

Access to Motor Vehicle Software and Data

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SUMMARY

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Access to Motor Vehicle Software and Data

The marketplace of goods and services after the initial sale of a vehicle—including replacement parts, maintenance services, and repair services—is known as the *aftermarket*. Some industry participants and consumers contend that the growing prevalence of software and sensors within motor vehicles has enabled motor vehicle manufacturers—*original equipment manufacturers* (OEMs)—to limit competition in the aftermarket. *Right to repair* is a term used by various advocacy groups supporting fewer restrictions on consumers' ability to repair products they have purchased through legislative changes and other means. In the context of the aftermarket, it refers to consumers' ability to select who repairs and/or maintains their motor vehicles.

Motor vehicles' software supports many functions, including (1) controlling the vehicle's safety and comfort features and (2) assisting drivers via a set of in-vehicle technologies (also known as *advanced driver assisted systems*). In addition, the software enables *telematics*, that is, the wireless transmission of data to and from vehicles and data centers hosted by the vehicle manufacturers. Access to motor vehicles' telematics data has become a focal point of the motor vehicle right-to-repair policy debate.

In addition to consumers and workshops (i.e., entities that offer repair and maintenance goods and services), several other participants have a financial stake in the flow of goods and services in the aftermarket supply chain. During the warranty period of motor vehicles, OEMs pay for goods and services covered by the warranty. In addition, OEMs sell replacement parts and licenses for access to motor vehicle software, data, repair manuals, and diagnostic tools to workshops. Insurance companies pay workshops directly or reimburse consumers for post-collision repairs.

Copyright laws, typically enforced by courts and administered by the Library of Congress, penalize consumers and third parties that violate copyright holders' exclusive rights to creative works, including software. Pursuant to a congressionally mandated triennial rulemaking, the Librarian of Congress may grant temporary three-year exemptions from certain copyright laws to allow third parties and consumers to access, store, and share vehicle operational data.

Third-party and consumer access to vehicle data, and the ability to transmit data to motor vehicles wirelessly, have been at the center of the debate about laws enacted in Massachusetts and Maine and about a bill introduced in the 118th Congress, H.R. 906, the Right to Equitable and Professional Auto Industry Repair Act (REPAIR Act). The Massachusetts law, enacted in 2020, stipulates that beginning with model year 2022 vehicles, OEMs selling or leasing motor vehicles in Massachusetts must equip them with a standardized open data platform. The platform would enable vehicle owners and independent repair workshops to access, via a mobile application, any vehicle-specific data without obtaining prior authorization from OEMs. OEMs sued the state of Massachusetts, claiming the state law conflicts with federal laws, including copyright and vehicle safety laws. The judge presiding over the trial has not yet issued a ruling. In 2023, Maine also enacted a law with this provision, applicable to motor vehicles sold in Maine no later than January 1, 2025.

The REPAIR Act would require a manufacturer to make vehicle-generated data available to the vehicle's owner and designees through a standardized access platform. It would give the Federal Trade Commission the authority to adopt a rule that would require OEMs to provide consumers and independent workshops with data, "critical repair information," and tools needed to repair motor vehicles. In addition, it would permit the agency, in consultation with the National Highway Traffic Safety Administration to require OEMs to enable third parties to access motor vehicle data unrelated to repair and maintenance.

Groups advocating for federal or state legislation to guarantee consumers' right to repair advocate that OEMs should allow workshops and consumers to access motor vehicle telematics data. OEMs and dealership representatives contend that such laws are unnecessary and could compromise consumer safety. In addition to access, Congress may also consider the scope of such information that might be shared.

Contents

Introduction	1
Motor Vehicle and Aftermarket Industries	2
Vehicle Aftermarket Structure and Competition	4
Software-Defined Vehicles (SDVs)	5
ADAS Costs of Repairs	6
Telematics	
Potential Direct OEM-Consumer Relationship and Bypass of Dealers	8
Diagnostics, Telematics, and OEM Steering	8
Executive Branch Oversight of Aftermarket	9
Federal Trade Commission	10
Magnuson-Moss Warranty—Federal Trade Commission Improvement Act	11
White House	12
Copyright Laws Related to the SDV Aftermarket	13
The Digital Millennium Copyright Act and Section 1201	14
Section 1201 Temporary Exemptions	
State Laws and Reactions: 2012-2024	19
2012-2014: Massachusetts Right-to-Repair Law and Industry MOU	19
Similarities Between 2013 Massachusetts Law and 2014 Industry MOU	
Differences Between 2013 Massachusetts Law and 2014 Industry MOU	
Debate Over Access to Telematics Data: 2015-2024	
2020 Massachusetts Data Access Law and Implementation	
2023 Maine Vehicle Right-to-Repair Law and Proposed 2024 Amendments	
2023 Update to 2014 Industry MOU	
Options for Congress	24
Observe Impact of Industry Participants' Private Negotiations	24
Permit Current Federal and State Policy Framework to Develop	24
Enact Federal Legislation	25

Figures

Figure 1. Consumer Price Increases for Vehicles: Purchases and Aftermarket Expenses	. 3
Figure 2. Structure of Motor Vehicle Aftermarket Industry	. 4

Contacts

Author Information	26
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Introduction

Between 2000 and today, an increasing number of consumer products—from watches¹ to cat litter boxes²—contain software and sensors to enable the products to connect to the internet and receive and transmit data. Internet-connected devices with software pose unique challenges for consumers' ability to select who maintains and repairs their products, often referred to as a *right to repair*.³ The ability of repair shops that are independent of the original manufacturers to access software and data has implications for copyright, consumer protection, competition, and cybersecurity laws.⁴

This report focuses on the repair of motor vehicles.⁵ As the complexity of motor vehicles has increased, conflict among manufacturers, repair service providers, and replacement part retailers regarding control over the repair process has also grown.⁶

A central issue of the motor vehicle debate is the extent to which third parties, such as independent repair shops, need to directly access motor vehicles' software and data in order to repair them. Vehicle manufacturers claim that providing access could harm consumers by potentially lowering the quality of repair services and increasing risks to cybersecurity and passenger safety.⁷ Vehicle manufacturers also claim that third parties accessing vehicle software without obtaining prior authorization would violate the manufacturers' intellectual property rights.⁸

Executive branch agencies have also weighed in on the debate. The National Highway Traffic Safety Administration (NHTSA) stated in 2023 that it "strongly supports the right to repair" and

¹ "The Internet of Things (IoT) Revolution in Wearables," *IoT Business News* (blog), November 3, 2023, https://iotbusinessnews.com/2023/11/03/97971-the-internet-of-things-iot-revolution-in-wearables/. See also "Major Milestones in IoT Technology History," *IoT Business News* (blog), January 11, 2024, https://iotmktg.com/major-milestones-iot-technology-history/.

² Jeff Weishaupt, "10 Best Automatic Litter Boxes for Self-Cleaning in 2024 – Review & Top Pics," *Caster*, May 3, 2024, https://www.catster.com/lifestyle/best-automatic-cat-litter-box/.

³ *Right to repair* is a term used by various advocacy groups supporting fewer restrictions on consumers' ability to repair products they have purchased through legislative changes and other means. For one view on the term, see Irene Calboli, "The Right to Repair: Recent Developments in the USA," *WIPO Magazine*, August 2023, https://www.wipo.int/wipo_magazine_digital/en/2023/article_0023.html.

⁴ Christopher Boniface, Lacklan Urquhart, and Melissa Terras, "Towards the Right to Repair for the Internet of Things: A Review of Legal and Policy Aspects," *Computer Law & Security Review*, vol. 52, no. 52 (April 2024), https://doi.org/10.1016/j.clsr.2024.105934.

⁵ In the context of this report, the term *motor vehicles* refers to vehicles purchased by consumers, also known as *light-duty vehicles*, including automobiles, pickup trucks, and sport utility vehicles. David Stone and Mason Hamilton, "Crossover Utility Vehicles Blur Distinction Between Passenger Cars and Light Trucks," *Today in Energy* (blog), U.S. Energy Information Administration, U.S. Department of Energy, May 24, 2017, https://www.eia.gov/todayinenergy/detail.php?id=31352.

⁶ Robert Cunningham and Darby Hobbs, "The Evolution of the Right to Repair," *Antitrust*, vol. 37, no. 3 (Summer 2023), p. 43.

⁷ See generally Federal Trade Commission (FTC), *Nixing the Fix: An FTC Report to Congress on Repair Restrictions*, May 2021, pp. 24-43, https://www.ftc.gov/system/files/documents/reports/nixing-fix-ftc-report-congress-repair-restrictions/nixing_the_fix_report_final_5521_630pm-508_002.pdf (reviewing the debate between manufacturers and right-to-repair advocates) (hereinafter *FTC Nixing the Fix Report*).

⁸ Opposition Comment of the Alliance for Automotive Innovation to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, February 20, 2024, p. 4, https://www.copyright.gov/1201/2024/comments/opposition/Class%207%20-%20Opp'n%20-%20Alliance%20for%20Automotive%20Innovation%20(Auto%20Innovators).pdf.

has also stressed that "whenever access to write or execute command functionality [of a motor vehicle] is contemplated, it is important to be vigilant to minimize [cybersecurity] risks."⁹

The White House, several executive branch agencies, consumer advocacy groups, and repair service providers contend that manufacturers' restrictions on accessing embedded software and/or data can lead to higher prices for consumers, shorter product life cycles, and greater environmental waste.¹⁰ The North American vehicle supplier trade association MEMA¹¹ claims that "unfairly restricting access to vehicle generated data and repair and replacement components" reduces competition and increases costs.¹² At the same time, the Federal Trade Commission (FTC) has advised vehicle manufacturers that it will "take action to protect consumers against the illegal collection, use, and disclosure of their personal data [collected from motor vehicles]."¹³

As an example of the relationships between federal and state government agencies' jurisdictions and policy considerations in the right-to-repair debate, this report discusses how the debate applies to the motor vehicle industry. This report describes technological developments in the motor vehicle industry, the post-sales segment of the motor vehicle industry (i.e., repair and maintenance parts and services), and the growing role of vehicle data within this sector. In addition, this report explains how federal competition, consumer protection, and copyright laws intersect in the right-to-repair debate more generally. This report also describes the status of laws enacted in Massachusetts and Maine aimed at facilitating the right to repair and H.R. 906, the Right to Equitable and Professional Auto Industry Repair Act (REPAIR Act). Finally, this report discusses options for Congress.

Motor Vehicle and Aftermarket Industries

The U.S. Department of Commerce's Bureau of Economic Analysis reports that in 2023, household purchases of motor vehicles and parts accounted for about \$768 billion, or 4.2%, of the \$18.6 trillion in total consumer expenditures.¹⁴ Motor vehicles and parts were the second-largest category of durable consumer goods expenditures in 2023.¹⁵ After consumers purchase motor vehicles, they also pay to maintain and repair them. The marketplace of goods and services after the initial sale of a vehicle is known as the *aftermarket*.

⁹ Letter from Kerry Kolodziej, Assistant Chief Counsel for Litigation and Enforcement, U.S. Department of Transportation, National Highway Safety Administration, to Eric A. Haskell, Assistant Attorney General, Office of the Attorney General, Commonwealth of Massachusetts, August 22, 2023 https://s3.documentcloud.org/documents/23925257/letter.pdf.

¹⁰ The White House, "Readout of the White House Convening on Right to Repair," press release, December 25, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/25/readout-of-the-white-house-convening-on-right-to-repair/.

¹¹ Prior to changing its name to "MEMA" in 2023, the association was called "the Motor and Equipment Manufacturers Association." MEMA, "About MEMA: History," https://www.mema.org/about-mema/history.

¹² MEMA, "Advocacy, Aftermarket Issues: Take Action, 'Vehicle Right to Repair," https://www.mema.org/advocacy/ aftermarket-action-center.

¹³ Staff in the Office of Technology and The Division of Privacy and Identity Protection, "Cars & Consumer Data: On Unlawful Collection & Use," *Office of Technology Blog* (blog), Federal Trade Commission, May 14, 2024, https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2024/05/cars-consumer-data-unlawful-collection-use.

¹⁴ St. Louis Federal Reserve, Economic Research Resources, "Table 2.4.5 Personal Consumption Expenditures by Type of Product: Annual, 2023," https://fred.stlouisfed.org/release/tables?rid=53&eid=44183#snid=44254 (citing data from the U.S. Bureau of Economic Analysis).

¹⁵ Ibid.

As **Figure 1** indicates, between 2000 and 2023, prices increases in the motor vehicle aftermarket (i.e., parts, equipment, maintenance and repair services) were greater than price increases for new and used motor vehicles. During this period, price increases for motor vehicle maintenance and repair services were also greater than increases in the average price for all urban consumer products, a measure of inflation. Price increases for motor vehicle parts and equipment, however, generally grew at the same rate as the average price for all urban consumer products.

Figure 1. Consumer Price Increases for Vehicles: Purchases and Aftermarket Expenses



Year 2000 Consumer Price Indices = 100

Sources: Bureau of Labor Statistics; St. Louis Federal Reserve.

Notes: Consumer Price Indices for all urban consumers, annual, seasonally adjusted.

Several factors may be responsible for the increase in motor vehicle maintenance and repair service prices relative to inflation. For example, the increases may reflect the power of suppliers in a concentrated market to raise prices above a competitive rate.¹⁶ Alternatively, economists have noted that a combination of COVID-19 pandemic-related economic shocks and long-term factors has restricted supply of new motor vehicles and increased demand for repairs of older motor vehicles.¹⁷ The increased complexity of interconnected software and sensors in motor vehicles may have increased the costs of parts and labor needed to replace and repair them.

¹⁶ According to a 2022 note published by staff from the Competition Division of Organisation for Economic Co-operation and Development (OECD), "ineffective competition leads to higher prices, but it does not follow that rising prices are necessarily the result of ineffective competition." Richard May, *Competition and Inflation*, OECD Competition Policy Roundtable Background Note, Competition Division, OECD, Paris, 2022, p. 9, https://www.oecd.org/daf/competition/competition-and-inflation-2022.pdf.

¹⁷ Haley Chinander and Erik Garcia Luna, "Despite Easing Inflation, Vehicle Repair Costs Soar," The Federal Reserve Bank of Minneapolis, October 6, 2023, https://www.minneapolisfed.org/article/2023/despite-easing-inflation-vehiclerepair-costs-soar. The authors maintain that disruptions in motor vehicle supply chains and production during the (continued...)

Vehicle Aftermarket Structure and Competition

As **Figure 2** illustrates, the vehicle aftermarket comprises two types of sales channels:¹⁸ (1) independent channels and (2) original equipment manufacturer (OEM) channels. Each aftermarket channel contains two types of repair shops.





Source: CRS analysis of Exhibit 1 in Albert Waas et al., At the Crossroads: The European Aftermarket in 2030, Boston Consulting Group, European Association of Automotive Suppliers, Wolk After Sales Experts, Munich, March 2021, https://web-assets.bcg.com/36/39/e80d073a4067bfe89c7482d6db69/the-european-aftermarket-in-2030.pdf.

Notes: OEM = original equipment manufacturer. This figure, for the sake of clarity, excludes vehicle parts wholesalers, which act as intermediaries between vehicle parts suppliers and workshops.

Within independent channels, body/maintenance shops may be (1) independent or (2) part of an insurance company's "direct repair network." With the exception of repairing and servicing air conditioners,¹⁹ federal laws do not require motor vehicle service technicians and/or mechanics to be certified. State requirements for certification vary. Some states require service technicians and/or mechanics to have professional licenses, while others require licenses for certain types of

COVID-19 pandemic led to a decrease in supply and an increase in new vehicles, which in turn prompted consumers to retain older vehicles, which require more repairs than newer vehicles, for a longer time.

¹⁸Albert Waas et al., *At the Crossroads: The European Aftermarket in 2030*, Boston Consulting Group, European Association of Automotive Suppliers, Wolk After Sales Experts, Munich, March 2021, p. 4, https://web-assets.bcg.com/36/39/e80d073a4067bfe89c7482d6db69/the-european-aftermarket-in-2030.pdf. See also Automotive Aftermarket Network, "Automotive Aftermarket Definition," https://automotiveaftermarket.org/aftermarket-industry-trends/definition/.

¹⁹ 40 C.F.R. §82.34 (the Environmental Protection Agency's [EPA's] rules governing servicing of motor vehicle air conditioners).

work, such as vehicle safety inspections.²⁰ Nevertheless, employers may require service technicians/mechanics to be certified.²¹

Mechanics in independent shops may receive certifications from organizations unaffiliated with OEMs, including the nonprofit National Institute for Automotive Service Excellence,²² Inter-Industry Conference for Auto Collision Repair,²³ and AAA.²⁴ When maintaining and/or repairing motor vehicles, shops within independent aftermarket channels generally use *aftermarket parts* (i.e., parts that work with multiple vehicles).

Participants in OEM channels specialize in producing/selling parts and/or repairing/servicing specific OEM makes and models. Within OEM channels, body/maintenance shops may be (1) certified by OEMs to work with the OEMs' specific motor vehicle makes and models and (2) units within dealerships franchised by the OEMs to sell and repair/service vehicles. OEM parts generally cost more than aftermarket parts.²⁵

Software-Defined Vehicles (SDVs)

Software-Defined Vehicles (SDVs)

While a standard industry definition for an SDV does not exist,²⁶ for the purposes of this report, an SDV is any vehicle that "manages its operations, adds functionality, and enables new features primarily or entirely through software."²⁷ The term SDV encompasses vehicles that are self-driving (*automated vehicles*) as well as vehicles that transmit data via spectrum (*connected vehicles*).²⁸

Software in vehicles may support any of several functions.²⁹ These functions include (1) controlling the vehicle's safety and comfort features (e.g., climate control, mirrors, and windshield wipers),³⁰ (2) transferring energy from the vehicle's engine to its wheels to make it move,³¹ (3) informing and entertaining drivers with systems that provide such services as

²⁰ Ashley Henshaw, "Mechanic License and Insurance Requirements by State: NEXT Insurance Guide," *Auto Services and Repair* (blog), NEXT Insurance, Inc., February 14, 2022, https://www.nextinsurance.com/blog/mechanic-license-requirements/#h-manufacturer-certification.

²¹ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Automotive Service Technicians and Mechanics, "How to Become an Automotive Service Technician or Mechanic,"

https://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm.

²² National Institute for Automotive Service Excellence, "About ASE," https://www.ase.com/about-ase/.

²³ Inter-Industry Conference on Auto Collision Repair, "About Us," https://info.i-car.com/about-us.

²⁴ AAA Club Alliance Inc., "Auto, Car Care Centers, Become an Approved Shop," https://cluballiance.aaa.com/ automotive/auto-repair-approval?pcrdl=true.

²⁵ Dustin Hawley, "Aftermarket vs. Manufacturer Car Parts," *J.D. Power*, May 31, 2023, https://www.jdpower.com/ cars/shopping-guides/aftermarket-vs-manufacturer-car-parts.

²⁶ Sebastian Blanco, "CES 2024: SDVs Redefine OEM and Supplier Relationships, Deliver New Features," *Automotive Engineering*, January 8, 2024, https://www.sae.org/news/2024/01/software-defined-vehicles-ces.

²⁷ BlackBerry Limited, "Software-Defined Vehicles," 2024, https://blackberry.qnx.com/en/ultimate-guides/software-defined-vehicle.

²⁸ Ibid.

²⁹ Robert N. Charette, "How Software Is Eating the Car," *IEEE Spectrum*, June 7, 2021, https://spectrum.ieee.org/ software-eating-car.

³⁰ "What Is a Body Control Module in a Car?" *Bamboo Apps* (blog), December 28, 2022, https://bambooapps.eu/blog/ body-control-module.

³¹ Universal Technical Institute, "What Is a Powertrain?" *Automotive* (blog), December 8, 2021, https://www.uti.edu/blog/automotive/powertrain.

navigation and music streaming,³² and (4) assisting drivers via a set of in-vehicle technologies (i.e., advanced driver assisted systems, or ADAS) that, among other functions, detect blind spots, automate parking, and adapt headlight beams to outside conditions.³³

Many OEMs have published guidelines for repairing their vehicles. Some direct mechanics to perform diagnostic scans before and after repair work.³⁴

Vehicle Diagnostics

A vehicle diagnostic check involves looking over a vehicle's systems and components to help identify issues and rectify them. Although *diagnostics* can refer to the analysis of equipment in all vehicles, it generally applies to the investigation of functions and equipment (e.g., engine systems) in the electronics of SDVs.³⁵

ADAS Costs of Repairs

In December 2023, AAA³⁶ published a study investigating additional repair costs that drivers incurred when ADAS cameras and sensors were damaged during a minor collision. The study found that ADAS "can add up to 37.6% to the total repair cost after a collision."³⁷According to AAA, several variables can affect repair costs of ADAS.³⁸

Some contend that OEMs may be limiting competition from aftermarket suppliers of ADAS parts. An insurance executive stated that OEM's patenting and branding of ADAS sensors and cameras

³² Ibid.

³³ BlackBerry Limited, "What Is an Advanced Driver Assistance System?" 2024, https://blackberry.qnx.com/en/ ultimate-guides/software-defined-vehicle/advanced-driver-assistance-system. Chiradeep BasuMallick, "What Is ADAS (Advanced Driver Assistance Systems)? Meaning, Working, Types, Importance, and Applications," *Internet of Things* (blog), Spiceworks Inc., July 15, 2022, https://www.spiceworks.com/tech/iot/articles/what-is-adas/#_003. See also U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA), "Vehicle Safety, Driver Assistance Technologies," https://www.nhtsa.gov/vehicle-safety/driver-assistance-technologies.

³⁴ AAA, *Cost of Advanced Driver Assistance Systems (ADAS) Repairs*, December 2023, p. 7, https://newsroom.aaa.com/wp-content/uploads/2023/11/Report_Cost-of-ADAS-Repairs-FINAL-23.pdf. See, for example, General Motors, "Service Information – Position Statement: Pre- and Post-Scan of Collision Vehicles," 2022, https://www.gmparts.com/content/dam/gmparts/na/us/en/index/technical-resources/position-statements/02-pdfs/new/ pre-post-scan-collision-vehicles.pdf.

³⁵ "What Is Vehicle Diagnostics?" *John Delany Motors* (blog), February 24, 2022, https://www.delany-motors.co.uk/ blog/what-is-vehicle-diagnostics/. Section 202(m) of the Clean Air Act (P.L. 101-549; 42 U.S.C. §7521(m)) directs the EPA to promulgate regulations requiring OEMs to install diagnostics systems on motor vehicles that would identify, alert, store, and retrieve information regarding emission-related systems deterioration or malfunction. EPA's regulations for onboard diagnostics are at 40 C.F.R. §86.1806-05. For more information on the Clean Air Act, see CRS Report RL30853, *Clean Air Act: A Summary of the Act and Its Major Requirements*, by Richard K. Lattanzio. In its 2022 cybersecurity guidelines for OEMs, NHTSA states that "vehicle diagnostic features provide utilities to support repair and serviceability of vehicles." NHTSA, U.S. Department of Transportation, *Cybersecurity Best Practices for the Safety of Modern Vehicles*, Updated 2022, p. 13, https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-09/cybersecuritybest-practices-safety-modern-vehicles-2022-tag.pdf (hereinafter *NHTSA 2022 Cybersecurity Guidelines*).

³⁶ AAA is a membership organization representing motor vehicle drivers. AAA, "About AAA," https://cluballiance.aaa.com/about. Prior to changing its name in 1997, the organization was called the "American Automobile Association."

³⁷ Brittany Moye, "Fixing Advanced Vehicle Systems Makes Up Over One-Third of Repair Costs Following a Crash," AAA, press release, December 14, 2023, https://newsroom.aaa.com/2023/12/fixing-advanced-vehicle-systems-makesup-over-one-third-of-repair-costs-following-a-crash/.

³⁸ AAA, *Fact Sheet: Advanced Driver Assistance Systems (ADAS) Repair Costs*, December 2023, https://newsroom.aaa.com/wp-content/uploads/2023/12/ADAS-Repair-Fact-Sheet-FINAL-12.23.pdf.

limits competition from independent manufacturers.³⁹ In comments filed with the FTC for its *Nixing the Fix* report, LKQ Corporation, a supplier of aftermarket parts, stated that OEMs "generally enjoy exclusive supply relationships" with manufacturers of their ADAS sensors.⁴⁰

Telematics

Some industry analysts assert that the ability of OEMs to remotely diagnose and send software updates to motor vehicles via wireless internet networks may reduce maintenance costs for vehicle owners.⁴¹ At the same time, the ability to transmit and receive vehicle data presents opportunities for OEMs to generate post-sales revenue via subscription services.⁴² As discussed in the rest of this report, much of the vehicle right-to-repair debate hinges on issues of third-party access to vehicle software and data.

Telematics

The word *telematics* is a portmanteau of "telecommunications" and "informatics."⁴³ The term *informatics* refers to the use of computers to gather and analyze data and manage real-world systems. The field of vehicle telematics includes wireless safety communications, Global Positioning System (GPS) navigation, integrated hands-free mobile devices, and ADAS.⁴⁴ OEM telematics systems are closed networks that require two-way communications between the vehicle and an OEM data center.⁴⁵

In 2012, Tesla became the first vehicle OEM to deliver software updates via wireless internet networks.⁴⁶ By 2022, several other OEMs reportedly had followed suit, offering updates for information and entertainment systems, navigation systems, and telematics platforms.⁴⁷

Beginning in 2014, pursuant to a memorandum of understanding (MOU) between various national motor vehicle industry groups (hereinafter "2014 Industry MOU"), OEMs must provide independent workshops with the same "telematics diagnostic and repair information that [OEMs provide] to dealers, necessary to diagnose and repair a customer's vehicle, and not otherwise available to an independent repair facility via the tools specified [in an earlier section of the MOU]."

³⁹ Lurah Lowery, "The Reasons Behind Soaring Repair Prices: OEM Materials, Technicians, Vehicle Types & More," *Repairer Driven News*, September 13, 2022, https://www.repairerdrivennews.com/2022/09/13/the-reasons-behind-soaring-repair-prices-oem-materials-technicians-vehicle-types-more/.

⁴⁰ Comments of MEMA, the Vehicle Suppliers Association, to the U.S. Federal Trade Commission in response to a call for research and data related to repair restrictions; Exhibit 1, Research Submitted by Josh Meyer, Vice President, Strategy & Innovation, LKQ Corporation, April 30, 2019, https://www.copyright.gov/1201/2024/comments/ Class%207%20-%20Initial%20Comments%20-%20MEMA.pdf.

⁴¹ Mike Colias, "Detroit Downloads Tesla's Software Strategy," *Wall Street Journal*, March 20, 2019, https://www.wsj.com/articles/auto-makers-steer-in-teslas-direction-on-wireless-updates-11553083202.

⁴² Sean Trucker, "GM to Add 50 Subscription Services by 2026," *Kelly Blue Book*, February 25, 2022, https://www.kbb.com/car-news/gm-to-add-50-subscription-services-by-2026/.

⁴³ NHTSA defines *telematics* as "the integration of telecommunications and informatics for intelligent applications in vehicles, such as fleet management" (*NHTSA 2022 Cybersecurity Guidelines*, p. 19).

⁴⁴ Geotab Team, "What Is Telematics?" *Geotab Inc.* (blog), April 11, 2024, https://www.geotab.com/blog/what-is-telematics/.

⁴⁵ Charlie Gorman, "Diagnostic Telematics and the Aftermarket: What Does the Aftermarket Actually Need in Order to Make This Work?" *Equipment and Tool Institute* (blog), https://etools.org/telematics/.

⁴⁶ Damon Lavrinc, "In Automotive First, Tesla Pushes Over-the-Air Software Patch," *Wired*, September 24, 2012, https://www.wired.com/2012/09/tesla-over-the-air/.

⁴⁷ Admin, "Over-the-Air (OTA): A Differentiator for Software-Defined-Vehicles," *Telematics Wire*, July 21, 2022, https://www.telematicswire.net/over-the-air-ota-a-differentiator-for-software-defined-vehicles/.

The 2014 Industry MOU does not, however, apply to "telematics services or any other remote or information service, diagnostic or otherwise, delivered to or derived from the vehicle by mobile communications."⁴⁸

The extent to which, if at all, independent workshops' ability to access telematics and diagnostic data remotely, without seeking prior permission from or paying OEMs—including data unrelated to the repair and maintenance of vehicles—preserves competition in the motor vehicle aftermarket is at the heart of several policy debates described in this report.

Potential Direct OEM-Consumer Relationship and Bypass of Dealers

ABI Research estimates that as of 2023, in-person software updates cost OEMs \$500 million per year.⁴⁹ OEMs pay for aftermarket services during the lifetime of a vehicle's warranty.⁵⁰ When consumers visit workshops and dealers to service their vehicles, the workshops and dealers receive payments from the OEMs.⁵¹ Automotive software company Modera stated that

[as OEMs] increasingly take ownership of customer relationships, which [had] belonged to dealerships ... [i]n this connected, direct-to-consumer landscape, the high margins of the servicing revenue stream from dealerships could be well eroded. Both OEMs and dealerships have to go over their revenue models and relationships with a [fine-tooth comb] for survival.⁵²

In 2022, the National Automobile Dealers Association (NADA), the trade association representing OEM dealers, released its *Guiding Principles on Evolving Business Models and the Dealer Franchise System*.⁵³ Among other positions, NADA states that it supports OEMs' free provision of wireless software updates related to repairs, safety and emission recalls, and vehicle performance improvements. NADA opposes OEMs' use of telematics to bypass dealer revenue-sharing by selling additional features directly to consumers.⁵⁴

Diagnostics, Telematics, and OEM Steering

In the context of the right-to-repair debate, some industry participants contend that telematics enable OEMs to steer consumers to workshops within the OEM aftermarket channel.

⁵¹ Some states, including Illinois, Wisconsin, and Montana, have changed franchise laws to increase the rates OEMs pay for work done during the vehicle's warranty. Larry P. Vellequette, "Billions at Stake as Dealers Ask State Lawmakers to Get Paid More for Warranty Work," *Automotive News*, February 24, 2023, https://www.autonews.com/ dealers/warranty-reimbursement-rates-car-dealers-battle-automakers.

⁴⁸ Memorandum of Understanding Among Automotive Aftermarket Industry Association, Coalition for Auto Repair Equality, Alliance of Automobile Manufacturers, and Association of Global Automakers, January 15, 2014, §(2)(e), http://www.njgca.org/wp-content/uploads/Right-to-Repair-national-MOU-01-23-14.pdf (hereinafter 2014 Industry MOU). For more information about events predating the 2014 Industry MOU, see "2012-2014: Massachusetts Rightto-Repair Law and Industry MOU."

⁴⁹ Lurah Lowery, "OEM Shift to OTA Recall Fixes Predicted to Occur by 2028," *Repairer Driven News*, May 9, 2023, https://www.repairerdrivennews.com/2023/05/09/oem-shift-to-ota-recall-fixes-predicted-to-occur-by-2028/.

⁵⁰ "What Will the Future Hold for OEM Dealerships," *Modera* (blog), December 29, 2021, https://modera.com/ automotive/what-will-the-future-hold-for-oem-dealerships/.

⁵² Ibid.

⁵³ National Automobile Dealers Association, *NADA Guiding Principles on Evolving Business Models and the Dealer Franchise System*, 2022, https://www.nada.org/media/6439/download?inline.

⁵⁴ Ibid., p. 2.

Disagreement exists about whether access to real-time, remote access to vehicle data at zero or low cost affects aftermarket competition.⁵⁵

Allstate Insurance Company's Senior Vice President, Claims Design and Delivery, Donald Jones, has stated that "it is increasingly difficult for independent workshops to service newer, more technologically advanced cars without the same wireless access to car data that dealers have."⁵⁶ In April 2024, according to a survey of independent workshops nationwide that was commissioned by the Auto Care Association, 51% of respondents reported sending as many as five vehicles per month to an OEM dealer for repairs because of limits on their ability to access vehicle data.⁵⁷⁵⁸

However, the Alliance for Automotive Innovation (Auto Innovators)—a group representing OEMs and equipment manufacturers and suppliers—contends that

automakers already make available to independent repair businesses all the information needed to diagnose and repair a vehicle via [a] 2014 nationwide agreement guaranteeing repairers and vehicle owners access to the same repair and diagnostic information provided to auto dealers.⁵⁹

In a July 2023 letter to congressional committee leaders, three trade organizations—the Society of Collision Repair Specialists (SCRS), the Automotive Service Association (ASA), and Auto Innovators—stated that

70 percent of post-warranty vehicle repairs today happen outside the dealer network, while automakers' own certified collision networks are comprised of shops that are more than 70 percent non-dealer owned. In other words, competition is alive and well in the auto repair industry.⁶⁰

The organizations do not specify what percentage of post-warranty vehicle repairs are made by shops that are not OEM certified.

Executive Branch Oversight of Aftermarket

The authority of various federal agencies to regulate the activities of the motor vehicle industry each with a different policy objective—further impacts the right-to-repair debate.

⁵⁵ Aarian Marshall, "Automakers Say They Resolved the Right-to-Repair Fight. Critics Aren't Ready to Make Peace," *Wired*, July 17, 2023, https://www.wired.com/story/automakers-say-they-resolved-the-right-to-repair-fight/.

⁵⁶ The White House, "White House Convening on Right to Repair," YouTube, October 24, 2023, https://www.youtube.com/watub?y-Lig2DkY7VBv8 (hoginaring at 45:00)

https://www.youtube.com/watch?v=Ug3DkX7VRy8 (beginning at 45:00).

⁵⁷ Auto Care Association, "Survey: 84% of Vehicle Repair Shops View Vehicle Data Access as Top Issue in Their Business," press release, April 10, 2024, https://www.autocare.org/news/latest-news/details/2024/04/10/survey-84-of-independent-repair-shops-view-vehicle-data-access-as-top-issue-for-their-business.

⁵⁸ National Automobile Dealers Association, *NADA Guiding Principles on Evolving Business Models and the Dealer Franchise System* (2022), pp. 2-3, https://www.nada.org/media/6439/download?inline.

⁵⁹ Letter from John Bozzella, President and CEO, Alliance for Automotive Innovation, to The Honorable Aaron Frey, Maine Attorney General, April 27, 2023, https://www.autosinnovate.org/posts/communications/

Maine%20AG%20Letter%20R2R%20with%20Attachment-combined.pdf. The Alliance for Automotive Innovation sent a letter to 20 state attorneys general discussing federal right-to-repair legislation in April 2023. See also Alliance for Automotive Innovation, "Right to Repair," https://www.autosinnovate.org/RightToRepair.

⁶⁰ Letter from John Bozzella, President and CEO, Alliance for Automotive Innovation; Julie Massaro, President, Automotive Service Association; and Aaron Schulenburg, Executive Director, Society of Collision Repair Specialists to The Honorable Maria Cantwell, Chairwoman, U.S. Senate Committee on Commerce, Science, and Transportation et al., July 11, 2023, https://www.autosinnovate.org/posts/letters/1-

^{%20}Letter%20to%20Congress%20Automotive%20Repair%20Data%20Sharing%20Commitment%20July%202023.pd f.

Federal regulations related to the motor vehicle industry cover safety, fuel, and emissions.⁶¹ The National Highway Traffic and Safety Administration (NHTSA), an agency within the Department of Transportation, oversees vehicle safety⁶² and issues the Corporate Average Fuel Economy (CAFE) standards.⁶³ The Environmental Protection Agency (EPA) regulates vehicle emissions.⁶⁴

In addition, the U.S. Department of Commerce's Bureau of Industry and Security regulates the export of goods and technologies for national security and foreign policy purposes.⁶⁵ In March 2024, BIS issued an advance notice of proposed rulemaking (NPRM) seeking, among other things, comment on national security risks associated with connected vehicles.⁶⁶

With respect to the motor vehicle aftermarket, antitrust, competition, and consumer protection laws govern the conduct of industry participants. The antitrust laws are the Sherman Act, enacted in 1890, and the Clayton Antitrust Act of 1914.⁶⁷ While both the U.S. Department of Justice (DOJ) and the FTC enforce antitrust laws, this report primarily focuses on the FTC's role and authority.

Federal Trade Commission

The Federal Trade Commission Act of 1914, as amended (FTC Act), sets forth the agency's dual mission of protecting consumers and promoting competition.⁶⁸ Section 5(a)(1) prohibits "unfair methods of competition" and "unfair or deceptive acts or practices" (UDAP).⁶⁹ Specifically, the "unfair methods of competition" standard prohibits conduct that violates the Sherman and Clayton Acts, as well as conduct that does not meet the technical requirements of those statutes.⁷⁰

In exercising its UDAP authority, the FTC cannot declare an act or practice unlawful on the grounds that it is "unfair unless the act or practice causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition."⁷¹ The FTC defines "deceptive" practices as those "involving a material representation, omission or practice that is likely to mislead a

⁶¹ Library of Congress, "Industry Regulations," in "Automotive Industry: A Research Guide," https://guides.loc.gov/ automotive-industry/regulations.

⁶² U.S. Department of Transportation, NHTSA, "Laws and Equipment," https://www.nhtsa.gov/laws-regulations.

⁶³ For more on NHTSA's CAFE standards and EPA regulations, see CRS In Focus IF12433, Automobiles, Air Pollution, and Climate Change, by Richard K. Lattanzio.

⁶⁴ EPA, "Regulations for Emissions from Vehicles and Engines," https://www.epa.gov/regulations-emissions-vehiclesand-engines.

⁶⁵ U.S. Department of Commerce, Bureau of Industry and Security, "About Export Administration Regulations (EAR)," https://www.bis.gov/regulations.

⁶⁶ U.S. Department of Commerce, Bureau of Industry and Security, "Securing the Information and Communications Technology and Services Supply Chain: Connected Vehicles," 89 *Federal Register* 15066, March 1, 2024.

⁶⁷ For additional background information about antitrust laws, see CRS In Focus IF11234, *Antitrust Law: An Introduction*, by Jay B. Sykes.

⁶⁸ 15 U.S.C. §§41-58, as amended. For additional information about the FTC, see CRS Legal Sidebar LSB10388, Will the FTC Need to Rethink Its Enforcement Playbook (Part II)? Circuit Split Casts Doubt on the FTC's Ability to Seek Restitution in Section 13(b) Suits, by Chris D. Linebaugh.

⁶⁹ 15 U.S.C. §45(a)(1).

⁷⁰ FTC Nixing the Fix Report, p. 11.

^{71 15} U.S.C. §45(n).

consumer acting reasonably in the circumstances."⁷² Such deceptive practices may include sharing of vehicle data with third parties without obtaining consumers' prior consent.⁷³

In addition to initiating enforcement actions against individual companies to determine whether practices are unfair or deceptive, the FTC may proactively use trade regulation rules to address common UDAPs.⁷⁴ Section 18(a)(1)(B) of the FTC Act (15 U.S.C. \$57a(1)(B)) authorizes the FTC to prescribe "rules which define with specificity acts or practices which are unfair or deceptive acts or practices in or affecting commerce (within the meaning of section 5(a)(1) of [the FTC Act; 15 U.S.C. \$45(a)(1)])."⁷⁵ The FTC must have reason to believe that the practices to be addressed by the rulemaking are "prevalent" (15 U.S.C. \$57a(b)(3)) before initiating a proceeding.⁷⁶

Magnuson-Moss Warranty-Federal Trade Commission Improvement Act

The FTC also enforces certain consumer protection statutes that prohibit specific practices. These statutes generally specify that violations are to be treated as if they were UDAP under Section 5(a) of the FTC Act and as violations of trade regulation rules issued under Section 18 of the FTC Act.⁷⁷ Retail consumers' rights with respect to products they purchase are covered by the Magnuson-Moss Warranty—Federal Trade Commission Improvement Act, as amended⁷⁸ (or "MMWA"), which Congress enacted in 1975. Section 102(c) of the MMWA prohibits a warrantor of a consumer product from conditioning its warranty on the consumer using any article or service that is identified by brand name unless the article or service is provided for free or the warrantor obtains a waiver from the FTC (the "tying prohibition").⁷⁹

In May 2021, the FTC, at the direction of Congress,⁸⁰ published a report on industry practices in several aftermarkets, including the motor vehicle aftermarket.⁸¹ The FTC found that based on information the agency gathered to prepare the report, "it is clear that repair restrictions have

⁷⁸ P.L. 93-637 (15 U.S.C. §§2301-2312).

⁷² FTC, "About the FTC: Enforcement Authority: A Brief Overview of the Federal Trade Commission's Investigative, Law Enforcement, and Rulemaking Authority," https://www.ftc.gov/about-ftc/mission/enforcement-authority (hereinafter FTC Enforcement Authority Overview), citing FTC, "FTC Policy Statement on Deception," October 14, 1983, https://www.ftc.gov/system/files/documents/public_statements/410531/831014deceptionstmt.pdf.

⁷³ Staff in the Office of Technology and The Division of Privacy and Identity Protection, "Cars & Consumer Data: On Unlawful Collection & Use," *Office of Technology Blog* (blog), Federal Trade Commission, May 14, 2024, https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2024/05/cars-consumer-data-unlawful-collection-use.

⁷⁴ FTC Enforcement Authority Overview.

⁷⁵ Ibid.

⁷⁶ In addition, during rulemaking proceedings, the FTC must provide interested parties with limited rights of crossexamination during informal hearings.

⁷⁷ The FTC has enforcement or administrative responsibilities under more than 80 laws. FTC, "Legal Library: Statutes," https://www.ftc.gov/legal-library/browse/statutes.

⁷⁹ MMWA §102(c) (15 U.S.C. §2302(c)). See also Comment of United States Department of Justice and Federal Trade Commission to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, March 14, 2023, p. 5, https://www.copyright.gov/1201/2024/comments/reply/Class%205%20&%207%20-%20Reply%20-

^{%20}Department%20of%20Justice%20Antitrust%20Division%20and%20Federal%20Trade%20Commission.pdf (hereinafter DOJ-FTC March 2023 Comment).

⁸⁰ U.S. Congress, House Committee on Appropriations, Financial Services and General Government Appropriations Bill, 2021, report to accompany H.R. 7668, 116th Cong., 2nd sess., July 17, 2020, H.Rept. 116-456 (Washington: GPO, 2020), p. 67. The report stated, "Not later than 120 days after the enactment of this Act, the FTC is directed to provide to the Committee, and to publish online, a report on anticompetitive practices related to repair markets. The report shall provide recommendations on how to best address these problems."

⁸¹ FTC Nixing the Fix Report.

diluted the effectiveness of Section 102(c) [of the MMWA] and steered consumers into manufacturers' repair [channels] or to replace products before the end of their useful lives."⁸² Nonetheless, the FTC, citing the 2014 Industry MOU found that "the car manufacturing industry has taken important steps to expand consumer choice."⁸³

In July 2021, the FTC announced that it would devote more enforcement resources to combating unlawful practices related to repair restrictions.⁸⁴ While noting that "current law does not provide for civil penalties or redress,"⁸⁵ the FTC stated that, among other actions, it would consider filing suit against violators of the MMWA to seek appropriate injunctive relief (i.e., a court restraint on a violator's illegal behavior). In addition, the FTC stated that it would scrutinize repair restrictions for potential violations of antitrust laws and assess whether those restrictions constitute unfair acts or practices.⁸⁶

In October 2022, after a public comment period, the FTC approved a final order against motorcycle manufacturer Harley-Davidson Motor Company Group, alleging that the company violated the MMWA by illegally restricting consumers' right to repair their vehicles.⁸⁷ Specifically, the FTC found that Harley Davidson had violated (1) the MMWA's tying prohibition, (2) the FTC Act's prohibition of deceptive conduct, and (3) the FTC's rule requiring OEMs to disclose all warranty terms in a single document.⁸⁸ The order requires Harley-Davidson to take multiple steps, including adding specific language to their warranties alerting consumers that using aftermarket parts or an independent workshop will not violate the company's warranty.⁸⁹

In April 2024, the FTC announced that it had created a form for consumers to report their warranty or repair stories related to "a wide range of products."⁹⁰

White House

In July 2021, President Joe Biden issued Executive Order 14306 called "Promoting Competition in the American Economy."⁹¹ Among other actions, the executive order stated "the Chair of the FTC, in the Chair's discretion, is also encouraged to consider working with the rest of the Commission to exercise the FTC's statutory rulemaking authority, as appropriate and consistent

⁸² FTC Nixing the Fix Report, p. 6.

⁸³ Ibid., pp. 6, 45-47.

⁸⁴ FTC, Policy Statement of the Federal Trade Commission on Repair Restrictions Imposed by Manufacturers and Sellers, Matter Number P194400, July 21, 2021, https://www.ftc.gov/system/files/documents/public_statements/1592330/p194400repairrestrictionspolicystatement.pdf.

⁸⁵ Ibid.

⁸⁶ Ibid., p. 2.

⁸⁷ FTC, "FTC Approves Final Orders in Right-to-Repair Cases Against Harley-Davidson, MWE Investments, and Weber," press release, October 27, 2022, https://www.ftc.gov/news-events/news/press-releases/2022/10/ftc-approves-final-orders-right-repair-cases-against-harley-davidson-mwe-investments-weber (hereinafter 2022 FTC press release). See also FTC, "In the Matter of Harley-Davidson Motor Company, Group, LLC, a Limited Liability Company, Complaint, 2123140," October 21, 2022, https://www.ftc.gov/system/files/ftc_gov/pdf/2123140-Harley-Davidson-combined-package-without-signatures.pdf (hereinafter 2022 FTC Complaint.)

^{88 2022} FTC Complaint, pp. 3-4.

^{89 2022} FTC press release.

⁹⁰ Lesley Fair, "FTC Wants Your Repair Stories," *FTC* (blog), April 4, 2024, https://consumer.ftc.gov/consumer-alerts/2024/04/ftc-wants-your-repair-stories.

⁹¹ Executive Order 14306, "Promoting Competition in the American Economy," 86 *Federal Register* 36987, July 14, 2021.

with applicable law, in areas such as ... unfair anticompetitive restrictions on third-party repair or self-repair of items."⁹²

In October 2023, the White House convened a roundtable discussion with federal and state officials, small business owners, and private-sector officials to discuss "the importance of the right to repair."⁹³ Several participants called on Congress to enact federal right-to-repair legislation.⁹⁴

Copyright Laws Related to the SDV Aftermarket

Copyright law may a restrict a user's ability to access or alter the software within SDVs. Copyright grants certain exclusive legal rights to authors of original creative works.⁹⁵ At least since 1980,⁹⁶ U.S. copyright law has protected computer programs as a type of literary work.⁹⁷ Thus, software developers may claim copyright in the code they write, just as writers may claim copyright in the books they author.⁹⁸ Copyright protection means that, generally speaking, authors of computer programs have the exclusive right to make copies of, or changes to, their code.⁹⁹ Third parties who reproduce, distribute, or adapt a copyrighted work without the copyright owner's permission are said to infringe the copyright and may be sued in court by the copyright holder for monetary damages or other legal remedies.¹⁰⁰

⁹² Ibid., p. 36992. The 2021 executive order specified one example of a practice it encouraged the FTC to investigate: "restrictions imposed by powerful manufacturers that prevent farmers from repairing their own equipment." For more information on such issues in the agriculture sector, see Emily Stone, "Update on Right to Repair," *The Ag and Food Law Update* (blog), The National Agriculture Law Center, November 7, 2023, https://nationalaglawcenter.org/update-on-right-to-repair/.

⁹³ The White House, "Readout of the White House Convening on Right to Repair," press release, October 25, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/25/readout-of-the-white-house-convening-onright-to-repair/.

⁹⁴ The White House, "White House Convening on Right to Repair," YouTube, October 24, 2023, https://www.youtube.com/watch?v=Ug3DkX7VRy8.

⁹⁵ 17 U.S.C. §102(a). See also Library of Congress, U.S. Copyright Office, "Help: Types of Work," https://www.copyright.gov/eco/help-type.html.

⁹⁶ In 1974, because of uncertainty about whether copyright protection was available to computer programs under existing law, Congress created the National Commission on New Technological Uses of Copyrighted Works (known as CONTU) to study the issue and make recommendations. United States, "Final Report of the National Commission on New Technological Uses of Copyrighted Works," July 31, 1978, pp. 3-9. CONTU recommended that Congress amend the Copyright Act "to make it explicit that computer programs, to the extent that they embody an author's original creation, are proper subject matter of copyright" (p. 1). In 1980, Congress adopted CONTU's recommendations. P.L. 96-517 §10, 94 Stat. 3015, 3028 (1980).

⁹⁷ 17 U.S.C. §101 (defining *computer program* and *literary work*); 17 U.S.C. §§102(a) and 102(a)(1) ("Copyright protection subsists ... in original works of authorship fixed in any tangible medium of expression [including] literary work[s].").

⁹⁸ 17 U.S.C. §§101-102, 106. The scope of copyright may vary given the nature of the work; the "fact that computer programs are primarily functional" affects the application of copyright doctrines such as fair use (*Google v. Oracle*, 141 S. Ct. 1183, 1208 (2021)).

⁹⁹ 17 U.S.C. §106(1)-(2) (exclusive rights to reproduce copyrighted works and make derivative works of them). These exclusive rights are subject to a number of defenses and limitations, including the fair use doctrine (17 U.S.C. §§107-122).

^{100 17} U.S.C. §§501-505.

In addition to being a copyrighted work, computer code may be used to protect other copyrighted works. Owners of copyrighted content have sometimes used digital safeguards—known as *technological protection measures* (TPMs)—to prevent access to or uses of copyrighted works.¹⁰¹

The Digital Millennium Copyright Act and Section 1201

In 1998, Congress enacted Section 1201 of the Copyright Act of 1976, as amended (17 U.S.C. §1201), as part of the Digital Millennium Copyright Act (DMCA).¹⁰² Since 1998, the variety of products that incorporate software—including motor vehicles—has proliferated. Because computer code is a copyrightable work,¹⁰³ Section 1201 and other copyright laws generally prohibit persons from accessing vehicle software without first obtaining permission from OEMs.

In explaining how the internet prompted its consideration of copyright laws amendments, the House Committee on the Judiciary stated,

The digital environment now allows users of electronic media to send and retrieve perfect reproductions of copyrighted material easily and nearly instantaneously, to or from locations around the world. With this evolution in technology, the law must adapt in order to make digital networks [i.e., the internet] safe places to disseminate and exploit copyrighted works.¹⁰⁴

To enable copyright owners to protect their works, Section 1201 prohibits actions relating to two types of TPMs: "access controls" and "copy controls."¹⁰⁵ Access controls are technologies that limit the ability of users to access a copyrighted work, such as encryption on Blu-ray disks or authentication codes needed to play a video game or use licensed software.¹⁰⁶ Section 1201(a)(1), sometimes referred to as the "anti-circumvention prohibition," prohibits users from

¹⁰⁶ Ibid.; 17 U.S.C. §1201(a)(3)(A)-(B).

¹⁰¹ For example, copyright owners may use TPMs to limit the number of devices that consumers can use to access media they have purchased. See the section "Sound Recording Reproduction and Distribution Licenses" in CRS Report R43984, *Money for Something: Music Licensing in the 21st Century*, by Dana A. Scherer. ("In the case of electronic reproductions of songs, record labels initially conditioned their sale of songs to iTunes on Apple's incorporation of digital rights management software.")

¹⁰² P.L. 105-304 §§103, 112 Stat. 2860, 2863-2876 (1998).

¹⁰³ 17 U.S.C. §101 (definition of *computer program*).

¹⁰⁴ U.S. Congress, House Committee on the Judiciary, *WIPO Copyright Treaties Implementation and Online Copyright Infringement Liability Limitation*, Report to Accompany H.R. 2281, 105th Cong., 2nd sess., May 22, 1998, H.Rept. 105-551, Part 1 (Washington: GPO, 1998), p. 9. The report also stated, "While there are no objections to preventing piracy on the Internet, it is not easy to draw a line between legitimate and non-legitimate uses of decoding devices. ... The bill, as reported, presents a reasonable compromise" (Ibid., p. 10). See also U.S. Congress, Senate Committee on the Judiciary, *The Digital Millennium Copyright Act of 1998*, report to accompany S. 2037, 105th Cong., 2nd sess., May 11, 1998, S.Rept. 105-190 (Washington: GPO, 1998), which states "Title I of this bill [creating Section 1201] ... will make available via the Internet the movies, music, software, and literary works that are the fruit of American creative genius" (p. 2).

¹⁰⁵ Karyn Temple Claggett, *Section 1201 of Title 17*, U.S. Copyright Office, Library of Congress, June 2017, p. 2, https://www.copyright.gov/policy/1201/section-1201-full-report.pdf (hereinafter U.S. Copyright Office Section 1201 Report).

circumventing access controls.¹⁰⁷ Section 1201(a)(2) proscribes the manufacturing or trafficking of technologies and devices primarily designed to circumvent access controls.¹⁰⁸

Copy controls are technologies that protect the exclusive rights of the copyright holder after access to the work is obtained, such as by limiting the number of copies a user is able to make of a digital song or e-book they purchased.¹⁰⁹ Section 1201(b)(1) prohibits manufacturing or trafficking of technologies and devices primarily designed to circumvent copy controls.¹¹⁰ Section 1201 does not prohibit the circumvention of copy controls. However, reproducing a copyrighted work without authorization after circumventing copy controls may violate the copyright owner's exclusive rights under other provisions of the Copyright Act.¹¹¹ Copyright holders may sue in federal court for injunctive relief and money damages for violations of Section 1201.¹¹² They may seek either actual damages or statutory damages ranging from \$200 to \$7,500 per act of circumvention.¹¹³ Criminal remedies are available when people violate Section 1201 "willfully and for purposes of commercial advantage or private financial gain."¹¹⁴

Section 1201 Temporary Exemptions

Section 1201 empowers the Librarian of Congress to make temporary regulatory exceptions to the anti-circumvention prohibition, Section 1201(a)(1), for particular classes and uses of copyrighted works.¹¹⁵ The Librarian does not have comparable regulatory authority regarding Section 1201's prohibitions on the manufacturing or trafficking of circumvention devices.¹¹⁶ The Librarian makes these exceptions subsequent to a determination that particular users are "adversely affected by [the anti-circumvention prohibition] in their ability to make non-infringing uses."¹¹⁷ After examining several statutory factors, the Librarian bases such determinations on the recommendation of the Register of Copyrights. To make these recommendations, the Register conducts a public rulemaking proceeding every three years¹¹⁸ and consults the head of the U.S.

 $^{^{107}}$ 17 U.S.C. 1201(a)(1). To *circumvent* means "to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner" (17 U.S.C. 1201(a)(3)(A)). An *access control* is defined as a technological measure that "in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work" (17 U.S.C. 1201(a)(3)(A)).

¹⁰⁸ 17 U.S.C. \$1201(a)(2)(A). A technology may also not be manufactured or trafficked if it "has only limited commercially significant purpose or use other than to circumvent [access controls]" or is marketed with knowledge of its use for circumventing access controls (17 U.S.C. \$1201(a)(2)(B)-(C)).

¹⁰⁹ U.S. Copyright Office Section 1201 Report, p. 2; 17 U.S.C. §1201(b)(2).

¹¹⁰ 17 U.S.C. §1201(b)(1)(A). A technology may also not be manufactured or trafficked if it "has only limited commercially significant purpose or use other than to circumvent [copy controls]" or is marketed with knowledge of its use for circumventing copy controls (17 U.S.C. §1201(a)(2)(B)-(C)).

¹¹¹ 17 U.S.C. §106(1).

^{112 17} U.S.C. §1203(a)-(b).

¹¹³ 17 U.S.C. §1203(c).

¹¹⁴ 17 U.S.C. §1204(a). The criminal penalties include fines of up to \$500,000 and a maximum of five years' imprisonment for a first offense. Nonprofit libraries, archives, educational institutions, or public broadcasting entities are excluded from possible criminal liability (17 U.S.C. §1204(a)-(b)).

¹¹⁵ 17 U.S.C. §1201(a)(1)(B)-(E).

¹¹⁶ U.S. Copyright Office Section 1201 Report, p. 21.

¹¹⁷ 17 U.S.C. §1201(a)(1)(C).

¹¹⁸ 17 U.S.C. §1201 (a)(1)(C); U.S. Copyright Office Section 1201 Report, pp. 20-21.

Department of Commerce's National Telecommunications and Information Administration (NTIA).¹¹⁹ The exemptions currently in effect expire on October 27, 2024.¹²⁰

The Copyright Office reviews previously granted exemptions without meaningful opposition via a streamlined process.¹²¹ It reviews previously granted exemptions with meaningful opposition as well as petitions for new exemptions via a comprehensive review process.¹²² In June 2023, the Copyright Office initiated the ninth triennial rulemaking proceeding, for exemptions to become effective from October 2024 to October 2027.¹²³

Pursuant to an exemption approved by the Librarian in 2018 and 2021, a person may circumvent access controls on computer programs when doing so is a necessary step for diagnosing, maintaining, or repairing a motorized land vehicle, such as a personal automobile or commercial vehicle.¹²⁴ As part of its NPRM for the ninth triennial review, the Copyright Office notified the public, pursuant to the streamlined review process, that the Register intends to recommend that the Librarian of Congress renew this exemption for the 2024-2027 period.¹²⁵

In August 2023, MEMA petitioned the Copyright Office to consider a new exemption for circumvention of TPMs

on computer programs that are contained in and control the functioning of a lawfully acquired motorized land vehicle ... such as a personal automobile ... to allow lawful vehicle owners and lessees, or those acting on their behalf, to access, store, and share vehicle operational data, including diagnostic and telematics data.¹²⁶

In its NPRM, the Copyright Office requested comments on including an exemption for the class of works it describes as "Proposed Class 7: Computer Programs – Vehicle Operational Data."¹²⁷

¹²² Under the comprehensive process, the Copyright Office's NPRM seeks comments from the public on newly proposed exemptions, and those previously granted with meaningful opposition, to inform the Register's recommendations to the Librarian (88 *Federal Register* 37489).

¹²³ 88 Federal Register 34786.

¹²⁶ MEMA, "Petition for New Exemptions Under 17 U.S.C. § 1201," August 25, 2023, https://www.copyright.gov/ 1201/2024/petitions/proposed/New-Pet-MEMA.pdf.

¹²⁷ Ninth Triennial NPRM, p. 72026.

¹¹⁹ 17 U.S.C. §1201 (a)(1)(C). The statute references the Department of Commerce's Assistant Secretary for Communications and Information, who is the head of the National Telecommunications and Information Administration (NTIA). See U.S. Department of Commerce, NTIA, "Office of the Assistant Secretary (OAS)," https://www.ntia.doc.gov/office/OAS.

¹²⁰ U.S. Copyright Office, Library of Congress, "Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies," 86 *Federal Register* 59267, October 28, 2021 (Eighth Triennial Rulemaking Final Rule); 37 C.F.R. §201.40.

¹²¹ Under the streamlined process, the Copyright Office's notice of proposed rulemaking (NPRM) advises the public that the Register intends to recommend that the Librarian renew previously granted exemptions. U.S. Copyright Office, Library of Congress, "Exemption to Permit Circumvention of Access Controls on Copyrighted Works," 88 *Federal Register* 37486, 37488, June 8, 2023, https://www.federalregister.gov/documents/2023/06/08/2023-12250/exemptions-to-permit-circumvention-of-access-controls-on-copyrighted-works.

¹²⁴ Shira Perlmutter, *Section 1201 Rulemaking: Eighth Triennial Proceeding to Determine Exemptions to the Prohibition on Circumvention*, U.S. Copyright Office, Library of Congress, Washington, DC, October 2021, pp. 232-233, https://cdn.loc.gov/copyright/1201/2021/2021_Section_1201_Registers_Recommendation.pdf. Eight Triennial Rulemaking Final Rule 59,637; 37 C.F.R. §201.40(13)-(15) (adoption of recommendations by the Librarian of Congress as federal regulations).

¹²⁵ Library of Congress, Copyright Office, "Exemptions to Permit Circumvention of Access Controls on Copyrighted Works," 88 *Federal Register* 72013, 72020, October 19, 2023, https://www.federalregister.gov/documents/2023/10/19/2023-22949/exemptions-to-permit-circumvention-of-access-controls-on-copyrighted-works (discussing renewal of previously granted Section 1201 exemption for "Computer Programs—Repair of Motorized Land Vehicles, Marine Vessels, or Mechanized Agricultural Vehicles or Vessels") (hereinafter Ninth Triennial NPRM).

Supporters of a New Copyright Exemption

In December 2023, both the Specialty Equipment Market Association (SEMA)¹²⁸ and MEMA filed comments supporting MEMA's proposed exemption.¹²⁹ MEMA contends that OEMs' exclusive control over vehicle-generated data (1) reduces competition in the aftermarket, thereby raising consumer prices, and (2) creates inefficiencies in the vehicle repair and maintenance processes by prolonging the lag time between diagnostics, parts ordering, and vehicle repair.¹³⁰

In March 2024, the DOJ and the FTC jointly filed a comment arguing that this exemption would further promote aftermarket competition.¹³¹ Specifically, the agencies stated that

[r]estricting access to non-copyrightable telematics data risks establishing a competitively harmful bottleneck by depriving users of the ability to share this data with aftermarket parts manufacturers, third-party maintenance and repair services, and other adjacent markets that would put such information to valuable commercial use. This restriction is unwarranted in light of the minimal risk of infringing use of copyrighted [motor vehicle software].¹³²

Opponents of a New Copyright Exemption

Four groups filed comments opposing this proposed exemption: (1) Auto Innovators,¹³³ (2) the National Association of Manufacturers (NAM),¹³⁴ (3) the Association of Equipment Manufacturers (AEM),¹³⁵ and (4) the "Joint Creators"¹³⁶ (collectively, the Entertainment Software

https://www.copyright.gov/1201/2024/comments/opposition/Class%207%20-%20Opp'n%20-%20Alliance%20for%20Automotive%20Innovation%20(Auto%20Innovators).pdf (hereinafter Auto Innovators Opposition Comment).

https://www.copyright.gov/1201/2024/comments/opposition/Class%207%20-%20Opp'n%20-

¹²⁸ SEMA is a nonprofit trade association representing more than 7,000 mostly small businesses nationwide that manufacture, distribute, and sell specialty parts and accessories for motor vehicles. Comments of the Specialty Equipment Market Association to the U.S. Copyright Office on a Proposed Exemption Under 17 U.S.C. §1201, Class 7 (Computer Programs – Vehicle Operational Data), December 21, 2023, https://www.copyright.gov/1201/2024/ comments/Class%207%20-%20Initial%20Comments%20-%20SEMA.pdf.

¹²⁹ Ibid.; MEMA, "Comments to the U.S. Copyright Office on a Proposed Exemption Under 17 U.S.C. § 1201," December 22, 2023, https://www.copyright.gov/1201/2024/comments/Class%207%20-%20Initial%20Comments%20-%20MEMA.pdf (MEMA December 2023 Comments).

¹³⁰ MEMA December 2023 Comments, pp. 2-3.

¹³¹ DOJ-FTC March 2023 Comment, p. 3 ("Accordingly, we urge the Copyright Office to recommend that the Librarian renew the existing repair-related exemptions and grant [this] additional proposed exemption[] to the DMCA").

¹³² DOJ-FTC March 2023 Comment, p. 17.

¹³³ Opposition Comment of the Alliance for Automotive Innovation to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, February 20, 2024,

¹³⁴ NAM represents 14,000 member companies in every industrial sector, including manufacturers throughout the United States. NAM, "Become a Member," https://nam.org/member-services/join-the-nam/. Opposition Comment of the National Association of Manufacturers to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, February 20, 2024,

^{%20}Alliance%20for%20Automotive%20Innovation%20(Auto%20Innovators).pdf (hereinafter NAM Opposition Comment).

¹³⁵ AEM represents North American construction and agricultural equipment manufacturers. AEM, "About AEM," https://www.aem.org/about. Opposition Comment of the Association of Equipment Manufacturers to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, February 20, 2024, https://www.copyright.gov/1201/2024/comments/opposition/Class%207%20-%20Opp'n%20-%20Association%20of%20Equipment%20Manufacturers.pdf (hereinafter AEM Opposition Comment).

¹³⁶ Opposition Comment of ESA, MPA, and RIAA to the U.S. Copyright Office on Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, February 20, 2024, https://www.copyright.gov/1201/2024/ (continued...)

Association [ESA],¹³⁷ the Motion Picture Association [MPA],¹³⁸ and the Recording Industry Association of America [RIAA]¹³⁹).

The groups contend that the exemption's proponents do not specify the relevant vehicle operational data or how they would use it.¹⁴⁰ In addition, they assert that third-party workshops "already have access to all necessary diagnostic and repair tools and information."¹⁴¹ Auto Innovators maintains that proponents' assertions that the currently available processes for accessing diagnostic information and tools are "burdensome or time-consuming ... [or] may take longer than circumvention should not validate claims that an exemption should be granted."¹⁴² Opponents further claim that granting a copyright exemption could put the Librarian in the position of preempting other federal laws and executive branch jurisdictions, including safety guidelines,¹⁴³ environmental regulations,¹⁴⁴ and privacy regulations.¹⁴⁵

Moreover, NAM claims that addressing right-to-repair policies via the Section 1201 triennial rulemaking process "would circumvent the legislative process at a time when both Congress and state legislatures across the country are considering how to balance manufacturers' intellectual property rights with consumers' desires to repair their equipment."¹⁴⁶ The Joint Creators suggest

¹⁴¹ Auto Innovators Opposition Comment, pp. 5-7, 10; NAM Opposition Comment, p. 3; AEM Opposition Comment, p. 2; Joint Creators Opposition Comment, p. 5.

¹⁴³ Auto Innovators Opposition Comment, pp. 9, 11-12; NAM Opposition Comment, p. 2 (discussing concerns raised by NHTSA that a Massachusetts state law requiring OEMs to provide "remote, real-time, bi-directional (i.e., read/write capability) access to safety-critical vehicular systems" within a one-year time frame would "prohibit manufacturers from complying with both existing Federal guidance and cybersecurity hygiene best practices" in Letter from James C. Owens, Deputy Administrator, U.S. Department of Transportation, NHTSA, to The Honorable Tackey Chan, House Chair, Joint Committee on Consumer Protection and Professional Licensure, House of Representatives, Commonwealth of Massachusetts and The Honorable Paul R. Feeney, Senate Chair, Joint Committee on Consumer Protection and Professional Licensure, Senate Commonwealth of Massachusetts, July 20, 2020, https://www.nhtsa.gov/ sites/nhtsa.gov/files/documents/nhtsa_testimony_in_response_to_ma_committee_letter_july_20_2020.pdf); Joint Creators Opposition Comment, p. 5.

¹⁴⁴ NAM Opposition Comment, p. 2 (discussing prohibitions against tampering with emissions controls (Section 203(a)(3) of the Clean Air Act (42 U.S.C. §7522))).

¹⁴⁵ Auto Innovators Opposition Comment, p. 8, note 28 (cross-referencing correspondence from Federal Communications Commission Chairwoman Jessica Rosenworcel to OEMs regarding whether OEMs connected to the internet may be "covered providers" under the Safe Connections Act of 2022 (P.L. 117-223, which establishes requirements concerning access to communication services for survivors of domestic violence, human trafficking, and related harms)), Letter from Chairwoman Jessica Rosenworcel, Chairwoman, Federal Communications Commission, to James D. Farley, Jr., President and Chief Executive Officer, Ford Motor Company et al., January 24, 2024, https://docs.fcc.gov/public/attachments/DOC-399695A1.pdf); Auto Innovators Opposition Comment, pp. 6-7.

¹⁴⁶ NAM Opposition Comment, p. 2.

comments/opposition/Class%207%20-%20Opp'n%20-%20Joint%20Creators.pdf (hereinafter Joint Creators Opposition Comment).

¹³⁷ ESA represents video game publishers and video game platform providers. ESA, "Who We Are," https://www.theesa.com/about-esa/.

¹³⁸ MPA represents U.S. movie and television production studios. MPA, "Who We Are," https://www.motionpictures.org/who-we-are/#our-members.

¹³⁹ RIAA represents record (music) labels in the United States. RIAA, "About RIAA," https://www.riaa.com/about-riaa/.

¹⁴⁰ Auto Innovators Opposition Comment, pp. 3-6; AEM Opposition Comment, pp. 2, 4 ("MEMA does not sufficiently define the vehicle operational data, telematics data, or diagnostics data as issue."); Joint Creators Opposition Comment, p. 2.

¹⁴² Auto Innovators Opposition Comment, pp. 7-8.

that if the Librarian, despite their objections, permits the exemption for Class 7, the exemption "explicitly exclude in-vehicle entertainment systems in the context of the repair exemption."¹⁴⁷

State Laws and Reactions: 2012-2024

2012-2014: Massachusetts Right-to-Repair Law and Industry MOU

In 2012, Massachusetts became the first state in the nation to enact a motor vehicle right-to-repair law.¹⁴⁸ The state did so both via a law enacted in July 2012¹⁴⁹ and a ballot measure approved by voters in November 2012.¹⁵⁰ In 2013, Massachusetts enacted a new version of automotive right-to-repair laws to reconcile conflict between the 2012 right-to-repair law and a ballot measure.¹⁵¹ The provisions of this 2013 law, which are codified in Chapter 93K of the Massachusetts General Laws, formed the basis of a national MOU reached by industry participants the following year (2014 Industry MOU, also described in "Telematics").

The 2013 Massachusetts law's definition of an "independent repair facility" includes OEMcertified workshops. A dealer is included in the definition of an independent repair facility with respect to motor vehicles *unaffiliated* with the dealer's franchise manufacturer; a dealer is excluded with respect to motor vehicles *affiliated* with the dealer's franchise manufacturer.¹⁵²

Failure to comply with the law "shall be deemed to be an unfair method of competition and unfair or deceptive act or practice in the conduct of trade or commerce" as defined elsewhere in Massachusetts' statutes.¹⁵³ Both dealers and independent workshops have the right to sue OEMs in the event they are unable to agree on a remedy for allegedly violating the 2013 law.¹⁵⁴

In 2014, using the text of the 2013 Massachusetts law as a model,¹⁵⁵ the Automotive Aftermarket Industry Association (AAIA), Coalition for Auto Repair Equality, Alliance of Automobile Manufacturers, and Association of Global Automakers, entered into a nationwide right-to-repair MOU (2014 Industry MOU).¹⁵⁶

¹⁴⁷ Joint Creators Opposition Comment, p. 7.

¹⁴⁸ National Conference of State Legislatures, "Right to Repair 2023 Legislation," November 1, 2023, https://www.ncsl.org/technology-and-communication/right-to-repair-2023-legislation. Several other states have right-to-repair laws that either are more limited or pertain to nonvehicle products.

¹⁴⁹ The 193rd General Court of the Commonwealth of Massachusetts, "Laws, Session Laws, Acts, 2012, Chapter 368, an Act Protect [sic] Motor Vehicle Owners and Small Businesses in Repairing Motor Vehicles," https://malegislature.gov/Laws/SessionLaws/Acts/2012/Chapter 368.

¹⁵⁰ Among the 3.2 million voters who cast their ballots, 86% approved the ballot measure. Secretary of the Commonwealth of Massachusetts, "Elections Division, Elections Results Archive," https://electionstats.state.ma.us/ballot_questions/search/year_from:2012/year_to:2012/text:repair.

¹⁵¹ The 193rd General Court of the Commonwealth of Massachusetts, "Laws, Session Laws, Acts, 2013, Chapter 165, an Act Relative to Automotive Repair," https://malegislature.gov/Laws/SessionLaws/Acts/2013/Chapter165.

¹⁵² Massachusetts General Laws Ch. 93K, §1 (defining *independent repair facility*), https://malegislature.gov/Laws/ GeneralLaws/PartI/TitleXV/Chapter93K.

¹⁵³ Ibid., §6(a).

¹⁵⁴ Ibid., §§6(b)-(e).

¹⁵⁵ Clifford Atiyeh, "Automakers Agree to Fix Your Car Anywhere in 'Right to Repair' Pledge," *Car and Driver*, January 29, 2014, https://www.caranddriver.com/news/a15366940/automakers-agree-to-fix-your-car-anywhere-in-right-to-repair-pledge/.

¹⁵⁶ 2014 Industry MOU. In August 2015, industry participants entered into a separate MOU for commercial vehicles. Memorandum of Understanding Among National Commercial Vehicle Solutions Network, the Equipment and Tool (continued...)

Similarities Between 2013 Massachusetts Law and 2014 Industry MOU

The following are key provisions in the MOU that mirror those in the 2013 Massachusetts law:

- For model year 2002 motor vehicles and thereafter, each OEM "shall make available for purchase by owners and independent repair facilities all diagnostic tools incorporating the same diagnostic, repair and wireless capabilities that [the OEM] makes available to its dealers."¹⁵⁷
- 2. For model year 2018 motor vehicles, each OEM "shall provide access to their onboard diagnostic and repair information system" and enable repair facilities to use a standardized diagnostic tool that would work on vehicles from multiple OEMs.¹⁵⁸
- 3. With the exception of "telematics diagnostic and repair information that [OEMs provide] to dealers, necessary to diagnose and repair a customer's vehicle, and not otherwise available to an independent repair facility via the tools specified [in an earlier section of the MOU], nothing in the [MOU] shall apply to telematics services or any other remote or information service, diagnostic or otherwise, delivered to or derived from the vehicle by mobile communications."¹⁵⁹

OEMs are not required to give third parties access to nondiagnostic and repair information provided within the terms and conditions of their franchise agreements with dealers.¹⁶⁰ If an independent repair facility or owner believes that an OEM has failed to provide the information or tool required by the MOU, it may challenge the OEM's actions by first notifying the OEM in writing.¹⁶¹ The OEM has 30 days from the time it receives the complaint to cure the failure.¹⁶²

Differences Between 2013 Massachusetts Law and 2014 Industry MOU

The following provisions of the 2014 Industry MOU are not in the 2013 Massachusetts law:

- The 30-day deadline for an OEM to remedy a complaint from an independent repair facility does not apply if the parties agree to an alternative time frame.¹⁶³
- Barring a satisfactory remedy from the OEM, an independent repair facility may appeal to a dispute resolution panel comprising representatives from each of the five signatory organizations.¹⁶⁴

Institute, The Heavy Duty Aftermarket Canada, Auto Care Association, and the Truck and Engine Manufacturers Association, Service Information, August 12, 2015, https://www.etools.org/Resources/Documents/

RTR% 20 National% 20 Commercial% 20 Vehicle% 20 Service% 20 Information% 20 MOU% 20 executed% 20 MOU.pdf.

¹⁵⁷ 2014 Industry MOU, §§2(a)-2(b); Massachusetts General Laws Ch. 93K, §§2(a)-(c)). The 2014 Industry MOU defines a *motor vehicle* as "any vehicle that is designed for transporting persons or property on a street or highway and that is certified by the manufacturer under all applicable federal safety and emissions standards and requirements for distribution and sale in the United States, but excluding (i) a motorcycle; (ii) a vehicle with a gross weight over 14,000 pounds; or (iii) a recreational vehicle or an auto home equipped for habitation" (§1).

¹⁵⁸ 2014 Industry MOU, §(2)(c)(i); Massachusetts General Laws Ch. 93K, §2(d).

¹⁵⁹ 2014 Industry MOU, §(2)(e); 2013 Massachusetts Acts Ch. 165 §2(f)), https://malegislature.gov/Laws/SessionLaws/ Acts/2013/Chapter165. (As described in "2020 Massachusetts Data Access Law and Implementation," Massachusetts General Laws 93K, §2(f) was amended in 2020 to include access to telematics data.)

¹⁶⁰ 2014 Industry MOU, §5; Massachusetts General Laws Ch. 93K, §5.

¹⁶¹ 2014 Industry MOU, §6; Massachusetts General Laws Ch. 93K, §6(b).

¹⁶² Ibid.

^{163 2014} Industry MOU, §6.

^{164 2014} Industry MOU, §6.

The following provisions of the 2013 Massachusetts law are not in the 2014 Industry MOU:

- Model year 2013 vehicles (and thereafter) weighing more than 14,000 pounds with limited exceptions—are included within the category of vehicles for which each OEM "shall make available for purchase by owners and independent repair facilities all diagnostic tools incorporating the same diagnostic, repair and wireless capabilities that [the OEM] makes available to its dealers."¹⁶⁵
- OEMs' ability to require dealers to purchase proprietary tools for accessing diagnostic, service, or repair information is limited if it provides, with more favorable terms and conditions, the same information to an independent repair facility or other third party via a standardized tool.¹⁶⁶

Debate Over Access to Telematics Data: 2015-2024

After the adoption of the 2014 Industry MOU, AAIA raised concerns about a stipulation in the MOU stating that OEMs need provide independent workshops with remote access to telematics data only if an alternative method does not exist.¹⁶⁷ AAIA claims that this provision constrains independent shops' ability to compete by requiring consumers to travel to the shop in order to get their vehicles diagnosed. In contrast, AAIA claims, consumers need not travel to dealers for a diagnosis, because OEMs share telematics data with them.¹⁶⁸ In addition, when OEMs diagnose vehicles remotely and notify drivers that they may need to get their vehicle serviced, they can include marketing messages that promote aftermarket services from dealers.¹⁶⁹

Auto Innovators counters that access to telematics data is unrelated to repair data and that initiatives seeking to include this access represent "a monetizable data grab from national aftermarket part manufacturers and retailers masquerading as consumer protection and support for small businesses."¹⁷⁰ Furthermore, the organization claims that enabling independent workshops to access vehicle data remotely could pose cybersecurity and privacy risks to drivers.¹⁷¹

https://www.judiciary.senate.gov/imo/media/doc/Lowe%20Testimony1.pdf.

¹⁶⁹ Hiawatha Bray, "What's the Tech Behind Question 1?" *The Boston Globe*, October 12, 2020, https://www.bostonglobe.com/2020/10/12/business/whats-tech-behind-question-1/.

¹⁷⁰ Memorandum from Alliance for Automotive Innovation to Interested Parties, *Dig Deeper: Maine Telematics Ballot Initiative*, October 2022, https://www.repairerdrivennews.com/wp-content/uploads/2023/01/Maine-Ballot-Memo-to-Interested-Parties.pdf.

 ¹⁶⁵ Ibid., §1 (defining *heavy duty vehicle*); §§2(a), 2(c)(1); Massachusetts General Laws Ch. 93K, §§2(a)-(c)).
¹⁶⁶ Ibid., §§2(b), 2(c)(2).

¹⁶⁷ Elliot Maras, "R2R Pact Must Say More on Telematics," *Professional Tool & Equipment News*, March 1, 2014, https://www.vehicleservicepros.com/service-repair/diagnostics-and-drivability/article/11318521/r2r-pact-must-say-more-on-telematics.

¹⁶⁸ Ibid. See also Testimony of Auto Care Association Senior Vice President for Regulatory and Government Affairs, Aaron Lowe, in U.S. Congress, Senate Committee on the Judiciary, Subcommittee on Intellectual Property, *Are Reforms Needed to Section 1201?*, hearings, 116th Cong., 2nd sess., September 16, 2020,

¹⁷¹ Letter from The Alliance for Automotive Innovation, the Automotive Policy Council, The American International Automobile Dealers Association et al. to The Honorable Cathy McMorris Rodgers, Chair, House Committee on Energy and Commerce; The Honorable Frank Pallone, Ranking Member, House Committee on Energy and Commerce; The Honorable Gus Bilirakis, Chairman, Subcommittee on Innovation, Data, and Commerce; House Committee on Energy and Commerce; The Honorable Jan Schakowsky, Ranking Member, S Subcommittee on Innovation, Data, and Commerce; House Committee on Energy and Commerce; October 31, 2023, https://www.nada.org/media/8918/download?inline.

2020 Massachusetts Data Access Law and Implementation

To support access to telematics data, Massachusetts Right to Repair—a coalition of independent vehicle workshops, vehicle part stores, and trade organizations—launched a campaign to update the Massachusetts right-to-repair law via a November 2020 ballot initiative.¹⁷² The initiative proposed, beginning with model year 2022 vehicles, requiring OEMs selling or leasing vehicles in Massachusetts to equip them with a standardized open data platform.¹⁷³ This platform would enable vehicle owners and independent repair facilities to access, via a mobile application, "any vehicle-specific data, including telematics system data, generated, stored in[,] or transmitted by a motor vehicle used for or otherwise related to the diagnosis, repair[,] or maintenance of the vehicle"¹⁷⁴ without obtaining prior authorization from OEMs.¹⁷⁵

In July 2020, in response to a request from Massachusetts legislators, the Deputy Administrator of NHTSA¹⁷⁶ submitted written testimony to the Massachusetts legislature addressing the proposed ballot initiative.¹⁷⁷ The agency expressed concerns that the ballot initiative would require "manufacturers to redesign their vehicles in a manner that necessarily introduces cybersecurity risks, and to do so in a timeframe that makes design, proof, and implementation of any meaningful countermeasure effectively impossible."¹⁷⁸ In November 2020, 71% of Massachusetts voters approved the initiative.¹⁷⁹

In 2021, Subaru and Kia disabled their telematics services for 2022 model year vehicles sold in Massachusetts.¹⁸⁰ A Subaru senior executive claimed that the company took this action because compliance with Massachusetts's law was "impossible," given that the data platform stipulated by the law did not exist and "will not exist any time soon."¹⁸¹

In June 2023, NHTSA advised 22 OEMs that the Massachusetts Data Access Law "conflicts with and therefore [is] preempted by the [National Traffic and Motor Vehicle Safety Act (Safety Act), 49 C.F.R. Chapter 301]" due to cybersecurity risks.¹⁸²

¹⁷² Massachusetts Right to Repair, "About Us," http://massrighttorepair.org/aboutus.html.

¹⁷³ William Francis Galvin, *Information for Voters, Massachusetts 2020 Ballot Questions, State Election, Tuesday November 3, 2020*, Elections Division, State of Massachusetts, Boston, MA, 2020, pp. 4-6,

 $https://www.sec.state.ma.us/divisions/elections/download/information-for-voters/IFV_2020-English.pdf.$

¹⁷⁴ Ibid., p. 5 (defining mechanical data).

¹⁷⁵ Ibid., pp. 5-6. See also Massachusetts General Laws Ch. 93K, §1 (defining *telematics system*), §§2(d)(1), (f).

¹⁷⁶ NHTSA's statutory authority centers on motor vehicle safety (49 U.S.C. §30101 et. seq.).

¹⁷⁷ Letter from James C. Owens, Deputy Administrator, NHTSA, U.S. Department of Transportation, to the Honorable Tackey Chan, House Chair, Joint Committee on Consumer Protection and Professional Licensure of the State of Massachusetts and the Honorable Paul R. Feeney, Senate Chair, Joint Committee on Consumer Protection and Professional Licensure of the State of Massachusetts, July 20, 2020, https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/nhtsa_testimony_in_response_to_ma_committee_letter_july_20_2020.pdf.

¹⁷⁸ Ibid.

¹⁷⁹ William Francis Galvin, *Statewide Ballot Measures: 1919 Through 2020*, Elections Division, State of Massachusetts, Boston, MA, December 24, 2020, p. 65, https://www.sec.state.ma.us/divisions/elections/download/ research-and-statistics/Statewide-Ballot-Measures.pdf.

¹⁸⁰ Hiawatha Bray, "In Latest 'Right to Repair' Move, Kia Shuts Off New Car Tech in Massachusetts," *The Boston Globe*, January 21, 2022, https://www.bostonglobe.com/2022/01/21/business/latest-right-repair-move-kia-shuts-off-new-car-tech-massachusetts/.

¹⁸¹ Larry P. Vellequette, "Subaru Disables Starlink in Massachusetts New Cars Amid Right-to-Repair Fray," *Automotive News*, November 8, 2021, https://www.autonews.com/service/subaru-disables-starlink-massachusetts-amid-right-repair-battle.

¹⁸² Notice of Transmittal of Letter to Vehicle Manufacturers, U.S. Department of Justice, No. 1:20-cv-12090 (D. Mass. (continued...)

In August 2023, NHTSA and the Assistant Attorney General of the Commonwealth of Massachusetts publicly stated that NHTSA's "understanding that a platform that provides the required features, capabilities, and access using a short-range wireless protocol such as Bluetooth is one approach that a vehicle manufacturer might use to achieve compliance with the [Massachusetts] Data Access Law" and would therefore not be inconsistent with federal vehicle safety regulations.¹⁸³ NTHSA expressed concern about the implications of disabling telematics services. The agency stated that disabling telematics services "would disserve vehicle owner safety without advancing the right to repair."¹⁸⁴

2023 Maine Vehicle Right-to-Repair Law and Proposed 2024 Amendments

In November 2023, 84%¹⁸⁵ of participating Maine voters approved a ballot initiative that requires OEMs to standardize onboard diagnostic systems and enable independent repair facilities and owners to access the diagnostic systems (i.e., telematics data) remotely.¹⁸⁶ In addition, the law directs OEMs to equip certain motor vehicles with a standard access platform.¹⁸⁷

2023 Update to 2014 Industry MOU

In July 2023, organizations representing independent vehicle repair and service shops (ASA and SCRS) signed a separate MOU with Auto Innovators (2023 Industry MOU) updating the 2014 Industry MOU.¹⁸⁸ The 2023 Industry MOU affirms that motor vehicle owners and independent

¹⁸⁵ State of Maine, Department of the Secretary of State, "Bureau of Corporations, Elections, and Commissions, Tabulations for Elections Held in 2023, Tabulation of Votes," https://www.maine.gov/sos/cec/elec/results/ results23.html (out of the 404,782 total votes for this ballot initiative statewide, 341,574 were in favor).

¹⁸⁶ Maine Revised Statutes Title 29-A, §1801 (definitions), §1810, https://legislature.maine.gov/legis/statutes/29-A/ title29-Asec1810.html. The diagnostic repair tools, parts, software, and components the law directs OEMs to release depend on the motor vehicle's model year. Ibid., §§1810(3)-(5).

¹⁸⁷ Ibid., §1810(6). OEMs are not required to provide access to information needed to reset a vehicle immobilizer system or security-related electronic modules. Ibid., §1810(7). However, if such information is withheld, OEMs must make such information available through the secure data release model system used by the National Automotive Service Task Force (NASTF) or some other known, reliable, and accepted system. Ibid. NASTF is a nonprofit organization composed of automotive industry participants that provides credentials for technicians, mechanics, and locksmiths to access secure automotive information and systems (NASTF, "Welcome to NASTF," https://wp.nastf.org/).

June 13, 2023) (submitting as an attachment a Letter from Kerry E. Kolodziej, Assistant Chief Counsel for Litigation and Enforcement, U.S. Department of Transportation, National Highway Safety Administration, to Ann Maria Dias-Lebrun, Assistant General Counsel, BMW of North America, LLC, et al., June 13, 2023).

¹⁸³ Letter from Kerry Kolodziej, Assistant Chief Counsel for Litigation and Enforcement, U.S. Department of Transportation, National Highway Safety Administration, to Eric A. Haskell, Assistant Attorney General, Office of the Attorney General, Commonwealth of Massachusetts, August 22, 2023, https://s3.documentcloud.org/documents/ 23925257/letter.pdf. Letter from Eric A. Haskell, Assistant Attorney General, Commonwealth of Massachusetts, to Kerry Kolodziej, Esq., Assistant Chief Counsel for Litigation and Enforcement, NHTSA, August 22, 2023, https://www.repairerdrivennews.com/wp-content/uploads/2023/08/AG-letter-to-NHTSA.pdf.

¹⁸⁴ Letter from Kerry Kolodziej, Assistant Chief Counsel for Litigation and Enforcement, U.S. Department of Transportation, National Highway Safety Administration, to Eric A. Haskell, Assistant Attorney General, Office of the Attorney General, Commonwealth of Massachusetts, August 22, 2023, p. 2, https://s3.documentcloud.org/documents/23925257/letter.pdf.

¹⁸⁸ Automotive Service Association, "Independent Auto Repairers, Automakers Strike Major Right-to-Repair Pact," press release, July 11, 2023, https://members.asashop.org/press-releases/Details/independent-auto-repairers-automakers-strike-major-right-to-repair-pact-175350. See also Letter from Julie Massaro, President, Automotive Service Administration, Aaron Schulenburg, Executive Director, Society of Collision Repair Specialists, and John Bozzela, President and CEO, Alliance for Automotive Innovation, et al., to The Honorable Maria Cantwell, Chairwoman, U.S. Senate Committee on Commerce, Science, and Transportation, July 11, 2023, https://sites.sema.org/ (continued...)

repair facilities can purchase repair and diagnostic systems that OEMs make available to authorized dealers on "fair and reasonable terms."¹⁸⁹ The 2023 Industry MOU specifies that motor vehicle owners and independent workshops do not have access to vehicle-generated data "beyond what is necessary to diagnose and repair a vehicle."¹⁹⁰ Owners' and independent workshops' access to diagnostics and repair data includes only what OEMs provide to their authorized dealers and "is not otherwise available through a tool or third-party service information provider."¹⁹¹

Organizations representing aftermarket suppliers and independent workshops who did not sign the 2023 Industry MOU claim the MOU's terms are insufficient to ensure competition in the motor vehicle aftermarket, in part because it does not oblige OEMs to provide vehicle owners or independent workshops direct access to telematics data.¹⁹²

Options for Congress

As congressional policymakers consider the ability for third parties to access software and data including data unrelated to repair—in SDVs, they may weigh several options. They may decide that current federal laws are appropriate and allow federal government agencies to further develop and implement the proposed policies. In addition, lawmakers may opt to monitor actions by states, courts, and industry participants before taking further actions. Alternatively, congressional policymakers could increase oversight activities and direct the federal government agencies, through hearings, report language, or legislation, to take specific actions to reconcile potentially competing policy goals.

Observe Impact of Industry Participants' Private Negotiations

Lawmakers may prefer to observe the effect of the current MOUs between the OEMs, ASA, and SCRS on competition in the aftermarket.

Permit Current Federal and State Policy Framework to Develop

As states enact different versions of laws requiring OEMs to permit independent workshops to access motor vehicle data and software, lawmakers may wish to observe the impact on consumers (e.g., Subaru's and Kia's disabling of telematics services in Massachusetts) prior to taking action.

In addition, lawmakers may choose to wait for courts to assess whether current federal laws preempt such state laws. In November 2023, Auto Innovators filed a lawsuit in the U.S. District Court for the District of Massachusetts.¹⁹³ The lawsuit contends that the Massachusetts Data

Repair%20Letter%20to%20Congress%20July%202023%20(005).pdf (hereinafter 2023 Industry MOU).

ext-assets/sema-news/National%20Automotive%20Right-to-

¹⁸⁹ 2023 Industry MOU, "Automotive Repair Data Sharing Commitment" section.

¹⁹⁰ Ibid.

¹⁹¹ Ibid.

¹⁹² Auto Care Association, "Right to Repair Agreement a Thinly Veiled Attempt to Confuse Lawmakers and Drivers," press release, July 11, 2023, https://www.autocare.org/news/latest-news/details/2023/07/11/right-to-repair-agreement-a-thinly-veiled-attempt-to-confuse-lawmakers-and-drivers. MEMA, "MEMA Aftermarket Suppliers Statement on Right to Repair Commitment," press release, July 11, 2023, https://www.mema.org/news/mema-aftermarket-suppliers-statement-right-repair-commitment.

¹⁹³ Complaint, Alliance for Automotive Innovation v. Maura Healey, Attorney General of the Commonwealth of Massachusetts, in her official capacity No. 1:20-cv-12090 (D. Mass. November 20, 2020) (hereinafter Alliance v. Healey Complaint).

Access Law is unenforceable because it conflicts with federal laws,¹⁹⁴ including copyright laws (Section 1201 of the DMCA),¹⁹⁵ trade secret laws (the Defend Trade Secrets Act),¹⁹⁶ vehicle safety laws (the National Traffic and Motor Vehicle Safety Act),¹⁹⁷ and consumer data protection laws for financial institutions over which the FTC has jurisdiction (the Gramm-Leach-Bliley Act).¹⁹⁸ Auto Innovators stated that because OEMs routinely finance customers' purchase or lease of new vehicles, several of its members are considered by the FTC to be financial institutions for the purpose of enforcing the Gramm-Leach-Bliley Act.¹⁹⁹ Auto Innovators asked the court to "temporarily and permanently [enjoin] enforcement of the law."²⁰⁰ As of the publication date of this report, the judge presiding over the bench trial has not issued a ruling.²⁰¹

In addition, Members may observe or review the Librarian of Congress's expected forthcoming decision whether to extend the existing temporary exemption from copyright laws under the DMCA and/or establish a new exemption as proposed for the 2024-2027 time period.

Enact Federal Legislation

Congressional stakeholders might opt to create a federal standard regarding the access of consumers and third parties to motor vehicle software and data in order to avoid or reduce the potential for a patchwork of state approaches, increase regulatory certainty, and harmonize potentially competing policy goals of different government agencies.

Legislative approaches might consider what agency is best suited to oversee any such effort and to what extent, if any, coordination across agency boundaries might be necessary given the datacentric issues raised. For example, in March 2024, the U.S. Department of Commerce's Bureau of Industry and Security issued an advance NPRM seeking, among other things, comments on national security risks associated with connected vehicles. While the FTC and NHTSA may have expertise with regard to cybersecurity needs based on their oversight of U.S.-based firms, other agencies may have expertise based on their oversight of U.S. trade and international relations.

Such approaches might also address whether to permanently permit access data subject to TPMs under Section 1201 of the Copyright Act. The existing exemption afforded to diagnosing, maintaining, or repairing a motorized land vehicle is temporary and based on a regular triennial decisionmaking process, as described above.

In the 118th Congress, H.R. 906, the Right to Equitable and Professional Auto Industry Repair Act (REPAIR Act), was introduced. It would specify that failure by OEMs to provide consumers and independent repair providers with access to "vehicle-generated data," "critical repair information," and tools needed to repair motor vehicles would constitute a violation of a regulation that, pursuant to Section 18(a)(1)(B) of the Federal Trade Commission Act (15 U.S.C.

¹⁹⁴ Ibid., p. 24 (discussing the Gramm-Leach-Bliley Act), pp. 25-28 (discussing federal vehicle safety standards), pp. 28-32 (discussing copyright laws), p. 32 (discussing the Defend Trade Secrets Act).

¹⁹⁵ 17 U.S.C. §1201.

¹⁹⁶ 18 U.S.C. §1836 et seq.

¹⁹⁷ 49 U.S.C. §3101 et seq.

¹⁹⁸ 49 U.S.C. §6801(b).

¹⁹⁹ Alliance v. Healey Complaint, p. 24.

²⁰⁰ Ibid., pp. 53-54.

²⁰¹ Brian Dowling, "Automakers Want Mass. 'Right to Repair' Blocked Until Ruling," *Law360*, May 26, 2023, https://www.law360.com/articles/1681974/automakers-want-mass-right-to-repair-blocked-until-ruling.

§57a(a)(1)(B)), the FTC has the authority to prescribe.²⁰² In addition, the bill stipulates that the FTC, may, in consultation with NHTSA, "add additional types of data to the definition of vehiclegenerated data under subsection (a)(20) regardless of whether those types of data are related to motor vehicle repair, taking cybersecurity and privacy into consideration, to allow consumers and their designees to directly access additional types of vehicle-generated data, and for additional purposes."²⁰³ On November 2, 2023, the House Committee on Energy and Commerce's Subcommittee on Innovation, Data, and Commerce forwarded the bill to the full committee by a voice vote.²⁰⁴

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²⁰² H.R. 906 §3(a). Section 18(a)(1)(B) of the Federal Trade Commission Act cross-references Section 5 of the Federal Trade Commission Act (15 U.S.C. §45), which describes the agency's authority to prohibit unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, as described in "Federal Trade Commission."

²⁰³ H.R. 906 §5(b)(20).

²⁰⁴ H.R. 906.