

# Whitepaper on Tampering and After Market Defeat Devices: An Analysis of Mid-Atlantic State Compliance and Enforcement Options

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## Authors, Acknowledgements, and Disclaimers

The Mid-Atlantic Regional Air Management Association (MARAMA) is a coalition of ten Mid-Atlantic air pollution control agencies. MARAMA’s goal is to improve the capabilities of member agencies and to assist with agency coordination to prevent and reduce air pollution in the Mid-Atlantic Region. To this end, MARAMA has partnered with the University of Maryland Francis King Carey School of Law Environmental Law Clinic to develop this whitepaper on state compliance and enforcement strategies to address vehicle tampering and the sale, installation, and use of illegal after-market defeat devices. This whitepaper is for informational purposes only. No part of this whitepaper is intended to provide legal advice.

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## I. Introduction

Mobile source emissions are a major contributor to air pollution throughout the nation. In particular, nitrogen oxides (NO<sub>x</sub>)—released in large part from diesel-powered mobile sources—react with volatile organic compounds (VOCs) in the atmosphere to form ground-level ozone, resulting in serious environmental and health consequences,<sup>1</sup> including a variety of respiratory problems and even premature mortality.<sup>2</sup> Moreover, mobile sources emit small inhalable particles, known as fine particulate matter (PM<sub>2.5</sub>),<sup>3</sup> that bring similar severe health and environmental consequences.<sup>4</sup> These problems are shared by all MARAMA member agencies and their respective states, as the Environmental Protection Agency (EPA) estimates that in the next decade close to 100,000 excess tons of NO<sub>x</sub> and 890 tons of PM could be emitted in the MARAMA states due to aftermarket tampering of diesel mobile sources.<sup>5</sup>

To combat this problem on a national scale, the Clean Air Act (CAA) requires new motor vehicles to meet emissions standards determined by the EPA or, in certain circumstances, the California Air Resources Board (CARB).<sup>6</sup> In order to comply with CAA requirements, vehicles must be equipped with emissions control devices.<sup>7</sup> However, certain individuals and companies illegally install after-market “defeat devices” on vehicles to render useless the emissions control system of the vehicle (i.e. “tampering”),<sup>8</sup> often times with the goal of improving performance or avoiding maintenance costs. Some examples of common defeat devices include exhaust gas recirculation (EGR) delete hardware, exhaust aftermarket delete pipes, and tuners (devices that can hack and modify the vehicle’s on-board diagnostic system).<sup>9</sup> The pervasive use of after-market defeat devices results in increased air pollution, and in turn ozone non-attainment in the Mid-Atlantic region.

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<sup>1</sup>EPA, *Nitrogen Dioxide (NO<sub>2</sub>) Pollution*, epa.gov (last updated September 8, 2016), available at <https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects>.

<sup>2</sup> See EPA, *Health Effects of Ozone*, epa.gov (last updated Jul. 30, 2019), available at <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>; see also Zhang, J. J., Wei, Y., & Fang, Z., *Ozone Pollution: A Major Health Hazard Worldwide*, 10 *Frontiers in Immunology* 2518 (Oct. 31, 2019), available at <https://doi.org/10.3389/fimmu.2019.02518>.

<sup>3</sup> “Primary” PM<sub>2.5</sub> is emitted directly from a mobile source, commonly in the form of dust, soot, or smoke. “Secondary” PM<sub>2.5</sub> is formed through the reaction of NO<sub>x</sub> and other chemicals in the atmosphere. Therefore, in addition to the formation of ozone, NO<sub>x</sub> emissions promote the formation of PM<sub>2.5</sub>. See US EPA, *EPA Region 1: EPA New England: What is PM?*, epa.gov (last updated Oct. 10, 2019), available at <https://www3.epa.gov/region1/airquality/pm-what-is.html>.

<sup>4</sup> See, e.g., Pelucchi, C., Negri, E., Gallus, S. et al., *Long-term particulate matter exposure and mortality: a review of European epidemiological studies*, 9 *BMC Pub. Health* 453 (Dec. 8. 2009), available at <https://doi.org/10.1186/1471-2458-9-453>.

<sup>5</sup> Letter from EPA AED to MARAMA, *Aggregated Evidence of Tampered Diesel Pickup Trucks*, Nov. 18, 2019. This letter is included in Appendix A.

<sup>6</sup> 42 USCA § 7521.

<sup>7</sup> CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B).

<sup>8</sup> Not all after-market devices are illegal – only those which are designed to bypass, defeat, or render inoperative the emissions controls on a vehicle are illegal, and accordingly the devices of which this paper is the subject.

<sup>9</sup> Most 1996 and newer model vehicles have pre-installed computerized systems, called On-Board Diagnostics (OBD) systems, which monitor emissions control devices including catalytic converters and exhaust gas recirculation (EGR) valves.

While the Mid-Atlantic region is already susceptible to increased mobile source emissions due to a dense population and the I-95 corridor, the use of after-market defeat devices and tampering in diesel-powered vehicles significantly exacerbates the problem of excess NO<sub>x</sub>. Each diesel-powered truck that does not have the proper emissions control system is estimated to emit more than one ton of excess NO<sub>x</sub>, which for MARAMA states could be the equivalent of 60,000 tons of excess NO<sub>x</sub> from 2009-2019.<sup>10</sup> Vehicle tampering may also be prevalent in the Mid-Atlantic region, as EPA estimates that roughly 58,000 diesel vehicles had their emissions controls completely removed in the preceding decade, or “deleted,” which would be 8.5% of diesel vehicles registered in the MARAMA states in 2016.<sup>11</sup>

One of the more high-profile and timely examples of the illegal use of defeat devices is the 2015 *Volkswagen* matter. In that matter, Volkswagen, a multinational original equipment manufacturer (OEM) installed defeat devices in the computer system of certain vehicles before selling the vehicles. As a result, the EPA, the Federal Trade Commission (FTC), the Securities and Exchange Commission (SEC), states, and thousands of individuals filed suit. Of the states that brought suit, many did so under their respective emissions and anti-tampering laws for alleged environmental harms. Many states also brought consumer protection claims on behalf of vehicle owners, alleging fraud, misrepresentation, and violations of state consumer protection laws. After all, consumers often bear the brunt of the detriments of after-market defeat devices; tampering will not only reduce the life of the vehicle’s engine, but it also significantly reduces the value of the vehicle.<sup>12</sup> While the relative success of these state claims is largely jurisdiction-specific and, in some circumstances, implicates complex legal issues such as preemption, the *Volkswagen* cases ultimately demonstrate that states have an opportunity to utilize existing legal authorities to combat defeat devices, in both the environmental and consumer protection legal fields.

This whitepaper focuses on the use of existing state legal authorities to combat the use of illegal defeat devices in the after-market context. That is, whereas the *Volkswagen* line of cases targeted the pre-market installation of illegal defeat devices, many individuals, auto garages, dealers, and others are also installing illegal defeat devices after vehicles are already sold and in use. This whitepaper describes opportunities for a wide range of compliance and enforcement activities in the areas of environmental law and consumer protection law, drawing primarily from statutes, regulations, and the experiences of MARAMA member agencies in their corresponding jurisdictions. The authors use both publicly available sources as well as information gained from interviews with staff members of MARAMA state agencies.

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<sup>10</sup> Letter from EPA AED to MARAMA, *Aggregated Evidence of Tampered Diesel Pickup Trucks*, Nov. 18, 2019.

<sup>11</sup> *Id.*

<sup>12</sup> EPA, Air and Radiation, *Car Owners: Protect the Environment and Your Health*, EPA 420-F-93-004, Sept. 1993.

## II. Compliance and Enforcement Options

### A. Environmental Options

Under the CAA, states are responsible for proposing and implementing regulations designed to meet federally mandated National Ambient Air Quality Standards (NAAQS) for criteria pollutants. These regulations and supporting documents constitute a State Implementation Plan (SIP), which must be approved by the applicable EPA region overseeing the state.<sup>13</sup> The use of illegal after-market defeat devices threatens the ability of states to effectively implement SIP's and achieve attainment of specific criteria pollutants, namely ozone and PM<sub>2.5</sub>.

#### i. Enhance Enforcement of Tampering-Specific Laws

Many MARAMA states have existing anti-tampering laws that allow for enforcement activity. Some of these environmental laws and regulations are incorporated into the SIP, while some are independent from the SIP. Accordingly, states may bring suit to enforce a SIP under the citizen suit provision of the CAA,<sup>14</sup> or can pursue enforcement actions under non-SIP state laws and regulations. These laws use similar language to address a variety of conduct relating to the sale and use of illegal defeat devices, including (1) prohibiting the sale or operation of a vehicle that does not meet emissions standards, (2) prohibiting the sale or operation of tampered vehicles or vehicles installed with a defeat device, (3) prohibiting the act of tampering or installing a defeat device, (4) prohibiting the sale of defeat devices, and (4) prohibiting the release of visible emissions ("rolling coal"). Moreover, many states have online portals available to citizens to report violations of these provisions. A table of MARAMA states and their corresponding laws is included in Appendix B.

To date, judicial cases brought by state environmental agencies using the above legal authorities are scarce. However, certain states have started to engage in early-stage compliance and enforcement activity based on state tampering laws. For example, the New Jersey Department of Environmental Protection (NJDEP) combats the use of illegal after-market defeat devices through the imposition of fines and the circulation of agency publications that make entities aware of the state's anti-tampering rules and accompanying enforcement. NJDEP maintains an inventory of enforcement action reports under its Air Program, which includes enforcement activity against dealerships, repair shops, and defeat device sellers for violations of

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<sup>13</sup> There are ten regional EPA offices. States with MARAMA Member Agencies lie in Regions 1-4. Minnesota lies in Region 5 and Texas lies in Region 6. *See About EPA, Regional Offices*, EPA.GOV (last updated Feb. 6, 2020), available at <https://www.epa.gov/aboutepa>.

<sup>14</sup> *See In re Volkswagen "Clean Diesel" Mktg., Sales Practices, & Prod. Liab. Litig.*, 264 F. Supp. 3d 1040, 1046 (N.D. Cal. 2017) ("[f]ederal district courts have jurisdiction to resolve SIP enforcement actions, which may be initiated by EPA, a State, or by citizen suit.") (citing 42 U.S.C. § 7604). The citizen suit provision has also recently been used by individuals in suits brought against illegal defeat-device purveyors, suggesting that illegal tampering has become a significant public interest issue and ripe for increased state action. *See Utah Physicians for a Healthy Env't v. Diesel Power Gear, LLC*, 374 F. Supp. 3d 1124 (Dist. Utah 2019).

the anti-tampering provisions noted in the table in Appendix B.<sup>15</sup> NJDEP also proactively enforces these laws through the publication of “Compliance Advisories,” which are notifications concerning the illegality of after-market tampering.<sup>16</sup> These compliance advisories have been widely and regularly disseminated to dealerships, mechanics, vehicle auction houses, vehicle associations, consumers, and more.<sup>17</sup> NJDEP also regularly makes phone calls to auto-related facilities to notify them of regulatory changes, as well as seek updates on potential tampering activities.<sup>18</sup>

The EPA and certain non-MARAMA states also offer examples of vigorous and unique enforcement strategies. Recently, EPA highlighted its efforts to combat illegal after-market tampering and noted that it has resolved over 50 such cases in the last five years.<sup>19</sup> These federal enforcement actions, while brought under the CAA, involve federal statutory provisions that largely mirror the state provisions cited in the table in Appendix B. Additionally, the California Air Resources Board (CARB) has been actively enforcing its anti-tampering laws and has recently reached settlements with several dealerships and body shops that install deficient after-market emissions control devices.<sup>20</sup> Other states, such as Texas, utilize communications strategies similar to New Jersey that help publicize anti-tampering requirements. Under 30 TX ADC §§ 114.20(c)(3), (e), for example, any business that sells or repairs used vehicles is required to post signage detailing the state’s anti-tampering laws “in a prominent and conspicuous location near each consumer entrance way and service counter.”<sup>21</sup>

Similarly, all MARAMA states seeking to combat tampering could begin by developing effective communication strategies that inform consumers and businesses about the illegality of vehicle emissions tampering. Whether in the form of Compliance Advisories or explicit signage requirements, these communications not only provide notice, but also increase the likelihood that agencies will receive citizen tips as a mechanism for identifying violations. Further, MARAMA states could work towards developing formal enforcement actions based on existing state anti-tampering laws. Finally, states without laws that address illegal aftermarket tampering could

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<sup>15</sup> A search of the NJDEP’s database returns dozens of enforcement actions under state anti-tampering laws in the last 16 months alone. See NJDEP, *Compliance and Enforcement: Enforcement Reports*, nj.gov, available at <https://www.nj.gov/dep/enforcement/reports-list.html>.

<sup>16</sup> See NJDEP, *Compliance Advisories: Air*, nj.gov, available at <https://www.nj.gov/dep/enforcement/advisories-air.htm>.

<sup>17</sup> See NJDEP, *Compliance Advisory: Tampering of Emissions Control Systems on Diesel and Gasoline Vehicles is Prohibited* (Nov. 2017), available at <https://www.nj.gov/dep/enforcement/advisories/2017-08.pdf>.

<sup>18</sup> Interview with New Jersey Department of Environmental Protection (on file with author).

<sup>19</sup> EPA, *EPA Highlights Enforcement Actions Against Those Who Violate the Defeat Device and Tampering Prohibitions under the Clean Air Act*, epa.gov (Apr. 30, 2020), available at <https://www.epa.gov/newsreleases/epa-highlights-enforcement-actions-against-those-who-violate-defeat-device-and>. EPA has been enforcing in the after-market space for decades. See, e.g., *United States v. Econ. Muffler & Tire Ctr., Inc.*, 762 F. Supp. 1242 (E.D. Va. 1991).

<sup>20</sup> See CARB, *Settlement Agreement and Release with CNS Motors, Inc.* (Dec. 12, 2019), available at [https://ww3.arb.ca.gov/enf/casesett/sa/cns\\_motors\\_inc\\_sa.pdf](https://ww3.arb.ca.gov/enf/casesett/sa/cns_motors_inc_sa.pdf); see also CARB, *Settlement Agreement and Release with VMP Tuning, Inc.* (Oct. 27, 2019), available at [https://ww3.arb.ca.gov/enf/casesett/sa/vmp\\_tuning\\_inc\\_sa.pdf](https://ww3.arb.ca.gov/enf/casesett/sa/vmp_tuning_inc_sa.pdf).

<sup>21</sup> For the full text of 30 TX ADC § 114.20, see [http://txrules.elaws.us/rule/title30\\_chapter114\\_sec.114.20](http://txrules.elaws.us/rule/title30_chapter114_sec.114.20).

look to the language of New Jersey’s statutory provisions as an example of how to target the full spectrum of conduct related to the use of illegal defeat devices.<sup>22</sup>

## ii. Increase Citizen Complaints for Targeting

Further, citizens can have a large role to play in the fight against defeat devices and vehicle tampering through the reporting of excess visible emissions from mobile sources. Often referred to as “rolling coal,” this phenomenon of spewing smoke from the exhausts of vehicles has become a growing counterculture movement. Many MARAMA states have established portals where citizens can report these instances of “rolling coal.” The effectiveness of these mechanisms varies among states, and in some instances, remains entirely unclear. In many states, these complaints are not tracked and counted by any robust system, nor are there tracking methods for how many enforcement actions are commenced as a result of these complaints. Additionally, many citizens may be unaware of the existence of such a portal, evidenced by the limited number of complaints filed in various portals throughout the MARAMA states.

For example, the North Carolina Department of Environmental Quality (NCDEQ) utilizes a portal whereby citizens can report instances of “rolling coal.” Despite the wide grant of enforcement authority, conversations with various administrative agencies in North Carolina demonstrated that the citizen complaint reporting may not lead to effective change in vehicle emission reductions or enforcement.<sup>23</sup> Assessed on a case-by-case basis, the NCDEQ receives complaints via their portal, and in turn sends a letter to the owner of the vehicle, alerting them of their potential violation.<sup>24</sup> The NCDEQ has no enforcement authority over reported violations of a smoking vehicle – instead, the North Carolina Division of Motor Vehicles (NCDMV) retains enforcement authority over smoking vehicles, i.e. can levy fines against offenders.<sup>25</sup> Moreover, as evidenced by the low number of complaints (20) received by NCDEQ in 2019, citizens of North Carolina are either unsure of the portal’s utility, unaware the portal exists, or are largely in compliance with applicable prohibitions on rolling coal.<sup>26</sup>

Similarly, the Virginia Department of Environmental Quality (VADEQ) administers an online portal for citizens to report instances of “rolling coal.”<sup>27</sup> Upon receiving reports of instances of “rolling coal” where the vehicle is subject to the jurisdiction of the VADEQ, the department will send an advisory letter to the registered owner of the vehicle.<sup>28</sup> The letter indicates that the vehicle was observed and reported as emitting visible smoke and recommends that the owner take their vehicle to be repaired before then taking their vehicle to pass the emissions inspection.<sup>29</sup> Upon receiving reports of instances of “rolling coal” where the vehicle is not subject to the jurisdiction of the VADEQ, the department will either pass this information to

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<sup>22</sup> See Appendix B (containing New Jersey’s statutory provisions).

<sup>23</sup> Interview with NC Department of Environment and Natural Resources (on file with author).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> See Appendix B.

<sup>28</sup> These include only vehicles subject to the Virginia I/M Program. See Interview with Virginia Department of Environmental Quality (on file with author).

<sup>29</sup> *Id.*

the Virginia State Police (VSP) or advise the complainant to contact VSP.<sup>30</sup> VSP does not keep track of how many violators are fined as a result of these complaints, so it is unclear how effective the complaint mechanism is in Virginia.<sup>31</sup> The VSP also has the authority to stop a vehicle that presents a safety hazard and inspect if there exists a citable issue; however, the VSP must observe the vehicle while it is being operated and visibly spot the smoking emissions in order to issue a citation.<sup>32</sup>

All MARAMA states should consider working to improve the effectiveness of citizen portals. The more citizens that are aware of the existence and utility of such a portal, the more likely it is to be used when instances occur. There is no mechanism to analyze the efficacy of these portals, such as how many fines are levied or how many vehicles are repaired as a result of these complaints. The data that can be gathered from these portals can be utilized to create a database of vehicle tampering and after-market defeat devices across the state. Moreover, these portals can be used not only to repair a citizen's vehicle, but also to track down vendors and installers of illegal after-market defeat devices. The most important facet of these reporting frameworks is to educate the general public on the availability and utility of the portals.

### **iii. Improve Detection of After-Market Defeat Devices through Inspection and Maintenance**

The CAA 1990 Amendments require that certain states and Metropolitan Statistical Areas (MSAs) implement an Inspection and Maintenance (I/M) testing program to monitor and evaluate registered vehicles' emissions.<sup>33</sup> I/M testing programs identify vehicles with high emissions that might need repairs, and the owners of such vehicles are notified to make such repairs so that their vehicles are within legal emission limits.<sup>34</sup>

All MARAMA states administer I/M testing programs, with the exception of West Virginia. However, interviews with MARAMA state agency officials indicated several problems with using I/M testing programs to help combat illegal aftermarket defeat devices.<sup>35</sup> Some I/M testing program facilities may be "friendly" with local consumers and as a result, might be less inclined to report violations to the appropriate authorities. Others expressed concerns that penalties for vehicle tampering or operation of a tampered vehicle are too low to adequately serve as deterrents. Some interviewees also indicated a lack of political will for implementing legislation to combat defeat devices and tampering. There is a general recalcitrance to the expansion of I/M programs from political entities in many MARAMA states, as well as inter-agency tension as to the resources devoted to, and prioritization of enforcement against, vehicle tampering and illegal after-market defeat devices.

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<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> <https://www.epa.gov/state-and-local-transportation/vehicle-emissions-inspection-and-maintenance-im-regulations>

<sup>34</sup> *Id.*

<sup>35</sup> *See* Interviews with state agencies (on file with author).

While political and legislative issues such as this are highly complex, interviews with state authorities indicate that some particularly critical factors include unawareness of the health and environmental dangers resulting from poor vehicle emissions controls, perceptions that the government is micromanaging private citizens' rights by limiting emissions, concerns over decreased vehicle registration fees, or concerns about federal preemption of diesel emissions standards.<sup>36</sup> Overall, it appears that there is an overarching lack of public understanding of air pollution issues related to tampering and defeat devices, as well as a general hesitation to prioritize tampering and defeat device enforcement from various political and bureaucratic stakeholders.

Many states across the country, including some MARAMA states, have rolled back existing I/M programs by limiting the scope of vehicles included or concurrently expanding the number of vehicles excluded. This is largely a function of limited existing resources to enforce emission inspections as well as a concomitant improvement in air quality in program areas. Nevertheless, vehicle tampering and the presence of illegal after-market defeat devices persists. Where possible, states should focus on two particularly acute problems in the effectiveness of I/M testing to detect potential installation of illegal after-market defeat devices: diesel exemptions and rapid testing capability.

#### *a. Diesel Exemptions*

Of the MARAMA states, only three state I/M programs subject diesel vehicles to emissions inspections.<sup>37</sup> Even the states that do subject diesel vehicles to some sort of I/M requirements include various exceptions that substantially narrow the scope of those and dampen the efficacy of these programs. Some state laws, such as Pennsylvania, prohibit the state from administering a program with more stringent requirements than mandated by EPA, which means that diesel vehicles are statutorily exempt from their I/M programs. Other localities, like Delaware and the District of Columbia, have adopted regulations that exclude diesel vehicles from emissions inspection programs. A list of the MARAMA states and whether they test diesel vehicles in a limited fashion, or wholly exempt diesel vehicles from emissions inspections is available in Appendix C. Of the states that inspect diesel-vehicle emissions, only New Jersey and Virginia conduct OBD Tests on diesel vehicles. Importantly, Virginia does not administer emissions inspections statewide – rather, only ten counties and cities are subject to emissions inspections.

All MARAMA states should consider revisiting diesel exemptions in I/M testing programs. While executing such a recommendation may be a difficult undertaking, diesel vehicle testing is critical due to the increased health risks of diesel emissions, and the fact that diesel emissions account for nearly 43% of all on-road NOx emissions.<sup>38</sup> This is especially true

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<sup>36</sup> See, e.g., Interview with Pennsylvania Department of Environmental Protection (on file with author).

<sup>37</sup> Virginia subjects light-duty diesel vehicles to their general I/M programs, while Maryland and Jersey administer a separate program for medium-and heavy-duty diesel vehicles, and heavy-duty vehicles, respectively.

<sup>38</sup> Janice Chan, *Tampering & Aftermarket Defeat Devices*, EPA – Enforcement and Compliance Assurance Division, November 2019.

in the Mid-Atlantic region.<sup>39</sup> In addition, there is evidence to show that tampering in diesel vehicles is particularly problematic; full-deletes in diesel vehicles, or the full removal of emission controls, increases the emission of NO<sub>x</sub> by three-hundred and ten times the standard amount, taking the vehicle from today's standards to the emission standards of the 1980s, before these programs existed.<sup>40</sup>

Aside from revisiting the statutory and regulatory exemptions for diesel vehicles within a state, states could potentially utilize the "Good Neighbor" Provision of the Clean Air Act to encourage neighboring states to include diesel vehicles in their emissions inspection programs. Section 110(a)(2)(D) provides that upwind states cannot allow "any source or other type of emissions activity" which will "contribute significantly to nonattainment" of NAAQs in another state or "interfere with" the SIP of any other state.<sup>41</sup> Under Section 126(b), states may petition EPA for a finding that "any major source or group of stationary sources," in any state, has violated Section 110(a)(2)(D)(ii).<sup>42</sup> To date, it does not appear that a state has attempted to bring such a petition in the context of mobile source emissions.<sup>43</sup> Nonetheless, states can also pursue informal action—i.e., during the public comment period of a neighboring state's SIP revision—to advocate for the removal of a neighboring state's diesel exemption, citing as authority Section 110(a)(2)(D)'s prohibition on mobile source pollution to the extent that it interferes with the SIP of a neighboring state.

#### *b. Modernize I/M Testing Capabilities*

Further, I/M testing programs do not always reach covered vehicles often enough to detect potential tampering. Many IM programs administer emission inspections annually or biannually, and only at specific certified locations across the state. Expanding the screening and testing capabilities of I/M programs will widen the scope of enforcement in general, and especially against vehicle tampering and illegal after-market defeat devices and the resulting excess emissions.

However, two MARAMA states have had success streamlining the I/M testing process for consumers and have increased the testing capabilities of the I/M program to broaden its reach. Virginia administers an optional on-road emissions inspection program called RAPIDPASS Virginia in the program areas, or the areas subject to the emissions inspection

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<sup>39</sup> See Appendix A.

<sup>40</sup> *Id.* at 9, 11.

<sup>41</sup> 42 U.S.C. § 7410(a)(2)(D).

<sup>42</sup> 42 U.S.C. § 7426(b).

<sup>43</sup> Moreover, the different language used in Section 110 (prohibiting "any source or other type of emissions activity") and Section 126 (prohibiting "any major source or group of stationary sources") could preclude such a petition, depending on the interpretation of the statute by EPA or a reviewing court. See Timothy Talkington, *Interstate Air Pollution Abatement and the Clean Air Act Amendments of 1990: Balancing Interests*, 62 U. Colo. L. Rev. 957, 975 (1991) ("Section 126(b) contains nothing about mobile sources or "other type of emissions activity." Administrative petitions seeking review of non-stationary polluting sources are likely to be denied under section 126(b) because there is no corresponding language supporting such a proposition. And judicial review of a denied section 126(b) petition for a finding regarding mobile sources will be denied because the courts are not going to overturn an EPA decision unless it is found to be arbitrary or capricious.").

program.<sup>44</sup> By placing two green boxes on each side of a drive lane equipped with sensors to measure a vehicle's speed, acceleration, and associated exhaust emissions, these systems determine whether a given vehicle is in compliance with emissions standards. A camera then captures an image of the license plate and sends a notice to the owner of the vehicle informing them whether their vehicle has passed or failed the emissions inspection. If a vehicle is determined to be emitting excessive levels of harmful pollutants, the owner is sent a Notice of Violation of Exhaust Emissions Standards for Remote Sensing (Notice). Within thirty (30) days of the issue of the Notice, the subject vehicle must pass an emissions inspection; if the vehicle is equipped with an on-board diagnostics system (OBD), the vehicle must be brought to an emissions inspections station and pass both an OBDII Test and an exhaust emissions test.

Similarly, the Maryland Vehicle Emissions Inspection Program (VEIP) utilizes self-service inspection kiosks, with a total of ten kiosks around the state.<sup>45</sup> The inspection kiosks conduct the same diagnostic test performed by technicians at full-service VEIP stations. These kiosks are open 24/7, and test light-duty gasoline vehicles with a MY 2005 and newer, and heavy-duty vehicles with a MY 2008 and newer. These kiosks have performed more than 175,000 inspections test since 2015, and in 2018 alone accounted for roughly 6.5% of all inspections test performed that year.<sup>46</sup>

All MARAMA states should consider the scope for modernizing existing I/M testing programs. The Virginia and Maryland initiatives demonstrate the capabilities that states have, within their existing regulatory framework, to enhance the efficacy of I/M programs. Methods such as these increase the testing capabilities of I/M programs by quickly screening vehicles to determine whether their vehicle either failed the emissions inspection or needs to conduct further testing at a certified facility. Importantly, these are voluntary options that a vehicle owner can take at any time, meaning that a vehicle owner does not need to wait until their emissions inspection expires in order to get their vehicle tested by the RAPIDPASS system or the emissions-kiosks. These consumer-centric initiatives increase the number of vehicles tested while simultaneously decreasing the amount of time it takes for a vehicle to get tested.

#### **iv. Citizen-Suit Provision of the Clean Air Act**

Outside the citizen reporting of visible smoking emission from vehicles, citizen and citizen groups can utilize the citizen-suit provision of the Clean Air Act (CAA) to combat vehicle tampering and illegal after-market defeat devices. Increasing awareness of these provisions could broaden the scope of individuals who might become involved in actions against tampering.

The CAA contains two sections that authorize citizen participation in CAA enforcement and implementation: Section 307, which allows citizen suits challenging EPA actions made

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<sup>44</sup> These areas include the counties of Arlington, Fairfax, Loudoun, Prince William, and Stafford, and the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park.

<sup>45</sup> Maryland Department of the Environment, *VEIP Self-Service Kiosk Update*, RepairCare, Spring 2019.

<sup>46</sup> *Id.*

pursuant to the CAA, and Section 304, which permits citizen suits against CAA violators.<sup>47</sup> This latter provision allows “any person” to bring a suit against “any person” who has violated, or is in violation of, any emission standard under the Act.<sup>48</sup> In the context of tampering and illegal defeat devices, this provision would allow any person to sue any person that was alleged to be in violation of Section 203 of the Act, or the provision that prohibits individuals from selling or installing defeat devices on any vehicle or engine.<sup>49</sup>

The first, and thus far only, time that the citizen-suit provision was used to enforce Section 203 of the CAA was in *Utah Physicians for a Healthy Env’t. V. Diesel Power Gear, LLC*.<sup>50</sup> In this case, a citizen group, the Utah Physicians for a Healthy Environment (UPHE), brought a case against three private businesses and four individuals who were alleged to be installing illegal after-market defeat devices on the vehicles they were selling, as well as selling already-modified vehicles. The United States District Court for the District of Utah granted summary judgment to UPHE with respect to their claims for civil penalties, holding that the citizen group has standing to pursue each of their claims.<sup>51</sup> The defendants argued that they cannot be held liable for violating Section 203 of the CAA simply for the “pass-through” sale of already-modified vehicles; that is to say, the defendant argued that Section 203 only prohibits the sale or installation of illegal defeat devices, not the sale of vehicles with such devices already installed.<sup>52</sup> The court swiftly rejected this reasoning, holding that the plain language of the CAA pellucidly encompassed the sale of already-modified vehicles under Section 203.<sup>53</sup> Moreover, the defendants further argued that modified vehicles transferred to individuals via a “sweepstakes giveaway” does not fall under the definition of “sale” under the CAA.<sup>54</sup> Again, the court rejected this reasoning, noting that the plain-English dictionary definition of the term “sale” encompasses vehicles given to individuals via sweepstakes.<sup>55</sup>

## B. Consumer Protection Options

Consumer protection legal authorities can also play a significant role in combating illegal vehicle tampering. Consumer protection laws are designed to protect consumers victimized by various forms of unlawful business practices or warranty violations. In certain circumstances vehicle tampering may violate these consumer protections. States typically empower their

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<sup>47</sup> 42 U.S.C. § 7607(d); 42 U.S.C. § 7604(a).

<sup>48</sup> 42 U.S.C. § 7604(a)(1)(A).

<sup>49</sup> 42 U.S.C. § 7522 (a)(3)(B). These citizen-suit provisions can also be used to enforce the SIPs of each state in federal court to regulate the use of aftermarket defeat devices, granted that the relevant SIPs have provisions aimed at regulating these devices.

<sup>50</sup> 374 F. Supp. 3d 1124 (Dist. Utah 2019).

<sup>51</sup> *Id.* at 1140. Importantly, the court found that UPHE did not have standing in relation to their claims for mandatory injunctive relief because their request was “not tied to the geographic area in which UPHE’s members’ suffer cognizable injury.”

<sup>52</sup> *Id.* at 1140.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.* at 1144; *see also* 42 U.S.C. § 7522.

<sup>55</sup> *Id.* at 1144.

respective Attorney General (AG) as the lead authority in enforcing consumer protection laws via either state or federal courts.

The specific criteria for prohibited business practices under consumer protection laws vary somewhat by state but are generally similar. The most common prohibited business practices are fraud, deception, misrepresentation, and acts considered to be unscrupulous or unconscionable against a consumer.<sup>56</sup> Vehicle vendors that employ any of those prohibited practices while selling a tampered vehicle could be subject to legal liability for their conduct. For example, if a vehicle vendor knows that one of their heavy-duty diesel trucks has been tampered with or contains an illegal defeat device, but falsely advertises that the truck meets federal emissions standards, then that vendor could be liable for a legal claim based on misrepresentation.

Similar to prohibiting specific business practices, consumer protection laws also require that many products which are sold are subject to some sort of warranty. These warranties are often categorized as “Lemon Laws” for protecting consumers against vehicle defects. There are two types of warranties that typically apply to sold goods: implied or express warranties.<sup>57</sup> An implied warranty of merchantability means that products sold by a merchant must be fit for the purpose for which it is used and must be of high quality, regardless of the merchant’s statements about the product.<sup>58</sup> An express warranty means that statements or facts related to a product which forms the basis of the bargain between parties creates a duty for the seller that the product will conform to the seller’s statements.<sup>59</sup> The key difference between these warranties is that implied warranties of merchantability only apply to “merchants”<sup>60</sup> and implied warranties can exist without some affirmative statement by the seller about the product. But similar to violations of prohibited business practices, vehicles sold in violation of any warranty expose the seller to legal liability.

Federal law and consumer protection jurisprudence also require state authorities seeking to enforce consumer protection laws to do so in consideration of federal consumer protection laws and federal preemption doctrine. Congress has established federal consumer protection laws,<sup>61</sup> and these have been used as the basis for federal claims relating to defeat devices.<sup>62</sup>

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<sup>56</sup> See e.g., MD COML § 13-301 (“Unfair, abusive, or deceptive trade practices include . . . [f]alse, falsely disparaging, or misleading oral or written statement, visual description, or other representation of any kind which has the capacity, tendency, or effect of deceiving or misleading consumers.”). See also VA ST § 59.1-200.

<sup>57</sup> UCC § 2-312.

<sup>58</sup> *Id.* §§ 2-314-15.

<sup>59</sup> *Id.* § 2-313.

<sup>60</sup> *Id.* § 2-104 (“Merchant” means a person who deals in goods of the kind or otherwise by his occupation holds himself out as having knowledge or skill peculiar to the practices or goods involved in the transaction or to whom such knowledge or skill may be attributed by his employment of an agent or broker or other intermediary who by his occupation holds himself out as having such knowledge or skill.”).

<sup>61</sup> See 15 U.S.C. § 45(a) (“Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.”); 15 U.S.C. §§ 2301-12 (imposing federal standards for consumer product warranties).

Courts have long interpreted that these federal consumer protection laws do not intrude upon or preempt the states' ability to enforce their own consumer protection laws, unless the states' regulations are inadequate or counterproductive to federal regulations.<sup>63</sup> So a state seeking to bring a consumer protection claim can avoid preemption issues if the claim is not based on an alleged violation of federal laws, which falls solely under federal jurisdiction, and instead brings the claim based on alleged violations of state consumer protection laws.<sup>64</sup>

Applying state consumer protection laws against tampering is highly dependent on specific factual circumstances. In some situations, consumer protection laws automatically apply, such as when the seller must have necessarily committed some prohibited business practice or warranty breach in order to have sold the vehicle. In these situations, a state's AG need only establish facts showing that the vehicle sale could not have occurred without violating consumer protection laws in some way, i.e. the seller could only have sold the vehicle by misrepresenting facts about the vehicle or by breaching an express or implied warranty. The *Volkswagen* litigation is a prime example of this type of situation. In *Volkswagen*, once it was discovered that the vehicles contained defeat devices, the FTC and various states were able to allege that the company deceived customers through a highly publicized marketing campaign.<sup>65</sup>

Consumer protection law has also been employed in the context of after-market defeat devices, albeit in limited fashion. In *Bledsoe v. FCA US LLC*, the United States District Court for the Eastern District of Michigan held that plaintiff truck owners pleaded facts sufficient to overcome a motion to dismiss, where plaintiff alleged that defendant, a licensed vehicle vendor, misrepresented that his trucks were not equipped with illegal defeat devices.<sup>66</sup> The court relied upon the affirmative misrepresentations by the defendant that the affected vehicles were more environmentally-friendly and more fuel-efficient than they were in reality to find that plaintiff's claims were adequately based in state consumer protection law and viable.<sup>67</sup> Importantly, the court denied defendant's argument that these claims were preempted by the Clean Air Act, holding instead that only claims seeking to enforce a "standard relating to the control of [vehicle] emissions" are so preempted, but not claims that attempt to "hold [defendants] responsible for . . . false representations about certain technologies in [vehicles]."<sup>68</sup> Similarly, a Texas district

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<sup>62</sup> See e.g., *In re Volkswagen "Clean Diesel" Mktg., Sales Practices, & Prod. Liab. Litig.*, MDL No. 2672, 2017 WL 2212783, \*1 (N.D. Cal. May 17, 2017) (approving the settlement of a class action lawsuit between plaintiffs, including the Federal Trade Commission, and Volkswagen Auto Group for claims based on alleged violations of state and federal consumer protection laws).

<sup>63</sup> *American Financial Services v. F.T.C.*, 767 F.2d 957, 991 (D.C. Cir. 1985), cert. denied, 475 U.S. 1011 (1986).

<sup>64</sup> See e.g., *In re Volkswagen "Clean Diesel" Litig.*, 94 Va. Cir. 189 (Fairfax Cir. Ct. Aug. 30, 2016) (holding that claims relating to enforcement of the Clean Air Act are preempted due to Congress' decision to grant EPA sole jurisdiction over air quality standards, but claims based on alleged misrepresentations in violation of Virginia consumer protection law are valid).

<sup>65</sup> FTC, *FTC Charges Volkswagen Deceived Consumers with Its "Clean Diesel" Campaign*, (Mar. 29, 2016), <https://www.ftc.gov/news-events/press-releases/2016/03/ftc-charges-volkswagen-deceived-consumers-its-clean-diesel>.

<sup>66</sup> 378 F. Supp. 3d 626 (E.D. Mich. 2019).

<sup>67</sup> *Id.* at 644.

<sup>68</sup> *Id.* at 642.

court held that the plaintiff, a vehicle purchaser, plead facts sufficient for a cause of action under the Texas Deceptive Trade Practices Act.<sup>69</sup> There, the plaintiff bought a vehicle from the defendant car dealership, and the vehicle was equipped with illegal after-market defeat devices. The defendant concealed the fact defeat devices were installed on the vehicle, and as a result of the devices, plaintiff suffered over \$30,000 in repair costs.<sup>70</sup>

While the above cases involve private citizens, and not state agencies, utilizing state consumer protection law against vehicle tampering and illegal defeat devices, these cases nevertheless highlight an encouraging avenue for consumer protection in the context of vehicle tampering as a whole. These examples also demonstrate that it would be beneficial for states seeking to employ consumer protection against tampering to educate consumers on the applicability of consumer protection laws in different circumstances. Educating citizens on consumer protection laws could help improve awareness of how these laws serve to protect them against prohibited business practices or warranty breaches, arming citizens with the knowledge to recognize unlawful behavior and increasing the likelihood that critical evidence might be retained for later legal actions.

MARAMA states could consider similarly employing consumer protection as a tool against tampering and aftermarket defeat devices, which has not typically been done in the past.<sup>71</sup> The cases described above underscore the importance for states using consumer protection against tampering to consider the specific circumstances of each situation, especially in the context of misrepresentation or concealment, as well as demonstrate the type of evidence needed to support a claim under state consumer protection law.

Some MARAMA states have indicated that guidelines would be beneficial to aid states in applying consumer protection laws against tampering. Accordingly, there are three major elements that a state should consider when bringing a consumer protection claim: 1. The nature of the seller; 2. Representations the seller has made to the buyer; and 3. The nature of the buyer. The following paragraphs explore these essential considerations in different tampering contexts in order to aid states in understanding how consumer protection laws could be effectively employed:

1. The nature of the seller. This is critical because the implied warranty of merchantability only exists if the seller is a merchant, whereas express warranties and prohibited business practices apply to any seller. If the seller is a vehicle “merchant,” the plaintiff has the option of including a breach of implied warranty as a separate claim if they show that the vehicle has been tampered with, potentially adding leverage against the seller or easing the plaintiff’s burden to establish the claim by removing the requirement to prove that the seller made statements about the vehicle’s tampered status. However, if the party selling a tampered vehicle

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<sup>69</sup> See *Steven R. URBAN, Plaintiff, v. Epic Auto SALES, Defendant.*, 2019 WL 1298949 (Tex. Dist. 2019).

<sup>70</sup> *Id.*

<sup>71</sup> However, states have frequently used consumer protection laws in odometer fraud cases, which may have parallels to tampering and aftermarket defeat devices. See e.g. (*McCracken v. Anderson Chevrolet–Olds, Inc.*, 346 S.E.2d 683 (1986); *Wilkins v. Peninsula Motor Cars, Inc.*, 587 S.E.2d 581 (2003); *Cogar v. Monmouth Toyota*, 751 A.2d 599 (2000).

is a private individual or otherwise fails to meet the requirements of being a vehicle “merchant,” then the plaintiff would have the burden of establishing specific facts showing that the seller made some sort of representation in violation of an express warranty or prohibited business practice.

2. The seller’s representations to the buyer. A seller only commits a consumer protection violation if they engage in a prohibited business practice or breach a warranty. Proof of such conduct requires showing that the seller made statements or facts to the seller about the vehicle: the seller had made some untruthful or misleading representation about the vehicle’s tampering, emissions, or defeat device status in order for consumer protection laws to apply. Thus, if a seller has not made any representations or created an express warrantee about the vehicle’s tampered status, the plaintiff’s claim would be hard-pressed to succeed. But if clear evidence exists that the seller made representations to the buyer that the vehicle has not been tampered with or does not contain any defeat devices, then the plaintiff would be able to bring a consumer protection enforcement action unless the buyer is also seeking to violate tampering laws.

3. The nature of the buyer. Consumer protection laws fundamentally assume that the consumer – or buyer – is seeking protection. So if the evidence shows that every buyer was innocent or unaware that a vendor was selling tampered vehicles, then a plaintiff would have little difficulty showing that misrepresentation or a breach of warranty occurred. If evidence shows that the buyer is aware of and consents to a vehicle being tampered, then the plaintiff would have great difficulties in showing that any misrepresentation or warranty breach had occurred.

### **III. Conclusion**

Excessive mobile source emissions resulting from the use of illegal after-market defeat devices burden states with environmental, public health, legal, and economic consequences. Recent high-profile, national litigation has shown that states have a valuable opportunity to combat the use of illegal defeat devices on a much broader scale, particularly in the relatively untapped area of after-market vehicle tampering. Moreover, certain states already have an existing legal infrastructure that could facilitate this type of enforcement, and many states are capable of reaching a heightened level of enforcement with a few, relatively inexpensive modifications to the state regulatory regime. Bolstering of I/M programs, enactment and enforcement of anti-tampering laws, education and utilization of citizens, and consumer protection all provide creative avenues for states to combat the use of illegal defeat devices and, in turn, ameliorate the significant adverse effects of mobile source emissions.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
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OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Marc Cone  
Julie McDill  
Mid-Atlantic Regional Air Management Association (MARAMA)  
*Sent by email to* [mcone@marama.org](mailto:mcone@marama.org) *and* [jmcdill@marama.org](mailto:jmcdill@marama.org)

Re: Aggregated Evidence of Tampered Diesel Pickup Trucks

Dear Marc and Julie,

I'm writing to provide some information that may be of interest and use to MARAMA and its members that concerns the prevalence of diesel pickup trucks which have had their emissions controls removed.

As you know, the EPA has begun a National Compliance Initiative entitled *Stopping Aftermarket Defeat Devices for Vehicles and Engines*. This is a strategic effort to help ensure that vehicles on our streets and highways have fully functioning emissions control systems, and to hold accountable those companies that tamper with these systems or manufacture, sell, or install aftermarket defeat devices. Partnering with states is a core objective of this Initiative, because we believe that state efforts could complement EPA's work and help to get ahead of this problem. Indeed, federal-state partnerships are how we have successfully dealt with gross emitters on our roads for decades.

The scale of the non-compliance is largely unknown, but by all appearances warrants our attention. EPA experience to date reveals that it is impossible or extremely difficult to accurately quantify rates of tampering, sales of aftermarket defeat devices, and the emissions impact from this conduct. In part, that is because this conduct occurs with respect to most or all categories of vehicles and engines, including commercial trucks, passenger vehicles, pickup trucks, motorcycles, forestry equipment, agricultural equipment, and locomotives. Quantification also is challenging because tampering is nationwide and often occurs in isolated instances, many retailers are online operations that sell nationwide, and the portion of the aftermarket industry of primary concern operates in an obfuscated manner.

However, EPA's Air Enforcement Division is conducting a review of evidence about aftermarket defeat devices for diesel pickup trucks (primarily class 2b and 3 vehicles between 8,500 and 14,000 pounds GVWR). This evidence has been obtained by EPA civil enforcement personnel over the course of investigations over several years. The review is not yet complete, but likely will show that in the past decade more than 500,000 diesel pickup trucks have had their emission controls completely removed (also known as "deleted"). This is approximately 13 percent of all diesel pickup trucks registered in the United States in 2016 that were manufactured with emissions controls such as exhaust gas recirculation, filters, and catalysts. AED also estimates that each tampered truck, on average, will emit more than one ton of excess NOx over a typical service life as a result of the tampering. So, the evidence shows EPA cases to date have identified more than 500,000 tons of excess NOx due to tampering with diesel pickup trucks. Due to their severe excess NOx emissions, these trucks have an air quality impact equivalent to adding 9 million additional (compliant, non-tampered) diesel pickup trucks to our roads. Again, this is the air quality impact of only the tampering the EPA has identified during recent investigations and is

## APPENDIX A

not an estimate of nationwide tampering rates. This information is one indication that the scale of non-compliance is substantial.

Enclosed are two tables which include our preliminary findings based on this review for the MARAMA states (Delaware, District of Columbia, Maryland, New Jersey, North Carolina, Pennsylvania, Virginia, and West Virginia). We are not able to share much of the underlying data in this review because it is information obtained in the course of enforcement investigations in to aftermarket defeat device manufacturers and distributors. For now, at least, we are only able to share this information in aggregated form.

In performing this review, we are making conservative assumptions to ensure we are not overstating the problem. For example, we are taking steps to ensure we do not double count any aftermarket defeat devices, we use reliable methods to predict the remaining miles a truck will be driven after having its emissions controls removed, we make modest extrapolations to fill gaps in the information in any particular investigation, and we do not account for aftermarket defeat devices manufactured by companies which have not been investigated and for which we do not have data.

I trust this information is helpful as you continue your efforts to keep air clean in the mid-Atlantic. Thank you for your efforts, and please do not hesitate to let me know if I can provide more information or find ways to partner with you and your members to stop aftermarket defeat devices.

Sincerely,  
/s/ Phillip A. Brooks  
Director  
Air Enforcement Division  
Office of Civil Enforcement  
(202) 564-6850  
[brooks.phillip@epa.gov](mailto:brooks.phillip@epa.gov)

APPENDIX A

Preliminary Results for MARAMA States:

Quantity of Deleted Diesel Pickup Trucks and Percentage of Registered Fleet

Values are for Class 2b and 3 diesel pickups only

	Estimated Deleted Vehicles (2009-2019)	All MY Diesels, Class 2b and 3		2003+ MY's, Class 2b and 3	
		Estimated Registered Diesel Vehicles (2016)*	Estimated Deleted Vehicles, % of Total 2016 Fleet	Estimated Registered Diesel Vehicles (2016)*	Estimated Deleted Vehicles, % of Total 2016 Fleet
WV	4,600 (+/- 1,300)	41,000	11.1% (+/- 3.2%)	26,000	17.3% (+/- 4.9%)
VA	11,000 (+/- 1,900)	120,000	9.3% (+/- 1.6%)	72,000	15.3% (+/- 2.6%)
PA	16,000 (+/- 4,600)	180,000	9.2% (+/- 2.6%)	110,000	14.6% (+/- 4.1%)
NC	11,837 (+/- 1,800)	150,000	7.7% (+/- 1.2%)	93,000	12.7% (+/- 2.0%)
DE	890 (+/- 290)	11,000	7.9% (+/- 2.6%)	7,700	11.6% (+/- 3.8%)
MD	5,700 (+/- 1,600)	73,000	7.8% (+/- 2.1%)	50,000	11.5% (+/- 3.1%)
NJ	4,200 (+/- 980)	87,000	4.8% (+/- 1.1%)	54,000	7.7% (+/- 1.8%)
All MARAMA States	57,000 (+/- 12,000)	660,000	8.5% (+/- 1.9%)	410,000	13.7% (+/- 3.0%)
All U.S. States	500,000	5,800,000	9%	3,800,000	13%

\* Registration Data derived by EPA

+/- values represent the 95% confidence interval based on the variability in distribution of customer invoices compiled from numerous parts manufacturers

APPENDIX A

## Preliminary Results for MARAMA States: Excess Emissions from Deleted Diesel Trucks

Values are for all classes of diesel trucks, but 95% of data are Class 2b and 3 diesel pickup trucks

	Estimated Deleted Vehicles (All Vehicle Classes)		Estimated Excess NO <sub>x</sub> (Tons) (All Vehicle Classes)		Estimated Excess PM (Tons) (All Vehicle Classes)	
	2009-2019	Projected (Next 10 years)	2009-2019	Projected (Next 10 years)	2009-2019	Projected (Next 10 years)
WV	4,700	6,000	4,800	7,800	51	74
VA	11,000	14,000	11,000	19,000	120	180
PA	17,000	22,000	18,000	29,000	190	270
NC	12,000	16,000	13,000	21,000	130	200
DE	910	1,200	950	1,600	10	15
MD	5,900	7,600	6,000	9,900	64	94
NJ	4,300	5,600	4,400	7,200	47	69
All MARAMA States	58,000	72,000	58,000	94,000	610	890
All U.S. States	520,000	671,000	540,000	880,000	5,700	8,300

## APPENDIX B

STATE SURVEY OF COMMON LANGUAGE IN ANTI-TAMPERING LAWS						
State	Prohibition on sale or operation of vehicle that does not meet emissions standards	Prohibition on sale or operation of tampered vehicle or vehicle with defeat device installed	Prohibition on the act of tampering or installing a defeat device	Prohibition on sale of defeat devices	Prohibition on release of visible emissions (“rolling coal”)	Portals for citizens to report instances of “rolling coal”
DE	<a href="#">7 Del. Admin. Code § 1140-5.0</a> (CA Standards)		<a href="#">Del. Ann. Code tit. 21, § 6701</a>		<a href="#">Del. Ann. Code tit. 21, § 4191B</a>	
MD	<a href="#">Md. Code Regs. § 26.11.34.05</a> (CA Standards)	<a href="#">Md. Code Regs. § 26.11.20.02(B)</a> ;  <a href="#">Md. Code Ann., Transp. § 22-402.2</a>	<a href="#">Md. Code Regs. § 26.11.20.02</a> ;  <a href="#">Md. Code Ann., Transp. § 22-402.1</a>		<a href="#">Md. Code Ann., Transp. § 21-1131(b)</a> <sup>72</sup>	<a href="https://mde.maryland.gov/programs/Air/MobileSources/Pages/Smoking.aspx">https://mde.maryland.gov/programs/Air/MobileSources/Pages/Smoking.aspx</a> .
NJ	<a href="#">NJ ST 39:8-62</a> (CA Standards)	<a href="#">N.J. Admin. Code § 7:27-14.3(e)(2)</a> (diesel);  <a href="#">N.J. Admin. Code § 7:27-15.7(a)(2)-(3)</a> (gasoline)	<a href="#">N.J. Admin. Code §§ 7:27-14.3(e)(1), (f)</a> (diesel);  <a href="#">N.J. Admin. Code § 7:27-15.7(a)(1)</a> (gasoline)	<a href="#">N.J. Admin. Code § 7:27-14.3(e)(3)</a> (diesel);  <a href="#">N.J. Admin. Code § 7:27-15.7(a)(4)</a> (gasoline)	<a href="#">N.J. ST 26:2C-8.57</a> (diesel)  <a href="#">N.J. Admin. Code § 7:27-14.4</a> (diesel);  <a href="#">N.J. Admin. Code § 7:27-15.6(a)</a> (gasoline)	
NC		<a href="#">N.C. Gen. Stat. § 20-</a>			<a href="#">N.C. Gen. Stat. §</a>	<a href="https://deq.nc.gov/ab">https://deq.nc.gov/ab</a>

<sup>72</sup> This provision exempts diesel-powered vehicles that discharge visible exhaust as a result of normal acceleration or towing, commercial vehicles that weight more than 10,000 pounds, and construction vehicles.

		<u>128</u>			<u>20-128.1</u> ; <u>N.C. Gen. Stat. § 20-136</u>	<u>out/divisions/air-quality/motor-vehicles-air-quality/smoking-vehicle-complaint-form.</u>
PA	<u>75 Pa. Stat. and Cons. Stat. Ann. § 4531(a)</u>	<u>75 Pa. Stat. and Cons. Stat. Ann. § 4531(c)</u>	<u>75 Pa. Stat. and Cons. Stat. Ann. § 4531(b)</u>		<u>75 Pa. Stat. and Cons. Stat. Ann. § 4532</u>	
VA		<u>VA Code Ann. § 46.2-1048</u> ; <u>9 VAC 5-91-190(D)</u> <u>9 VAC 5-40-5670(A)</u>	<u>9 VAC 5-91-190(A), (B)</u> ; <u>9 VAC 5-40-5670(A)</u>		<u>9 VAC 5-91-210</u> ; <u>9 VAC 5-40-5670(B)</u>	<u>https://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/PollutionReportingForm.aspx.</u>
DC	<u>DC ST § 50-731 (CA Standards)</u>				<u>20 DCMR § 901</u> ; <u>20 DCMR § 903</u>	<u>https://311.dc.gov/citizen/home.</u>
WV			<u>W. Va. Code, § 22-5-15</u>			

## APPENDIX C

<b>STATE SURVEY OF DIESEL EXEMPTIONS IN I/M PROGRAMS</b>				
<b>State</b>	<b>Total Diesel Exemption</b>	<b>Limited Diesel Testing</b>	<b>Statute/Regulation</b>	<b>Language</b>
DE	X		<a href="#"><u>7 Del Admin. Code § 7-1000-1126.4</u></a>	Expressly exempting “All vehicle powered solely diesel...”
MD		X	<a href="#"><u>Md. Transportation Code Ann. § 23-401</u></a>	Establishing the Diesel Vehicle Emissions Control Program for diesel vehicles above 10,000 pounds.
NJ		X	<a href="#"><u>N.J.A.C. § 13:20-7.2</u></a>	Outlining the diesel vehicles that are exempt from emissions inspections.
NC	X		<a href="#"><u>N.C. Gen. Stat. § 20-183.2(b)</u></a>	Describing the types of vehicles that are subject to emissions inspections in the applicable counties.
PA	X		<a href="#"><u>75 Pa. C.S. § 4102; 67 Pa. Code § 177.3</u></a>	Defining “emissions inspection program” as “a vehicle emission inspection program as defined by the Federal Environmental Protection Agency.”
VA		X	<a href="#"><u>Va. Code Ann. §46.2-1178(A)</u></a>	“The emissions inspection program . . . shall apply to all motor vehicles that have actual gross weights of 8,500 pounds or less that are registered in [listing localities].”
D.C.	X		<a href="#"><u>Code D.C. Reg. § 18-601.4(l)</u></a>	“All other vehicles [must be inspected for emissions]. . . except that . . . motor vehicles with diesel engines . . . do not need to be inspected.”
WV				