.

Adaptive Cruise Control (ACC) to 0 mph

ACC automatically adjusts your truck's cruising speed to maintain a safe following distance—3.6 seconds by default on the new Cascadia—from other vehicles in its path, allowing the truck to remain in cruise control longer. The following distance can be optionally adjusted between 2.4 and 3.6 seconds within the interactive dash display.

ACC now works in stop-and-go traffic. If the vehicle in front comes to a stop, the new Cascadia will also come to a full stop—0 mph—and hold indefinitely. If the vehicle in front starts to move within two seconds of coming to a stop, then the truck will resume moving at a safe following distance. If the complete stop is longer than two seconds, then the driver must push the throttle or press set/resume. ACC to 0 mph helps reduce driver fatigue, which improves the overall driver experience.

Active Lane Assist

Lane Departure Protection (LDP)
This optional feature auto-enables once speed exceeds 37 mph. The camera system detects the reflective part and raised reflectors in lane markers. If the truck crosses those markers without the driver using a turn signal, a Lane Departure Warning (LDW), now standard with Detroit Assurance 5.0, will be issued first. An audible warning is sent through the corresponding speaker on the side of the truck that crosses the lane marker, along with a visual warning on the instrument panel. If the truck continues to veer out of its lane, it will be actively steered back into its lane.

Lane Keep Assist (LKA)
When Adaptive Cruise Control is enabled, Lane Keep Assist uses micro-steering movements to keep the new Cascadia centered in its detected lane. Lane Keep Assist works at all speeds, but some road curves may be too sharp for this feature. The driver can disable it by turning the feature off.

Side Guard Assist (SGA)
SGA detects objects in the truck's blind spot and warns the driver not to change into an occupied lane or make a right turn that would cause the truck to contact an object or person.

Additional Features with Detroit Assurance 5.0

Traffic Sign Display
The camera recognizes the speed limit and other traffic signs, and then displays those signs in the instrument cluster. Traffic Sign Display has the capability to display two signs at the same time.

Automatic Wipers/Headlamps
The new Cascadia comes equipped with a Rain/Light Sensor that detects precipitation on the windshield and low-light situations. When wiper controls are set to auto position and it starts to rain or snow, the sensor will automatically turn the wipers on. Once the precipitation stops, the sensor will turn the wipers off. When the headlight switch is in "auto" position, the Rain/Light Sensor detects low light and the headlights will automatically turn on. When lighting conditions improve, the headlights will automatically turn off.

Intelligent High Beam
When the driver sets the headlight switch to auto high beam, the Detroit Assurance camera technology automatically switches to low beam when it detects the headlights or tail lights of another vehicle, as well as city lights. Once the vehicle or city lights are out of sight, the high beams automatically come back on.

Optional Video Capture with Detroit Assurance 5.0 Camera
The standard Detroit Assurance 5.0 HD camera with optional forward-facing video capture records video of the truck activity on the road to capture any severe traffic events. In addition, the optional driver-facing camera can record video of the driver's actions during the same time period. In such an event, a total of 30 to 50 seconds of recording from before, during and after each an occurrence—along with driver vehicle parameter data—is transferred to the Bendis SafetyDirect web portal for fleet operations and safety personnel to download and analyze.

Note: Requires a subscription to the Bendis SafetyDirect web portal.

Financial Impact of Collisions

The Centers for Disease Control and Prevention (CDC) Foundation found motor vehicle crashes cost U.S. employees:

- \$25 billion per year
- \$671,000 per death
- \$95,000 per nonfatal injury

Even a minor collision can negatively impact your bottom line with unplanned expenses including repairs, lost productivity, missed deliveries, replacement vehicle rental, and towing totaling:

- \$10,000 to \$20,000 per occurrence

Consider these results when specifying your next truck with a collision mitigation system.

Source: www.masscentral.com/news-releases/the-poll-pollution-considerations-for-employees-05-01-2013-09-09

Eliminating the tax on rolling stock creates safer roads, a cleaner environment and economic development opportunities.