S. HRG. 117–571

# A LEGISLATIVE HEARING TO EXAMINE S. 2736, THE RECOGNIZING THE PROTECTION OF MOTORSPORTS ACT OF 2021; S. 1475, THE LIVESTOCK REGULATORY PROTECTION ACT OF 2021; S. 2661, SMOKE-READY COMMUNITIES ACT OF 2021; AND S. 2421, THE SMOKE PLANNING AND RESEARCH ACT OF 2021

## HEARING

BEFORE THE

## COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED SEVENTEENTH CONGRESS

SECOND SESSION

SEPTEMBER 7, 2022

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED SEVENTEENTH CONGRESS

SECOND SESSION

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# C O N T E N T S

# THE U.S. FISH AND WILDLIFE SERVICE'S PROPOSED 2023 BUDGET

**WEDNESDAY, SEPTEMBER 7, 2022**

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
*Washington, DC.*

The committee, met, pursuant to notice, at 10:04 a.m. in room 406, Dirksen Senate Office Building, Hon. Thomas R. Carper (chairman of the committee) presiding.

Present: Senators Carper, Capito, Whitehouse, Merkley, Markey, Kelly, Padilla, Inhofe, Boozman, Ernst.

## OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. Good morning, everyone.

I am going to ask our guests to please take their seats. Senator Capito and I are happy to welcome you all.

We have been in recess for a while. It took me a while to find this room, but I finally wandered into the right hearing room. It is good to be back.

Today's hearing is our committee's first hearing since the passage of the Inflation Reduction Act, the most significant investment to combat climate change in our Nation's history. I would like to take a moment to discuss the significance of this law before we turn to the hearing itself.

This historic law is going to deliver nearly $370 billion in climate and clean energy funding that will put our Nation on track to reduce greenhouse gas emissions by 40 percent below 2005 levels by 2030. This is a critical down payment on reaching the President' goals on cutting emissions in half by the end of this decade and achieving net-zero emissions by 2050. These investments will also significantly reduce emissions that impact our Nation's air quality, helping all Americans breathe a little easier.

Passing this law could not have come at a more critical time. As many of you now, this week, heavy rainfall flooded streets and highways surrounding Providence, Rhode Island. Temperatures in Sacramento, California broke all-time records amid a historic heatwave in that State. It is quite clear that climate crisis is here, and this extreme weather is impacting the air that we breathe.

Currently, there are nearly 70 wildfires burning across this Country. Along with the destruction that wildfires bring, the smoke they release contains particulate matter and other air pollutants that pose a threat to human health. Smoke doesn't just threaten nearby communities, but also downwind communities, as well. We

know that smoke from wildfires in the West has reached as far as our States here on the East Coast. Some people say that we are at the end of America's tailpipe, and some days, I fully agree with that.

As these wildfires become more frequent and severe, so do the emissions that they create. The health risks from exposures to this pollution are even greater for disadvantaged communities, including rural communities, which are often more vulnerable to wildfires and the resulting air pollution.

That is why we have made mitigating the climate and health risks from wildfires eligible for funding under our Environmental and Climate Justice Block Grants Program in the Inflation Reduction Act. This new program provides $3 billion in grants and technical assistance for mitigating environmental issues in disadvantaged communities.

That brings me to Senator Merkley's two pieces of legislation that we are considering today, along with several others. The Smoke-Ready Communities Act would create a grant program to support communities in preparing for and responding to the potential health risks from harmful air emissions that emanate from wildfires. The Smoke Planning and Research Act would support community planning and research activities on the effects of smoke emissions from wildfires on human health. I look forward to hearing more about these bills shortly from Senator Merkley and our witnesses.

Before we do, however, let me turn to another piece of legislation that we are going to examine today. That is the Recognizing the Protection of Motorsports Act, also known as RPM Act. This legislation seeks to clarify that racecars do not need to meet Clean Air Act emissions requirements. I commend Senator Kelly for his leadership on this legislation, as well as our good friend, Senator Burr, the original sponsor of the bill.

We can all agree that racecar drivers shouldn't face liability for the emissions of their cars that are used solely for organized competition. Fortunately, as EPA has informed us, the agency has never sought to assert that individual drivers are liable under the Clean Air Act. But as a $10 million civil penalty announced last week makes clear, bad actors are attempting to exploit the racing community to sell devices that tamper with pollution controls for on-road use.

While I do have concerns that this legislation is a solution without a problem, I look forward to hearing from all of our witnesses today and seeing if we can reach an agreement on language to clarify this point without inadvertently creating new uncertainties or opportunities for litigation in the law.

Finally, the fourth bill we are considering today is Senator Thune's legislation, the Livestock Regulatory Protection Act. This legislation would restrict EPA's ability to issue permits under the Clean Air Act for emissions from certain agricultural activities, especially those relating to biological processes for livestock farming.

As we discuss this legislation today, it is worth noting that EPA already refrains from issuing such permits. Why is that? One reason is the inclusion of language similar to Senator Thune's bill in annual appropriations legislation for several years now. That

means the decision on whether this restriction is necessary is up to Congress each year, not the EPA. Doing so provides Congress with important flexibility.

With that, again, we want to thank our panel of witnesses for joining us today. We look forward to hearing from each of you as part of our discussion.

Before we do, though, let me first turn to our Ranking Member, Senator Capito, for her opening statement. Senator Capito, it is good to see you. You are recognized.

**OPENING STATEMENT OF HON. SHELLEY MOORE CAPITO, U.S. SENATOR FROM THE STATE OF WEST VIRGINIA**

Senator CAPITO. Thank you, Chairman Carper. It is good to be back, and it is nice to see the members of the committee.

I would also, before I begin, note that Senator Burr, who is one of the main cosponsors of one of the bills, the RPM Act, could not make it today, so I would ask unanimous consent to include a written statement from Senator Burr.

Senator CARPER. Without objection.

Senator CAPITO. Senator Tillis is also on the statement.

[The referenced information follows:]

**Senator John Thune Testimony**
**Environment and Public Works Committee Hearing to**
**Consider the Livestock Regulatory Protection Act**
**September 7, 2022**

Thank you Chairman Carper and Ranking Member Capito for holding today's legislative hearing to consider the Livestock Regulatory Protection Act. I also want to thank South Dakota Farm Bureau Federation President and American Farm Bureau Federation Vice President Scott VanderWal for being here and for his testimony on this important legislation.

I have long been concerned with efforts to impose onerous regulations and costly permit fees on animal emissions and the negative effect this would have on U.S. agricultural producers' ability to continue providing a safe and abundant food supply for our nation and the world. Regulating animal emissions could ultimately lead to higher food costs for consumers who are already facing increased food prices.

Contrary to the story being pushed by opponents of the beef industry, beef production is directly responsible for only a tiny fraction of U.S. emissions. Cattle actually play an important role in managing pasturelands that sequester vast amounts of carbon.

And on top of that, it's become clear that with certain feed additives, as well as then capturing and utilizing the energy potential of their waste using biodigesters, it's possible to significantly reduce cattle emissions – making the demonization of beef even more wrongheaded. This issue isn't limited to cattle production. Regulating animal emissions would negatively affect the entire livestock sector, including poultry producers in Delaware and dairy producers in West Virginia.

To address this, I introduced the Livestock Regulatory Protection Act with Senator Sinema. The Livestock Regulatory Protection Act, which is also cosponsored by Senators Boozman and Kelly, would prevent the Environmental Protection Agency from imposing emissions regulations relating to the biological processes of livestock.

I actually introduced this bill years ago with the Democrat leader. This legislation was included in annual funding bills on a bipartisan basis for a number of years after the Democrat leader and I first introduced it. Unfortunately, Democrats have omitted this important protection in their recent spending proposals, and it has had to be secured in final spending bills.

Passing this legislation would provide livestock producers long-term certainty that their livelihoods will not be compromised by regulatory overreach. Thanks again for holding today's hearing, and I urge this committee to swiftly advance this important legislation.

Senator CARPER.

[Presiding.] I want to thank our witnesses for joining us here today, and I look forward to hearing from each of you.

We are here to consider four bills: the Livestock Regulatory Protection Act, the Recognizing the Protection of Motorsports Act, the Smoke-Ready Communities Act, and the Smoke Planning and Research Act. These bills relate to EPA's authority on issues spanning from livestock to racing vehicles to wildfire smoke.

I am more interested to hear about Senator Merkley's bills, the Smoke-Ready Communities Act and the Smoke Planning and Research Act, but I do want to highlight that EPA has existing authority to fund wildfire research, including through the "Science to Achieve Results" STAR Program. That program has provided research funds for universities for wildfire research, which appears to be something that Senator Merkley's bill, the Smoke Planning and Research Act, would reauthorize in a separate program, and I would like to understand if there is any duplication there.

In 2021, EPA awarded $9 million in grant funding for researchers to develop approaches and strategies to reduce the risks of smoke from wildfire and prescribed harm, and through the Democrats' what I call a reckless tax and spending spree that we just saw last month, EPA has been provided with excessive additional funding and authorities. EPA, and the Chairman mentioned this, received funding for air monitoring, which can be used for wildfires, as well as a $3 billion grant that can award funding to mitigate climate and health risks from wildfire events. I question the need for an even greater increase in EPA power and appropriations in light of the recent spending.

As we consider the other topics before us today, I want to thank Chairman Carper for agreeing to consider two bipartisan bills during this hearing: the Livestock Regulatory Protection Act and the RPM Act. These two bills are narrowly tailored to provide clear relief and certainty to critical American groups that could suffer outsized costs from EPA regulation: farmers and ranchers and motorsports enthusiasts, which are rampant in my State.

The regulatory threat is real and we have already seen this Administration take a very expansive view of EPA's authority under the Clean Air Act when evaluating the energy sector.

The first bill I will talk about is the Livestock Regulatory Protection Act, which would ensure EPA cannot establish a new cow tax and would prohibit EPA from requiring Clean Air Act permits related to livestock emissions.

Farmers and ranchers are on the front lines of dealing with rising prices, including higher costs of fertilizer, feed, fuel, and equipment that are vital to their operations. Enacting Senator Thune's bipartisan, straightforward bill, which is cosponsored by Senator Kelly, a member of this committee, and thank you for that, Senator Boozman, and Senator Sinema, could codify a narrow exemption for livestock. I would note that Majority Leader Schumer himself supported Senator Thune's bill when it was introduced back in 2009.

I am also pleased to speak in support of necessary relief for racecar enthusiasts and their supporting industries. I have proudly supported Senator Burr's RPM Act since it was first proposed. This legislation seems so simple to me. As introduced, it has broad, bi-

partisan support, including on this committee. In addition to myself, four other committee members are supportive. Senator Kelly, and thank you for that support, Senator Inhofe, Senator Ernst, and Senator Sullivan are also cosponsors. In total, the bill has 32 cosponsors, including 11 Democrat cosponsors.

Back in 2017, when I was chair of the Subcommittee on Clean Air and Nuclear Safety, we held a hearing on the RPM Act. As we heard then and we will hear again today, Americans all over the Country enjoy the hobby of modifying vehicles into racecars. The RPM Act would clarify that vehicles to be used solely for competition are not to be treated like the cars that drive on our Nation's roads. Congress never intended for cars that have been modified from street use to race car track use to be regulated.

This legislation would provide a narrow exemption, again, narrow, to ensure that small business that help hobbyists who transition their vehicles into racecars, that are not driven on the road and cannot be driven on the road, are not unfairly punished or targeted through EPA enforcement, because that was never the intent of this Congress.

I am glad that we are hearing about these bills today, and I hope to learn more from our witnesses. Thank you again for holding the hearing.

Senator Merkley.

Senator MERKLEY. Thank you very much, Senator Capito.

Senator CAPITO. You just want to take the gavel, right?

Senator MERKLEY. My imaginary gavel.

Senator CAPITO. Here it is.

[Laughter.]

Senator MERKLEY.

[Presiding.] I am delighted we are looking at this set of bills today. Next, we are going to turn to Senator Kelly to make a statement about Recognizing the Protection of Motorsports Act, or RPM, as Senator Capito referred to, of which he is an original cosponsor.

Senator Kelly.

**OPENING STATEMENT OF HON. MARK KELLY,**
**U.S. SENATOR FROM THE STATE OF ARIZONA**

Senator KELLY. Thank you, Mr. Chairman.

Let me start by saying that I appreciate Chairman Carper's willingness to hold a hearing today on the Recognizing the Protection of Motorsports Act, or RPM Act.

Racing is a very important thing to many Arizonans. It is part of our State's legacy. In my hometown of Tucson, Arizona, we have a street called Speedway Boulevard. I don't live more that maybe a half a mile from Speedway. The name of the street dates back to 1911, before Arizona was a State, when the road hosted the first-ever auto race in southern Arizona. Records from the time indicate that the race was so popular that more than half of the population of Tucson attended.

Motorsports continue to be an important thing to thousands of amateur racers in Arizona and the more than 100,000 Arizonans who attend motorsports events each and every year, including me. I have often gone down to the NHRA race outside of Phoenix. That also includes my wife, who raced motorcycles herself on a track in

Arizona when she was in her twenties. When she was in Congress, my wife, Gabby Giffords, was a part of the House Motorcycle Caucus. She would regularly ride motorcycles near Patagonia and in southern Arizona. She still owns that motorcycle today, which will turn 50, not her, but the motorcycle will turn 50 years old this year.

The RPM Act will help provide some certainty to Arizona's amateur racers and auto mechanics from EPA regulations which could harm their ability to enjoy their hobby. The goal of this bill and the reason that I support it is to provide a narrow exemption to Clean Air Act regulations, which govern vehicle emissions to allow those amateur racers to improve the performance of their vehicle without worrying that they are breaking the law.

I recognize that this bill needs work in order for it to be included in a committee markup. I agree that we need to ensure that any amendments to the Clean Air Act preserve EPA's authority to go after bad actors, such as folks who sell and install defeat devices to illegally modify emissions controls on street vehicles. I know that our staffs have been discussing a potential path forward with EPW committee staff. I want to say how grateful I am for Chairman Carper's engagement and shared commitment to a path forward.

I also want to be sure to acknowledge the leadership of Senator Burr, who has been a champion for this legislation for years, as well as our other co-leads on this bill, Senators Tester, Manchin, Tillis, and Ernst. I hope this hearing is another step forward toward the goal of finding a compromise where we can provide certainty to the racers, to the mechanics and retailers who are committed to following the law, while continuing to reduce emissions from the transportation sector.

With that, Mr. Chairman, I yield back.

Senator MERKLEY. Thank you very much, Senator Kelly. Can you hear the roar of the racetrack from your home?

Senator KELLY. I cannot, but I tell you, there is nothing like standing next to a top-fuel dragster, just feet away, when that thing takes off. It kind of reminds me of being in the rocket ship.

Senator MERKLEY. I was thinking, as you were speaking, about the sport of quarter midget racing, which is racing in which youth participate in. I raced quarter midgets for many years when I was growing up, and I wouldn't want to be arrested for violating clean air laws, so thank you.

We are now going to turn to our first panel, which is our esteemed colleague from the State of South Dakota, Senator John Thune. He is the lead sponsor of one of the pieces of legislation we are examining today, the Livestock Regulatory Protection Act.

Senator Thune, welcome to the committee. You can proceed.

## OPENING STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator THUNE. Thank you, Mr. Chairman and Ranking Member Capito, for holding today's legislative hearing to consider the Livestock Regulatory Protection Act. I also want to thank the South Dakota Farm Bureau Federation President and American Farm

Bureau Federation Vice President, Scott VanderWal, for being here and for his testimony on this important legislation.

I have long been concerned with efforts to impose onerous regulations and costly permit fees on animal emissions and the negative effect it would have on U.S. agricultural producers' ability to continue providing a safe and abundant food supply for our Nation and the world. Regulating animal emissions could ultimately lead to higher food costs for consumers who are already facing increased food prices.

Contrary to the story that is being pushed by opponents of the beef industry, beef production is directly responsible for only a tiny fraction of U.S. emissions. Cattle actually play an important role in managing pasturelands that sequester vast amounts of carbon.

On top of that, it has become clear that with certain feed additives, as well as then capturing and utilizing the energy potential of their waste using biodigesters, it is possible to significantly reduce cattle emissions, making the demonization of beef even more wrongheaded.

This isn't limited to cattle production. Regulating animal emissions would negatively affect the entire livestock sector, including poultry producers in places like Delaware and dairy producers in places like West Virginia.

To address this, I introduced the Livestock Regulatory Protection Act, along with Senator Sinema. The Livestock Regulatory Protection Act, which is also cosponsored by Senators Boozman and Kelly, would prevent the Environmental Protection Agency from imposing emissions regulations relating to the biological processes of livestock.

I actually introduced this bill years ago with the Democrat leader. This legislation was included in annual funding bills on a bipartisan basis for a number of years after the Democrat leader and I first introduced it. Unfortunately, Democrats have omitted this important protection in their recent spending proposals, and it has had to be secured in final spending bills.

Passing this legislation would provide livestock producers long-term certainty that their livelihoods will not be compromised by regulatory overreach.

I want to thank you for holding today's hearing. I want to urge this committee to swiftly advance this important legislation. Thank you, Mr. Chairman.

**OPENING STATEMENT OF HON. JEFF MERKLEY, U.S. SENATOR FROM THE STATE OF OREGON**

Senator MERKLEY. Thank you very much, Senator Thune.

Now, we will turn to two witnesses related to my bills, and I will make my statement on that, and then we are going to turn to another witness related to the racing car bill.

Why don't we have the second panel come to their seats right now?

Welcome. Good to have all of you here. I will address Senate Bill 2661, the Smoke-Ready Communities Act and 2421, the Smoke Planning and Research Act.

Communities are on the front lines across the Country, in wildfire country, and the west is burning. Thus, much more effects of

wildfire smoke on agriculture, on our workers who work outdoors, certainly on our communities. As a result, we need to address some of these increased challenges. These two bills are designed to do that.

The deadly wildfires are once again blazing across my home State and creating very poor-quality smoke. A lot of people end up in the hospital because of the aggravation of asthma. These two bills are very timely. Even as we sit here today, the Double Creek Fire in Northeastern Oregon has burned over 43,000 acres in the last week. The Rum Creek Fire in Josephine County has burned over 19,000 acres, including homes and other buildings.

When you have fire, you have a lot of smoke. It has a big impact on business, big impact on the economy, big impact on tourism, big impact on outdoor life. There was an expose on the changes on the Pacific Crest Trail, that I was just reading this morning, where vast sections have been burned. The landscape looks entirely different than it did 10 to 15 years ago.

My wife, Mary, and I have hiked sections of the PCT and seen this firsthand while dodging forest fires and having to leave the trail because of those forest fires. I can tell you, when you are out in the wilderness and you are out of cell phone contact and you are not quite sure where the fires are, and you smell smoke, you start to feel very, very uncomfortable.

Because of the fires raging across our State, the Department of Environmental Quality for the State of Oregon has issued air quality advisories this past weekend for many counties in Oregon where air quality levels are in the unhealthy category. Two years ago, the Labor Day Fire struck our State. It burned six towns to ashes. It looked like they had been firebombed in a war.

I traveled 600 miles in my State and never got out of the smoke. I don't know that that has ever happened anywhere in the west, that you could travel so far and be completely in the smoke. I went from the northern border to the southern border and back again.

Last summer's Bootleg Fire set smoke clouds traveling from Oregon to here, Washington D.C., 2,800 miles. This is not just something that affects a community, say, a mile or two from a fire.

Many, many people being impacted, the American Lung Association's 2022 State of the Air Report notes that 63 million people now live in counties with failing grades for daily particle pollution, 9 million more people than when they released their report a year earlier. Twenty-four of the 25 worst counties for short-term particle pollution were in the western States because of the wildfires, 24 out of 25 of the worst counties.

We have had some progress. I created a $4 million EPA grant program in the Interior Appropriations bill to support local efforts to address wildfire smoke hazards. I am proposing increasing that funding. Through a program that here is referred to as congressionally directed spending, in Oregon, we call it community-initiated projects, because the idea is that the communities initiate the project that they need, and we fight for them. Senator Wyden and I fight for them. Out of that came the Center for Wildfire Smoke Research and Practice at the University of Oregon, to help address a need for Oregon communities to be better prepared for wildfire smoke events.

Thanks to provisions in the IRA, like the Environmental and Climate Justice Block Grants and the money for air pollution monitoring and reducing air pollution at public schools, we are going to make some much-needed investments. As important as those steps are, there is much more that needs to be done.

The Smoke-Ready Communities Act will establish a grant program for air pollution control agencies to develop and implement programs to monitor and communicate with the public about air quality conditions created by wildfire smoke. It will equip public buildings with air filtration systems.

Many people have heard of heat centers, where you escape the intensified heat, and we have heat of 115 degrees in the city of Portland, something I never thought I would witness in my lifetime. It was very rare to have a day over 90, and then it was rare to have a day over 100, but nobody predicted Death Valley temperatures to be in the Willamette Valley.

Equip public gatherings, public buildings with filtration systems to protect from harmful events, and store and distribute N–95 masks.

The Smoke Planning and Research Act would direct the EPA to create four centers of excellence for wildfire smoke. Essentially, the pilot project for that is the project at the University of Oregon. The centers will conduct research on the effects of wildfire smoke on public health, as well as ways in which communities can better respond to its impacts. The bill would direct the EPA to develop and distribute ways to reduce exposure to smoke and to reduce adverse health effects of smoke emissions, along with increasing the quality of smoke monitoring and prediction. It would create a grant program to help the development and implementation of collaborative community plans for confronting the impacts of wildfire smoke.

Both of these bills have received support from organizations that pay attention to the health and well-being of our communities and the people who live in them.

At this time, I ask unanimous consent for submitting for the record letters of support for bills S. 2661 and S. 2421, including a letter from the American Lung Association. Hearing no objections, so approved.

[The referenced information follows:]

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

The Honorable Shelley Moore Capito
Senator
United States Senate
172 Russell Senate Office Building
Washington, DC 20510

July 6, 2022

Dear Senator Capito,

Thank you for your letter regarding the Council on Environmental Quality's (CEQ) implementation of the USE It Act. As a result of this law CEQ has published a report on CCUS permitting and issued interim guidance for Federal agencies to help ensure that the development and permitting of Carbon Capture, Utilization and Sequestration (CCUS) projects, including carbon dioxide ($CO_2$) pipelines, is done in a responsible manner that includes community input and reflects the best available science. We have endeavored to do this in a timely, thorough way and I appreciate your feedback on our progress to date.

Your letter identified two key areas that will be important to ensuring CCUS projects can be responsibly built: The first is regarding what federal statutes projects can be expected to comply with to help enable a coordinated, efficient process. I hope you will be happy to know that Appendix A of our June 2021 report provides an inventory of Federal permits and reviews potentially relevant to CCUS. The report also describes how permitting a CCUS project is similar to the process for permitting any other industrial activity. The pathway for regulating CCUS projects, and the precise mix of permits and reviews needed, will be determined by the specific details of the project. For example, a project on Federal lands will need to comply with the National Environmental Policy Act (NEPA), the Endangered Species Act, Federal land management statutes, and other safety, environmental, and ecological regulations. The report also provided the relevant points of interaction with Federal agencies, clarified the permitting responsibilities and authorities among Federal agencies, and provided information regarding best practices for permitting CCUS in an efficient, orderly and responsible manner.

As indicated in interim guidance issued in February 2022, we are also currently working with the Federal Permitting Improvement Steering Council on establishing appropriate facilitating agencies and recommended performance schedules for general CCUS project categories.

You also raised the importance of Programmatic Environmental Impact Statements (EIS) under NEPA. As you may be aware, CEQ does not administer the NEPA process for agencies. However, we are taking steps to provide direction and coordination where appropriate. Our interim guidance makes clear our recommendation that agencies consider developing programmatic environmental reviews and provides specific examples of how programmatic EISs have facilitated more efficient and effective environmental reviews of multiple projects. This

process can provide assessment regarding environmental issues common to CCUS projects and facilitate the efficient preparation of environmental assessments for individual CCUS projects or components of such projects.

CEQ will continue to collaborate with agencies and monitor progress on activities and regulations related to CCUS. To that end, CEQ has been convening relevant agencies on a monthly basis to discuss progress and facilitate interagency cooperation and action regarding the efficient, orderly and responsible deployment of CCUS in the United States at increased scale.

President Biden has been committed to making CCUS a widely available, cost-effective, and rapidly scalable solution to reduce carbon emissions. He also firmly believes that responsible CCUS projects should engage communities and Tribes in co-development of projects and approaches; protect communities from pollution; and incorporate environmental justice and equity considerations, especially in communities that are already exposed to multiple pollution sources.

As Chair of CEQ, I appreciate your feedback on where we should seek further clarity on our approach to these issues, and have instructed staff to ensure we are providing technical assistance and expertise to the project developers and agencies on the front-lines of these projects.

Best regards,

Brenda Mallory
Chair
White House Council on Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

September 7, 2022



The Honorable Thomas R. Carper
Chairman
Senate Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member
Senate Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito,

Thank you for the opportunity to provide written testimony from the Environmental Protection Agency (EPA) on the following bills: S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021; S.1475, the Livestock Regulatory Protection Act of 2021; S.2661, Smoke-Ready Communities Act of 2021; and S.2421, the Smoke Planning and Research Act of 2021. EPA supports and appreciates the efforts of Congress and this Committee to consider ways to strengthen clean air protections for the public health of communities across the country. EPA offers the following observations and recommendations to aid in your consideration of these bills.

**S.2736, Recognizing the Protection of Motorsports (RPM) Act of 2021**

EPA has the twin goals of letting racers race while also keeping tampered, high-polluting vehicles off our streets and highways. Mobile sources are a significant contributor to air pollution in the United

States. As such, EPA has the authority to prevent the manufacture, sale, and installation of aftermarket devices that defeat pollution controls on vehicles used on the streets and highways. That said, EPA's longstanding approach is to not bring an enforcement action against a vehicle owner who removes or defeats emission controls on an EPA-certified motor vehicle as part of permanently converting it to a vehicle used solely for sanctioned competition.

However, EPA is concerned that S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021, could be construed to roll back the existing and crucial public health protections provided by the Clean Air Act's tampering and defeat device prohibitions under Section 203(a)(3), 42 U.S.C. § 7522(a)(3). A legislative exemption to the tampering and defeat device prohibitions could undermine EPA's efforts to ensure compliance with the Clean Air Act by compromising the Agency's ongoing civil and criminal enforcement cases and significantly hindering future enforcement in this area. Even a carefully tailored exemption could inadvertently legitimize the unchecked distribution of defeat devices which will be installed on cars and trucks used on the road, causing untold excess pollution that will harm human health and undermine state efforts to improve air quality.

Prevalence of Tampering and the Health Impacts

Tampering and defeat devices used on cars and trucks on the road are a widespread problem. Manufacturers, sellers, and installers of the defeat devices market these products as removing emissions controls from vehicles used on public roads. There are significantly more defeat devices sold than there are cars used only for competition.

Illegal tampering of vehicles results in more air pollution from tailpipes that harms people's health and, in some instances, causes a thousand-fold increase in air pollutants that disproportionately harm people

living near roads and highways. These pollutants are linked to lung damage, reduced cardiovascular function, asthma, bronchitis, and lung cancer. Children, older adults, people who are active outdoors (including outdoor workers), and people with heart or lung disease are particularly at risk for health effects related to ozone or particulate matter (PM) exposure.

EPA has documented that emissions controls were removed from more than 550,000 diesel pickup trucks between 2010 and 2020, causing the emission of more than 570,000 excess tons of oxides of nitrogen (NOx) and 5,000 excess tons of PM. This is equivalent to adding more than 9 million additional (compliant, non-tampered) diesel pickup trucks to our roads. Because this is only what EPA has been able to document, the real-world emissions impact of tampering and aftermarket defeat devices is likely far greater.

Illegal tampering also harms consumers who unknowingly purchase a tampered vehicle that later breaks down or cannot pass a state inspection. Illegal tampering typically voids any remaining manufacturer warranty on the vehicle, and consumers find they have limited recourse against the seller. As a consequence, consumers who unknowingly purchase a tampered vehicle may face significant repair costs to restore the vehicle's emissions controls.

Current Law and Enforcement

Section 203(a)(3)(A) of the Clean Air Act prohibits any person from tampering with vehicle emissions controls, and Section 203(a)(3)(B) prohibits any person from manufacturing, selling, offering to sell, and installing aftermarket parts that defeat emissions controls ("defeat devices"), 42 U.S.C. § 7522(a)(3)(A)-(B). When Congress expanded the scope of the tampering prohibition and added the defeat device prohibition in the Clean Air Act Amendments of 1990, it identified examples of the

devices it sought to prohibit, notably exhaust system "test tubes" used to remove catalytic converters and aftermarket computer programmable chips that would enrich the air/fuel mixture or bypass other emission control devices.

Since 2015, EPA has successfully resolved more than 130 civil aftermarket defeat device cases. In just six of EPA's larger concluded defeat device cases, companies were collectively found to have manufactured and sold over 1 million aftermarket defeat devices. In the overwhelming majority of those cases, manufacturers, sellers, and installers have been unable to provide any evidence showing that the products or vehicles will not be used on streets and highways, other than unsupported statements from the purchasers or vehicle owners. Multiple subjects of these investigations, including several who have subsequently pleaded guilty to felony offenses, have falsely claimed that the sales were for competition purposes in an attempt to excuse their unlawful behavior.

EPA remains committed to letting racers race. In the Clean Air Act's 50-year history, EPA has never taken an enforcement action against any individual for converting their vehicle into a dedicated race car, and EPA has no intention to do so in the future under this longstanding enforcement policy. EPA's civil enforcement program also routinely asks companies for information to support claims that the products they sell are in fact being used solely in motorsports and declines enforcement when a company can make that showing.

Given EPA's longstanding enforcement policy, a legislative exemption to the Clean Air Act's tampering and defeat device prohibitions would have little practical impact on individuals who drive their dedicated competition vehicles only in competition. On the other hand, a legislative exemption to the tampering and defeat device prohibitions could undermine efforts to ensure compliance with the Clean Air Act, because it could compromise ongoing civil and criminal enforcement cases and significantly

hinder future enforcement cases in this area. Any exemption may be misinterpreted as a broad exemption for the indiscriminate manufacture, sale, and installation of aftermarket defeat devices under the pretext that they *could* be used in competition, or for the removal of emissions controls on any motor vehicle used on the street provided the operator aspires to also use the vehicle in occasional amateur competition. Manufacturers, sellers, and installers of parts used to tamper with a vehicle's emissions control system could incorrectly believe that the RPM Act of 2022 shields their improper conduct. Arguments and confusion regarding the extent of the exemption could delay enforcement or prolong litigation, negatively impacting human health and air quality.

Legislation

EPA offers the principles below to guide the Congress as it seeks to create an exemption for the permanent conversion of motor vehicles to dedicated competition use while retaining critical Clean Air Act enforcement authorities that protect public health and air quality.

1. Any legislative exemption to the tampering or defeat device prohibitions must exempt only motor vehicles used exclusively for competition and that are not authorized for use on public roads – even to travel to competitions – to ensure vehicles used on streets and highways retain air pollution control systems that protect public health.

2. Any legislative exemption must be narrowly tailored to exempt only the act of modifying a motor vehicle to be used exclusively for competition and not used on public roads.

3. Any legislative exemption to the tampering defeat device prohibitions must place the burden of proof on those seeking the benefit of the exemption, and not on EPA.

4. The elements of any legislative exemption to the tampering defeat device prohibitions must be clearly defined and the criteria for meeting that exemption must depend on documented and objective facts, and not on the stated intent of regulated parties.

5. Any legislation must require that any motor vehicle taking advantage of the exemption no longer be authorized for use on a public road at the time of the exemption (for example, by reclassification by the applicable state motor vehicle agency).

6. Any legislation must allow the creation of a mechanism to verify that a motor vehicle is not authorized for use on a public road and will be used exclusively for competition.

7. Any legislation must retain the statutory definitions, including the definition of "motor vehicle."

EPA remains ready to continue assisting the Committee and the committees of jurisdiction in drafting legislation to meet these principles.

**Wildfire Smoke: S. 2661, Smoke-Ready Communities Act of 2021 and S. 2421, The Smoke Planning and Research Act of 2021**

Wildfire smoke is a significant public health problem, especially in the Western portions of the United States and as climate change accelerates and intensifies fires. Over the past 20 years, the number of acres burned annually due to wildfires in the United States has doubled. The pollutant of most concern to public health during a wildfire smoke event is fine particulate matter, or PM2.5, because these particles can penetrate deep into lungs and cause adverse health effects including aggravated heart and

lung disease and premature death. Wildfire emissions constitute approximately 30% of the total U.S. PM2.5 emission inventory, based on 2017 data. From a public health perspective, it is important to more fully understand the human health effects associated with short- and long-term exposures to wildfire smoke and how to effectively protect the public from these impacts.

EPA appreciates Congress's focus on advancing the understanding and mitigation of wildfire smoke on public health. For example, in Fiscal Year 2022, Congress appropriated $4 million to EPA for Wildfire Smoke Preparedness grants. These grants will help ensure EPA is preparing for wildfires and communicating the health risks associated with wildfire smoke. EPA is meeting with stakeholders to learn how we can best assist states, Tribes, local educational agencies, and non-profit organizations for assessment, prevention, control, or abatement of wildfire smoke hazards in community buildings, including schools. These efforts focus on understanding the needs and challenges faced by disproportionately impacted and overburdened communities. EPA will issue a competitive grant solicitation, targeted for spring 2023, that meets the needs of impacted communities and the intent of the legislative language.

Legislation

S.2661, the Smoke-Ready Communities Act of 2021, would provide grants for air pollution control agencies to support the development and implementation of programs to help local communities formulate plans to prepare for and respond to the public health aspects of wildfire smoke. Eligible activities include monitoring data, community outreach, and purchasing and distributing air filtrations systems for buildings and personal protective equipment. Given the expected dramatic increase in prescribed burning, EPA welcomes further clarification on whether these grants would be available to address smoke and public health impacts associated with those fires (i.e. wildland fire smoke, as

opposed to just wildfire smoke).

With regard to S.2421, the Smoke Planning and Research Act of 2021, EPA would be required to establish Centers of Excellence for Wildfire Smoke at four higher education institutions to conduct research on public health implications of smoke exposure, and outline actions people can take to reduce smoke exposures. Furthermore, this bill would provide resources for EPA research and grants to support community efforts to provide more tools and information to prepare for wildfire smoke and reduce exposures and health risks.

Current EPA Activities

EPA, in conjunction with federal, state, Tribal, and local partners, has developed numerous resources to communicate about current air quality during smoke events, provide information on the public health implications of smoke exposure, and outline actions people can take to reduce smoke exposures. This year, EPA will provide more tools and information to communities to prepare for wildfire smoke and reduce exposures and health risks.

With funding from the American Rescue Plan, EPA is piloting a project in Western states to use schools as clean air shelters and cooling centers during heat and smoke events. EPA developed a new Wildfire Incident Action Checklist and other tools that provide information on preparedness and response actions that water utilities can take to prepare for and recover from wildfires. We also continues to promote and improve upon the Wildfire Smoke Air Monitoring Response Technology (WSMART) program to increase the capacity of state, Tribal, and local, air agencies and Air Resource Advisors to conduct more expansive air quality monitoring during wildfire smoke events; the AirNow Fire and Smoke Map, a joint project of EPA and the U.S Forest Service, which provides information on fire locations, smoke plumes,

and air quality and recommends actions to reduce smoke exposure; the Smoke-Ready Toolbox for Wildfires, which provides numerous resources to reduce health risk before a wildfire; and the AirNow.gov website, which provides resources on actions to take before, during, and after a wildfire through a series of Wildfire Guide Factsheets.

EPA also continues to conduct scientific research to improve understanding of effective communication of wildfire smoke risks and ways that communities can reduce exposures to smoke. The Smoke Sense mobile app is a citizen science study that provides information on smoke and air quality while allowing users to submit observations about their smoke-related health symptoms and actions they take to reduce exposures. Through the Wildfire Study to Advance Science Partnerships for Indoor Reductions of Smoke Exposures (ASPIRE), we continue to collaborate with smoke impacted communities to develop effective clean air spaces to protect vulnerable populations during smoke events. EPA researchers are collaborating with US Forest Service scientists and several communities on the Smoke Ready Communities project to study community capacity and collaborative approaches that lead to more effective smoke readiness planning. Congressional support for federal, state, Tribal and community collaborative efforts to advance wildfire smoke research and assist communities in planning for, responding to, and mitigating the impacts of wildfire smoke continues to be extremely valuable as we work to protect human health and the environment from this growing concern.

**S.1475, The Livestock Regulatory Protection Act of 2021**

S.1475, the Livestock Regulatory Protection Act of 2021, would amend title V of the Clean Air Act to prohibit the EPA from issuing permits under the Clean Air Act for any carbon dioxide, nitrogen oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production. However, longstanding appropriations language already prevents EPA from promulgating or

implementing any regulation requiring the issuance of permits under title V of the Clean Air Act for carbon dioxide, nitrous oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production. Consistent with that language, EPA has no plans to undertake such activities. Therefore, the language outlined in the Livestock Regulatory Protection Act of 2021 is redundant and unnecessary.

**Closing**

Thank you for the opportunity to provide observations and input on the four bills: S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021; S.1475, the Livestock Regulatory Protection Act of 2021; S.2661, Smoke-Ready Communities Act of 2021; and S.2421, the Smoke Planning and Research Act of 2021. EPA appreciates this Committee's commitments to prioritizing the protection of human health and creating a safe environment for all, and we look forward to continuing to work with you to advance our shared goals.

Sincerely,

William Niebling

William L. Niebling
Associate Administrator

cc: The Honorable Edward J. Markey, Chairman of the Subcommittee on Clean Air, Climate, and Nuclear Safety
The Honorable Jim Inhofe, Ranking Member of the Subcommittee on Clean Air, Climate, and Nuclear Safety

American Lung Association.

September 6, 2022

The Honorable Tom Carper, Chairman
The Honorable Shelley Moore Capito, Ranking Member
Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito:

The American Lung Association supports S. 2421, the Smoke Planning and Research Act of 2021 and S. 2661, the Smoke-Ready Communities Act of 2021.

Wildfires have become more frequent and extreme in recent years. The loss of property, ecosystems and life can be devastating, leaving long-term burdens for families and communities. The fire itself, however, is not the only danger to people's health and safety. Smoke produced by wildfires can be extremely harmful to the lungs – especially for certain populations like children, older adults, pregnant people and those with an existing lung disease.

Wildfire smoke produces particle pollution – microscopic particles that can lodge themselves deep in the lungs. Particle pollution can trigger asthma attacks, heart attacks and strokes and can even be deadly. In children, wildfire smoke can damage lungs that are still developing while older adults are more likely to have a pre-existing lung or heart disease exacerbated by exposure to smoke. Pregnant people are also at a greater risk, with exposure to wildfire smoke contributing to low birth weight, preterm birth or gestational diabetes. Anyone who has difficulty breathing under good air quality days – those with asthma or existing respiratory diseases – would have even greater difficulty when wildfire smoke worsens air quality.[1]

The prevalence and increasing extremity of wildfires means more people are exposed to wildfire smoke. According to the American Lung Association's 2022 "State of the Air" report, more than 63 million people live in counties with failing grades for daily particle pollution. This represents almost 9 million more people than last year's report and the most out of any of the last seven reports. All but one of the 25 worst counties for short-term particle pollution were in the western part of the country

[1]Hill, L. A. L., Jaeger, J. M., Smith, A.; PSE Healthy Energy. (2022). (rep.). Can Prescribed Fires Mitigate Health Harm? A Review of Air Quality and Public Health Implications of Wildfire and Prescribed Fire. Retrieved from https://www.lung.org/getmedia/fd7ff728-56d9-4b33-82eb-abd06f01bc3b/pse_wildfire-and-prescribed-fire-brief_final_2022.pdf.

– areas known as wildfire hotspots. Wildfires are increasing the number of days and the severity of deadly particle pollution spikes.[2]

Policies to slow the acceleration of climate change will help slow the increasing frequency and intensity of wildfires. But addressing the health impacts that wildfires are creating right now is just as critical. The Smoke Planning and Research Act and the Smoke-Ready Communities Act will help accomplish two necessary actions. First, better research on the health impacts of wildfire smoke and how federal, state and local leaders can protect individuals and communities will help shape wildfire response efforts in the future. Second, providing funding so states and communities can use the tools identified by research as effective measures can get timely, science-backed information to the public that can help protect them when wildfire smoke is worsening air quality.

The threats that wildfires pose to overall health, safety and wellbeing necessitate action by the federal government. We are pleased to see the Environment and Public Works consider legislation that would help protect health when faced with these dangers and work towards improving lung health in the future.

Sincerely,

Harold Wimmer

Harold P. Wimmer
National President and CEO
American Lung Association

[2] American Lung Association. State of the Air. Apr 2022. www.lung.org/sota

CARBON CAPTURE COALITION

**Carbon Capture Coalition Statement for the Record**

**United States Senate Environment and Public Works Committee Hearing on "Examining the Development of Projects and Implementation of Polices that Support Carbon Capture, Utilization, and Storage (CCUS) Technologies"**

**July 27, 2022**

The Carbon Capture Coalition appreciates the opportunity to submit this statement for the record for the Senate Environment and Public Works Committee's hearing on carbon capture, utilization and storage. Carbon management technologies are essential tools to achieving midcentury climate goals, while preserving and creating middle class jobs that pay family-sustaining wages, providing environment and other benefits to communities, and supporting regional economies across the country.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 100 companies, unions, conservation and environmental policy organizations, dedicated to building federal policy support to enable economywide, commercial scale deployment of the full suite of carbon management technologies, which includes carbon capture, removal, transport, utilization, and storage. Widespread adoption of carbon capture at existing industrial facilities, power plants and future direct air capture facilities is critical to **achieving net-zero emissions to meet midcentury climate goals, strengthening and decarbonizing domestic energy, industrial production and manufacturing, and retaining and expanding a high-wage jobs base**.

This statement outlines the current opportunities and challenges to realizing the full potential of carbon management technologies in relation to midcentury climate targets, domestic energy production, and high-wage job growth. This includes the need for robust federal policy support to enhance the foundational economic incentive provided by the federal Section 45Q tax credit, the key role Class VI wells permitting and primacy play in achieving economies of scale, and critically, the inherent need to implement key carbon management policies the 2020-enacted bipartisan Utilizing Significant Emissions with Innovative Technologies Act (USE IT Act).

Carbon capture, transport and storage technologies have been proven at commercial scale in the United States for decades and industry has more than 50 years' experience safely transporting and permanently storing $CO_2$. Economywide deployment of the full value chain of these technologies (carbon capture, direct air capture, utilization, transport and storage) and associated infrastructure is essential to reach an economy of scale by 2030. Doing so will establish new benchmarks in technical maturity, ease of construction, affordability, and effective and timely permitting processes. Meeting these benchmarks will enable the industrial, power, and $CO_2$ transport and storage sectors to make the massive carbon capture investments necessary for achieving net-zero emissions by 2050.

Increased interest in the U.S. among members of Congress, both the current and recent administrations as well as key stakeholders to scale deployment of carbon management technologies paired with recent federal investments in carbon management and industrial decarbonization through the Infrastructure Investment and Jobs Act (IIJA), have provided a near-term opportunity to scale commercial carbon capture, direct air capture, associated infrastructure, and geologic storage. These investments put us on a path to deploy the technology at the rate necessary to play an integral role in enabling a clean energy economy.

however, more must be done. If we fail to commit to a broader portfolio of complimentary federal policies to enable significant carbon management project deployment by 2030 today, the U.S. and other countries risk being left without essential options needed to avoid the worst impacts of climate change.

Enhancements to the federal Section 45Q tax credit are critical to leveraging private investment and deploying projects at climate scale. The 45Q tax credit is the cornerstone federal policy for enabling economywide deployment of carbon management technologies. Further enhancing the 45Q tax credit is crucial to providing investment certainty, additional incentive value and the flexibility needed to drive greater private investment in carbon management projects.

- **Providing a direct pay option for the federal Section 45Q tax credit**: This is the most important next step Congress can take to realize the full emissions reduction and job creation benefits of the credit. Direct pay would address the current significant loss of tax credit value to burdensome, costly and inefficient tax equity transactions, creating an urgently needed alternative for most project developers, who otherwise lack sufficient taxable income to fully utilize the credits, or who are exempt from federal tax liability altogether.
- **Extending the commence construction window for the 45Q credit**: Extending the commence construction window to qualify for 45Q by an additional ten years, to the end of 2035, would establish a critically needed investment horizon to give carbon management projects the time required to scale up between now and midcentury.
- **Enhancing 45Q credit values for industrial and power plant carbon capture and direct air capture:** Recent analyses and commercial experience underscore that current 45Q credit values are insufficient to drive the early deployment needed in industry, electric power generation and direct air capture to bring costs down and reduce commercial risk. For industrial and power generation projects, credit values should be increased to $85 per metric ton for $CO_2$ captured and stored in saline geologic formations, $85 per ton for utilization of captured $CO_2$ and its precursor carbon monoxide to produce low and zero-carbon fuels, chemicals, building materials and other products, and $60 per ton for storage in oil and gas fields. For direct air capture projects, credit values should rise to $180 per ton for saline storage, $130 for oil and gas field storage, and $130 for carbon utilization. Boosting 45Q credit values would aid in safeguarding domestic production and high-wage, blue collar jobs and in maintaining U.S. technology leadership in this arena.
- **Eliminating annual carbon capture thresholds**: Current thresholds in the 45Q program are arbitrary, serve no policy purpose and reduce the overall technology innovation and emissions reduction potential of the incentive. Based on 2019 U.S. Environmental Protection Agency (EPA) data, approximately 54 percent of power plants and 75 percent of industrial facilities fall below eligibility thresholds, and many direct air capture and carbon utilization projects deploying emerging technologies simply lack the scale to meet these requirements.

Commercial interest in carbon management technologies and projects is growing rapidly, with nearly 120 publicly announced projects in various stages of development throughout the United States. More than 70 percent of these announced projects intend to store captured $CO_2$ deep

underground safely and permanently in saline geologic formations. The potential for saline geologic storage is enormous and represents a long-term, scalable climate solution. While carbon capture and storage is only one piece of the climate solution, estimates of domestic saline storage capacity represent over 1,000 years' worth of U.S. $CO_2$ emissions.

Safe and permanent injection and storage of $CO_2$ in deep geologic formations represent a well-understood and commercial practice in the U.S. and worldwide. In the U.S., EPA regulates and permits geologic storage projects using the Underground Injection Control Programs' Class II and Class VI wells. Through these programs, EPA and established state primacy programs maintain a robust system of monitoring, reporting and verification to validate secure geologic storage to claim the 45Q tax credit. To that end, 45Q remains the only energy technology which must demonstrate that the captured carbon oxide ($CO_2$ or it's precursor, CO) is permanently stored or utilized to receive a tax credit – wind, solar and other energy technologies receive federal tax credits based on production – regardless of total $CO_2$ emissions reduced.

With more than 60 of the publicly announced carbon management projects declaring their intent to store $CO_2$ through dedicated saline storage, ensuring that EPA's Class VI permitting program, which provides specific regulations for dedicated geologic storage of $CO_2$, has adequate resources to permit projects properly and expeditiously is increasingly important. The anticipated increase in project applications to the Class VI Well program (DOE estimates that EPA will receive more than 100 applications from project developers by 2030) highlights the importance of federal and state efforts to provide key support for project development to meet midcentury climate goals. EPA has permitted two Class VI wells to date, with well permit applications for an additional 19 wells listed as pending, as of July 26, 2022.

Recent federal investments in carbon management and industrial decarbonization through the bipartisan IIJA provide a very near-term opportunity to scale commercial projects, associated infrastructure, and geologic storage. Among other critical policy mechanisms, the IIJA featured foundational investments in the buildout of regional $CO_2$ transport and storage infrastructure with the inclusion of the bipartisan Storing $CO_2$ and Lowering Emissions (SCALE) Act in its entirety. The SCALE Act provisions included funding for the EPA's geologic storage permitting program at $25 million during fiscal year (FY) 22-26 and $50 million during FY22-26 for state permitting program grants. Effective implementation of these modest, but vital, permitting resources will be transformative.

While industry has decades of commercial experience safely storing $CO_2$ geologically at large scale, increasing the pace of project development and permitting of secure geologic storage at gigaton scale is essential to getting industries on track to be able to reach both net-zero emissions targets and midcentury climate goals. Domestically, the Great Plains Institute estimates that there is the potential to capture and store more than 300 million metric tons of $CO_2$ emissions per year from existing industry and power sources in the mid-continent by 2035. Though only one dedicated saline geologic storage project exists in the U.S. today (the Illinois Industrial Carbon Capture and Storage Facility), the project stores approximately 1.1 million tons of $CO_2$ per year from ADM's corn processing facility in Decatur, IL, alone.

Currently, securing an EPA Class VI permit for saline geologic storage can take several years, yet to meet midcentury climate goals, we will need to remove and safely store billions of tons of $CO_2$ in appropriate saline formations that are captured from industry, power generation and

directly from the atmosphere through direct air capture. Even with the two-year extension of 45Q, thanks to the FY2021 Omnibus, bringing the commence construction window to the end of 2025, the timeframes required for saline geologic storage permitting may put carbon capture projects at greater risk of missing the deadline to qualify for 45Q, especially when considering the additional time required to undertake planning, complete engineering, secure financing and accomplish other necessary components of project development. Therefore, it is critical that EPA reaffirm its commitment to reviewing applications and announcing decisions in a timely and effective manner, including publishing an annual Class VI report Included in legislation passed by the House of Representatives to fund the federal government in FY23.

In addition to current efforts in Congress and federal agency regulations, the USE IT Act, enacted as part of the FY2021 Omnibus, required the Council on Environmental Quality (CEQ) to establish two regional task forces within 18 months of enactment to improve the performance of the permitting process for carbon management projects. We are pleased to see the recent announcement that CEQ is establishing these two task forces, and getting them up and running in short order will help to ensure the regulatory framework enables efficient, orderly, and responsible deployment of carbon management projects and infrastructure.

An area of particular focus for the task forces should be $CO_2$ transport infrastructure. Multiple analyses have found that to achieve net-zero emissions, a substantial buildout of $CO_2$ pipeline infrastructure will be needed to transport large quantities of $CO_2$ from industrial facilities, power plants and direct air capture facilities to points of utilization and/or permanent storage. $CO_2$ pipelines have operated in the United States for over 50 years and have a strong safety record. However, in anticipation of an expanding $CO_2$ pipeline network, we must be sure that the regulatory framework enables efficient permitting while also ensuring $CO_2$ pipelines are designed, constructed, managed and maintained at standards delivering the highest levels of reliability and safety. To achieve the necessary deployment of carbon management technologies in the timeframe needed to meet climate goals, it is imperative that the public has confidence in the safety of $CO_2$ pipelines and that diverse stakeholders have a chance to consider the current and any potential changes needed to ensure the regulatory framework enables both the efficient and responsible deployment of carbon management technologies. The task forces provide a timely opportunity to address this need.

Together, these resources will be critical to ensure adequate federal and state permitting capacity required for economywide deployment of carbon management projects at climate scale. Robust and efficient permitting of $CO_2$ storage is central to ensuring that the significant federal investments in these technologies contained in the infrastructure bill and the 2018 bipartisan reform and expansion of the federal 45Q tax credit achieve their full climate potential. However, while these incremental gains remain important to realizing economies of scale, Congress now must deliver the broad portfolio of federal policy support for carbon management in forthcoming budget reconciliation legislation, including direct pay and multi-year extension of the 45Q tax credit, increased credit values for industry, power and direct air capture, and dramatically reduced annual capture thresholds. Combined with the investments made in the infrastructure law, these enhancements to the 45Q tax credit would result in an estimated 13-fold increase in carbon management capacity and annual $CO_2$ emissions reductions of 210-250 million metric tons by 2035 as well as creating hundreds of thousands of jobs in the carbon capture and direct air capture industries.

***Conclusion***

Carbon capture, removal, utilization, transport and storage technologies are essential tools to decarbonize the hardest-to-abate sectors, increase domestic energy production, protect and grow a high-wage jobs base, and fulfil our climate obligations. The groundbreaking provisions to scale deployment of associated $CO_2$ transport and storage infrastructure enacted as part of the bipartisan infrastructure law are essential to placing America's energy, industrial and manufacturing sectors on track to reach net-zero emissions by 2050. At the same time, these will ensure the long-term viability of industries that provide millions of existing high-wage jobs, which represent the lifeblood of American workers, their families and communities, and regional economies. Analyses by the Rhodium Group reveals the potential for creating tens of thousands and hundreds of thousands of jobs and generating hundreds of billions in investment from carbon capture and direct air capture deployment, respectively, if these technologies are deployed at levels needed to meet net-zero targets.

The Carbon Capture Coalition appreciates the opportunity to comment on the important topics of today's hearing and the Committee's support in advancing federal policies to enable greater deployment of carbon management technologies and infrastructure to meet midcentury climate goals. We look forward to working with the Committee in a bipartisan manner to ensure carbon management technologies fulfill their emissions reduction potential. Should you have any questions about anything outlined in this statement, please contact Madelyn Morrison, External Affairs Manager, Carbon Capture Coalition at mmorrison@carboncapturecoalition.org.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

September 7, 2022



The Honorable Thomas R. Carper
Chairman
Senate Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member
Senate Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito,

Thank you for the opportunity to provide written testimony from the Environmental Protection Agency (EPA) on the following bills: S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021; S.1475, the Livestock Regulatory Protection Act of 2021; S.2661, Smoke-Ready Communities Act of 2021; and S.2421, the Smoke Planning and Research Act of 2021. EPA supports and appreciates the efforts of Congress and this Committee to consider ways to strengthen clean air protections for the public health of communities across the country. EPA offers the following observations and recommendations to aid in your consideration of these bills.

**S.2736, Recognizing the Protection of Motorsports (RPM) Act of 2021**

EPA has the twin goals of letting racers race while also keeping tampered, high-polluting vehicles off our streets and highways. Mobile sources are a significant contributor to air pollution in the United

States. As such, EPA has the authority to prevent the manufacture, sale, and installation of aftermarket devices that defeat pollution controls on vehicles used on the streets and highways. That said, EPA's longstanding approach is to not bring an enforcement action against a vehicle owner who removes or defeats emission controls on an EPA-certified motor vehicle as part of permanently converting it to a vehicle used solely for sanctioned competition.

However, EPA is concerned that S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021, could be construed to roll back the existing and crucial public health protections provided by the Clean Air Act's tampering and defeat device prohibitions under Section 203(a)(3), 42 U.S.C. § 7522(a)(3). A legislative exemption to the tampering and defeat device prohibitions could undermine EPA's efforts to ensure compliance with the Clean Air Act by compromising the Agency's ongoing civil and criminal enforcement cases and significantly hindering future enforcement in this area. Even a carefully tailored exemption could inadvertently legitimize the unchecked distribution of defeat devices which will be installed on cars and trucks used on the road, causing untold excess pollution that will harm human health and undermine state efforts to improve air quality.

Prevalence of Tampering and the Health Impacts

Tampering and defeat devices used on cars and trucks on the road are a widespread problem. Manufacturers, sellers, and installers of the defeat devices market these products as removing emissions controls from vehicles used on public roads. There are significantly more defeat devices sold than there are cars used only for competition.

Illegal tampering of vehicles results in more air pollution from tailpipes that harms people's health and, in some instances, causes a thousand-fold increase in air pollutants that disproportionately harm people

living near roads and highways. These pollutants are linked to lung damage, reduced cardiovascular function, asthma, bronchitis, and lung cancer. Children, older adults, people who are active outdoors (including outdoor workers), and people with heart or lung disease are particularly at risk for health effects related to ozone or particulate matter (PM) exposure.

EPA has documented that emissions controls were removed from more than 550,000 diesel pickup trucks between 2010 and 2020, causing the emission of more than 570,000 excess tons of oxides of nitrogen (NOx) and 5,000 excess tons of PM. This is equivalent to adding more than 9 million additional (compliant, non-tampered) diesel pickup trucks to our roads. Because this is only what EPA has been able to document, the real-world emissions impact of tampering and aftermarket defeat devices is likely far greater.

Illegal tampering also harms consumers who unknowingly purchase a tampered vehicle that later breaks down or cannot pass a state inspection. Illegal tampering typically voids any remaining manufacturer warranty on the vehicle, and consumers find they have limited recourse against the seller. As a consequence, consumers who unknowingly purchase a tampered vehicle may face significant repair costs to restore the vehicle's emissions controls.

Current Law and Enforcement

Section 203(a)(3)(A) of the Clean Air Act prohibits any person from tampering with vehicle emissions controls, and Section 203(a)(3)(B) prohibits any person from manufacturing, selling, offering to sell, and installing aftermarket parts that defeat emissions controls ("defeat devices"), 42 U.S.C. § 7522(a)(3)(A)-(B). When Congress expanded the scope of the tampering prohibition and added the defeat device prohibition in the Clean Air Act Amendments of 1990, it identified examples of the

devices it sought to prohibit, notably exhaust system "test tubes" used to remove catalytic converters and aftermarket computer programmable chips that would enrich the air/fuel mixture or bypass other emission control devices.

Since 2015, EPA has successfully resolved more than 130 civil aftermarket defeat device cases. In just six of EPA's larger concluded defeat device cases, companies were collectively found to have manufactured and sold over 1 million aftermarket defeat devices. In the overwhelming majority of those cases, manufacturers, sellers, and installers have been unable to provide any evidence showing that the products or vehicles will not be used on streets and highways, other than unsupported statements from the purchasers or vehicle owners. Multiple subjects of these investigations, including several who have subsequently pleaded guilty to felony offenses, have falsely claimed that the sales were for competition purposes in an attempt to excuse their unlawful behavior.

EPA remains committed to letting racers race. In the Clean Air Act's 50-year history, EPA has never taken an enforcement action against any individual for converting their vehicle into a dedicated race car, and EPA has no intention to do so in the future under this longstanding enforcement policy. EPA's civil enforcement program also routinely asks companies for information to support claims that the products they sell are in fact being used solely in motorsports and declines enforcement when a company can make that showing.

Given EPA's longstanding enforcement policy, a legislative exemption to the Clean Air Act's tampering and defeat device prohibitions would have little practical impact on individuals who drive their dedicated competition vehicles only in competition. On the other hand, a legislative exemption to the tampering and defeat device prohibitions could undermine efforts to ensure compliance with the Clean Air Act, because it could compromise ongoing civil and criminal enforcement cases and significantly

hinder future enforcement cases in this area. Any exemption may be misinterpreted as a broad exemption for the indiscriminate manufacture, sale, and installation of aftermarket defeat devices under the pretext that they *could* be used in competition, or for the removal of emissions controls on any motor vehicle used on the street provided the operator aspires to also use the vehicle in occasional amateur competition. Manufacturers, sellers, and installers of parts used to tamper with a vehicle's emissions control system could incorrectly believe that the RPM Act of 2022 shields their improper conduct. Arguments and confusion regarding the extent of the exemption could delay enforcement or prolong litigation, negatively impacting human health and air quality.

Legislation

EPA offers the principles below to guide the Congress as it seeks to create an exemption for the permanent conversion of motor vehicles to dedicated competition use while retaining critical Clean Air Act enforcement authorities that protect public health and air quality.

1. Any legislative exemption to the tampering or defeat device prohibitions must exempt only motor vehicles used exclusively for competition and that are not authorized for use on public roads – even to travel to competitions – to ensure vehicles used on streets and highways retain air pollution control systems that protect public health.

2. Any legislative exemption must be narrowly tailored to exempt only the act of modifying a motor vehicle to be used exclusively for competition and not used on public roads.

3. Any legislative exemption to the tampering defeat device prohibitions must place the burden of proof on those seeking the benefit of the exemption, and not on EPA.

4. The elements of any legislative exemption to the tampering defeat device prohibitions must be clearly defined and the criteria for meeting that exemption must depend on documented and objective facts, and not on the stated intent of regulated parties.

5. Any legislation must require that any motor vehicle taking advantage of the exemption no longer be authorized for use on a public road at the time of the exemption (for example, by reclassification by the applicable state motor vehicle agency).

6. Any legislation must allow the creation of a mechanism to verify that a motor vehicle is not authorized for use on a public road and will be used exclusively for competition.

7. Any legislation must retain the statutory definitions, including the definition of "motor vehicle."

EPA remains ready to continue assisting the Committee and the committees of jurisdiction in drafting legislation to meet these principles.

**Wildfire Smoke: S. 2661, Smoke-Ready Communities Act of 2021 and S. 2421, The Smoke Planning and Research Act of 2021**

Wildfire smoke is a significant public health problem, especially in the Western portions of the United States and as climate change accelerates and intensifies fires. Over the past 20 years, the number of acres burned annually due to wildfires in the United States has doubled. The pollutant of most concern to public health during a wildfire smoke event is fine particulate matter, or PM2.5, because these particles can penetrate deep into lungs and cause adverse health effects including aggravated heart and

lung disease and premature death. Wildfire emissions constitute approximately 30% of the total U.S. PM2.5 emission inventory, based on 2017 data. From a public health perspective, it is important to more fully understand the human health effects associated with short- and long-term exposures to wildfire smoke and how to effectively protect the public from these impacts.

EPA appreciates Congress's focus on advancing the understanding and mitigation of wildfire smoke on public health. For example, in Fiscal Year 2022, Congress appropriated $4 million to EPA for Wildfire Smoke Preparedness grants. These grants will help ensure EPA is preparing for wildfires and communicating the health risks associated with wildfire smoke. EPA is meeting with stakeholders to learn how we can best assist states, Tribes, local educational agencies, and non-profit organizations for assessment, prevention, control, or abatement of wildfire smoke hazards in community buildings, including schools. These efforts focus on understanding the needs and challenges faced by disproportionately impacted and overburdened communities. EPA will issue a competitive grant solicitation, targeted for spring 2023, that meets the needs of impacted communities and the intent of the legislative language.

Legislation

S.2661, the Smoke-Ready Communities Act of 2021, would provide grants for air pollution control agencies to support the development and implementation of programs to help local communities formulate plans to prepare for and respond to the public health aspects of wildfire smoke. Eligible activities include monitoring data, community outreach, and purchasing and distributing air filtrations systems for buildings and personal protective equipment. Given the expected dramatic increase in prescribed burning, EPA welcomes further clarification on whether these grants would be available to address smoke and public health impacts associated with those fires (i.e. wildland fire smoke, as

opposed to just wildfire smoke).

With regard to S.2421, the Smoke Planning and Research Act of 2021, EPA would be required to establish Centers of Excellence for Wildfire Smoke at four higher education institutions to conduct research on public health implications of smoke exposure, and outline actions people can take to reduce smoke exposures. Furthermore, this bill would provide resources for EPA research and grants to support community efforts to provide more tools and information to prepare for wildfire smoke and reduce exposures and health risks.

Current EPA Activities

EPA, in conjunction with federal, state, Tribal, and local partners, has developed numerous resources to communicate about current air quality during smoke events, provide information on the public health implications of smoke exposure, and outline actions people can take to reduce smoke exposures. This year, EPA will provide more tools and information to communities to prepare for wildfire smoke and reduce exposures and health risks.

With funding from the American Rescue Plan, EPA is piloting a project in Western states to use schools as clean air shelters and cooling centers during heat and smoke events. EPA developed a new Wildfire Incident Action Checklist and other tools that provide information on preparedness and response actions that water utilities can take to prepare for and recover from wildfires. We also continues to promote and improve upon the Wildfire Smoke Air Monitoring Response Technology (WSMART) program to increase the capacity of state, Tribal, and local, air agencies and Air Resource Advisors to conduct more expansive air quality monitoring during wildfire smoke events; the AirNow Fire and Smoke Map, a joint project of EPA and the U.S Forest Service, which provides information on fire locations, smoke plumes,

and air quality and recommends actions to reduce smoke exposure; the Smoke-Ready Toolbox for Wildfires, which provides numerous resources to reduce health risk before a wildfire; and the AirNow.gov website, which provides resources on actions to take before, during, and after a wildfire through a series of Wildfire Guide Factsheets.

EPA also continues to conduct scientific research to improve understanding of effective communication of wildfire smoke risks and ways that communities can reduce exposures to smoke. The Smoke Sense mobile app is a citizen science study that provides information on smoke and air quality while allowing users to submit observations about their smoke-related health symptoms and actions they take to reduce exposures. Through the Wildfire Study to Advance Science Partnerships for Indoor Reductions of Smoke Exposures (ASPIRE), we continue to collaborate with smoke impacted communities to develop effective clean air spaces to protect vulnerable populations during smoke events. EPA researchers are collaborating with US Forest Service scientists and several communities on the Smoke Ready Communities project to study community capacity and collaborative approaches that lead to more effective smoke readiness planning. Congressional support for federal, state, Tribal and community collaborative efforts to advance wildfire smoke research and assist communities in planning for, responding to, and mitigating the impacts of wildfire smoke continues to be extremely valuable as we work to protect human health and the environment from this growing concern.

**S.1475, The Livestock Regulatory Protection Act of 2021**

S.1475, the Livestock Regulatory Protection Act of 2021, would amend title V of the Clean Air Act to prohibit the EPA from issuing permits under the Clean Air Act for any carbon dioxide, nitrogen oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production. However, longstanding appropriations language already prevents EPA from promulgating or

implementing any regulation requiring the issuance of permits under title V of the Clean Air Act for carbon dioxide, nitrous oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production. Consistent with that language, EPA has no plans to undertake such activities. Therefore, the language outlined in the Livestock Regulatory Protection Act of 2021 is redundant and unnecessary.

**Closing**

Thank you for the opportunity to provide observations and input on the four bills: S.2736, the Recognizing the Protection of Motorsports (RPM) Act of 2021; S.1475, the Livestock Regulatory Protection Act of 2021; S.2661, Smoke-Ready Communities Act of 2021; and S.2421, the Smoke Planning and Research Act of 2021. EPA appreciates this Committee's commitments to prioritizing the protection of human health and creating a safe environment for all, and we look forward to continuing to work with you to advance our shared goals.

Sincerely,

William Niebling

William L. Niebling
Associate Administrator

cc: The Honorable Edward J. Markey, Chairman of the Subcommittee on Clean Air, Climate, and Nuclear Safety
The Honorable Jim Inhofe, Ranking Member of the Subcommittee on Clean Air, Climate, and Nuclear Safety

PCA Since 1916
America's Cement Manufacturers™

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July 27, 2022

The Honorable Thomas Carper
Chairman
Environment and Public Works Committee
410 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Shelley Moore Capito
Ranking Member
Environment and Public Works Committee
456 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Chairman Carper and Ranking Member Capito:

The Portland Cement Association (PCA)[1] appreciates you holding the hearing titled Examining the Development of Projects and Implementation of Policies that Support Carbon Capture, Utilization, and Storage (CCUS) Technologies. This hearing is necessary to evaluate the progress made in and the challenges in developing carbon capture technologies and the significant federal policy actions Congress should take to deploy carbon capture technologies across the economy.

The cement and concrete industry continues to decrease the carbon intensity of its operations and products, is fully committed to decarbonization, and has pledged to become carbon neutral across the concrete value chain by 2050. On October 12, 2021, PCA released its "Roadmap to Carbon Neutrality," providing a detailed outline of technical, market, and policy levers central to achieving the industry's 2050 carbon neutrality goal.[2] CCUS is one of the emerging technologies that is integral to the cement industry's efforts to achieve its goal of carbon neutrality across the concrete supply chain by 2050.

Our members represent the majority of cement production capacity in the United States and serve nearly every congressional district. The cement and concrete industry contributes over $100 billion to the U.S. economy and employs over 600,000 people.

By way of brief background, cement manufacturers face a unique chemical fact of life. The chemical process required to convert limestone and other raw materials into clinker, the primary ingredient in cement, generates carbon dioxide (CO2) as an unavoidable byproduct during pyro-processing. Currently, roughly 60 percent of all emissions from the cement sector come from these manufacturing process emissions, separate and distinct from energy-related emissions. While the industry expects to make great strides in reducing carbon emissions through measures like using carbon-free fuel/heating technologies and low-carbon/carbon-free raw materials, the

[1] PCA conducts market development, engineering, research, education, technical assistance, and public affairs programs on behalf of its member companies. Our mission focuses on improving and expanding the quality and uses of cement and concrete, raising the quality of construction, and contributing to a better environment.
[2] https://www.cement.org/docs/default-source/roadmap1/pca-roadmap-to-carbon-neutrality_final.pdf

full elimination of CO2 generated from raw materials during pyro-processing is not possible. Given this chemical fact of life, adopting CCUS technologies is key to achieving deeper decarbonization in the cement industry.

The cement industry is facing significant obstacles to implementing CCUS at its plants. Currently, there are no commercial-scale CCUS installations at any cement plant within the U.S. CCUS cannot be widely implemented at cement plants until there is a clear path to siting and permitting these technologies. In addition, significant infrastructure investment is required for the capture, compression, storage, and transportation of CO2. Part of that infrastructure will need to supply water and energy for the carbon-capture units and associated auxiliary equipment, as well as the energy required for the ultimate delivery of the captured CO2 to its final end-use. However, with substantial research and the implementation of appropriate federal and state policies, CCUS technologies could become scalable within the next ten years, provided a technology can be proven or demonstrated at scale.

While many promising technologies are under development domestically and overseas, significantly more research and federal funding is needed for CCUS technologies to reach the commercial development stage for the industrial sector, including cement. The cement industry is conducting research on capture technologies, including a variety of solvent, sorbent, and membrane technologies, carbonation, mineralization, calcium (or carbonate) looping, oxyfuel combustion and calcination, cryogenic capture, and algae capture as carbon reduction and removal technologies to hasten the industry's decarbonization efforts. The cement industry is pursuing various potential technologies because each cement plant and cement kiln is different. Their differences include numerous variables, including plant design, emission control requirements, space constraints, water availability, energy availability, process parameters, each of which will influence the viability of specific carbon removal and reduction technologies. No single off-the-shelf CCUS commercial design or technology will work for every cement plant, and many plants will likely require a combination of capture technologies. It is essential that Federal research and funding be directed at multiple technologies so CCUS can feasibly be implemented for the cement industry promptly.

In addition to scaling up CCUS technologies and bringing the costs down to a level where the technology can be implemented at cement plants, the associated pipeline and energy infrastructure must be in place so CO2 can be captured, transported, and ultimately utilized or sequestered. Without the necessary pipeline infrastructure connected to our cement plants, there is no economically feasible method to transport the captured CO2. Likewise, the energy needed to operate a CCUS system, including energy for scrubbers, separation units, compressors, and chillers, is almost equivalent to what is required to operate a cement plant, therefore national power grids will need to be able to handle significant increases in energy usage by CCUS systems.

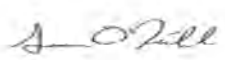
Given the challenges in decarbonizing the entire cement and concrete value chain, the cement industry will be unable to reach its carbon neutrality goal by 2050 alone. We can only achieve this goal with significant policy support from the federal government to assist with eliminating regulatory hurdles once carbon technologies are commercialized. Needed policy support includes measures to modernize the permitting programs that cover the installation of carbon capture and energy efficiency technologies, carbon transmission infrastructure, and electricity generation.

Federal permitting remains an obstacle to the planning, construction, and installation of carbon capture technologies and the infrastructure needed to sequester or utilize the captured carbon. First, there are regulatory obstacles to installing new energy-intensive carbon capture equipment at cement plants and other facilities. The New Source Review (NSR) Program, established under the Clean Air Act Amendments of 1977, presents regulatory barriers for cement facilities to make greenhouse gas (GHG) reduction and energy efficiency improvements. Under the NSR Program, installing CCUS, investing in significant energy efficiency projects, or other major capital investments to reduce GHG emissions at cement facilities result in extended and costly permitting processes and potentially unrealistic emissions and monitoring requirements. The federal government will need to enact policy reforms to reduce these barriers under the NSR Program to ensure that cement plants can install major GHG reduction and energy efficiency technologies, including CCUS technologies, without unnecessary impediments.

Further, cement manufacturers face the challenge of determining where captured carbon can be sequestered or how it will be utilized. Beyond the high cost of implementing carbon technologies at scale, necessary pipeline and energy grid infrastructure must be implemented to ensure that CCUS technologies can be employed. Implementing CCUS will require a national network of CO2 pipelines and electricity grids that can handle the loads required to operate CCUS units and, or hydrogen fuel and infrastructure to transport the hydrogen from the manufacturer to the cement plant must be in place. All these activities are regulated by numerous federal environmental laws with inconsistent guidance, permitting processes, and agency interpretations.

We encourage the Committee to use this hearing to evaluate future federal permitting reform and investments toward the full deployment of carbon capture technologies across the economy. Such action is necessary to enable the industry to reach its goal of carbon neutrality across the concrete supply chain by 2050. We look forward to working with the Committee on legislation and agency oversight as it considers its next steps. If you have any further questions, please contact me at soneill@cement.org or 202.719.1974.

Sincerely,



Sean O'Neill
Senior Vice President, Government Affairs
Portland Cement Association


*Statement for the Record*

Mike Spagnola, CEO
Specialty Equipment Market Association

*re the*

Senate Environment and Public Works Committee

*Hearing on*

September 7, 2022

Thank you, Chairman Carper, and Ranking Member Capito, for holding a hearing on S. 2736, the Recognizing the Protection of Motorsports Act (RPM Act). The Specialty Equipment Market Association (SEMA) strongly supports the RPM Act. If enacted into law, this bill would re-affirm the long-established practice of converting street vehicles for use exclusively in motorsports, clarifying in the Clean Air Act (CAA) that it is not a prohibited activity. It is important that Congress provides racers and motorsports parts businesses with clarity in federal law surrounding the ability to convert motor vehicles into dedicated racecars and produce, sell, install, and purchase parts for dedicated race vehicles.

The motorsports community applauds Sen. Burr for introducing S. 2736, along with 32 bipartisan cosponsors, including Ranking Member Capito and the following committee members: Senators Kelly, Ernst, and Inhofe.

While I understand that S. 2736 will require changes in order to address some of the concerns raised at the September 7 hearing, it is important that any compromise legislation maintains the intent of S. 2736, which is to create an enabling statute that provides a safe harbor to racers and motorsports parts businesses that manufacture, sell, and install race parts on dedicated race vehicles that have been converted from previously emissions certified motor vehicles. When implementing the bill, the EPA will place certain requirements on motorsports parts businesses that are using the exemption to maintain records showing that they did their due diligence to ensure their products were sold solely for dedicated racing vehicles if the agency inspects their business or requests information on their sales. SEMA supports requiring manufacturers, distributors, and retailers to make a reasonable basis showing that their sales of race parts that impact the emissions system of a vehicle, if challenged by the EPA, were exclusively for race use. Businesses selling race parts must "know their customer" to take advantage of the legislation, as the bill would not create a loophole that would automatically protect a business that simply maintains they produced or sold a part for the purpose of it being used for racing. Businesses have always had to do more than that to ensure they are shielded from anti-tampering violations, and this would not be changed by the RPM Act.

We are concerned that opponents of the RPM Act continue to state that the bill would create a loophole that would allow performance parts businesses to sell race parts for street vehicles. This is simply not true. Those alleging such should be required to explain how the bill will meaningfully hinder the enforcement efforts of the EPA. SEMA opposes efforts to conflate the issue of companies selling defeat devices for use on the road and the RPM Act. EPA has been successful in going after companies that violate the anti-tampering statute. None of the violations referenced in Mr. Walke's testimony would have been prohibited had the RPM Act been enacted prior to the EPA pursuing enforcement against those businesses. Conversely, the protection sought should not result in a "strict liability" situation where, despite reasonable efforts by a manufacturer/retailer/distributor/installer, a "race use only part" ends up being used on the street illegally, as Mr. Walke agreed.

The RPM Act has undergone many changes since it was first introduced in 2016 to ensure that it protects EPA's ability to enforce. SEMA thanks the committee for taking up the bill and encourages Democrats and Republicans to find a reasonable compromise on the text of the

legislation to provide certainty to hundreds of thousands of racers and the men and women who work in the motorsports parts industry.

**Background on SEMA**

SEMA represents over 7,500 mostly small businesses around the country that manufacture, distribute, and sell products that enable automotive enthusiasts to personalize the style and upgrade the performance of their motor vehicles, including everything from classic cars to four-wheel drive vehicles to race cars.

SEMA's roots are firmly planted in racing, as the Association was founded in 1963 by companies that manufactured race parts. In 2012, SEMA acquired the Performance Racing Industry (PRI), which supports the interests of racers, enthusiasts, builders, tracks, sanctioning bodies, and businesses through communications, legislative advocacy, and by putting on the world's premier auto racing trade show, the PRI Trade Show.

SEMA has a long-standing commitment to ensuring that performance enhancing parts that are used on the road are emissions compliant. The association has maintained an emissions lab at the SEMA Garage in Diamond Bar, California since 2014. The SEMA Garage has helped aftermarket businesses gain California Air Resources Board approval for 595 Executive Orders, which certify that the product does not increase emissions compared to an OEM part.

SEMA invested over $20 million to ensure that its member companies are selling emissions compliant products. The association opened a 2nd SEMA Garage in Plymouth, Michigan in August, employing over 20 people at the two garage facilities. SEMA also uses its trade show to provide educational sessions on how to comply with emissions laws and provides our members with guidance through our monthly magazine and weekly electronic publication.

**Background on the RPM Act**

The RPM Act S.2736 is a bi-partisan bill that establishes in law Americans' right to convert street vehicles into dedicated racecars and the motorsports-parts industry's ability to sell products that enable racers to compete. The bill clarifies that it is not a violation of the CAA to make emissions-related changes to a motor vehicle designed for street use—including a car, truck, or motorcycle—when converting it into a racecar used exclusively on the track. The RPM Act also confirms that it is legal to produce, market, and install racing equipment if it is used on a competition vehicle that is used solely on the track.

Converting a car into a racecar has been the history of racing both in America and around the world for more than 120 years. From land speed racing on dry lake beds in the west to the early years of NASCAR, racers competed using production vehicles that they modified to compete on the track.

Today, there are roughly 1,500 racetracks across the country with over 400,000 racers who compete, most of whom are grassroots racers who race at local tracks and dragstrips. Motorsports encompasses a wide variety of racing categories (stock car, drag, sprint, etc.) and

track types (oval, off-road, drag, drift, etc.), and race vehicles fall into two broad types: production or purpose-built. While the EPA contends that purpose-built racecars like dragsters, formula, and midget cars are not regulated under the CAA, the agency maintains that there is nothing in the law that explicitly allows motor vehicles, which are regulated under the CAA, to be taken out of their certified emissions compliance and used exclusively for racing on the track.

Modifying a motor vehicle and converting it for use exclusively on the track was an established practice both prior to 1970 when the CAA took effect and for over 45 years after. Over this period hundreds of thousands of grassroots and professional racers converted street vehicles into dedicated racecars, something that is synonymous with racing that takes place at tracks around the country. Racers invest their time and resources into modifying cars into dedicated race vehicles and hundreds of businesses manufacture, sell, and install parts to meet the demands of these racers. SEMA estimates that racers and race teams spend $7.8 billion annually to purchase parts for their dedicated race vehicles.

In 2015, the EPA included a provision within a proposed regulation[1] declaring that the CAA prohibits converting a motor vehicle—defined as a car, truck or motorcycle designed for use on the public streets and highways—into a racecar. Under the EPA interpretation, manufacturing, selling, and installing racing parts to accomplish such a conversion would also be a violation of the CAA.

Although the EPA did not finalize the proposed rule, the agency continues to maintain that the CAA prohibits racecar conversions along with the sale and use of racing products that can be installed on these vehicles. SEMA contends this interpretation contradicts 45 years of previous EPA policy and practice. Further, the EPA position renders illegal the majority of race cars and motorcycles that compete at tracks around the country.

Congress never intended for the EPA to regulate racecars. The Motor Vehicle Air Pollution Control Act of 1965 defined a "motor vehicle" as "any self-propelled vehicle designed for transporting persons or property on a street or highway." When the CAA amendments were enacted in 1970, Congress clarified in conference committee deliberations that the term "motor vehicle" did not include vehicles manufactured or modified for racing.[2] Then in 1990, Congress provided authority to the EPA to regulate nonroad vehicles and engines. Because the

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[1] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2, 80 Fed. Reg. 40138 (proposed July 13, 2015).

[2] *See* House Consideration of the Report of the Conference Committee, Dec. 18, 1970 (reprinted in *A legislative history of the Clean air amendments of 1970, together with a section-by-section index*, U.S. LIBRARY OF CONGRESS, ENVIRONMENTAL POLICY DIVISION, Washington: U.S. Govt. Print. Off. Serial No. 93-18, 1974, p. 117) (Representative Nichols: "I would ask the distinguished chairman if I am correct in stating that the terms "vehicle' and "vehicle engine" as used in the act do not include vehicles or vehicle engines manufactured for, modified for or utilized in organized motorized racing events which, of course, are held very infrequently but which utilize all types of vehicles and vehicle engines?"; Representative Staggers: "In response to the gentleman from Alabama, I would say to the gentleman they would not come under the provisions of this act, because the act deals only with automobiles used on our roads in everyday use. The act would not cover the types of racing vehicles to which the gentleman referred, and present law does not cover them either.").

term "nonroad vehicle" could easily be construed to include race vehicles, Congress included language to expressly exclude from the definition vehicles used solely for competition.[3]

Despite the clarity of congressional intent, the EPA's 2015 proposed rule made it illegal to convert a motor vehicle into a dedicated racecar and a violation of the tampering provisions, which are subject to civil fines and related penalties. The EPA proposed regulation read in part as follows:

> *40 CFR § 86.1854-12(b) covering "Prohibited Acts" would be amended to add the following provision:*
>
> > *(5) Certified motor vehicles and motor vehicle engines and their emission control devices must remain in their certified configuration even if they are used solely for competition or if they become nonroad vehicles or engines; anyone modifying a certified motor vehicle or motor vehicle engine for any reason is subject to the tampering and defeat device prohibitions of paragraph (a)(3) of this section and 42 U.S.C. 7522(a)(3). [80 FR 40565]*

The EPA's interpretation applies to any motor vehicle that was originally certified to meet federal emissions standards—meaning that it is illegal to make any modifications that affect any emissions-related component, even if the vehicle is converted into a dedicated track car.

For nearly five decades, the motorsports community believed that racers were allowed to modify street vehicles for racing. During that time, the EPA had and utilized the clear authority under the Act to enforce against businesses that offered for sale, sold, or installed products that knowingly took a regulated street vehicle out-of-compliance.

While we appreciate that the EPA has subsequently stated that it does not intend to enforce against individual racers who compete in modified vehicles that started out as motor vehicles, the agency maintains that it has the ability to do so. The EPA has also stated that it does not intend to enforce against businesses that can demonstrate that the performance parts they sold were used exclusively on dedicated race vehicles. In short, the agency encourages enforcement agents to use their discretion to not enforce against companies selling race parts exclusively for the track. SEMA supports the intent of this policy, although it is important to note that EPA's remarks in court proceedings are markedly different. An EPA legal brief[4] filed in 2020 states: "An EPA-certified motor vehicle cannot become a nonroad vehicle even if it is used exclusively for competition." In a subsequent filing in February 2021, the agency stated, "EPA's past and current statements consistently and clearly reflect its view that the manufacture and sale of defeat devices for use on motor vehicles is illegal, regardless of whether the vehicle is exclusively for competition purposes."[5]

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[3] *See* 42 U.S.C. § 7550(10) (2016) ("The term 'nonroad vehicle' means a vehicle that is powered by a nonroad engine and that is not a motor vehicle or a vehicle used solely for competition.").

[4] United States of America, Plaintiff, v. Gear Box Z, Inc. Defendant, No. CV-20-08003-PHX-JJT, THE UNITED STATES' REPLY IN SUPPORT OF MOTION FOR PRELIMARY INJUNCTION, Filed October 30, 2020

[5] RACING ENTHUSIASTS AND SUPPLIERS COALITION v. ENVIRONMENTAL PROTECTION AGENCY AND MICHAEL S. REGAN, United States Court of Appeals FOR THE DISTRICT OF COLUMBIA CIRCUIT, No. 16-1447, Decided August 12, 2022.

Passing the RPM Act is important because it would resolve the EPA's inconsistent, haphazard interpretation of the CAA that disrupts legitimate US businesses and will enshrine into law the informal guidance that the EPA has provided, ensuring that the regulated parties are treated consistently in the future. Racers and motorsports parts businesses deserve to have clear and unambiguous laws and regulations that protect racers and businesses producing, selling, and installing race parts for competition vehicles. This is not in conflict with SEMA's support for ensuring that the EPA has the ability to enforce against companies in clear violation of anti-tampering laws.

The RPM Act is one of the most bipartisan bills in the 117th session of Congress, yet there are groups who continue to mischaracterize the intent of the bill and the impact it would have on the EPA's ability to enforce against businesses that violate the CAA by selling defeat devices for use on the road. The bill does not interfere with the EPA's authority to enforce against individuals who indiscriminately sell race parts for vehicles driven on public roads and highways.

**Evolution of the RPM Act (2016 to 2022)**

SEMA has been working with the Senate Environment and Public Works Committee and the House Energy and Commerce Committee since 2017 to find language that provides reasonable safeguards to protect motorsports parts manufacturers and retailers from being enforced against by the EPA while ensuring that an exemption created by the RPM Act does not impact EPA's ability to enforce against companies that do not make a concerted effort to ensure those parts are used solely on the racetrack.

SEMA is disappointed that it has taken so many years to negotiate language that addresses the concerns of the many interested parties, although we are hopeful that the committee can work with industry and the EPA to find a reasonable compromise that requires companies selling performance parts to know their customer and control the sale of their products, while not creating unnecessary burdens on these small businesses and their customers.

It's important to note that the House and Senate versions of the RPM Act, S. 2736 and H.R. 3281, have changed significantly since they were first introduced in 2016. Over this time, the RPM Act's sponsors and SEMA have shown a willingness to negotiate on a bipartisan basis to find language that can become law. Accordingly, the Senate bill is very specific in noting that businesses can't rely on unsupported declarations. Sec. 4(b)(3) of S. 2736 states that "a manufacturer, seller, or installer of a part or component seeking to use the exemption under the amendment made by section 3(a) may not rely solely on unsupported declarations from the purchaser or owner of a vehicle about— (A) the legal status of the vehicle; or (B) the intended use of— (i) the part or component; or (ii) the vehicle." In plain English, this provision simply prevents motorsports parts businesses from protecting themselves from EPA enforcement by asking the purchaser of a part to simply attest that they won't use it on a street vehicle.

Sec. 3 of S. 2736 creates an exemption from the anti-tampering provisions found in Section 203(a) of the CAA (42 U.S.C. 7522(a)) rather than an exclusion. Previous versions of the RPM Act introduced in 2016 and 2017 excluded race vehicles from the anti-tampering provisions of the

CAA. However, the bill's sponsors changed the exclusion to an exemption at the EPA's request, as the agency previously stated that an exclusion eliminated their ability to enforce against companies selling defeat devices. Also, previous versions of the bill, including S. 203, the RPM Act of 2017, amended the statutory definition of a motor vehicle to note that it "does not include a vehicle used solely for competition, including a vehicle used solely for competition that was converted from a motor vehicle." This modification was also made at EPA's request in an effort to address concerns that the bill would make it harder to enforce against companies violating the CAA.

**Response to Criticism of the RPM Act**

Despite over five years of negotiations on the RPM Act, the bill's detractors continue to make many of the same (unsubstantiated) arguments they made back in 2017. However, the RPM Act has been amended to address their previously stated concerns that it would create a loophole, enabling race parts to be sold for the street. Sec. 3 of S. 2736 states that an exempted race vehicle must "be used solely for competition, and that vehicle is not authorized for operation on a street or highway." Make no mistake, motor vehicles that can be driven on the street, including those with license plates and those that haven't undergone recognizable safety modifications (removable of flammable products in the interior, addition of a roll cage, removal of passenger seat, etc.), would not qualify for an exemption under the RPM Act.

Interest groups opposing the RPM Act have asserted that the legislation would require the EPA to prove the intent of a business that produced or sold race parts that alter emissions of a vehicle. This contention is simply inaccurate. The RPM Act would not protect companies that manufacture defeat devices if they simply maintain that they intended to produce the part for a dedicated race vehicle. The anti-tampering provision has never been enforced in this way, and the RPM Act would not change this. The RPM Act does nothing to undermine EPA's enforcement authority. Rather, the bill simply provides a legal protection for businesses that produce, sell, and install race parts on vehicles that have been converted from street-legal to dedicated competition vehicles. If the RPM Act becomes law, the EPA will continue to have the full authority it has today to enforce against tampering violations.

Those opposing the RPM Act also gratuitously cite an EPA estimate (often referred to as a "fact" or "statistically valid" but never substantiated) of 500,000 deleted diesel trucks on the road. Aside from the questionable validity of the number, the issue is irrelevant. Each of those vehicles would still be illegal after passage of the RPM Act, and the EPA can enforce against those who intentionally, irresponsibly, negligently violate the law. The clear intent by those who oppose the RPM Act is to falsely implicate racing as a significant, contributing factor in the climate debate.

While racing is a sport, passion, leisure/vacation activity for millions of Americans, and all Americans make choices regarding how to spend their disposable income and enjoy their "free" time (including what they choose to eat and/or drink in such pursuits), NONE of those activities (or choices) are without environmental impact. That being said, racing is not a significant contributor to greenhouse gases. For perspective:

- A single 3-day voyage of a large cruise ship burns enough fuel to produce **30 times** more CO2 than all 350 racecars at the largest National Auto Sport Association Race Weekend.
- A single Boeing 767-300 Flight for 300 people from LAX to JFK produces **7 times** more carbon impact than the entire field of racecars at the three-day NHRA Winternationals, with 40,000 fans in attendance.
- Producing just **ONE** of the 200,000 75W Batteries needed for the Tesla Model 3 creates more CO2 impact than all the runs in an entire NHRA race day.

The goal of the RPM Act is to be an enabling statute that protects racers and motorsports parts businesses that manufacture, sell, and install race parts on dedicated race vehicles that have been converted from previously emissions certified motor vehicles. We believe that manufacturers, distributors, and retailers should have to make a reasonable basis showing that their sales of race parts that impact the emissions system of a vehicle, if challenged by the EPA, were exclusively for race use. SEMA supports requiring these businesses to "know their customer" to take advantage of the exemption from the anti-tampering provisions created by the RPM Act. Listed below are some process controls that can be implemented in the regulations to demonstrate businesses have made a reasonable effort to ensure they are selling parts for use solely on vehicles that are used for racing purposes only, including:

1. Trailer the vehicle in and out of the shop and provide photographic evidence of same;
2. Provide written proof of registration in a sanctioned competition or racing event where registration is required or, if registration is not required by the sponsoring club or league, a list of event(s) in which the owner intends to compete;
3. Provide evidence demonstrating that the vehicle would not be used on public roads (e.g., absence of plates unless plates are required by the sanctioned competition, other relevant indicia);
4. Provide certification from the vehicle owner that the vehicle is a dedicated competition vehicle for drag racing or tractor pulling;
5. Provide documentary evidence of the work performed; and
6. Maintain records of any work performed, including identifying information for the vehicle and customer.

**Conclusion**

SEMA asks the Senate EPW to negotiate a reasonable compromise on the RPM Act, which makes clear that motor vehicles can legally be converted into dedicated race vehicles and that parts manufactured, sold, and installed on such vehicles are not subject to tampering violations if they are used solely on the racetrack.

Senator MERKLEY. With the threat and frequency of wildfires continuing to grow every year, communities are continuing to confront these dangers. When some of these intensive fires occurred, really, they have been steadily growing over the last 20 years and over the last five to 10 years, there has been enormous change. We really realize how much more we need to do.

As wildfires burn, the smoke fills our skies. It degrades our air quality. It threatens our health, it threatens our economic well-being, and we need to do all we can. These two bills will help in that.

I really appreciate the Chairman and Ranking Member for holding a hearing on these two bills today.

Now, I have the pleasure of introducing a fellow Oregonian, Cass Moseley, welcome, who cannot only personally attest the challenges we face in the State from the wildfires and the smoke they produce, but also share her academic experience and her expertise about why these bills are critical. She is a member of the University of Oregon community for over two decades. She serves as the Vice Provost for Academic Operations and Strategy. She is a research professor with the Institute for a Sustainable Environment, and a senior policy advisor in the school's Ecosystem Workforce Program.

She is a recognized expert in natural resource policy, including forest, wildfire, bioenergy, rule development policy, and Federal land management. She has studied the changing face of western wildfire management with a particular focus on how natural resource policies affect rural communities, businesses, and workers, including immigrant forest workers. We are thrilled to have such a knowledgeable and accomplished fellow Oregonian here to address this issue.

Thank you.

**STATEMENT OF CASSANDRA MOSELEY, VICE PROVOST FOR ACADEMIC OPERATIONS AND STRATEGY; RESEARCH PROFESSOR, INSTITUTE FOR A SUSTAINABLE ENVIRONMENT; SENIOR POLICY ADVISOR, ECOSYSTEM WORKFORCE PROGRAM**

Ms. MOSELEY. Thank you, Senator Merkley, for that kind introduction, and thank you to the committee for holding this really important hearing today.

Driven by climate change and a century of wildfire suppression, wildfires are growing in size and severity across the American West. Wildfire smoke is rapidly increasing public health risks, affecting not only rural communities as we have discussed that are located near these fires, but increasingly in major urban centers, hundreds or even thousands of miles away.

Exposure to fine particulate matter contained in smoke is associated with many different negative outcomes. People with respiratory disease, the young, elderly, and pregnant women are particularly vulnerable to these risks. Households and individuals need to be prepared to act quickly when smoke arrives, and yet many lack the information about the practical steps they can take to keep themselves safe.

A central strategy for reducing smoke exposure is to go indoors, but for those who are unhoused or whose livelihood involves outdoor work, this may be difficult to achieve. Moreover, houses and other buildings, particularly in low-income communities, may lack the filtration systems and the insulation to effectively protect against smoke intrusions, especially these long duration events, such as the one that Senator Merkley referred to earlier, that I too lived indoors for 2 weeks around.

Special attention is needed to ensure that both medically and socially vulnerable populations can limit their exposure to wildfire smoke. Today I want to suggest five key ingredients to foster smoke-ready communities.

First, we need to address the underlying drivers of increasing wildfire smoke. We need to reduce greenhouse gas emissions so that we can slow climate-driven wildfire. In addition, we need hazardous fuels reduction using mechanical treatments and prescribed fire in places where treatments will change fire behavior.

I want to thank this committee for its leadership in the passage of both the Infrastructure Act and the Inflation Reduction Act. These are historic laws that make substantial investment in wildfire risk reduction. In addition, as has already been mentioned, the IRA's Environmental and Climate Justice Block Grants create an opportunity for the EPA to address many of the needs I discuss today.

Second, we need to invest in community planning and preparation. Communities need to be ready to launch measures during smoke events, and success requires bringing together agencies that work on public health, air quality, along with social service delivery organizations and those who understand wildfire. They need to be creating locally relevant plans. Financial support will be important to the success of these in many low-income communities. The Smoke Planning and Research bill anticipates these needs.

Third, we need to improve indoor air quality to increase the ability of people to seek refuge from smoke. Low-income households may need assistance with enhanced air filtration and weatherization to improve their indoor air quality, and communities need buildings that can act as clean air shelters. Investing in school building retrofits, for example, can also limit educational disruption due to poor air quality. These kinds of activities, along with expanding access to personal protection equipment, are specifically contemplated in the Smoke-Ready Communities bill.

Fourth, we need improved air quality monitoring, smoke forecasting, and communication tools to allow emergency managers and the public to better anticipate and act on smoke events. The EPA's Air Now resource is a valuable source of current smoke conditions, but we continue to need a denser network of high-quality smoke sensors and improved long-term forecasting. In addition to helping with smoke response, improved forecasting could also help increase prescribed fire, which is a key ingredient in reducing smoke over time.

Finally, we need additional investments in research and development. For example, we need better techniques to empower vulnerable populations. We need decision support tools for emergency managers, better approaches to addressing competing indoor air

quality needs, and improved understanding of the relative health effects of wildland and prescribed fire, and many, many other things.

The centers for research excellence that are proposed in the Smoke Planning and Research bill would help create this new kind of capacity to address a number of these really critical challenges.

Let me conclude, again, by thanking the committee for holding this really important hearing today and for your leadership and passage of the Inflation Reduction Act, which should help tackle wildfires over time. I look forward to answering any questions you all may have.

[The prepared statement of Ms. Moseley follows:]

**Statement of Cassandra Moseley, Ph.D.**
**Ecosystem Workforce Program,**
**Institute for Resilient Communities, Organizations, and the Environment**
**University of Oregon**

***Before U.S. Senate Committee on Environment and Public Works***
September 7, 2022

"A Legislative Hearing to Examine S.2736, the Recognizing the Protection of Motorsports Act of 2021; S. 1475, the Livestock Regulatory Protection Act of 2021; S. 2661, Smoke-Ready Communities Act of 2021; and S. 2421, the Smoke Planning and Research Act of 2021."

Chair Carper, Ranking Member Capito, and Members of the Committee:

Thank you for the opportunity to speak before you today about how we can increase the resilience of vulnerable populations to wildfire smoke in the face of a changing climate and increasing incidence of wildfire in the American West.

I am a research professor and senior policy advisor with the Ecosystem Workforce Program (EWP) at the University of Oregon. The EWP is a joint program of the University of Oregon and Oregon State University. This unique partnership allows Oregon's two leading research universities to contribute to natural resource governance and rural community development to promote community and landscape resilience. I also am the vice provost for academic operations and strategy at UO. Today, I am speaking in my role as a faculty member rather than as an officer of the university, and UO has no position on the bills discussed in this hearing.

**Snmmary**

- The Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) make historic and vital investments in greenhouse gas and hazardous fuels reduction, both of which should help ameliorate wildfire smoke over time. However, given the climate change already underway, the incidence of wildfires will continue to increase in the West for some time.
- Wildfire smoke will continue to be a growing problem in the West, and increasingly nationally, affecting both rural communities and major population centers.
- Building community resilience to wildfire smoke is critical to support public health and economic well-being.
- People with limited economic means, those living or working outdoors, children, the elderly, and people with certain medical conditions are often hit hardest by smoke. Special attention is needed to ensure that these vulnerable populations can limit their exposure to wildfire smoke.
- Recent congressional investments through the IRA Environmental and Climate Justice Block Grants (Sec. 60201) will allow the Environmental Protection Agency (EPA) to support smoke-ready communities, among many other urgent needs. In addition, targeted programs such as those envisioned in S. 2661 and S. 2421 are needed to support community planning and preparation, enable facility upgrades to create indoor clean air

refugia in homes and public buildings, and improve smoke monitoring, forecasting, and information sharing.

- A wide range of interdisciplinary, applied, and action-oriented research and development is needed to support resilience to wildfire smoke, especially for vulnerable populations. Sustained intramural competitive and extramural research and centers of excellence, such as those envisioned in S.2421, would help build interdisciplinary researcher capacity to develop new models, technologies, decision-support tools, and techniques that address wildfire smoke in a socially equitable manner.

**Growing Risk of Wildfire and Wildfire Smoke**

Much of the American West is comprised of fire adapted landscapes where wildfire is a key ecological process historically driven both by natural ignitions and burning practices of indigenous peoples. Highly effective fire suppression beginning in the 20th century has changed many western ecosystems, creating denser forest stands that are more susceptible to high severity fire. On top of this, hotter and drier weather driven by climate change is increasing the size and severity of wildfires. Nationally, the U.S Forest Service increasingly sees wildfire not as a seasonal, but year around issue.[1] Some call this the era of megafires.[2] Moreover, as population in the West has grown, humans are increasingly in the path of wildfire and wildfire smoke. Unfortunately, scientific evidence suggests that in many areas of the West, wildfires are expected to continue to increase.[3]

With the growing size and severity of wildfires, we are also seeing growing negative public health and economic impacts from wildfire smoke. Wildfire smoke not simply a localized issue near active fires. It is increasingly affecting urban population centers that may be hundreds or even thousands of miles away from any given fire.

Wildfire smoke includes fine particulate matter (often called $PM_{2.5}$) that can create both acute and cumulative health impacts. The exact makeup of wildfire smoke varies, and smoke can become even more dangerous when it includes chemicals from building materials and building contents. Children, the elderly, pregnant women, and people with cardiovascular disease or other health conditions are particularly vulnerable.[4]

In addition, many populations are particularly vulnerable to smoke exposure due to their social or economic circumstances. For example, one key recommendation to reduce smoke exposure is to go indoors into spaces that have lower fine particulate matter than outdoors. However, people have unequal access to this sort of space and some populations are particularly challenged to escape the smoke. Many peoples' livelihoods depend on them working outdoors, including farmers, forest workers, those working in construction and landscaping, recreation and tourism, and wildland fire response. In addition, people who are unhoused may have little to no access to clean air during smoke events. Even for those who can go indoors, many houses, commercial establishments, and public buildings (especially in lower income communities) do not provide indoor air quality that is significantly better than outside, due to lack of filtration systems or poor insulation. Limited access to information and language barriers can further exacerbate risk.[5]

Wildfire smoke can also have negative economic impacts in areas with significant outdoor tourism economies, as is common in the American West. Tourists cancel vacations during smoke events or decide to visit less smokey regions all together. Major sporting events,

such as intercollegiate football[6], and outdoor concerts and plays that bring revenue to communities, can be canceled. For example, the Ashland (Oregon) Shakespeare Festival,[7] with its outdoor Elizabethan theater, has faced multiple cancellations due to smoke in recent years. Wildfire smoke can also affect the flavor of grapes and resulting wines.[8] Finally, institutions such as universities or high-tech commercial facilities can face substantial costs driven by smoke intrusions into HVAC systems and the need to protect sensitive research equipment.

**Increasing Resilience to Wildfire and Wildfire Smoke**

One key component to wildfire smoke resilience is *addressing the underlying drivers of increasing wildfire smoke* by reducing greenhouse gas emissions and through hazardous fuels reduction in places where treatments are likely to change fire behavior. Greatly expanded mechanical thinning and prescribed fire that are strategically placed are needed to make an appreciable impact on fire behavior. While the effects of these actions will take decades to substantially change the trajectory of wildfire on a continental scale, project implementation today can improve wildfire local conditions in the short term and are vital to making progress long term.

A second key to smoke resilience is *high quality information* about health impacts and practical steps that people can take to reduce health risk. This information needs to be provided before and during smoke events and be delivered by trusted sources in languages and modalities applicable to a diversity of populations, especially to those who are most vulnerable.[9]

A third key component is *community planning and preparation*. We know from two decades of community wildfire protection and fire-adapted community preparation that multi-stakeholder collaboration is critical to support household and community readiness for natural hazards. While, in many communities, forest and wildfire collaboratives can (and in some cases are) expanding to include smoke, successful smoke preparation and planning requires bringing together new networks. For example, local agencies that address public health and air quality as well as social service delivery organizations that support vulnerable populations are central, along with those who understand wildfire risk. Moreover, wildfire smoke can affect communities that may otherwise have more limited wildfire risk and therefore may not have any history of engaging in this type of work. Given the likelihood that low-capacity communities also have high numbers of vulnerable residents, financial support for planning and implementation processes will be important to the success in these places.

A fourth key component is *investments in home and public building upgrades and portable filtration* to increase the ability of households and communities to seek refuge from smoke and for individuals to don personal protective equipment when needed. Investments in home insulation and air purification can help reduce $PM_{2.5}$ indoors. It is also important to understand the indoor air quality of public buildings and take steps to have at least some of these buildings available to act as clean air shelters for vulnerable populations. Investing in school building retrofits to limit educational disruption due to poor air quality is especially important in areas where the wildfire season overlaps with the school year.

A fifth key component is *improved air quality monitoring*[10] *and smoke forecasting*, clear communication of current conditions and forecasts to allow emergency managers and the public to better anticipate smoke events and take appropriate action, as well as avoid costly actions when smoke events are unlikely. A high-density monitoring network is particularly important in

the mountainous West, where numerous microclimates and complex airflow can make smoke conditions variable even across relatively small geographies. Continuing to improve forecasting could also increase the safety and the amount of prescribed fire that can be accomplished, which is a critical to reducing wildfire and smoke risk over time.[11]

A sixth key component is *research and development*, which is needed to develop new techniques, models, and strategies to increase resilience to wildfire smoke and climate change more broadly. Given the multifaceted nature of increasing smoke resilience, much of this work will need to be interdisciplinary and progress will require sustained investment in collaborative, applied research. In addition to new forecast models referenced above, we need, for example, better techniques for engaging and empowering vulnerable populations, decision-support tools for emergency managers, new personal protective equipment for wildland firefighters and other outdoor workers, better approaches to addressing competing indoor air quality needs, improved understanding of the chemistry and toxicology of smoke, clearer understanding of the public health impacts of climate change, and much more.

**Promising Investments, Programs, and Projects**

Promising programs and projects are emerging to support the development of smoke-ready communities. These range from critical congressional investments to federal agencies' actions and community initiatives to prepare for future smoke events. Below are a few examples among many of these efforts.

*Climate change and wildfire mitigation*

- Significant investment in hazardous fuels reduction and greenhouse gas emissions reductions funded in the IIJA and IRA should contribute to reducing the rate of increase in wildfire fire severity over time and thereby limiting increases in smoke health impacts. These investments will need to be sustained and potentially even increased over time.

*Planning, preparation, and support*

- As part of the IRA, the Environmental and Climate Justice Block Grants allow for investment in a broad set of climate resilience activities, and these funds could be used in communities planning to mitigate smoke risks from wildfires.
- The EPA, in partnership with the U.S. Forest Service and other state and federal agencies, has created a wildfire smoke toolbox to provide resources to support community wildfire smoke response.[12]
- Similarly, the Fire Adapted Communities Network (FACNET) has integrated information about smoke readiness into their resources and support of fire adapted communities planning and preparation.[13]
- Communities such as Ashland[14] and Bend[15] in Oregon have increased public communications to help residents take action to protect themselves when air quality may be reduced due to unplanned and prescribed fire.
- With support from the EPA, community leaders in Garfield County, Colorado, and Silver Bow County, Montana, are creating collaborative smoke response and communication plans by creating new networks of local partners.[16]

*Infrastructure improvements*

- The Environmental and Climate Justice Block Grants of the IRA also funds a broad set of monitoring and pollution remediation activities that could include infrastructure investments to increase wildfire smoke readiness.
- Partners in Oakridge, Oregon are using EPA funding historically focused on reducing wood smoke to, among other activities, improve indoor air quality in schools and the local library in part to provide clean air space during wildfire smoke events in a community where many homes lack HVAC systems that can provide air filtration.

*Research and development*

- In 2021, the EPA funded approximately $9 million in extramural research "that will address behavioral, technical and practical aspects of interventions and communication strategies to reduce exposures and health risks of wildland fire smoke."[17]
- The EPA Pacific Ecological Systems Division is working with agency, community, and university partners to improve wildfire smoke detection capabilities.
- The EPA Center Public Health and Environmental Assessment is conducting action research projects focused on identifying effective collaborative smoke-ready planning strategies in partnership with rural communities.[18]
- The University of Oregon is launching a Center for Wildfire Smoke Research and Practice with initial funding from the EPA via congressionally directed spending. The goal of this center is to work with practitioners and researchers to help increase community resilience to wildfire smoke through practice-oriented research, outreach, and engagement. This center may serve as proof-of-concept for the centers of excellence contemplated in S. 2421.
- The Department of Homeland Security Science and Technology Directorate, along with a number of other state and federal partners, have invested in the development of a wildland fire respirator. The respirator could significantly reduce the smoke impacts for wildland firefighters who cannot use the Self-Contained Breathing Apparatus that structural firefighters use.[19]
- The Confederated Tribes of the Colville Reservation, the Okanogan River Airshed Partnership, and the University of Washington recently collaborated on research to identify effective communication strategies of smoke information to rural and tribal communities.[20]
- A collaboration of university researchers and federal scientists from NOAA and NASA have been evaluating high-resolution smoke forecasting models using data from recent large wildfires.[21]

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**Senate Committee on Environment and Public Works**
**Hearing Entitled,**
***"A Legislative Hearing to Examine S.2736, the Recognizing the Protection of Motorsports Act of 2021; S. 1475, the Livestock Regulatory Protection Act of 2021; S. 2661, Smoke-Ready Communities Act of 2021; and S. 2421, the Smoke Planning and Research Act of 2021"***
**September 7, 2022**
**Questions for the Record for Dr. Cassandra Moseley**

**Chairman Carper:**

1. The Inflation Reduction Act made unprecedented investments in both mitigating future climate change and helping communities to adapt to the effects of a changing climate that we see all around us. Programs in this Committee's title of the law will reduce greenhouse gas emissions that drive events like wildfires in the first place. Investments like the $3 billion for the Environmental and Climate Justice Block Grants program will help communities adapt to climate change, and specifically makes community efforts to mitigate the climate and health risks from wildfire events eligible for this funding.

   You mentioned in your testimony that investments in adaptation, like the Environmental and Climate Justice Block Grants, *and* addressing the drivers of wildfires will better support smoke-ready communities. How meaningful are investments in the Inflation Reduction Act to reaching these ends?

   *Through the Environmental and Climate Justice Block Grants (Sec 60201), the Inflation Adjustment Act represents a significant opportunity for the EPA to invest in the creation of smoke ready communities, among many other important efforts. Congress has allocated funding through these block grants to support "pollution monitoring, prevention and environmental remediation…mitigating climate and health risks from…wildfire events…* [and] *indoor air pollution." Taken together, these authorities allow the EPA to improve smoke monitoring, take steps to reduce wildfire smoke impacts, and address indoor air pollution. These are all key component for reducing public health risks of wildfire smoke exposure. People need better localized information about smoke conditions so that they can take timely action to protect themselves and they need high quality indoor air to be able to reduce their exposure during smoke events. Given the broad scope of these grants, an important step in realizing this opportunity will be for EPA to develop block grant implementation guidelines that allow for these uses.*

2. The release of smoke emissions and other air pollution from wildfires is becoming a greater public health risk as they become increasingly widespread and frequent due to climate change. This risk is even more pronounced for certain populations that are more vulnerable to the effects of air pollution, like children, seniors, and pregnant women, especially if they are in low-income communities or communities of color. Lower-income communities and communities of color are also more likely to have poorer air filtration and insulation in homes and other community buildings, leading to poorer indoor air quality.

In your work, what have you found are the most meaningful actions a community can take, especially environmental justice communities, to better protect against wood smoke? In other words, where should the federal government, in particular EPA, direct funding efforts?

*While the research in the area of smoke readiness is nascent, we know from research around other natural hazards including wildfire that the planning and preparation is vital for communities and households to be able to effectively respond to these kinds of events. For environmental justice communities, it is particularly important to invest in community-level planning capacity. Community-based organizations and local government play a vital role in planning, preparation and response, and yet often have limited resources to organize and plan. In addition, because the public health recommendation for reducing smoke risk is to go indoors, it is important that households and public buildings can have high quality indoor air. This requires investments in physical infrastructure that will be beyond the means of many households and communities. That said, there is a lot we do not know about how smoke planning, preparation, and response will work in practice and as a consequence, we continue to need investment in action-oriented research that identifies and disseminates effective practices and innovation over time.*

**Senator Cardin:**

1. While some wildfires in Maryland can burn hundreds or even thousands of acres, most are smaller in size, burning less than 10 acres. Even these smaller wildfires can threaten lives, homes, other structures, and our natural resources. Each year hundreds of homes and structures are threatened, and dozens are damaged or destroyed by wildfires.

    a. Why should we be paying attention to smaller-scale wildfires on the East Coast?

*Wildfire is an important ecological process in ecosystems nationally not just in the American West. It is important to understand these ecological processes even if these wildfires do not make national headlines -- even more so as the climate changes. Moreover, planning and preparation for these events is important whether planning for a megafire or a smaller fire with more localized impacts. Prescribed fire has long been a vital management tool in the Southeastern portion of the United States to manage forest lands and invasive species. From a smoke perspective, small fires can have localized impacts that can still affect human health. In addition, large western fires are increasingly creating smoke impacts across the North American continent. Consequently, communities and households need to be prepared to respond to smoke events even if they do not live in a landscape where megafires are likely.*

    b. How do the grant programs in the Smoke-Ready Communities Act of 2021 and the Smoke Planning and Research Act of 2021 help states and local communities tailor their responses to their unique needs?

*Because there are really important differences among ecological systems and communities that are at risk from wildfire smoke, these bills create broad support for local planning and preparation efforts. They are focused on planning and investments to support preparation, they leave open the ways in which communities would plan and prepare, so as to allow communities to adapt to their local circumstances. In addition, the research contemplated in the Smoke Planning and Research Act of 2021 would allow for regionally-relevant research through the centers of excellence which could further support efforts that are locally relevant.*

Senator MERKLEY. Thank you very much, Dr. Moseley.

We are now going to turn to Mr. Walke. Mr. Walke is the Clean Air Climate and Clean Energy Program Director at the Natural Resources Defense Council. He has spearheaded the organization's national cleanup advocacy before Congress and the courts and at the U.S. Environmental Protection Agency and before the public since the year 2000.

Before joining NRDC, he spent years working as an attorney in the EPA's Office of General Counsel, where he worked on issues related to air toxins, monitoring, and enforcement under the Clean Air Act. He is a graduate of Duke University and Harvard Law School, based here in Washington, DC.

Welcome, very much.

**STATEMENT OF JOHN WALKE, DIRECTOR OF CLEAN AIR PROJECT, CLIMATE AND CLEAN ENERGY PROGRAM, NATURAL RESOURCES DEFENSE COUNCIL**

Mr. WALKE. Thank you, Senator Merkley.

EPA has twin goals for balancing the Clean Air Act and the modification of motor vehicles into vehicles used exclusively for competition motor sports, letting racers race while also keeping tampered, high-polluting vehicles off our streets and highways. Those are reasonable goals, I agree. Let racers race.

Unfortunately, most of the RPM Act of 2021 is unreasonable, unbalanced, and not narrow. The bill opens an exemption from anti-tampering and defeat device prohibitions in the Clean Air Act. The committee should reject this bill.

The bill would make it easier for the defeat device industry to continue and actually increase the manufacture and sale of illegal defeat devices for use on America's public roads, polluting American communities and violating the Clean Air Act. Defeat devices on America's streets already are a national scandal. The RPM Act would make that problem much worse.

The Trump EPA, and now the Biden EPA, have concluded that illegal defeat devices have been installed on more than 550,000 diesel pickup trucks in the last decade. In some States, as many as 20 percent of pickup trucks have illegal defeat devices. EPA concludes these pickup trucks release more than 570,000 tons of illegal excess smog-forming pollution. That is nearly 75 percent of the smog-forming pollution from all electric power plants in America. That is nearly 15 times more illegal smog pollution than the Volkswagen Dieselgate cheating scandal.

This pollution causes asthma attacks in kids, bronchitis, lung cancer, and even premature death. In some States, illegal defeat devices on pickup trucks are causing as much as 66,000 tons of illegal excess smog pollution, just for one segment of the vehicle market.

EPA has brought well over 120 successful enforcement cases against defeat device manufacturers and sellers since 2015. Some were criminal cases. EPA announced successful Clean Air Act enforcement cases against six more defeat device manufacturers and sellers just in the past 6 days.

In enforcement cases by Republicans and Democrats, defeat device companies tried repeatedly to hide behind false claims that

they were selling their products to the racing community for use solely on racetracks. They were not. Defendants often were unable to show any of their products were used solely for motorsport competition.

In one case, a company sold over 8,000 illegal defeat devices, and a Federal judge found the defendant did not "produce a single piece of evidence that a single one of its products had been used on motorsports vehicles."

Twenty twenty-one marketing data for the industry shows that the activity of dedicated racing vehicles makes up a mere 2 percent of total use for their products. The vast majority of consumer activities using their products are for running errands, pleasure driving, commuting, and work use, not on racetracks.

Now, the defeat device industry is promoting the RPM Act and hiding behind the racing community once again. EPA says that most defeat devices sold today are for motor vehicles used on public roads. EPA enforcement cases have addressed more than one million illegal defeat devices installed on street vehicles, not racecars.

The RPM Act weakens the Clean Air Act to let defeat device makers and sellers claim it was not their purpose to sell defeat devices for street vehicles, backed up by completely inadequate evidence submitted by buyers, then have those defeat devices end up on hundreds of thousands of street vehicles. The industry would not need to show that any competition-only racecars used their defeat devices exclusively on racetracks. The Clean Air Act, to date, does not let the industry get away with that. The RPM Act would.

EPA has never brought a Clean Air Act enforcement case against a racecar driver. It has no intention of doing so. If this committee nonetheless concludes that it is necessary to provide even greater assurances to the racing community, it should consider adopting a truly narrow amendment addressing just drivers and their motor vehicles used solely for formal racing competition, with appropriate safeguards to ensure decertified vehicles will not be operated on public streets. But the Clean Air Act should not be weakened or changed as it applies to the defeat device industry.

Finally, I urge this committee not to advance S. 1475, the livestock exemption bill. It is unjustified, as my written testimony details. Moreover, a permanent exemption is unnecessary because Congress has adopted appropriate riders in recent years to accomplish the same outcome as the legislation, but importantly, only on an annual basis that allows yearly review to determine whether the exemption remains appropriate for the following year. S. 1475 dispenses with that and adopts a permanent, harmful exemption.

Thank you for the chance to testify.

[The prepared statement of Mr. Walke follows:]

TESTIMONY OF JOHN D. WALKE

CLEAN AIR DIRECTOR

NATURAL RESOURCES DEFENSE COUNCIL

LEGISLATIVE HEARING ON S. 241, S. 1475, S. 2661 AND S. 2736

BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

U.S. SENATE

September 7, 2022

Thank you, Chairman Carper and Ranking Member Capito for the opportunity to testify today. My name is John Walke, and I am clean air director and senior attorney for the Natural Resources Defense Council (NRDC). NRDC is a nonprofit organization of scientists, lawyers, and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 3 million members and online activists nationwide, served from offices in New York, Washington, Los Angeles, San Francisco, Chicago, and Beijing.

I have worked at NRDC since 2000. Before that I was a Clean Air Act attorney in the Office of General Counsel for the U.S. Environmental Protection Agency ("EPA"). Prior to that I was an attorney in private practice where I represented corporations, industry trade associations and individuals. Having worked on air pollution issues for the entirety of my career, I believe two of these bills are harmful to U.S. air quality and Americans' health and welfare. The Committee should not advance S. 2736, the Recognizing the Protection of Motorsports Act of 2021, or S. 1475, the Livestock Regulatory Protection Act of 2021.

The remaining two bills, S. 2421, the Smoke Planning and Research Act of 2021, and S. 2661, the Smoke-Ready Communities Act of 2021, provide important and valuable funding to conduct research on wildfire smoke, community planning to mitigate the impacts of wildfire smoke, and programs to detect, prepare for, and communicate with the public about wildfire smoke. NRDC supports enactment of S. 2421 and S. 2661. I will devote my written testimony to the harmful impacts on air quality, Americans' health and enforcement of the Clean Air Act that would result from passage of S. 2736 and S. 1475.

## I. S. 2736 – The "Recognizing the Protection of Motorsports Act of 2021"

### *A. Introduction*

The most troubling bill before the Committee is one that should not be particularly controversial—at least concerning its primary stated goal. The S. 2736 bill drafters describe it as an effort to "[t]o exclude vehicles to be used solely for competition from certain provisions of the Clean Air Act, and for other purposes." There appears to be bi-partisan support to assure that

vehicles used solely for organized motorized racing events—whether they are built for racing or modified from on-road vehicles—need not meet the air pollution control requirements under the Clean Air Act that apply to on-road vehicles, so long as those vehicles are de-certified from street use or otherwise reclassified. NRDC and others could support that outcome,[1] with appropriate and modest safeguards to ensure those vehicles are used *solely* for organized motorized racing events, and not on America's public roads where all motor vehicles must meet air pollution control requirements.

The problem with S. 2736 lies not with the exclusion of "vehicles to be used solely for competition from certain provisions of the Clean Air Act," but with the four words trailing at the end of that sentence: "and for other purposes." Nearly all of S. 2736's content is devoted to opening a damaging loophole in the Clean Air Act, one that would create an "exemption" from the Clean Air Act's anti-tampering provisions barring manufacture, sale and installation of defeat devices for emissions control systems on motor vehicles. S. 2736 would make it far easier to make, sell and install defeat devices for on-road motor vehicles, and far harder—if not impossible—to enforce the Clean Air Act against illegal defeat device practices by companies that pollute America's skies and harm Americans' health.

Many companies have made and marketed for general use after-market "defeat devices," which effectively turn off vehicle emissions controls. The Environmental Protection Agency and the Department of Justice has been able to enforce against unscrupulous companies that have sold tens of thousands of these devices for motor vehicles driven on America's roads and highways, even when companies knew or should have known this was the case. In one enforcement case, a supplier acknowledged that it had sold over 85,000 defeat devices that it should have known were being used by on-road vehicle users.[2] In so doing, their sales led to increased emissions of almost 72,000 tons of nitrogen oxide ("$NO_X$") emissions, over 4,200 tons of non-methane hydrocarbons, and 380 tons of particulate matter ("PM").[3] Together, these emissions equate to nearly twice the pollution emitted by Volkswagen from 2008 until the 2015 enforcement action by the United States.[4] For further context, 72,000 tons of smog-forming $NO_X$ is over *four times* the 17,000 tons of $NO_X$ emissions that EPA's most recent power plant rule is

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[1] *See, e.g.,* Dave Cooke, Senior Vehicles Analyst, Union of Concerned Scientists, "Desperate Tampering Industry Trying to Pass RPM Act to Continue Polluting," https://blog.ucsusa.org/dave-cooke/desperate-tampering-industry-trying-to-pass-rpm-act-to-continue-polluting/.

[2] Consent Agreement, In the Matter of H&S Performance, LLC, U.S. EPA, Environmental Appeals Board, No. CAA-HQ-2015-MSEB 8248, 8 (Dec. 17, 2015), PG 8 *available at* https://www.epa.gov/sites/production/files/2016- 01/documents/hscafo.pdf.

[3] *Id.*

[4] Steven R. Barrett, et al., "Impact of the Volkswagen emissions control defeat device on US public health," *Environmental Research Letters*, Volume 10, Number 11, October 2015, *available* at http://iopscience.iop.org/article/10.1088/1748-9326/10/11/114005/meta (estimating VW emissions). For context, the study analyzing the impact of the VW "dieselgate" scandal found that the company's violations "result[ed] in a total of 59 [] premature deaths, 87% of which are attributable to the $PM_{2.5}$ exposure and 13% to ozone exposure." *Id.*

projected to reduce from coal-burning power plants in 12 states.[5] Let me emphasize that these 72,000 tons of unauthorized and dangerous $NO_x$ emissions are happening every year across the United States due to illegal defeat device practices—and this was just from a *single* defeat device legal settlement. There have been many additional EPA legal settlements with defeat device manufacturers since the 2015 settlement.[6]

Enactment of S. 2736 would increase dangerous air pollution nationally to a degree that would dwarf the harmful air pollution and health impacts of Volkswagen's 2015 "dieselgate" cheating scandal. The legislation would undermine Clean Air Act enforcement initiatives by Republican and Democratic administrations that have found widespread cheating by defeat device sellers, cheating that has worsened hazardous air pollution by many hundreds of thousands of tons annually. EPA data discussed in my testimony shows that defeat devices and noncompliant vehicles on America's streets and highways already are rampant, and the cause of one of the country's largest sources of uncontrolled or badly controlled air pollution that causes smog.

EPA enforcement cases against defeat device manufacturers and sellers, discussed in my written testimony, make clear that these bad actors have been hiding behind false and unproven claims that their products modify motor vehicles used solely for motorsport competition. These same defeat device actors now are hiding behind the racing community to promote the RPM Act, when very little of the legislation has anything to do with race car drivers, and almost all of the legislation weakens Clean Air Act prohibitions against tampering and defeat devices involving street vehicles, not racing vehicles.

EPA has never brought a Clean Air Act enforcement case against a racecar driver, and it has no plans to do so.[7] If this Committee nonetheless concludes that it is necessary to provide even greater assurances to the racing community, it should consider adopting narrow amendments addressing just drivers and their motor vehicles used solely for formal competition, with appropriate and modest safeguards to ensure de-certified vehicles will not be operated on public streets. This Committee should not, however, adopt S. 2736, the RPM Act, or any other

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[5] U.S. EPA, Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 86 Fed. Reg. 23,054 (April, 30, 2021), *available at* https://www.govinfo.gov/content/pkg/FR-2021-04-30/pdf/2021-05705.pdf.

EPA projects the following benefits from these 17,000-ton annual $NO_x$ reductions: "The reduction in emissions is estimated to prevent about 290,000 asthma events, 560 hospital and emergency room visits, 110,000 days of missed work and school, and up to 230 premature deaths in 2025. The public health and climate benefits are valued, on average, at up to $2.8 billion each year over the period 2021 to 2040. These emission reductions will also improve visibility in national and state parks and benefit sensitive ecosystems including Adirondack lakes and Appalachian streams, coastal waters and estuaries, and forests." U.S. EPA, Fact Sheet, Final Rule: Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS , *available at,* https://www.epa.gov/sites/default/files/2021-03/documents/revised_csapr_update_factsheet_for_final_rule.pdf, at 4-5.

[6] *See*, *infra*, at 11-15.

[7] *See*, *infra*, at 7.

Clean Air Act amendments involving tampering and defeat devices on motor vehicles used on public roads, or involving any person that manufactures, sells or installs these parts or components.

***B. Background***

It is no secret that air pollution from motor vehicles greatly impacts air quality across the United States. Motor vehicles emit $NO_x$ emissions and volatile organic compounds (VOCs) that combine to form smog, as well as deadly fine particle pollution. Transportation produces more than half of the $NO_x$ emissions, almost a third of the VOCs, and over one-fifth of the particulate matter air pollution in the United States. Together, these air pollutants aggravate asthma, cause bronchitis, lung disease, heart attacks, strokes, and even premature death. For example, in 2014, EPA updated air pollution standards for motor vehicles and fuels that will, by 2030, prevent:

- up to 2,000 premature deaths each year;
- 2,200 hospital admissions and asthma-related emergency room visits annually;
- 19,000 asthma exacerbations each year;
- 30,000 upper and lower respiratory symptoms in children each year; and
- 1.4 million lost school days, work days and minor-restricted activities annually.[8]

These standards will continue to reduce on-road emissions of some of the most common and pervasive air pollution nationwide, including $NO_x$, VOCs, sulfur dioxide ($SO_2$), carbon monoxide (CO) and known carcinogens, such as benzene and formaldehyde.[9]

Title II of the Clean Air Act regulates mobile sources of air pollution, and requires that, for the sale of a new motor vehicle, the automaker must supply a "certificate of compliance" to show compliance with federal emissions standards like those described above. Section 203 of the Act makes it unlawful to remove, "bypass, defeat, or render inoperative" any part of a motor vehicle's emissions control system. 42 U.S.C. § 7522(a)(3). S. 2736 would exempt actions enabling modifications to a motor vehicle whose "*purpose*" is for the vehicle "to be used solely for competition." If that asserted manufacturer or installer purpose is present, emissions control "defeat devices" lawfully may be sold, installed and distributed under the bill for vehicles that are used on-road, even routinely or exclusively, and may or may not also be used for competitions. Such defeat devices shut off a vehicle's emission control system, and allow it to spew pollution into the air, unrestrained.

By exempting a certain subset of defeat device manufacture, installation and use from the anti-tampering provisions of the Clean Air Act, S. 2736 raises a host of problems with adverse air quality and health consequences. The primary stated purpose of this bill may be to address the concerns of the motor vehicle racing community that uses vehicles for competitive racing exclusively, but an irresponsible and indefensible loophole hides behind this purpose—a major

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[8] U.S. EPA, "U.S. EPA Sets Tier 3 Motor Vehicle and Fuel Standards" (March 2014), *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi/P100HVZV.PDF?Dockey=P100HVZV.PDF.
[9] *Id.*

loophole for the manufacture, sale and installation of defeat devices that will be used on highways and roads, rather than just on racetracks.

**1. 2016 Congressional Research Service testimony.**

In 2016 testimony concerning the Senate's counterpart RPM Act legislation in the House, H.R. 4715, the Congressional Research Service (CRS) described the longstanding Clean Air Act approach, where the:

> distinction between a vehicle's capabilities and its intended use is key to EPA's position. Going back as far as at least 1974, EPA has maintained that it would make determinations on exclusions from the motor vehicle definition based on *vehicle design, not intended use*. Since that time, EPA has employed that test for a variety of uses, including off-road vehicles, kit cars, vocational vehicles, and imported racing cars.[10]

It is exactly this "design versus *intended* use" issue that speaks to the most harmful impacts of this proposed legislation.

2. **EPA Letter to Senator Jack Reed**

EPA under the Trump administration responded to a December 11, 2019 letter from Senator Jack Reed asking about the Clean Air Act and the conversion of motor vehicles into vehicles used exclusively for competition motorsports. I attach a copy of EPA's response to Senator Reed following this written testimony.[11]

The EPA letter is forthright about its "twin goals" concerning these matters: "letting racers race while also keeping tampered, high-polluting vehicles off our streets and highways." *Id.*, at 1. These are entirely reasonable goals. And those same goals continue under the current administration, based on enforcement steps that are consistent with the prior administration's actions.[12] The EPA Letter to Senator Reed continues with many important points that are relevant to consideration of S. 2736 and my written testimony:

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[10] Congressional Research Service, "Testimony for Hearing on "Racing to Regulate: EPA's Latest Overreach on Amateur Drivers" (March 2016), *available at* https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-114-SY21-WState-BYacobucci-20160315.pdf (emphasis added)

[11] *See* Susan Parker Bodine, U.S. EPA, Assistant Administrator for Enforcement and Compliance Assurance, to Senator Jack Reed ("EPA Letter to Senator Reed"), Appendix A. The EPA response is undated.

[12] Indeed, six days before the Committee's September 7th hearing, EPA reached an enforcement settlement with yet another seller of aftermarket defeat devices for vehicles used on public streets and highways. *See* "EPA cracks down on Pa. company for selling auto parts that avoid pollution controls with $2.5 million penalty" (Sept. 1, 2022), https://www.epa.gov/newsreleases/epa-cracks-down-pa-company-selling-auto-parts-avoid-pollution-controls-25-million-0. That same day, EPA announced that a federal court awarded the agency a default judgment of $10.5 million

a) **The Clean Air Act's prohibition on tampering and defeat devices for motor vehicles is broad.**

The EPA letter notes that the Clean Air Act "prohibits tampering with these emissions controls. as well as manufacturing. selling. and installing aftermarket parts that defeat those controls (commonly known as aftermarket defeat devices). These prohibitions apply to all devices used to defeat emissions controls installed on EPA-certified motor vehicles, *regardless of how the motor vehicle is used*." *Id.* (emphasis added)

b) **EPA exercises enforcement discretion not to bring cases against parties that make, sell or install defeat devices on race cars, used exclusively on racetracks.**

The letter goes on to state that "[t]he Act does not contemplate removing emissions controls from an EPA-certified motor vehicle in order to convert it into a competition vehicle that operates only on a race track, not streets and highways. As a matter of enforcement discretion, the EPA is not interested in bringing enforcement actions against persons who manufacture, sell, or install parts that transform a street-legal vehicle into a race car that is operated only on a race track." *Id.*

c) **Most defeat devices sold are for motor vehicles used on public roads. EPA enforcement cases have addressed more than one million illegal defeat devices installed on street vehicles, not race cars.**

The EPA letter explains that the agency's "focus is on addressing defeat devices that are installed on street vehicles which, we have found, accounts for *most of the defeat devices sold today*." *Id.*, at 2 (emphasis added). "In fact. the EPA has found numerous companies and individuals that have manufactured and sold both hardware and software specifically designed to defeat required emissions controls on motor vehicles used on public roads. Our recent enforcement cases have addressed *more than one million such aftermarket defeat devices*." *Id.* (emphasis added)

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against two companies over the illegal manufacture, sale and installation of defeat devices for vehicles used on public roads. *See*, "United States Awarded $10 Million Default Judgment and Permanent Injunction Against Two Michigan Companies and Their Owner for the Sale of Vehicle Emission 'Defeat Devices'" (Sept. 1, 2022), https://www.epa.gov/newsreleases/united-states-awarded-10-million-default-judgment-and-permanent-injunction-against-two. And two days before that, EPA announced fines against three other companies for installing and/or selling illegal defeat devices for vehicles used on public streets and highways. *See*, "EPA Fines Auto Repair Shops in Iowa, Missouri and Nebraska for 'Defeat Device' Violations" (Aug. 30, 2022), https://www.epa.gov/newsreleases/epa-fines-auto-repair-shops-iowa-missouri-and-nebraska-defeat-device-violations.

d) **EPA has never taken, and does not intend to take, enforcement actions against vehicles owners for converting certified motor vehicles to ones used exclusively for competitive racing.**

The EPA Letter to Senator Reed is clear that race car drivers and vehicles used solely for competitive racing are not vehicle conversion concerns under the Clean Air Act for the agency: "[o]ur enforcement focus on aftermarket defeat devices has led some to think that the EPA seeks to stop the tradition of converting EPA-certified motor vehicles to vehicles that are used solely for competition motorsports. *That is not the case*. The EPA *has never taken*, and has no intention to take, enforcement action against vehicle owners for removing or defeating the emission controls of an EPA-certified motor vehicle for the purpose of permanently converting it to a vehicle used solely for competition motorsports." *Id.* (emphasis added)

e) **Defeat device manufacturers and sellers in enforcement cases have been unable to show that *any* of their products were used in competition racing.**

The EPA letter addresses the occasional claim by defeat device manufacturers and sellers that their products were meant to be used for competition racing: "In the course of investigating companies concerning their manufacture and sale of parts designed to defeat emissions controls on EPA-certified motor vehicles, these companies sometimes claim that the parts were intended only for competition motorsports. EPA personnel ask such companies to substantiate their claims and, as a matter of enforcement discretion, forego enforcement where the company can provide information showing that the vehicle for which a part or component is manufactured, sold, or installed is in fact used solely for competition motorsports." *Id.*, at 3. Instead, EPA has "found that many companies that make and sell aftermarket defeat devices claim 'competition only' use but *cannot provide any information to show that their products are used in competition motorsports*." *Id.* (emphasis added)

f) **There are many sensible reasons why most aftermarket defeat devices are not used for competitive racing.**

Finally, the EPA letter explains why most aftermarket defeat devices are not used for competitive racing—illustrating why over million devices have been addressed in enforcement cases—using a series of examples, ranging from technology to sales methods to sheer volume: "

> In many instances, such ["competition only" use claims] are dubious because the parts at issue are for motor vehicles rarely used in competition motorsports (such as diesel trucks) or the parts have features suited for the road rather than the racetrack (such as improved fuel economy). Many companies we investigate operate wholesale or internet-based retail businesses that sell indiscriminately to the public at large. Some utilize point-of-sale disclaimers or require buyers to check a box to acknowledge the part is for "competition only," but such measures are inadequate for keeping aftermarket defeat devices off vehicles used on public roads. To illustrate this point, recent EPA investigations have revealed evidence showing that *hundreds of thousands of diesel pickup trucks* have had their emissions controls completely removed, and *most or all the aftermarket defeat*

> *devices used to tamper these trucks were sold under the claim of "competition only."* The sheer volume of aftermarket defeat devices belies the assertion that they are only for competition motorsports."

*Id.* (emphasis added) The Trump administration was so concerned about these hundreds of thousands of defeat devices illegally manufactured and sold for diesel pickup trucks and used on public roads, that EPA launched a National Compliance Initiative for 2020-2023, called *Stopping Aftermarket Defeat Devices*. *Id.*, at 2. In November, 2020, the Trump EPA issued a report assessing the preliminary findings of the compliance initiative.

**3. November, 2020 EPA review of illegal tampered diesel pickup trucks and aftermarket defeat devices.**

In November, 2020, the air enforcement division of the Trump administration EPA issued an important and alarming report entitled, "Tampered Diesel Pickup Trucks: A Review of Aggregated Evidence from EPA Civil Enforcement Investigations."[13] The report examined the questions, "how prevalent tampering is, and how much excess air pollution comes from tampered vehicles and engines." *Id.*, at 1. It sought to gain some insight on those questions by examining "enforcement work concerning tampering and aftermarket defeat devices for diesel pickup trucks." *Id.* The conclusions are alarming and amount to a national crisis involving the widespread scope of illegal defeat devices on diesel pickup trucks driving on roads and highways today, and the shocking volume of illegal smog ($NO_X$) and soot (particulate matter) emissions from these vehicles, all across America.

The Trump EPA report estimated that:

> the emissions controls have been removed from *more than 550,000 diesel pickup trucks* in the last decade. As a result of this tampering, *more than 570,000 tons of excess oxides of nitrogen ($NO_X$) and 5,000 tons of particulate matter (PM)* will be emitted by these tampered trucks over the lifetime of the vehicles. These tampered trucks constitute approximately 15 percent of the national population of diesel trucks that were originally certified with emissions controls. But, due to their severe excess $NO_X$ emissions, these trucks have an air quality impact equivalent to adding more than 9 million additional (compliant, non-tampered) diesel pickup trucks to our roads."

*Id.*, at Enclosure, 1 (emphases added). To place 570,000 tons of illegal, excess $NO_X$ emissions from just tampered diesel pickup trucks in perspective, *all* electric power plants in the United States released 780,000 tons of $NO_X$ emissions in 2021.[14]

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[13] https://www.epa.gov/sites/default/files/2021-01/documents/epaaedletterreportontampereddieselpickups.pdf ("EPA Defeat Device Report").
[14] U.S. EPA, Clean Air Market Division, Annual Nitrogen Oxides From U.S. Power Plants, 1990-2021, https://www.epa.gov/airmarkets/power-plant-emission-trends.


(Photo: Dave Cooke, Senior Vehicles Analyst, Union of Concerned Scientists, "The RPM Act: How a Multi-billion Dollar Industry is Trying to Ruin Our Air" (Sept. 17, 2020), https://blog.ucsusa.org/dave-cooke/the-rpm-act-how-a-multi-billion-dollar-industry-is-trying-to-ruin-our-air/.)

The EPA Defeat Device Report attributes this widespread cheating, illegal tampering and defeat devices, and excess air pollution to "numerous companies and individuals that have manufactured, sold, and installed both hardware and software specifically designed to defeat required emissions controls on motor vehicles."[15] The more than 550,000 illegally tampered pickup trucks and the more than 570,000 tons of resulting excess $NO_X$ emissions were "based on 45 different delete tuning product lines manufactured by 28 different companies." *Id.*, at 13. "Invoices showed sales of delete parts in all 50 states and approximately 83 percent of counties in the United States." *Id.*

The Report explains that "air pollution from a diesel pickup truck increases drastically (tens or hundreds of times, depending on the pollutant) when its emissions controls are

[15] *Supra*, note 12, at Enclosure, 3.

removed." *Id.*, at 3-4. But, "[e]ven when the filters and catalysts remain in the vehicle's exhaust system, EPA testing has shown that simply using a tuner to recalibrate the engine can *triple* emissions of $NO_X$." *Id.*, at 4 (emphasis added). The Report found that approximately half of the illegal tampering occurred when vehicles were three years old or less, *id.*, meaning these illegal excess emissions will persist for nearly the entire lifetime of the vehicles being driven on roads and highways.

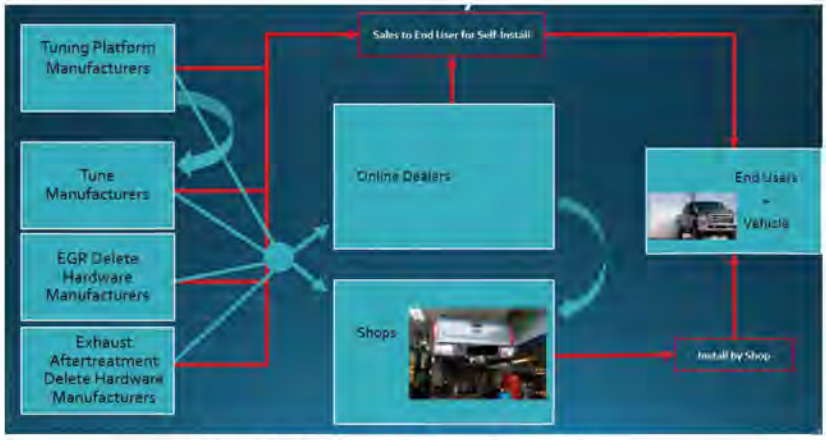


***Figure 2. Overview of the Defeat Device Industry***

(Source: EPA Defeat Device Report, *id.*, at 5.)

I include as an Appendix to my testimony, for ease of reference, a table from the EPA Defeat Device Report with state-by-state data on the estimated numbers of diesel pickup trucks subject to illegal tampering and defeat devices (called "deleted vehicles"); the estimated percentage that these vehicles represented out of the total truck fleet in 2016, for model year 2003 trucks and older; and the estimated excess $NO_X$ and particulate matter emissions. Appendix A. I excerpt some of that data for numerous states here, including all states represented by Committee members:

***Observed Class 2b and 3 (Diesel Pickup Trucks) Tampering from 2009 through 2019***

| State | Estimated Deleted Vehicles | Estimated Deleted Vehicle, % of Total 2016 Fleet, 2003+ Model Year Only | Estimated Excess $NO_X$ (tons) |
|---|---|---|---|
| Alabama | 11,962 | 19.0% | 12,240 |
| Alaska | 3,783 | 18.0% | 3,870 |
| Arizona | 11,478 | 12.7% | 11,744 |
| Arkansas | 5,840 | 11.6% | 5,976 |

| | | | |
|---|---|---|---|
| California | 8,859 | 2.7% | 9,065 |
| Delaware | 924 | 12.1% | 945 |
| Florida | 24,619 | 15.1% | 25,191 |
| Illinois | 18,245 | 19.1% | 18,669 |
| Iowa | 8,798 | 15.8% | 9,002 |
| Massachusetts | 3,859 | 11.5% | 3,949 |
| Michigan | 18,382 | 21.0% | 18,809 |
| Mississippi | 6,447 | 15.5% | 6,596 |
| North Carolina | 13,810 | 14.9% | 14,130 |
| North Dakota | 7,901 | 25.6% | 8,085 |
| Ohio | 19,459 | 20.3% | 19,911 |
| Pennsylvania | 18,146 | 16.4% | 18,567 |
| Oklahoma | 15,252 | 14.7% | 15,607 |
| Oregon | 17,436 | 20.4% | 17,841 |
| Rhode Island | 626 | 12.0% | 641 |
| South Carolina | 7,477 | 16.9% | 7,651 |
| Texas | 64,758 | 11.9% | 66,262 |
| Vermont | 1,718 | 19.1% | 1,758 |
| Washington | 23,646 | 21.9% | 24,195 |
| West Virginia | 5,336 | 20.2% | 5,460 |
| Wyoming | 8,619 | 20.0% | 8,819 |
| All 50 State Totals | 557,478 | 14.72% | 570,423 |

(Source: EPA Defeat Device Report, *id.*, at 16-17.)

**4. Clean Air Act Enforcement Cases Involving Illegal Defeat Devices**

This level of widespread lawbreaking and the alarming increases in dangerous air pollution led the Trump administration to launch a National Compliance Initiative, entitled, "*Stopping Aftermarket Defeat Devices for Vehicles and Engines*." *Id.*, at 5. The Compliance Initiative "focuses on stopping the manufacture, sale, and installation of defeat devices on vehicles and engines used on public roads as well as on nonroad vehicles and engines."[16]

EPA reported that just in FY2021 the Initiative resolved a remarkable *forty* civil enforcement cases—the "greatest number of resolutions for tampering and aftermarket defeat devices for any one year in the agency's history—thereby stopping the manufacture or sale of devices intended to defeat required emissions controls on vehicles and engines used on public roads."[17] *Id.* EPA highlights several of these enforcement settlements on its website, along with legal complaints, consent decrees, and summaries of the violations, air pollution impacts, civil penalties, and health effects and environmental benefits from the settlements.

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[16] U.S. EPA, National Compliance Initiative: Stopping Aftermarket Defeat Devices for Vehicles and Engines, https://www.epa.gov/enforcement/national-compliance-initiative-stopping-aftermarket-defeat-devices-vehicles-and-engines

[17] *Id.*

1. **Xtreme Diesel Performance, LLC, Clean Air Act Settlement:** this September, 2021 settlement "resolve[d] alleged violations of the Clean Air Act (CAA) associated with the manufacture, sale, and/or offer to sell aftermarket products that defeat the emissions control systems equipped on diesel pickup trucks."[18] "XDP manufactured, sold, and/or offered to sell at least 27,000 aftermarket defeat devices designed for diesel pickup trucks between January 1, 2015, and May 31, 2017." *Id.* "XDP's defeat devices enabled the removal of the [exhaust gas recirculation] EGR systems, filters, catalysts, and other emissions control systems that are necessary to treat air pollution formed in the engine before it is emitted into the ambient air." "XDP also marketed and sold other EGR delete kits, empty exhaust pipes (a.k.a., "straight pipes"), and electronic tuning devices ("tuners") that disable filters, catalysts, EGR systems, and other critical emissions control devices equipped on diesel pickup trucks." *Id.*

   "EPA estimates that this settlement will prevent the future sale of approximately 11,000 illegal products per year. EPA further estimates that the products XDP sold between January 2015 and May 2017 may result in more than 12 million pounds of excess $NO_X$ emissions and 115,000 pounds of excess PM emissions over the anticipated remaining life of the diesel pickup trucks equipped with XDP's defeat devices. This enforcement action will prevent additional excess emissions that would have resulted from the continued sale of these illegal products." *Id.*

2. **Gear Box Z, Inc., Clean Air Act Settlement:** this August, 2021 settlement also "resolve[d] alleged violations of the Clean Air Act (CAA) associated with the manufacture, sale, and/or offer to sell aftermarket products that defeat the emissions control systems equipped on diesel pickup trucks."[19] "GBZ manufactured, sold, and/or offered to sell at least 8,300 aftermarket defeat devices designed for diesel pickup trucks. GBZ sold thousands more until the court prohibited GBZ from continuing to sell its products in March 2021. The products GBZ manufactured and sold include electronic tuning devices ("tuners") that disable filters, catalysts, exhaust gas recirculation (EGR) systems, and other critical emissions control devices or alter engine performance. GBZ also manufactured and sold hardware products designed to disable or bypass EGR systems equipped on diesel pickup trucks and marketed and sold empty exhaust pipes (a.k.a., "straight pipes") that enable removal of emissions controls." *Id.*

   "EPA estimates that this settlement will prevent the future sale of approximately 3,600 illegal products per year. EPA further estimates that the products GBZ sold between January 2015 and April 2017 may result in more than 7.5 million pounds of excess $NO_X$ emissions and 170,000 pounds of excess PM emissions over the anticipated remaining life of the diesel pickup trucks equipped with GBZ's defeat devices. This enforcement action will prevent additional excess emissions that would have resulted from the continued sale of these illegal products." *Id.*

[18] https://www.epa.gov/enforcement/xtreme-diesel-performance-llc-clean-air-act-settlement.
[19] https://www.epa.gov/enforcement/gear-box-z-inc-clean-air-act-settlement.

3. **Advanced Flow Engineering, Inc., Clean Air Act Settlement**: this July, 2021 settlement also "resolve[d[ alleged violations of the Clean Air Act (CAA) associated with the manufacture, sale and/or offer to sell aftermarket products that defeat the emissions control systems of motor vehicles."[20] "aFe manufactured, sold, and/or offered to sell at least 63,000 aftermarket defeat devices between 2014 and 2021. These products were for diesel and gas engines. All of the products were hardware exhaust system products -- sold individually or included in kits -- that physically alter or remove filters, catalysts and other critical emissions control devices that reduce air pollution." *Id.*

   "EPA estimates that this settlement will prevent the future sale of approximately 12,000 illegal product units per year. On an annual basis, EPA projects this would result in the prevention of 830 tons of $NO_x$, 8 tons of PM, 41 tons of non-methane hydrocarbons, and 263 tons of CO."

EPA pursued these enforcement cases, and takes Clean Air Act violations by defeat device manufacture, sale and installation so seriously, because "testing demonstrates that vehicles equipped with emission control defeat devices can produce significantly more emissions than compliant vehicles."[21] EPA understands that "[r]emoving emission controls from vehicles presents a threat to public health. Increased emissions are linked to:

- Premature death in people with heart or lung disease
- Nonfatal heart attacks
- Irregular heartbeat
- Aggravated asthma
- Decreased lung function
- Increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

*Id.* Due to its serious concerns with aftermarket defeat device and tampering violations, EPA even has taken the unusual step of issuing a rare Enforcement Alert. [22] The Agency explained that the December, 2020 Alert:

> is intended to remind all regulated entities that installing a defeat device or tampering with a motor vehicle or non-road equipment can be costly to their businesses and can subject them to enforcement and penalties. The U.S. Environmental Protection Agency (EPA) remains concerned that regulated entities are continuing to ignore the prohibitions against tampering in section 203(a)(3) the Clean Air Act and 40 C.F.R. §§ 1068.101(b), despite the EPA resolving *over seventy cases in the last five years*.

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[20] https://www.epa.gov/enforcement/advanced-flow-engineering-inc-clean-air-act-settlement.
[21] U.S. EPA, Fact Sheet, Clean Air Act Vehicle Aftermarket Defeat Devices and Tampering March 2020), https://www.epa.gov/system/files/documents/2021-11/epafactsheetreaftermarketddsandtampering.pdf.
[22] https://www.epa.gov/sites/default/files/2020-12/documents/tamperinganddefeatdevices-enfalert.pdf.

*Id.* (emphasis added). The Alert further noted that the EPA National Compliance Initiative's focus is "on those who manufacture, sell, or install aftermarket parts known as defeat devices, which bypass or render inoperative required emissions control systems, resulting in significant increases in harmful air emissions." *Id.*

**5. Court ruling rejects defeat device seller's arguments due to zero evidence its products had been used for motor sports, and because seller knew of street use.**

One defeat device enforcement case is illustrative, and helpful because it produced a federal court decision. The EPA sent a Notice of Violation in December, 2017 to Gear Box Z, Inc., an Arizona corporation, "for selling products that, when installed, circumvent or delete an engine's emissions controls, violating the Clean Air Act ("CAA"), 42 U.S.C. § 7522(a)(3)(B)."[23] The Specialty Equipment Market Association ("SEMA") filed an Amicus Curiae brief, supporting certain legal positions of Gear Box Z, Inc. *Id.* at 524, 528.

After receiving the Notice of Violation, Gear Box Z, Inc. "continued to produce and sell its products," *id.*, at 525, so the United States filed a lawsuit in January 2020, alleging that "Defendant sold 8,323 products that the EPA considers to be defeat device." *Id.*, n.1. The U.S. filed a Motion for Preliminary Injunction in August, 2020 to halt the manufacture and sale of certain Gear Box products, which resulted in the court decision discussed here. *Id.*, at 525.

The federal judge found that the "United States provide[d] extensive evidence as to the functionality of Defendant's products and their capability to act as defeat devices, and Defendant [did] not explicitly address or refute that evidence." *Id.*, 526. Instead, Defendant argued, among other things (all rejected by the judge), that its products were covered by "an exclusion for the use of defeat devices in motor sports or competition vehicles...." *Id*, at 527-28. Defendant and *amicus*, SEMA, argued that such an exclusion from the Clean Air Act existed, while the United States strongly disagreed.[24] The federal judge concluded, however, that this question was "entirely hypothetical" and "moot," because Defendant and SEMA had provided absolutely no "evidence that there is a motor sports use for Defendant's products":

> But Defendant has not produced a single piece of evidence that a single one of its products has been used on a motor sports vehicle (or an emergency or military vehicle,

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[23] *United States v. Gear Box, Inc.*, No. CV-20-08003-PCT-JJT, 526 F. Supp. 3d 522 (D. Ariz. 2021) (*"Gear Box Ruling"), available at* https://casetext.com/case/united-states-v-gear-box-z-inc.

[24] *Id.*, at 528. EPA even went so far as to address and reject *amicus* SEMA's arguments on its enforcement webpage: "The court also addressed an *amicus curiae* brief, filed on behalf of a trade association, which argued that the [Clean Air Act's] prohibition on defeat devices does not apply to motor vehicles used for racing or competition purposes. The United States filed a response arguing that there is no competition motorsports "exclusion" in the [Clean Air Act's] definition of "motor vehicle," nor is there any "exemption" from the [Clean Air Act's] defeat device prohibition for parts used on vehicles used in competition motorsports." https://www.epa.gov/enforcement/gear-box-z-inc-clean-air-act-settlement.

> for that matter). By contrast, the United States has produced ample evidence, as was its burden, that Defendant's products are used in motor vehicles as contemplated by the [Clean Air Act]. (*See, e.g.*, U.S. Resp. to Amicus Br. at 5–9.)

*Id.*, at 528.

The judge also addressed Defendant's argument about the degree of legal knowledge required, and its suggestion that "the United States cannot show that Defendant 'knows or should know' that its products are 'being offered for sale or installed' as defeat devices, as required by the [Clean Air Act], 42 U.S.C. § 7522(a)(3)(B), because Defendant does not know what its customers do with its products." *Id.* The judge had no problem dismissing this argument:

> Defendant's suggestion is belied by its own statements in response to customer questions on its website and on social media platforms. Defendant's own product manuals and advertisements also demonstrate that Defendant knows its products are installed as defeat devices. (*E.g.*, Doc. 37-3, Jorquera Decl. ¶¶ 49–52.) Defendant cannot claim a lack of knowledge simply by not keeping sales records, and the evidence clearly shows that Defendant knows the purpose of its products is for use as defeat devices.

*Id.*

### 6. Specialty Equipment Market Association Market Report for 2022

The Specialty Equipment Market Association ("SEMA") is a trade association and lobbying organization whose member companies "make, buy, sell and use all kinds of specialty parts and accessories" for cars and trucks.[25] SEMA has published a report entitled, "SEMA Market Report 2022: A Comprehensive Overview of the Automotive Specialty-Equipment Market." I attach this full report to my testimony. The SEMA Market Report attests to a market size for its members' products of "over $50 billion. Overall consumer spending on parts and accessories jumped 6.3% last year. This new high point for industry sales reached $50.9 billion." SEMA Market Report, at 1. The Report refers generally to consumers that modify their cars and trucks as "accessorizers." The Report notes that "[m]ost accessorized vehicles today are still daily drivers and are often used for commuting, running errands and cruising." *Id.*, at 63.

In a table drawing on 2021 SEMA U.S. Market Data, the Report summarizes how its consumers use accessorized vehicles, as a percentage of accessorizers' vehicles:

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[25] About SEMA, https://www.sema.org/about-sema?__utma=95790915.472322210.1662148713.1662148717.1662148717.1&__utmb=95790915.0.10.1662148717&__utmc=95790915&__utmx=-&__utmz=95790915.1662148717.1.1.utmcsr=google|utmccn=(organic)|utmcmd=organic|utmctr=(not%20provided)&__utmv=-&__utmk=59063141.

**HOW THE VEHICLE IS USED** % OF ACCESSORIZERS' VEHICLES — Source: 2021 SEMA US Market Data

| | TOTAL VEHICLES | SMALL CAR | MIDSIZE / LARGE CAR | SPORTS CAR | ALTERNATIVE POWER | CUV | SUV | PICKUP | VAN | CLASSIC |
|---|---|---|---|---|---|---|---|---|---|---|
| Running Errands | 71% | 73% | 76% | 55% | 68% | 79% | 72% | 70% | 77% | 33% |
| Pleasure Driving | 66% | 66% | 65% | 80% | 69% | 69% | 68% | 62% | 59% | 64% |
| Commuting | 61% | 68% | 68% | 47% | 72% | 73% | 60% | 56% | 61% | 14% |
| Work Use | 46% | 49% | 49% | 27% | 52% | 45% | 43% | 52% | 47% | 18% |
| Off-Road | 16% | 4% | 3% | 4% | 11% | 10% | 33% | 27% | 6% | 17% |
| Collector Vehicle | 5% | 3% | 4% | 24% | 7% | 2% | 2% | 3% | 1% | 47% |
| Car Shows | 5% | 4% | 5% | 23% | 8% | 1% | 2% | 2% | <1% | 35% |
| Track Days | 3% | 4% | 3% | 16% | 9% | 2% | 2% | 3% | 2% | 1% |
| Dedicated Racing Vehicle | 2% | 2% | 2% | 9% | 6% | 1% | 1% | 1% | <1% | 2% |
| Non-Operational | 1% | 1% | 1% | 1% | 1% | <1% | 1% | 1% | <1% | 11% |

(Source: 2022 SEMA Market Report, Appendix B, at 63.)

The table reveals that the activity of "Dedicated Racing Vehicle" makes up a *mere 2% of total accessorized vehicle use*. The vast majority of activities take place on U.S. roads and highways, not competitive racetracks: "Running Errands" makes up 71% of total accessorized vehicle use, "Pleasure Driving" makes up 66%, "Commuting," 61%, and "Work Use," 46%. *Id.*

The SEMA Market Report reveals further that the "Sports Car" vehicle segment for member company products represents just 4% of the share of total sales dollars, while pickup trucks represent 27%, and small/midsize/large cars represent 33%. SEMA Market Report, at 9. The Report explains that "many" sports cars "are used for everyday use, but also kept as collector cars or for racing and track use as well." *Id.*, at 63. The table above also provides estimates for activities in the "Sports Car" vehicle segment: 80% use for "Pleasure Driving," 55% for "Running Errands," 47% for "Commuting," and 27% for "Work Use." *Id.* (Table, column 5). Only 9% of estimated sports car vehicle activity is for use as a "Dedicated Racing Vehicle." *Id.* And to reiterate, the Report discloses that the activity of "Dedicated Racing Vehicle" makes up a mere 2% of total accessorized vehicle use for all vehicle segments. *Id.*, at 63.

Aftermarket accessories have the potential to adversely affect vehicle emissions in a variety of ways. The SEMA Market Report includes sales figures for a category of "Performance Products," which represented $12.23 billion of the industry's $50.9 billion in total market segment sales, or 24%, in 2022. Appendix B, at 8. The Performance Products category includes subcategories for Engine Control and Computer Products (*e.g.*, tuning systems), Air Intake and Exhaust Products (*e.g.*, diesel delete kits), and Forced Induction Systems (*i.e.*, turbochargers and superchargers) that in turn would include aftermarket parts and components that could facilitate tampering with vehicle emissions systems. These subcategories within the Performance Products category were responsible for $3.79 billion in total sales in 2022. *Id.* Products in the Ignition, Internal Engine, and Carburetor and Fuel System Products categories also have the potential to adversely affect emissions if not substantially similar to the original manufactured part. These

subcategories within the Performance Products category were responsible for an additional $3.11 billion in total sales in 2022. *Id.*

Not all accessory products, of course, constitute aftermarket defeat devices that facilitate tampering with the emissions systems of motor vehicles. Within the Performance Products category, for example, there is a subcategory for safety gear, like roll cages and other safety products, whose 2021 sales were $0.38 billion, or 0.7% of total sales. *Id.* Equally, there are products within the subcategories listed above that will not have the potential to adversely affect emissions or otherwise tamper with vehicle emissions systems. The Market Report does not break out or otherwise indicate what portion of the identified sales were for aftermarket parts or components with the potential to adversely affect emissions in vehicles used on roads or highways.[26]

## II. S. 2736, the RPM Act, Weakens the Clean Air Act's Longstanding Prohibition on Tampering and Manufactnre, Sale and Installation of Defeat Devices on Motor Vehicles.

### *A. The Clean Air Act prohibits tampering with emissions controls & aftermarket defeat devices on motor vehicles.*

As EPA explained in its letter to Senator Reed, "the [Clean Air Act] prohibits tampering with [motor vehicle] emissions controls, as well as manufacturing, selling, and installing aftermarket parts that defeat those controls (commonly known as aftermarket defeat devices). These prohibitions apply to all devices used to defeat emissions controls installed on EPA-certified motor vehicles, regardless of how the motor vehicle is used." [27] The relevant legal intent

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[26] According to one industry expert writing in *Engine Builder* magazine, aftermarket parts and components with the potential to increase emissions include: 'aftermarket electronic fuel injection systems, air cleaners, camshafts, carburetors, coils and ignition wires; computer chips, distributors, electronic control units, computer programming devices or in-line controllers/ modules, electronic ignitions, fuel injection, cylinder heads, headers (in some cases, exhaust manifold components including air injectors, heat shields for the thermostatic air cleaner, heat risers, EGR system hookups and fuel evaporation systems, intake manifolds, nitrous oxide systems, and superchargers or turbochargers.' Doug Kaufman, "EPA and the Engine Builder," *Engine Builder* (May 21, 2018) (passage quoted, but original used a bulleted format), https://www.enginebuildermag.com/2018/05/epa-and-the-engine-builder/. "Other internal engine parts such as pistons, rods, or the crank must be built to factory specifications. Oversize parts can be used as long as they are within factory tolerances for replacement engine parts. Any part not built within factory specifications requires an Executive Order [from the California Air Resources Board] to be legal for street use." *Id.*

[27] EPA Letter to Senator Reed, at 2. The Clean Air Act's prohibitions against tampering and aftermarket defeat devices appear in section 203(a )( 3) of the Act, 42 U.S.C. § 7522(a)(3):

> **Tampering**: CAA § 203(a)(3)(A), 42 U.S.C. § 7522(a)(3)(A), 40 C.F.R. § 1068. 101(b)(1): [The following acts and the causing thereof are prohibited] for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter

standard for unlawful aftermarket defeat devices is whether "the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use." *Id.*, at CAA § 203(a)(3)(B).

In assessing whether a defeat device manufacturer, seller or installer "knows or should know" aftermarket parts are sold or installed to defeat compliant emissions systems on motor vehicles, EPA has said "[n]o particular information is in and of itself conclusive. When exercising enforcement discretion. the EPA considers the totality of the circumstances, including the attributes of the aftermarket parts and overall volume of sales."[28] EPA and at least one federal court have identified factors contributing to findings that a party did know or should have known defeat devices were offered for sale or installed, including: where a party could not provide *any* information to show products wre used in competition motorsports; where a party operated wholesale businesses or websites that sell to the general public; where a party used mere disclaimers or asked buyers to check boxes claiming parts are for motorsport 'competition only' purposes;[29] where a party did not know what its customers do with its products; where a party's own product manuals and ads indicated such knowledge; and where a party failed to keep sales records.[30]

As the Congressional Research Service (CRS) noted in testimony at a hearing for the counterpart House bill to then-S.203, "[g]oing back as far as at least 1974, EPA has maintained that it would make determinations on exclusions from the motor vehicle definition based on vehicle design, *not intended use*."[31] Neither CRS nor I have identified any previous Department of Justice enforcement cases against defeat device manufacturers where the government was compelled to disprove, or overcome manufacturer claims, that the *intent or purpose* of the sale was for use solely for competition. Moreover, "CRS could identify no instances where enforcement actions were taken against parts suppliers who were operating *solely* in the racing parts market."[32]

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prior to its sale and delivery to the ultimate purchaser, or for any person knowingly lo remove or render inoperative an1 such device or clement of design after such sale and delivery to the ultimate purchaser;"

**Aftermarket Defeat Devices**: CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B), 40 C.F.R. § 1068. 101(b)(2): "[The following acts and the causing thereof are prohibited] for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or clement of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use;"

[28] EPA Letter to Senator Reed, at 3.

[29] *Id.*

[30] *Gear Box Ruling*, 526 F. Supp. at 528.

[31] CRS Testimony, *supra* n.10 (emphasis added).

[32] *Id.* (emphasis added)

### *B. The RPM Act would weaken the Clean Air Act prohibitions on tampering with emissions controls & aftermarket defeat devices on motor vehicles.*

The RPM Act would weaken the prohibitions on tampering and aftermarket defeat devices by adopting a forthright "exemption from anti-tampering provisions" for any person, including defeat device manufacturers, sellers and installers. S. 2736, Sec. 3. The bill creates these exemptions from the Clean Air Act's prohibitions "if the action is for the purpose of modifying a motor vehicle into a vehicle to be used solely for competition and that vehicle is not authorized for operation on a street or highway." *Id.*, Sec. 3(a). It is immediately obvious that the exemption extends far beyond competition motorsport racers, because the section of the Act being amended, section 203(a), applies to "any person," as well as "a manufacturer." 42 U.S. Code § 7522.

By creating an outright exemption, founded on a lax legal intent standard ("for the purpose of"), S. 2736 would make it far easier to manufacture, sell and install defeat devices for on-road motor vehicles, and far harder—if not impossible—to enforce the Clean Air Act against illegal defeat device practices by companies that pollute America's skies and harm Americans' health. Companies that sell defeat devices to the general public, devices installed on vehicles that will be used on public roads, will seek refuge in S. 2736's exemption. These lawbreakers will argue it was their "purpose" to make, sell or install products to be used solely for motorsport competition—even when they know, should have known, or act in willful disregard of whether defeat devices are being used on public roads. The exemption and lax legal standard represent an extreme weakening of the standard the Department of Justice has used to hold defeat device companies liable for selling illegal defeat devices with awareness and abuses that may or may not rise all the way to the level of purposeful intent. No defendant in a civil enforcement case will admit it was their purpose to commit prohibited acts, for street vehicles, making the "for the purpose" standard effectively meaningless.

### *C. The S. 2736 requirement for more than "unsupported declarations" from buyers does not cure the harms caused by its exemption.*

S. 2736 includes a requirement directing the EPA Administrator to adopt a regulation that shall, among other things, "provide that a manufacturer, seller, or installer of a part or component seeking to use the exemption under the amendment made by section 3(a) may not rely *solely on unsupported declarations from the purchaser or owner of a vehicle* about — the legal status of the vehicle, or the intended use of—the part or component; or the vehicle." S. 2736, Sec. 4(b)(3) (emphasis added). Such regulation further shall "provide that evidence of physical attributes of a vehicle to be used solely for competition *may be sufficient to qualify for the exemption* under the amendment made by section 3(a)." *Id.* (emphasis added)

The first thing to observe about these provisions is that until EPA issues such a regulation, which often takes several years, defeat device manufacturers, sellers and installer *may* rely on "unsupported declarations." Accepting for the sake of argument this is not the drafters' intent, the bill still fails to cure the harms arising from the creation of the exemption in section 3(a). These two regulatory provisions prove far too much—and far too little.

Wholesalers and Internet-based retailers internationally, or anywhere in the U.S., may sell illegal defeat devices and take advantage of the RPM Act exemption, after a consumer uploads a photo with "evidence of physical attributes of a vehicle to be used solely for competition." Any photo, any vehicle, belonging to anybody, cut-and-pasted from the Internet, and the illegal defeat device maker or seller hundreds or thousands of miles away breaks the law and gets away with it. The "unsupported declaration" safeguard is no better, since defeat device makers, sellers and installers *may* rely on "unsupported declaration"; they just may not rely "solely" on them. *Id.*, Sec. 4(b)(3). Notably, the legislation does not require *any* documentation from the relevant state or local motor vehicle department that the vehicle is not authorized for use on public roads and highways. Time and "creative" compliance will multiply the ways that bad actors take advantage of the RPM Act exemption, while *not* complying with the Clean Air Act's prohibitions on tampering and defeat devices involving street cars.

It is easy to forecast that actors with unlawful behavior similar to the defendants addressed in the EPA National Compliance Initiative, the EPA Letter to Senator Reed and the Gear Box Ruling will quickly learn how to take advantage of the new exemption in the RPM Act. They will continue to make and sell illegal defeat devices that end up on America's public roads, but now the RPM Act will make it even easier for them to do so. Indeed, the RPM Act makes it much easier for bad actors to *increase* the manufacture and sale of illegal defeat devices that will be used on streets and highways, not on competitive racetracks. The problem of 550,000 noncompliant diesel pickup trucks on public roads will only worsen; the 570,000+ tons of excess $NO_x$ emissions from noncompliant diesel pickups will increase, and grow from other motor vehicle sectors, as well. If Committee members question any of this, officials with the U.S. EPA, U.S. Department of Justice, and California Air Resources Board should be consulted to solicit their expert views, based on experiences with defeat device enforcement cases.

### *D. The S. 2736 prohibition on databases, consultation of vehicle registration, or registration obstructs accountability, implementation, and enforcement against defeat device noncompliance.*

S. 2736 serves the interests of defeat device manufacturers and sellers rather than racing enthusiasts and the American people most starkly, by enacting a prohibition on the EPA Administrator adopting accountability mechanisms to ensure defeat devices are used exclusively for competitive racing, rather than on public streets and highways. Section 3(b) of the bill bars the EPA Administrator from:

> (1) creat[ing] a Federal database, or identif[ing] or requir[ing] the creation of a State database, of vehicle registration information that is required to be consulted at the point of manufacture, sale, installation, or use of parts or components; and
>
> (2) requir[ing] the registration of a vehicle or a part or component of a vehicle by the manufacturer, seller, purchaser, installer, or user of the vehicle.

This affirmative, remarkable prohibition on information-gathering would prohibit EPA from requiring defeat device manufacturers and sellers to consult state records with Vehicle Identification Numbers, to determine whether motor vehicles claimed by potential customers to

be "competition-only" have been de-certified, or whether they remain registered for street use. This provision, as much as the lax "purpose" standard, indicates how much the legislation promotes the interests of defeat device manufacturers and sellers over accountability, compliance with the Clean Air Act, and the public's health and air quality. Notably, this clear obstruction of accountability and enforcement did not appear in the RPM Act of 2016, when the legislation first was introduced.[33]

## III. Prior Congressional Testimony Supporting the RPM Act

In a 2017 Senate legislative hearing on the RPM Act, a witness from SEMA testified in favor of the bill.[34] In a 2017 House hearing, the then-president and general manager of the Sonoma Raceway testified in favor of the House version of the RPM Act.[35] Their testimony is more noteworthy and revealing based on what they did *not* say about the bills, more than what they did say.

Neither witness addressed the actual language of the two bills. Not one word about the changes to the Clean Air Act from adopting the amendments in the RPM Act. There is not even a cursory analysis of the legislation in either set of testimony. No mention about the legislation's impact on air quality, public health and welfare, or EPA's ability to enforce the Clean Air Act against illegal defeat devices and tampering. No acknowledgment that by then, in 2017, EPA had filed and settled multiple enforcement cases for Clean Air Act violations resulting from the manufacture and sale of aftermarket defeat devices and tampering for motor vehicles used on public roads.

It is understandable that the testimony of a raceway manager would not address these matters. Less understandable is why the SEMA testimony would omit any legislative analysis, mischaracterize the current state of the law on these topics (then and now), and mischaracterize the legal and real world consequences of the RPM Act. The SEMA testimony described EPA's authority under the Clean Air Act as the authority "to enforce against anyone who offers, sells or installs products that *knowingly* take a regulated street vehicle out-of-compliance."[36] That is false. That characterization limits and misrepresents the actual scope of EPA authority. The Clean Air Act does not require EPA to prove that a manufacturer, seller or installer of illegal defeat devices *knows* that the device is being used to defeat emissions controls and render vehicles used on roads and highways noncompliant.

Instead, the Clean Air Act makes it unlawful for:

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[33] S.2659, https://www.congress.gov/114/bills/s2659/BILLS-114s2659is.pdf.

[34] https://www.epw.senate.gov/public/index.cfm/hearings?ID=03FBE169-C399-40EB-AF89-C3C5FADBD524

[35] https://energycommerce.house.gov/committee-activity/hearings/hearing-on-big-relief-for-small-business-legislation-reducing-regulatory.

[36] Testimony of Christopher J. Kersting, President & CEO, Specialty Equipment Market Association (Nov. 14, 2017) (emphasis added) ("SEMA Testimony"), https://www.epw.senate.gov/public/_cache/files/b/4/b4d8ea7d-ff84-4336-9ab8-b5d85bde1656/691068838E734FEFD3B4BB2798C17752.kersting-testimony-11.14.2017.pdf.

> any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person **knows *or should know*** that such part or component is being offered for sale or installed for such use or put to such use;

42 U.S.C. § 7522(a)(3)(B) (emphasis added). The SEMA testimony simply ignored, and therefore mischaracterized, the actual legal standard governing manufacture, sale and installation of illegal defeat devices. It is highly revealing that the SEMA testimony quoted no statutory provision, no EPA regulation, and no court decision to support the claim that EPA must prove knowing violations of section 203(a)(3) under the Clean Air Act. That is because no such support exists.[37]

The SEMA testimony then mischaracterizes the legal and practical consequences of the RPM Act by describing it as a "narrowly-crafted bill which will restore certainty and the status quo under the law.[38] This too is false. The *status quo*—then, now and since the 1990 Clean Air Act Amendments were adopted—has prohibited the manufacture, sale and installation of defeat devices that any person "should know" would be used for noncompliant, on-road motor vehicle uses. Continuing with the mischaracterization, the testimony declared that the "RPM Act does nothing to amend or alter EPA's enforcement authority." This is also incorrect: S.2376 amends Clean Air Act section 203(a) with the following language:

> No action with respect to any device or element of design described in paragraph (3) shall be treated as a prohibited act under that paragraph if the action is *for the purpose of modifying* a motor vehicle into a vehicle to be used solely for competition, and that vehicle is not authorized for operation on a street or highway.

S.2376, Sec. 3(a) (emphasis added). This language "alter[s] EPA's enforcement authority" by weakening the prohibition on defeat device manufacture, sale and installation. Following adoption of the RPM Act, a defeat device defendant company will say it was not its purpose to manufacture, sell or install defeat devices that would be used in ways other than "solely for competition"—even if the defendant should have known the devices would be used on roads and highways, or even though the defendant failed to show or inquire whether the device was being used solely for competition.

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[37] *See, e.g.*, Gear Box Ruling, *supra*, 526 F. Supp., at 528 (legal standard under 42 U.S.C. § 7522(a)(3)(B) is whether any person "'knows or should know' products are 'being offered for sale or installed' as defeat devices"). This ruling shows judges will not allow defeat device manufacturers or sellers to "claim a lack of knowledge simply by not keeping sales records," especially when their own advertising materials and Internet sales are aimed at general consumers. *Id.*

[38] SEMA Testimony, at 2.

The EPA Letter to Senator Reed said that "many companies that make and sell aftermarket defeat devices claim 'competition only' use but cannot provide any information to show that their products are used in competition motorsports." EPA Letter to Senator Reed, at 3. Similarly, the letter noted defeat device manufacturers and sellers "operate wholesale or internet-based retail businesses that sell indiscriminately to the public at large. Some utilize point-of-sale disclaimers or require buyers to check a box to acknowledge the part is for 'competition only,' *but such measures are inadequate for keeping aftermarket defeat devices off vehicles used on public roads*." *Id.* (emphasis added) Were the RPM Act to be adopted, defeat device manufacturers and sellers would argue their defeat devices were not made or sold "for the purpose of" tampering with certified motor vehicles, raising "point-of-sale disclaimers or require[ing] buyers to check a box to acknowledge the part is for 'competition only,'" in addition to other plainly inadequate steps. These inadequate practices would multiply on defeat device websites, while manufacturers and sellers would continue to know (as the Gear Box judge found) these products would be used on street vehicles.

The RPM Act represents an unjustified weakening of the law's prohibition on illegal tampering and defeat devices. It is an irresponsible limitation on EPA's enforcement authorities. The legislation would worsen decades of Clean Air Act and regulatory safeguards; undermine or prevent successful bi-partisan prosecution of enforcement cases against tampering and defeat device manufacture, sale and installation; ignore the lessons from bi-partisan EPA legal settlements; multiply noncompliance on America's public roads; and worsen air quality and public health. For all these reasons, I respectfully urge the Committee not to enact S. 2736, the RPM Act of 2021.

## IV. S. 1475 – the Livestock Regulatory Protection Act of 2021, is Unjustified and Unnecessary

S. 1475 would codify a permanent prohibition on any federal, state, or tribal operating permit under the Clean Air Act "for any carbon dioxide, nitrogen oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production."[39] This exemption is unjustified due to the hazardous nature of emissions from livestock production, and the reduction in public awareness and accountability for these emissions. Moreover, a permanent exemption is unnecessary because Congress has adopted appropriations riders in recent years to accomplish the same outcome as this legislation but, importantly, only on an annual basis that allows yearly review to determine whether the exemption remains appropriate for the following year.[40] S. 1475 dispenses with that annual opportunity for review and grants permanent relief to harmful air pollution from livestock operations.

Congress adopted a first-time operating permit program for sources of air pollution in the 1990 Clean Air Act Amendments. 42 U.S.C. § 7661 *et seq.* The congressional purpose for the new program was to "(1) better enforce the requirements of the law by applying them more

[39] S. 1475, Sec. 2 (amending section 502(f) of the Clean Air Act, 42 U.S.C. § 7661a(f)).
[40] *See, e.g.*, Deena Shanker, "U.S. Spending Bill Set to Limit Regulation of Livestock Emissions," *Bloomberg* (March 10, 2022), https://www.bloomberg.com/news/articles/2022-03-10/spending-bill-to-limit-environmental-regulation-of-livestock.

clearly to individual sources and allowing better tracking of compliance, and (2) provide an expedited process for implementing new control requirements."[41] EPA's original regulations for the program explain that "[t]he Title V permit program will enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements. Increased source accountability and better enforcement should result. The program also will greatly strengthen EPA's ability to implement the [Clean Air Act] and enhance air quality planning and control, in part, by providing the basis for better emission inventories."[42]

S. 1475 would prevent the possibility of these benefits by singling out livestock operations for special, deregulatory treatment under the Clean Air Act, nearly alone among major sources of regulated air pollutants. It is important to note that the Act already requires operating permits only for "major sources" of regulated air pollutants (or regulated pollutants), including nitrogen oxides and greenhouse gases like carbon dioxide and methane.[43] Air pollution from livestock operations is a serious problem in the U.S. that does not justify a permanent exemption from the Clean Air Act's operating permit program.

The agriculture sector in the United States produces more methane, a greenhouse gas super pollutant, than the oil and gas sector. [44] Agriculture is responsible for 256.5 million metric tons of carbon dioxide-equivalent ($CO_2e$) emissions. *Id.* Of this total, the vast majority—178.6 million metric tons of $CO_2e$ emissions—are from "enteric fermentation," a natural part of the digestive process in domestic livestock. *Id.* And a recent study suggests U.S. animal methane emissions may be even higher than that: "in the US, where animal production is predominantly highly intensified with confined feeding operations, animal methane emissions may be 39%–90% higher than bottom-up models predict (expressed as mean differences across studies)."[45]

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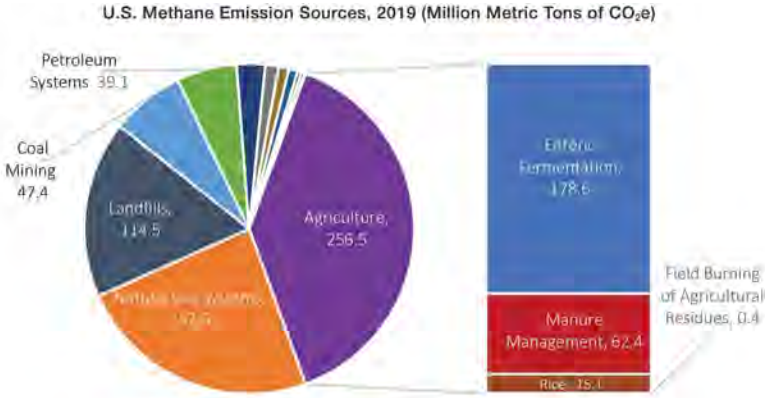
[41] U.S. Congress, Senate, Committee on Environment and Public Works, "Clean Air Act Amendments of 1989, report to accompany S. 1630," S. Rept. 101-228, 101st Congress, 1st session, pp. 346-348.

[42] 57 Fed. Reg. 32,250, 32,251/3 (July 21, 1992).

[43] *See* 42 U.S.C. § 7661(2); 40 C.F.R. § 70.2 (definitions of "regulated air pollutant" & "regulated pollutant").

[44] White House Office of Domestic Climate Policy, "U.S. Methane Emissions Reduction Action Plan" (Nov. 2021), at 13 https://www.whitehouse.gov/wp-content/uploads/2021/11/US-Methane-Emissions-Reduction-Action-Plan-1.pdf.

[45] Matthew N. Hayek & Scott M. Miller, "Underestimates of methane from intensively raised animals could undermine goals of sustainable development," 2021 *Environ. Res. Lett.* **16** 063006 (quoting Abstract).




*Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019, EPA*

As of 2017, concentrated animal feeding operations (CAFOs) (for beef cattle, dairy cows, swine and chickens) were the nation's largest source of ammonia emissions, which are both directly toxic and a particulate matter (PM) precursor.[46, 47] When CAFO waste decomposes, it releases hydrogen sulfide, ammonia, and hundreds of volatile organic compounds. Waste pits, animal confinement buildings, and waste applied to fields emit these gasses and compounds into the air.[48]

Numerous studies show that air pollutants and odors from CAFOs travel into nearby communities; community members report these negative experiences and associated health hazards.[49] Exposure to CAFO air pollutants can cause nausea, headaches, dizziness, runny noses,

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[46] *See* EPA, *2017 National Emissions Inventory (NEI) Data*, https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data#dataq ("Data Queries" section, select "Ammonia – NH3" in "Pollutant" selection box).

[47] The Sustainable Food & Farming Program at Earthjustice provided substantial assistance with the studies and other materials cited in this section of my testimony.

[48] *See* Virginia T. Guidry *et al.*, "*Hydrogen Sulfide Concentrations at Three Middle Schools Near Industrial Livestock Facilities*," 27 *J. Exposure Sci. & Env't Epidemiology* 167 (2017).

[49] *See, e.g.*, Dana Cole *et al.*, "Concentrated Swine Feeding Operations and Public Health: A Review of Occupational and Community Health Effects," 108 *Env't Health Persps.* 685, 693 (2000)(explaining that gasses, dusts, and odors from CAFOs can travel long distances and cause health concerns in neighboring communities); Kelley J. Donham *et al.*, "Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations," 115 *Env't Health Persps.* 317, 318 (2007) (noting that air quality assessments in communities near CAFOs show concentrations of hydrogen sulfide and ammonia); Yelena Ogneva-Himmelberger *et al.*, "CALPUFF and CAFOs: Air Pollution Modeling and Environmental Justice Analysis in the North Carolina Hog Industry," 4 *Int'l J. Geo-Information* 150 (2015) (finding that ammonia

scratchy throats, burning eyes, coughing, wheezing, and shortness of breath.[50] Exposure to air pollutants associated with CAFOs, like nitrogen oxides and particulate matter, is linked to high rates of COVID-19 infection and severity.[51] Indeed, a 2021 study even found that "[a]gricultural production in the United States results in 17,900 annual air quality–related deaths, 15,900 of which are from food production. Of those, 80% are attributable to animal-based foods, both directly from animal production and indirectly from growing animal feed."[52] This study found various air pollution-management solutions on farms "can reduce $PM_{2.5}$-related mortality by 50%." *Id.*

In light of these hazards, it is not responsible to exempt livestock operations permanently from the Clean Air Act operating permit program, one in which permits are issued overwhelmingly by states, not EPA. The program provides opportunities to monitor and report emissions to States, EPA, and the public, furthering the goals of public awareness, accountability and the desirability of reducing those emissions. Importantly, the operating permit program collects but does not alter any existing requirements under federal or state laws, nor does it impose new substantive emissions control requirements.[53]

The language of S. 1475 also suffers from being vague and overbroad. Exempting emissions from "biological processes associated with livestock production" (S. 1475, sec. 2) could be read to exempt not just enteric (digestion-related) emissions, but also emissions from manure and even feed crop-related emissions. If this is the intent, the bill is even more unreasonable to exempt emissions from these practices permanently.

Finally, the Committee should not add any permanent exemption for livestock operations to the Clean Air Act, because Congress can use and has used annual appropriations riders to halt permits for such emissions—but on an annual basis. This approach gives Congress the chance to assess the state of emissions from livestock operations, the harm they are causing to Americans, the state of Research & Development for practices to manage livestock emissions, and the wisdom of continuing or abandoning such riders. Indeed, there are examples of Congress including similar restrictions in annual appropriations bills for several years, only to conclude later that such appropriations limitations were no longer warranted.[54] A permanent Clean Air Act

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concentrations in areas downwind of swine CAFOs were up to three times higher than the average concentration in the watershed, exposing approximately 3,500 people to ammonia concentrations higher than the minimal risk level).

[50] *See* Kendall M. Thu *et al.*, "A Control Study of the Physical and Mental Health of Residents Living Near a Large-Scale Swine Operation," 3 *J. Agric. Safety & Health* 13, 16–18 (1997).

[51] *See* Biswaranjan Paital & Pawan Kumar Agrawal, "Air Pollution by $NO_2$ and $PM_{2.5}$ Explains COVID-19 Infection and Severity by Overexpression of Angiotensin-Converting Enzyme 2 in Respiratory Cells: A Review," 19 *Env't Chemistry Letters* 25, 25 (2021).

[52] Nina G.G. Domingo *et al.*, "Air Quality-Related Health Damages of Food," 118 *Proceedings Nat'l Acad. Scis.*, at 1, 2, Fig. 1, & Abstract (2021).

[53] 57 Fed. Reg., at 32,251/2, 32,275, 32,284.

[54] *See, e.g.*, Greg Dotson, "State Authority to Regulate Mobile Source Greenhouse Gas Emissions, Part 1: History and Current Challenge," 49 *Envtl. L. Reporter* 11037 (2019) (discussing a prohibition on NHTSA using appropriated funds for the purpose of issuing rules for fuel economy).

exemption sharply reduces the prospect of responsible assessments, and will only exacerbate community controversies and concerns surrounding air pollution from livestock operations.

For these reasons, I respectfully urge the Committee not to enact S. 1475, the Livestock Regulatory Protection Act of 2021.

## Appendix A

*Table 5. Observed Class 2b and 3 Tampering from 2009 through 2019 by State*

| State | Estimated Deleted Vehicles | Estimated Registered Diesel Vehicles (2016) | Estimated Deleted Vehicles, % of Total 2016 Fleet | Estimated Registered Diesel Vehicles (2016), 2003+ MY Only | Estimated Deleted Vehicles, % of Total 2016 Fleet, 2003+ MY Only | Estimated Excess $NO_x$ from Class 2b and 3 Vehicles Deleted (tons) | Estimated Excess PM from Class 2b and 3 Vehicles Deleted (tons) |
|---|---|---|---|---|---|---|---|
| NORTH DAKOTA | 7,901 | 42,389 | 18.6% | 30,907 | 25.6% | 8,085 | 77 |
| IDAHO | 13,474 | 89,880 | 15.0% | 55,183 | 24.4% | 13,787 | 131 |
| WYOMING | 8,619 | 60,803 | 14.2% | 43,159 | 20.0% | 8,819 | 84 |
| MAINE | 2,794 | 20,738 | 13.5% | 13,511 | 20.7% | 2,859 | 27 |
| VERMONT | 1,718 | 12,768 | 13.5% | 8,988 | 19.1% | 1,758 | 17 |
| MICHIGAN | 18,382 | 140,885 | 13.0% | 87,406 | 21.0% | 18,809 | 178 |
| WEST VIRGINIA | 5,336 | 41,286 | 12.9% | 26,426 | 20.2% | 5,460 | 52 |
| WASHINGTON | 23,646 | 183,479 | 12.9% | 108,030 | 21.9% | 24,195 | 229 |
| NEW HAMPSHIRE | 2,748 | 21,622 | 12.7% | 14,334 | 19.2% | 2,812 | 27 |
| ILLINOIS | 18,245 | 144,196 | 12.7% | 95,433 | 19.1% | 18,669 | 177 |
| KENTUCKY | 11,821 | 93,931 | 12.6% | 54,128 | 21.8% | 12,096 | 115 |
| OHIO | 19,459 | 160,536 | 12.1% | 95,798 | 20.3% | 19,911 | 189 |
| OREGON | 17,436 | 146,318 | 11.9% | 85,300 | 20.4% | 17,841 | 169 |
| INDIANA | 14,134 | 119,371 | 11.8% | 71,071 | 19.9% | 14,462 | 137 |
| ALABAMA | 11,962 | 101,156 | 11.8% | 62,898 | 19.0% | 12,240 | 116 |
| NEW MEXICO | 8,935 | 79,903 | 11.2% | 53,799 | 16.6% | 9,143 | 87 |
| TENNESSEE | 14,084 | 128,017 | 11.0% | 73,850 | 19.1% | 14,412 | 137 |
| MONTANA | 9,199 | 84,114 | 10.9% | 53,605 | 17.2% | 9,412 | 89 |
| NEVADA | 6,966 | 64,815 | 10.7% | 44,112 | 15.8% | 7,128 | 68 |
| IOWA | 8,798 | 82,149 | 10.7% | 55,617 | 15.8% | 9,002 | 85 |
| MISSOURI | 15,359 | 144,439 | 10.6% | 90,418 | 17.0% | 15,716 | 149 |
| ALASKA | 3,783 | 35,863 | 10.5% | 21,067 | 18.0% | 3,870 | 37 |
| KANSAS | 8,302 | 79,604 | 10.4% | 49,537 | 16.8% | 8,495 | 81 |
| PENNSYLVANIA | 18,146 | 176,756 | 10.3% | 110,551 | 16.4% | 18,567 | 176 |
| SOUTH CAROLINA | 7,477 | 73,890 | 10.1% | 44,277 | 16.9% | 7,651 | 73 |
| MINNESOTA | 10,607 | 104,892 | 10.1% | 66,706 | 15.9% | 10,854 | 103 |
| OKLAHOMA | 15,252 | 151,357 | 10.1% | 103,592 | 14.7% | 15,607 | 148 |
| FLORIDA | 24,619 | 246,883 | 10.0% | 162,943 | 15.1% | 25,191 | 239 |
| VIRGINIA | 11,832 | 118,906 | 10.0% | 72,247 | 16.4% | 12,107 | 115 |
| NEW YORK | 13,611 | 137,966 | 9.9% | 87,351 | 15.6% | 13,927 | 132 |
| COLORADO | 16,348 | 168,555 | 9.7% | 108,022 | 15.1% | 16,728 | 159 |
| GEORGIA | 15,210 | 157,047 | 9.7% | 97,756 | 15.6% | 15,564 | 148 |
| MISSISSIPPI | 6,447 | 67,411 | 9.6% | 41,564 | 15.5% | 6,596 | 63 |
| MARYLAND | 6,779 | 72,795 | 9.3% | 49,642 | 13.7% | 6,936 | 66 |
| WISCONSIN | 10,374 | 112,004 | 9.3% | 71,895 | 14.4% | 10,615 | 101 |
| NORTH CAROLINA | 13,810 | 153,823 | 9.0% | 92,973 | 14.9% | 14,130 | 134 |

*Table 5. Observed Class 2b and 3 Tampering from 2009 through 2019 by State*

| State | Estimated Deleted Vehicles | Estimated Registered Diesel Vehicles (2016) | Estimated Deleted Vehicles, % of Total 2016 Fleet | Estimated Registered Diesel Vehicles (2016), 2003+ MY Only | Estimated Deleted Vehicles, % of Total 2016 Fleet, 2003+ MY Only | Estimated Excess $NO_x$ from Class 2b and 3 Vehicles Deleted (tons) | Estimated Excess PM from Class 2b and 3 Vehicles Deleted (tons) |
|---|---|---|---|---|---|---|---|
| TEXAS | 64,758 | 754,102 | 8.6% | 542,198 | 11.9% | 66,262 | 628 |
| LOUISIANA | 11,413 | 133,442 | 8.6% | 95,826 | 11.9% | 11,678 | 111 |
| ARIZONA | 11,478 | 135,061 | 8.5% | 90,494 | 12.7% | 11,744 | 111 |
| NEBRASKA | 5,309 | 62,547 | 8.5% | 40,866 | 13.0% | 5,433 | 51 |
| DELAWARE | 924 | 11,286 | 8.2% | 7,658 | 12.1% | 945 | 9 |
| SOUTH DAKOTA | 3,741 | 46,168 | 8.1% | 30,879 | 12.1% | 3,827 | 36 |
| ARKANSAS | 5,840 | 78,589 | 7.4% | 50,332 | 11.6% | 5,976 | 57 |
| CONNECTICUT | 2,992 | 40,475 | 7.4% | 23,363 | 12.8% | 3,062 | 29 |
| MASSACHUSETTS | 3,859 | 52,778 | 7.3% | 33,693 | 11.5% | 3,949 | 37 |
| UTAH | 8,103 | 112,467 | 7.2% | 76,577 | 10.6% | 8,292 | 79 |
| HAWAII | 1,057 | 15,195 | 7.0% | 9,993 | 10.6% | 1,082 | 10 |
| RHODE ISLAND | 626 | 9,024 | 6.9% | 5,200 | 12.0% | 641 | 6 |
| NEW JERSEY | 4,905 | 87,048 | 5.6% | 53,862 | 9.1% | 5,019 | 48 |
| CALIFORNIA | 8,859 | 480,539 | 1.8% | 322,678 | 2.7% | 9,065 | 86 |
| **Totals** | **557,478** | **5,839,268** | **9.55%** | **3,787,715** | **14.72%** | **570,423** | **5,407** |

**Senate Committee on Environment and Public Works**

**Hearing Entitled, "A Legislative Hearing to Examine S.2736, the Recognizing the Protection of Motorsports Act of 2021; S. 1475, the Livestock Regulatory Protection Act of 2021; S. 2661, Smoke-Ready Communities Act of 2021; and S. 2421, the Smoke Planning and Research Act of 2021"**

**Responses to Questions for the Record**
**John D. Walke**
**Clean Air Director**
**Natural Resources Defense Council**

**October 5, 2022**

**Question from Chairman Carper:**

1. Based on witness testimony received and the discussion during the hearing, do you have additional thoughts to share on the legislation we examined in this hearing?

**Response:**

My overarching observation is that no written testimony by other hearing witnesses or discussions by witnesses and Senators during the hearing contradicted the textual and legislative analysis that I offered in my written and oral testimony about S.2736, the Recognizing the Protection of Motorsports Act of 2021 ("RPM Act"), and S. 1475, the Livestock Regulatory Protection Act of 2021.

The hearing appeared to show support by the witnesses and Senators for assurances that vehicles used solely for organized motorized racing events—whether they are built for racing or modified from on-road vehicles—need not meet the air pollution control requirements under the Clean Air Act that apply to on-road vehicles, so long as those vehicles are de-certified from street use or otherwise reclassified. At the same time, no witness or Senator contradicted the legislative analysis in my testimony about the RPM Act—that its "exemption" from the Clean Air Act's anti-tampering provisions barring manufacture, sale and installation of defeat devices for emissions control systems on motor vehicles would make it far easier to make, sell and install defeat devices for on-road motor vehicles. Further, this exemption would make it far harder—if not impossible—to enforce the Clean Air Act against illegal defeat device practices by companies that pollute America's skies and harm Americans' health.

The written and oral testimony by hearing witness Antron Brown, did not address S.2736's legislative text, and the changes wrought to the Clean Air Act, in any material fashion. The testimony did not contradict my own legislative analysis. This written testimony was

incorrect, however, in characterizing S.2736 as a "narrowly tailored bill," and one that "does nothing to limit the EPA's ability to enforce against bad actors." Brown Testimony, at 5. Those conclusory statements are incorrect, as discussed at length in my written testimony at pages 19-23, especially the section critiquing past testimony by the Specialty Equipment Market Association.

Accordingly, the hearing record continues to show that the RPM Act in its current form represents an unjustified weakening of the Clean Air Act's prohibition on illegal tampering and defeat devices. It irresponsibly limits EPA's enforcement authorities. The legislation would worsen decades of Clean Air Act and regulatory safeguards; undermine or prevent successful bi-partisan prosecution of enforcement cases against tampering and defeat device manufacture, sale and installation; ignore the lessons from bi-partisan EPA legal settlements; multiply noncompliance on America's public roads; and worsen air quality and public health. For all these reasons, I respectfully urge the Committee not to enact S. 2736, the RPM Act of 2021.

Similarly, the hearing record shows only that S. 1475, the Livestock Regulatory Protection Act of 2021, does not deserve to be codified into law. No testimony really addressed the Clean Air Act's operating permit program (42 U.S.C. § 7661 *et seq.*) or any specific ways in which its application to listed emissions from the livestock production industry would harm that industry. No testimony addressed, much less refuted, my testimony concerning the lost benefits to Americans from adopting a permanent prohibition under the Clean Air act.

Finally, some of the hearing testimony appeared to suffer from a misunderstanding and misapprehension that the operating permit program imposes emissions regulations on livestock production. It does not, as discussed in my written testimony. *See* NRDC Testimony, at 26 ("the operating permit program collects but does not alter any existing requirements under federal or state laws, nor does it impose new substantive emissions control requirements."). Accordingly, I continue to respectfully urge the Committee not to enact S. 1475, the Livestock Regulatory Protection Act of 2021.

**Question from Senator Cardin:**

1. The positive results of the Chesapeake Bay Program are evidence that we can have both a clean Chesapeake and sustainable, profitable farming in Maryland. While we applaud the work of our farmers — not only feeding the world but also changing the Chesapeake Bay for the better —there's still progress that can be made. Air pollution is a significant challenge for water quality due to deposition. Pollutants can reach waterbodies by falling directly into the water–or through indirect deposition, in which pollutants fall onto land and wash into a waterbody as runoff.

    a. What are ways in which the EPA and states are supporting producers with compliance with the Clean Air Act?

b. How can Congress help EPA and other federal agencies further support producers with controlling agricultural sources of air pollution?

**Response to Question 1a:**

While I don't work directly on agriculture issues, there are a number of national-scale Clean Air rulemakings that EPA has identified in the past and has recently updated that should reduce air pollution deposited in the Chesapeake Bay. Continuing to drive down levels of ambient air pollution helps all of us, not only in our efforts to clean up the Bay, but also to ensure that everyone breathes clean, safe air. Scientists have identified nitrogen oxides ($NO_x$) and ammonia ($NH_3$) emissions as the two largest contributors to problems with deposition in bodies of water. EPA's national scale rulemakings have historically focused on $NO_x$ emissions reductions, particularly from electric power plants and from mobile sources. In a 2007 report on the Bay's TMDL, EPA identified the following air pollution rules as central to reducing deposition in the Bay:

"Clean Air Rules Clean Air Act actions that have helped or will help reduce $NO_x$ in the Chesapeake Bay watershed, include:

- Since 1995, implementation of the Acid Rain Program, which focuses on reducing pollutants such as $NO_x$, has not only improved previously acidified water bodies so that they can once again support fish life, but has also reduced ground level ozone and fine particulate matter, such as nitrates.
- Implementation of rules that aim to reduce air pollution emissions in one state from impacting the air quality in another. The $NO_x$ Budget Trading Program (NBP) was a 2003 market-based cap and trade program created to reduce emissions of $NO_x$ from power plants and other large combustion sources in the eastern United States. The NBP was followed by the Clean Air Interstate Rule (CAIR) and the Cross-State Air Pollution Rule (CSAPR), calling for further reductions.
- The Tier 2 On-Road Light Duty final rule, issued in 1999, set more stringent $NO_x$ standards for tailpipe emissions or all passenger vehicles, including sport utility vehicles, minivans, vans and pick-up trucks beginning in 2004.
- The Tier 3 Light-Duty Vehicle Emissions and Fuel Standards final rule, issued in April 2014, will implement new vehicle emissions standards and lower the sulfur content of gasoline beginning in 2017 and will result in significant reductions in pollutants such as NOx.
- The EPA and the National Highway Traffic Safety Administration issued a joint rule in September 2011 for heavy duty trucks beginning with model year 2014 that will not only improve fuel economy and reduce greenhouse gas emissions but will also reduce NOx."[1]

[1] U.S. EPA, "The Importance of Clean Air to Clean Water in the Chesapeake Bay," January 2015 *available at* https://www.epa.gov/sites/default/files/2015-06/documents/cb_airwater_fact_sheet_jan2015.pdf.

EPA has updated and strengthened many of these rules since the agency created this document, meaning further $NO_x$ reductions are expected. Recently, EPA has updated the following rules that should reduce $NO_x$ further:

- EPA's update to the Cross-State Air Pollution Rule: finalized in 2021, EPA estimated that this rule would reduce $NO_x$ emissions from power plants in 12 states (including Chesapeake Bay watershed states) by 17,000 tons in 2021 alone.[2]
- In early 2022, EPA proposed to require 26 states to further cut $NO_x$ pollution to meet 2015 national ambient air quality standards (NAAQS) for ozone. The Agency would also for the first time require industrial sources besides power plants to clean up their $NO_x$ pollution. The proposal estimates that it would "reduce ozone forming $NO_x$ emissions from the 26 significantly contributing upwind states by approximately 94,000 tons during the 2026 ozone season (May 1 – September 30)."[3]
- EPA also proposed in 2022 to update mobile source standards for heavy-duty trucks. The most robust proposal the agency is proposing would result in $NO_x$ standards 90% lower than today's standards.[4]

Again, all of these rules are national-scale rulemakings that do not target the agricultural sector or Chesapeake Bay directly, but all would continue to drive down $NO_x$ emissions in the coming years and correspondingly, would reduce amounts of excess nutrients attributable to $NO_x$ pollution in the Chesapeake Bay.

With respect to producers in particular, I am not familiar with ways in which EPA and states are supporting producers with compliance with the Clean Air Act. One mechanism I am aware of is the Clean Water Act's section 319 Nonpoint Source Management Program, in which states, territories and tribes "receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects."[5] The state of Maryland, for example, "uses federal grants made available by the Federal Clean Water Act Section 319(h) to help fund for State nonpoint source management and to provide grants for nonpoint source control by State and local projects that help eliminate water quality impairments caused by nonpoint sources."[6]

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[2] U.S. EPA, "Revised Cross-State Air Pollution Rule Update," *available at* https://www.epa.gov/csapr/revised-cross-state-air-pollution-rule-update.

[3] U.S. EPA, "EPA's Proposed "Good Neighbor" Plan to Address Ozone Pollution – Overview," *available at* https://www.epa.gov/system/files/documents/2022-03/fact-sheet_2015-ozone-proposed-good-neighbor-rule.pdf.

[4] U.S. EPA, "Heavy-Duty 2027 and Beyond: Clean Trucks Proposed Rulemaking," *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1014874.pdf.

[5] U.S. EPA, "319 Grant Program for States and Territories," *available at* https://www.epa.gov/nps/319-grant-program-states-and-territories.

[6] Maryland Department of the Environment, "Nonpoint Source Program (319) Management and Financial Assistance," *available at*

It is my understanding that EPA and some states have used Clean Water Act section 319 grant funds to address acidic conditions in water bodies caused by the atmospheric deposition of sulfur dioxide and $NO_x$ emissions. This practice appears to confirm the broader availability of section 319 grant funds for water quality impairment cause by air depositions from agricultural sources of air pollution. In this same vein, Congress could help EPA and other federal agencies further support producers with controlling agricultural sources of air pollution by appropriating funds to research best practices related to controlling air depositions from agricultural sources of air pollution, pursuant to prior section 319 grants or otherwise. Similarly, Congress could consider asking the Congressional Research Service to report on examples of best practices. This is not my area of expertise, however, so I encourage congressional offices to consult the relevant state and EPA officials.

**Response to Question 1b:**

Congress can support the EPA by funding the agency at its requested funding levels, which enables the EPA to continue to make progress reducing air pollution from all industrial sectors, and further reduces the amount of $NO_x$ that ends up in the Chesapeake Bay and contributes to the deposition issues facing this waterway.

Further, robust Clean Water Act funding for state nonpoint source management programs in section 319 of the Clean Water Act would also support states in their efforts to manage pollution sources that impact the Bay, in some of the ways I mention in response to question 1a, above.

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https://mde.maryland.gov/programs/water/319nonpointsource/pages/index.aspx#:~:text=Maryland%20uses%20federal%20grants%20made,impairments%20caused%20by%20nonpoint%20sources.

Senator CARPER.

[Presiding.] Mr. Walke, thank you for your testimony. Thanks, it is good to see you again. Thanks for coming back before our committee.

We are going to turn now to Mr. Brown, Mr. Antron Brown, a professional drag racer, for his testimony. You are living the life a lot of young boys would like to lead, I suspect.

This is certainly the first time I have introduced a professional racer before our committee, although I have been privileged to know a bunch of them. We have a big racetrack in the NASCAR track in Dover for the Monster Mile. I was once, Senator Capito, when my Town and Country minivan, 2001 Town and Country minivan, went over 500,000 miles, they opened up the track on a Monday morning, and we had a great media event with me driving around the Monster Mile in my minivan at a half a million miles.

[Laughter.]

Senator CARPER. I got to hold the starter flag out the window and drive as fast as I could go. I almost ripped my arm off. I did not let go. Today's hearing brings back some happy memories of that day.

Mr. Brown, we are delighted that you are here, and it was very nice meeting you. Welcome. Please proceed.

**STATEMENT OF ANTRON BROWN, COMPANY OWNER, PROFESSIONAL DRIVER, AB MOTORSPORTS INCORPORATED, NATIONAL HOT ROD ASSOCIATION**

Mr. BROWN. Pleasure, pleasure. Thank you, everybody for letting me share this moment with you, and thank all the Senators.

Of course, my name is Antron Brown, and with me today I have my son Anson, my son Adler, and my wife, Billie Jo. My children, including my daughter Arianna, all them have been racing literally for over 8 years. Adler is our youngest, but he is only 14 years old. I can't stress enough that racing is not our hobby; racing is who we are.

Racing has lifted our family from humble beginnings. Racing has provided us the opportunity to live the true American dream, an American dream that was passed down from my grandfather to my dad, and from my dad to myself.

Racing is our business, and racing is so much more than that. Racing is the educator, teaching me, my children and team about STEM and how to use it in the real world.

Racing instills persistence, which beats resistance each and every day. Racing has brought our family closer together. Racing has made us better people, better teammates, and better Americans. This is our story, and it is the story of millions of Americans.

I actually began riding motorcycles at the age of 4, racing motorcycles and motocross.

Senator CARPER. Was that legal?

Mr. BROWN. Yes, yes. Soon as they took the training wheels off, it was sitting there, and my grandpop said, "Get it, boy."

My senior year in high school is when my dad helped me take our street-legal motorcycle and make it into a race bike that we raced at numerous racetracks from Delaware to Pennsylvania to

New Jersey, literally like our four-State area that we went racing as a family.

I stand before you today as a three-time NHRA Top Fuel World Champion with 70 national event titles. I am both a team owner and a driver of a new race team, AB Motorsports, that just started this year, currently.

To be clear, I am a small business owner, but my team is responsible for tuning my 11,000-horsepower racecar that goes over 330 miles an hour in less than 3.6 seconds. This powered AB Motorsports to win the biggest race of the year just last weekend at the Indianapolis U.S. Nationals at Indy, which is the mecca and race capital of the world.

I am also told that I am a teacher and a role model, but I am proud to be part of the NHRA's Youth and Education Services program, that used to be sponsored by the U.S. Army, which provides me the opportunity to speak to thousands of students across the Country and have the chance to tell the story and educate our youth on the importance of setting goals, working hard to achieve them, and the connection between racing and STEM learning.

I am fortunate to work with companies like Toyota of North America, Matco Tools, Lucas Oil, Hangsterfer's, and many other research and development companies to develop new technologies that ends up in motor vehicles that you and I drive every day, including EVs.

Today, I am all of these things, but my story begins with the modification of a motorcycle into a dedicated race bike. Without the ability to convert a street-legal vehicle into a race vehicle, my dream of becoming a professional racecar driver would have never happened.

That is why I am speaking in strong support of the RPM Act today. Racing is not just a business; it is a way of life, and I urge you to support the hundreds and thousands of racers who compete using a motor vehicle that was modified and transported on a trailer to over 1,500 racetracks across the Country.

Most racers' entry into competition on tracks is done using cars, motorcycles, and trucks. It is simply more affordable to modify a motor vehicle than it is to buy a purpose-built race vehicle. I know. I spend lots of money. We must offer a cost-effective way to ensure the sport's inclusiveness and allow people from all different backgrounds to compete on the track.

For business owners like myself and racers across the Country, the investment of time, money, and resources requires a certainty in law. The RPM Act makes it legal for racers to convert motor vehicles into dedicated race vehicles. The RPM Act is about ensuring that racers can purchase parts they need to compete on the track.

The bill does not protect companies that produce and sell products that defeat emissions controls that are used on the street. We know that is really and totally illegal.

The RPM Act does nothing to limit the EPA's ability to enforce against bad actors. The EPA has signaled that it does not plan to bring enforcement actions against the race industry and racers who compete in emissions-modified vehicles. However, the agency maintains that is has the authority to do so and has pursued enforcement cases stating racers cannot make such modifications.

Again, racers and business owners make substantial investments modifying their vehicles to improve safety, performance, and efficiency. Furthermore, the racing industry injects an estimated $100 billion into the economy, benefiting people and communities. Why not provide absolute certainty that they are protected by Federal law?

I appreciate the committee for taking up the RPM Act because I understand what is at stake. The RPM Act is one of the most bipartisan bills in Congress, with more than 31 Senate cosponsors, including 20 Republicans and 11 Democrats.

This is about protecting the future of racing, which provides jobs and family entertainment in communities across the Country. This is a passion for me and millions of Americans who love racing.

It is a pleasure to have the opportunity to testify before the committee today on something that is so extremely important to me. Thank you all so much for taking this time.

[The prepared statement of Mr. Brown follows:]


*Testimony of*

Antron Brown, NHRA Top Fuel

*before the*

Senate Environment and Public Works Committee

*on*

September 7, 2022

When you hear the word motorsports, what do you think of? For most people speed, excitement, and entertainment come to mind. For me, racing is all about family. It is sharing my passion for competing on the track with my father, uncle, children, and the folks on my race team. Motorsports is also my career, which is why I am so passionate about preserving its future.

Racing has been a part of my life for as long as I can remember. I grew up going to drag strips with my father, Albert, and my uncle, Andre, who were – and continue to be – avid National Hot Rod Association (NHRA) Sportsman racers. My late grandfather, Albert, was also a drag racer. He started racing in the 1960s and passed his passion for racing on to my father and uncle.

Shortly after I learned how to ride a bicycle at age four, I began riding motorcycles.
By the time I was 12, I started competing in motocross in 80 cc dirt bikes. In addition to racing, I enjoyed wrenching on my family's vehicles, including a 1972 Chevy Vega, a 1968 Barracuda, and a 1962 Corvette.

By my senior year of high school, I started competing at Atco and Englishtown dragstrips in New Jersey in addition to competing at drag strips in Cecil County in Delaware, Buds Creek in Maryland, and Maple Grove Raceway in Pennsylvania. At the time, I was racing a Suzuki GSXR 1100, which is a production motorcycle. My father and I along with his friend Bob Carpenter modified the cam and pipe on the bike to help me compete on the track. At the time, I was routinely making 9.2 second passes, nearly 160 miles an hour, in a quarter mile.

After graduating from high school, I went on to Mercer County Community College in New Jersey, where I was also a sprinter and long jumper. I graduated with an associate degree in 1997 and planned to accept a full scholarship to Long Island University. My goal was to one day be an Olympian; however, racing created a different path for me. Former NFL star and current NFL Vice President of Football Operations Troy Vincent, who is married to my cousin Tommi, started Team 23 Racing, and he provided me the opportunity to race in NHRA's Pro Stock Motorcycle series as his first driver. It was an opportunity I couldn't pass up and one that forever changed my life.

I competed for 10 seasons in the Pro Stock Motorcycle series, riding on a Suzuki PSM, which is designed specifically for drag racing. I had a great run in Pro Stock, winning 16 times, and I finished second in the points standings in 2001 and 2006. I made the move from racing motorcycles to competing in Top Fuel drag racing in 2008, joining David Powers Motorsports as the driver of the Matco Tools dragster. The transition to Top Fuel wasn't easy, but I worked hard and was fortunate to have early success. I won in just my fourth Top Fuel start, edging out three-time series champion Larry Dixon in the final round at Houston Raceway Park, which made me the first driver in NHRA history to win races in both Top Fuel and Pro Stock Motorcycle categories.

2009 was a pivotal year for me. I started driving for Don Schumacher Racing late in the season, and began working with chief Mark Oswald, the 1984 NHRA Funny Car champion, who is still helping to lead my team 13 years later. Over the course of that season, we won seven No. 1 qualifying positions and six event titles.

I've had an incredibly rewarding career that's included NHRA Top Fuel world championships in 2012, 2015, and 2016, and 69 NHRA event titles, including 53 in Top Fuel and 16 in Pro Stock Motorcycle. I'm now in my 25th year as an NHRA racer and, earlier this year, I started a new chapter in my life as a driver and a race team owner. It's a move I planned to make back in 2020 from driver for Don Schumacher Racing, to the role of driver-owner for our new team, AB Motorsports, however COVID-19 delayed the launch of our team. I'm fortunate to be surrounded by an incredible team, including my car chief Brad Mason and my co-crew chiefs Brian Corradi and Mark Oswald. They are responsible for the tuning my 11,000-horsepower Top Fuel dragster, which powered AB Motorsports to our first team win a few weeks ago in Topeka, Kansas.

I am thankful for the opportunities racing has provided me, my family, and the folks on our team. I love being part of NHRA, which was started by Wally Parks, editor of Hot Rod magazine, in 1951 to get hot rodders off the streets and competing at the drag strip. Over 25,000 racers joined NHRA in its first year for "safety, sportsmanship, and fellowship." NHRA initiated the 1954 "Drag Safari", a nationwide tour to encourage organized drag racing with an emphasis on safety. The tour met with law enforcement and local government officials at each stop to explain their program, involve local car clubs, set up sites, and run drag races. Drag Safari would lead to the 1955 US Nationals for drag racing. By 1957, NHRA more than doubled in size to 57,000 racers.

I'm proud to have carried on a Brown family tradition of racing in NHRA for many reasons, but the organization's mission and commitment to giving back to the communities where it holds races is especially commendable. I enjoy being a part of the NHRA's Youth and Education Services program, which provides me the opportunity to speak to hundreds of students during race weeks. I have the chance to tell my story and educate our youth on the importance of setting goals and working to achieve them. I also enjoy speaking to high school and college students through Matco Tools, which has sponsored my team since 2009. Racing has taught me so much, including everything from physics to perseverance. I'm fortunate that I get to share those lessons with young men and women.

I enjoy working with companies like Toyota of North America, Matco Tools, Lucas Oil, and many others to research and develop new technology, new innovations and new products that end up in vehicles – including Electric Vehicles – that you and I drive every day. Racing is test laboratory that is responsible for many of the performance, safety, and efficiency gains that have been made in the automotive industry over the last century.

I'm fortunate that I grew up in a family of racers and feel blessed to be able to share my passion for drag racing with my children. In 2013, my oldest son, Anson, and my daughter,

Arianna, started to compete in the NHRA's Jr. Drag Racing Series where children as young as five years old drive one-half scale dragsters. Anson was only eight when he started, but he proved to be a fast learner, winning six race titles as a rookie. Arianna, who was 12 at the time, became the first woman in the Brown family to compete in drag racing. My youngest son Adler is also an avid competitor. He started racing at age 12.

**Converting Motor Vehicles for the Track**

Most racers don't start out competing in production vehicles, the reality is that for a large percentage of us, our first foray into competing on the track is done using cars, motorcycles, and even trucks that were designed for the street. The reason why boils down to economics. Racing can be an expensive hobby, and it's typically cheaper to take a motor vehicle and make some modifications to it for the track than to purchase a purpose-built racecar. As someone who didn't grow up rich, I'm passionate in my belief that we must offer a cost-effective way to ensure the sport is inclusive, allowing people of all different socioeconomic backgrounds to be able to compete on the track. That's why I'm speaking today in strong support of S. 2736, the Recognizing the Protection of Motorsports Act, or RPM Act as it's commonly known. Without the ability to convert a street legal motorcycle into a dedicated track bike, I don't know what I'd be doing today.

Motorsports has been an incredible source of joy in my life. It's something that I'm so proud to share with members of my family. I am incredibly blessed to race at the highest levels as my career. How many people around the world can say that they love what they do? I'm lucky to be in the small group, but that's not why I'm here today. If racers aren't allowed to convert street vehicles into dedicated race cars, it's not going to impact me or most other professional racers competing at the highest levels. I compete in a purpose-built top fuel dragster, which the EPA maintains is outside of the purview of the Clean Air Act, since it was never a street legal vehicle. I came to Washington to speak in support of the RPM Act, because this bill helps to protect grassroots racers, especially young men and women who have dreams of one day competing on the track as a professional. I want to make sure that government policy doesn't provide a roadblock to their ability to start competing on the track. Make no mistake. If you can't modify a motor vehicle into a dedicated track vehicle, this will stop people from getting into racing and deny people the opportunity to pursue their passion. This bill is also important because there are many other career opportunities that will open for young racers as a result of the technical skills they develop while working on and modifying competition vehicles.

**The RPM Act**

The RPM Act, S.2736, is not new legislation. The bill was first introduced in 2016 to clarify in federal law that it is legal to modify the emission system of a motor vehicle in order to convert it into a dedicated race car. The bill, if enacted into law, would remove any uncertainty that it is legal for racers to convert a street vehicle into dedicated race vehicle, a practice embraced by grassroots racers for decades at a majority of the 1,500 plus racetracks across America.

NASCAR was founded on this practice with racers competing in modified street vehicles. The practice of converting a street vehicle into a race vehicle went unquestioned from the time the

Clean Air Act became law in 1970 until 2015, when the EPA issued a draft rulemaking (not finalized) clarifying their position that converted vehicles must remain emissions-compliant, even if they are no longer driven on public streets or highways. The EPA currently maintains there is nothing in law allowing the modification of a vehicle's emission system for the purpose of converting it for racing, which the agency uses as it's justification to fine companies that manufacture, sell, and install race parts that impact emissions on vehicles that were designed for street use.

I thank Senator Burr for introducing the RPM Act and all the bipartisan cosponsors, including those members of the EPW Committee who are cosponsoring the bill. The RPM Act is one of the most bipartisan bills in Congress with more than 31 cosponsors, including 20 Republicans and 11 Democratic Senators.

As a racer and someone who is passionate about motorsports not just as a business, but as a way of life, I implore you to stand up for more than 400,000 racers across the country who compete using a vehicle that was originally designed for the street and is now trailered to the track and used exclusively for competition. In most cases, these vehicles are being driven a few times a year, as an infinitesimally small percentage of those competing do so as a full-time job.

I want to be clear. The RPM Act is about legitimate racing and ensuring that racers can purchase the parts they need to compete on the track. The bill doesn't protect companies that produce and sell products that defeat emissions controls that are used on the roads and highways. That's illegal under the Clean Air Act. The RPM act does nothing to limit the EPA's ability to enforce against bad actors. This is a narrowly tailored bill designed to provide long-term certainty to racers regarding the legality of modifying a car, motorcycle, or truck that is converted into a dedicated racing vehicle used exclusively on the track, giving them the peace of mind that their modified race vehicle is legal.

I would also note that the text of the RPM Act has been modified since the bill was first introduced in 2016 to ensure that race parts sold for the track don't end up on vehicles that are driven on our roads and highways. For example, Sec. 4(a)(3) of S. 2736 states that the regulations EPA writes to implement the RPM Act "provide that a manufacturer, seller, or installer of a part or component seeking to use the exemption under the amendment made by section 3(a) may not rely solely on unsupported declarations from the purchaser or owner of a vehicle about— (A) the legal status of the vehicle; or (B) the intended use of— (i) the part or component; or (ii) the vehicle." The RPM Act also has been modified from a excluding race vehicles from the Clean Air Act to ensuring that they are exempted from the law to protect EPA's ability to enforce against companies that break the law. The bill also now specifies in Sec. 3 that the exemption only applies to race vehicles that "are not authorized for use on a street or highway."

While the EPA has signaled that it does not plan to bring enforcement actions against individual racers who compete in emissions-modified vehicles, the agency maintains that it has the authority to do so. Racers make substantial investments in their vehicles, outfitting them with

products that improve their safety and performance. Racers and race teams spend $7.8 Billion to purchase racing parts each year. Why not provide them absolute certainty that they are protected by federal law as long as they use their modified race vehicle exclusively on the track?

The RPM Act also provides assurances to companies that produce and sell the parts that racers need to build competition vehicles that can compete and win on race day. Most of these companies are small businesses that are simply looking for the federal government to provide them a legal pathway to conduct their business without fear of being fined. Motorsports parts businesses employ tens of thousands of American workers, creating innovative products to make race cars and motorcycles perform better. These products cover a broad spectrum, from improving fuel-efficiency, suspension, and aerodynamics to increasing power output and incorporating advanced composite materials. Once fully-outfitted, race vehicles bear little resemblance to the days when they were street-legal. From roll-cages, netting, a safety harness, and an interior that is void of most standard features, dedicated race vehicles that are converted from automobiles are easily distinguishable. Motorsports parts businesses need to be able to sell products to racers under a legal framework that is easy to understand and doesn't unduly burden companies making sales. This is important to the men and women who work both in racing and for motorsports parts businesses. According to 2012 study from Purdue University, , motorsports businesses employ over 23,000 men and women in my home state of Indiana and over 421,000 people across the U.S. For Hoosier workers, racing is not only exciting, but it also pays over 50% more than the average wage in other industries[1].
Passing the RPM Act into law is also important given that racing is a major source of entertainment in communities throughout the United States. Motorsports is especially critical in smaller and rural communities that are more likely to be home to racetracks and often have fewer entertainment options compared to metropolitan areas. The small business owners that own and operate these racetracks do so because they are passionate about racing. For most track owners, it is not a highly profitable venture. However, the men and women that operate tracks and drag strips know how important their facilities are to the people who live in their communities.

Local track owners struggle day in and day out to keep their facilities economically viable. From noise ordinances to urban sprawl, their business model faces daunting challenges, not the least of which is ensuring that they have a robust enough field to provide quality entertainment to the patrons in the stands. Tracks depend on having a strong field of racers to entertain their fans. Track owners need racers who will invest in their vehicles and show up to compete. Racers understand the importance of the RPM Act and crave the certainty in federal law provided by the bill. These men and women invest in their race vehicles, and they deserve to have a strong level of certainty that they will be enforced against for modifying their vehicles. Please help them.

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[1] https://www.purdue.edu/newsroom/releases/2012/Q4/purdue-led-study-highlights-motorsport-industrys-significant-impact-across-indiana,-worldwide.html

I appreciate the Senate Environment and Public Works Committee taking up the RPM Act, because I understand what is at stake. This is about protecting the future of racing, which provides jobs and family-friendly entertainment in communities across our country. This is a passion for me and millions of Americans who love racing. It's a pleasure to have the opportunity to testify before the committee on something that is so important.

**Senate Committee on Environment and Public Works**
**Hearing Entitled,**
***"A Legislative Hearing to Examine S.2736, the Recognizing the Protection of Motorsports Act of 2021; S. 1475, the Livestock Regulatory Protection Act of 2021; S. 2661, Smoke-Ready Communities Act of 2021; and S. 2421, the Smoke Planning and Research Act of 2021"***
**September 7, 2022**
**Questions for the Record for Antron Brown**

**Ranking Member Capito:**

1. **Can you provide examples of the types of information that demonstrate that a product is to be used in a competition-only vehicle?**

When purchasing a race part, there are many ways for racers to show that they are purchasing the product for the sole use of on a dedicated racecar. For example, racers could provide a copy of their race license from a given sanctioning body. Alternatively, they could provide a list of events and tracks where they compete. For online sales, racers could provide photographic evidence of their race vehicle on which the part will go. For in person sales through a speed shop, racers could bring their race vehicle in on a trailer to show that it has been modified for exclusive use on the track.

2. **Are there relevant statistics on the aftermarket auto part industry that Congress should consider in weighing economic impacts?**

Motorsports is an economic driver and a key source of entertainment in communities across the United States. Below are statistics that highlight the scope of racing in our country and provide additional perspective on its economic impact:

- There are over 1,500 racetracks in the U.S., including tracks in all 50 states.
- More than 400,000 racers compete at tracks around the U.S.
- Racers and race teams spend $7.8 Billion annually to purchase racing parts in the U.S.
- Motorsports businesses employ over 23,000 men and women in my home state of Indiana and over 421,000 people across the U.S. according to 2012 study from Purdue University.[1]

3. **Is it essential for drivers, manufacturers, and retailers to have clear safe harbor to install, use, and sell parts used in competition vehicles?**

Yes, it is. Racing has an incredibly rich history, and I want to see that continue in the future. In order for that to happen, racers need to know that the EPA won't be able to fine them for simply converting a motor vehicle into a dedicated race vehicle. While I understand that the EPA hasn't penalized individual racers to date, the agency maintains that it has this power and thus could do so in the future. Racers make considerable investments in their competition

[1] https://www.purdue.edu/newsroom/releases/2012/Q4/purdue-led-study-highlights-motorsport-industrys-significant-impact-across-indiana,-worldwide.html

vehicles, and they deserve to know that they are protected by law as long as they never use the modified vehicle on the road or street.

Manufacturers of motorsports parts also make considerable investments in the products they produce and sell. For these manufacturers to make the necessary investments in R&D to continue to produce innovative products that help racers compete, while balancing the need for safety and quality control, they need certainty regarding the legality of their business activities. While the EPA maintains that it will consider whether a business is producing and selling products exclusively for the track and that the agency doesn't intend to enforce against true race businesses, many businesses who deal with EPA enforcement staff have a very different experience. The current process where motorsports-parts businesses have to prove their innocence to ensure they are not fined by the EPA is a resource intensive and stressful process for these companies, most of which are small businesses.

**Senator Sullivan:**

1. **The EPA has a history of heavy-handed enforcement tactics in Alaska. Most recently, the EPA has enforced the Agency's "Clean Air Act Title II Vehicle and Engine Civil Penalty Policy" in an extremely heavy-handed manner against multiple "mom-and-pop" mechanic shops. EPA testified that "*a legislative exemption to the tampering and defeat device prohibitions could undermine EPA's efforts to ensure compliance with the Clean Air Act by compromising the Agency's ongoing civil and criminal enforcement cases and significantly hindering future enforcement in this area*."**

    a. **The primary goal of EPA's policy is to ensure that civil administrative penalties are assessed in accordance with the Clean Air Act in a "fair and consistent manner." What do you interpret "fair and consistent manner" to mean?**

    Motorsports parts businesses and racers alike deserve clarity in federal law to ensure that they are not penalized now or in the future for producing, selling, or installing race parts on a dedicated racing vehicle that is used solely on the track. Passing the RPM Act is necessary to provide racers and businesses with unambiguous guidance and certainty. The bill establishes that it isn't a violation to produce, sell, or install race parts on a dedicated competition vehicle. Additionally, the bill requires the EPA to write regulations, which will be helpful in providing businesses with clarity regarding the steps they must take to avail themselves of the exemption.

    It is my understanding that the current enforcement process is not "fair and consistent" as intended by the EPA. Businesses must prove their innocence if the EPA contacts them about race parts they produced and/or sold. Companies must provide considerable amounts of records and information on their sales and then are left waiting for a response from the EPA. In some instances, this can take a few months. If the agency decides not to pursue enforcement due to the fact that the company has successfully proven their

innocence, they are never informed by the EPA that their case has been closed. If the EPA decides to pursue an enforcement action, the agency demands that the company either pay a sizeable fine or gives them the option to pay a much smaller fine immediately.

b. **Instead of raiding small business owner shops and homes, do you believe it would be more effective for EPA to work with these small businesses to promote voluntary compliance?**

I believe that it would be more effective for the EPA to work with small businesses than to perform raids in most instances. In most instances, companies producing and selling race parts are true small businesses that may not even be aware that they are violating the law. I understand that this is not a legitimate defense in a court of law, but it is a reality. A public education campaign to motorsports parts businesses and at racetracks would be valuable to educate the regulated community.

I understand that there are companies that willfully violate the Clean Air Act (CAA). EPA raids should be reserved for these types of offenders if there is no other reasonable option.

**c. What controls do you believe should be in place for oversight of EPA criminal enforcement?**

I understand that the EPA has increasingly pursued criminal enforcement against companies that are violation the CAA. However, criminal enforcement cases make up a small percentage of enforcement cases. Given the serious nature of criminal penalties, there should be real checks and balances on the EPA's use of this power. However, I am not well versed in the matter. I would encourage the committee to speak with the EPA to learn more about the agency's process for pursuing criminal enforcement for CAA violations.

d. **Do you think large enforcement actions against small "mom-and-pop" shops are a good use of EPA's enforcement resources?**

As a first-year owner of my race team, AB Motorsports, I understand the unique challenges associated with running a small business. I am all too familiar with the many demands for your time that are unrelated to activities that help your business turn a profit. That said, I understand the importance of the CAA and would encourage the EPA to take into consideration the size of a business when the agency has probable cause to believe that a small business may be in violation of the statute.

**e. Should there be limits on how much EPA can fine a business, particularly if they are a small business?**

Motorsports parts businesses violating the Clean Air Act are subject to civil penalties of up to $45,268 per noncompliant vehicle or engine, $4,527 per tampering event or sale of

defeat device, and $45,268 per day for reporting and recordkeeping violations. While I understand that the EPA considers the size of a business when issuing civil penalties, I support creating a cap on civil penalties for small businesses based on revenue and employment.

Senator CARPER. Mr. Brown, thank you very much for joining us and for your testimony.

Mr. BROWN. Thank you, sir.

Senator CARPER. It was very nice to meet you and your family.

Next, we are going to hear from Mr. VanderWal. Mr. VanderWal is Vice President of the American Farm Bureau Federation and President of the South Dakota Farm Bureau. Everybody on this panel has a strong agricultural component in our States and in our economy. Delaware is certainly among those.

With that in mind, we especially welcome you today. Thanks. Please proceed.

**STATEMENT OF SCOTT VANDERWAL, VICE PRESIDENT, AMERICAN FARM BUREAU FEDERATION**

Mr. VANDERWAL. Thank you, Chairman Carper and Ranking Member Capito and members of the committee. We appreciate having this legislative hearing this morning on the Livestock Regulatory Protection Act.

In addition to the two jobs that the Chairman mentioned, I am also a working family farmer from eastern South Dakota, where I raise corn, soybeans, and have a custom beef cattle feedlot.

Keeping our farmers and ranchers in production is vital to our food security and to our national security. Farmers and ranchers work hard to keep food on our plates while continuing to make great strides in sustainability, which brings me to the topic of today's hearing.

American agriculture accounts for approximately 10 percent of U.S. greenhouse gas emissions. That is far less than transportation, electricity generation, and other industry sectors. Farmers continue to produce more food, fiber, and energy more efficiently than ever before. Over two generations, we have nearly tripled our productivity without using more resources. In fact, we would have needed nearly 100 million more acres 30 years ago to match today's production levels. That is just amazing, and it is because of technology.

More productive livestock operations allow ranchers, pork producers, poultry growers, egg producers, and dairy farmers to maintain their total contribution to greenhouse gas emissions at less than 4 percent. As I said, innovation plays an important role, from methane digesters to advances in nutritional balance, that lead to lower per-unit greenhouse gas emissions.

I will give you just a few statistics here. In fact, we have seen a 26 percent reduction in per-unit emissions of greenhouse gases for a dairy industry while milk production is up 48 percent. We have a 20 percent reduction by our swine producers with an 80 increase in pork production, and close to a 10 percent drop by our cattlemen and cattlewomen with an 18 percent increase in our production of beef.

To continue to make improvements in carbon sequestration and emissions reductions, we need to increase investment in agricultural research and spur innovation. We do not need to burden our hardworking farmers and ranchers with onerous regulations and costly permit fees. That is why the option of S. 1475, the bipartisan

Livestock Regulatory Protection Act, introduced by Senators Thune and Sinema, is so important.

This legislation makes clear that investment and innovation are the way forward, not command and control regulation. Our advancements in sustainability are due to adoption of technologies and farmers' terrific participation in voluntary, incentive-based conservation programs. U.S. farmers have enrolled more than 140 million acres in Federal conservation programs. That is equal to the total land area of California and New York combined.

I can tell you personally, our farms and our land are our heritage. Every farmer I know wants to leave the land, air, and water, as well as our farm and ranch businesses, in better condition than we found them. To achieve that goal, Congress must protect agriculture from undue burdens and respect farmers' and ranchers' ability to innovate and solve problems.

We must ensure that shortsighted, knee-jerk reaction public policies do not threaten the viability and sustainability of our farms or the long-term resiliency of our rural communities. Americans have a new appreciation for the importance of agriculture after seeing empty grocery store shelves the last couple of years, some for the first time in their lives.

When the pandemic hit, we were proud to assure America that the commitment of farmers and ranchers is unwavering. We are still farming. Please make sure that the public policy doesn't stand in the way of our ability to continue to fulfill what we see as a sacred commitment.

Thank you, Mr. Chairman, for holding today's hearing. I would be pleased to answer any questions the committee might have.

[The prepared statement of Mr. VanderWal follows:]

# Statement of the American Farm Bureau Federation

**TO THE SENATE COMMITTEE ON ENVIRONMENT & PUBLIC WORKS**

**Legislative Hearing on S. 1475, the Livestock Regulatory Protection Act of 2021**
**September 7, 2022**

**Presented By:**
**Scott VanderWal**
Vice President
American Farm Bureau Federation
President
South Dakota Farm Bureau

600 Maryland Ave. SW | Suite 1000W | Washington, DC 20024 | p: 202.406.3600 | f: 202.406.3606 | www.fb.org

Mr. Chairman and members of the Committee, my name is Scott VanderWal. I am a third-generation corn and soybean farmer and cattle feeder from Volga, South Dakota. I am the president of the South Dakota Farm Bureau and serve as the Vice President of the American Farm Bureau Federation. I am pleased to offer this testimony in support of S. 1475, the bipartisan Livestock Regulatory Protection Act on behalf of the American Farm Bureau Federation and Farm Bureau members across this country.

America's farmers and ranchers play a leading role in promoting soil health, conserving water, enhancing wildlife, efficiently using nutrients, and caring for their animals. For decades they have embraced innovation thanks to investments in agricultural research and adopted climate-smart practices to improve productivity, enhance sustainability, and provide clean and renewable energy.

Livestock and crop production are the heart of American agriculture, providing the food we enjoy every day. The daily choices we make on our farm and ranches are driven by our commitment to sustainability. Farmers have embraced technologies that reduce emissions and increase efficiency, making U.S. agriculture a leader in sustainability. Building upon the strong foundation of voluntary stewardship investments and practices, including those in the farm bill, we look forward to working with policymakers to further advance successful sustainable practices in U.S. agriculture.

As farm efficiency goes up, emissions are going down in the livestock sector. Although livestock emissions get a lot of attention in discussions around sustainability, they make up less than 4% of overall emissions in the U.S., and those numbers are declining thanks to improvements in feed and production practices. Therefore, our livestock producers should not be subject to onerous regulations and costly permit fees for their animals' emissions, which could ultimately lead to higher food costs for consumers and less innovation in our industry. Voluntary, incentive-based programs, rather than command and control regulation from the EPA, should be the policy of the United States, which is why S. 1475, the Livestock Regulatory Protection Act, is so important.

All told, agriculture accounts for approximately 10% of total U.S. greenhouse gas (GHG) emissions, far less than the transportation, electricity generation, and industry sectors. Farmers

continue to produce more with greater efficiency. In fact, U.S. agriculture would have needed nearly 100 million more acres 30 years ago to match today's production levels.

Carbon sequestration, achieved through the management of forestry, grasslands, wetlands, cropland and settlements, contributed to GHG removals equivalent to 12% of total U.S. emissions. With increased investment in agricultural research, we can develop new frontier technologies to reduce emissions and capture even more carbon. With cutting-edge science, we may be able to achieve net zero emissions in some sectors of agriculture.

U.S. farmers and ranchers have long been at the forefront of climate-smart farming, utilizing scientific solutions, technology, and innovations to raise crops and care for livestock. These efforts are designed to protect soil and water, efficiently manage manure, produce clean and renewable energy, capture carbon, and improve sustainability. Over two generations, we've nearly tripled our productivity, without using more resources. To say we're doing more with less is an understatement.

Many of agriculture's carbon sequestration efforts are not directly assigned to the agriculture sector. It is certain that if the carbon sequestration efforts of U.S. farmers and ranchers were assigned to agriculture, our contributions to GHG emissions would be lower. It is worth noting that U.S. farmers have enrolled more than 140 million acres in federal conservation programs--that's equal to the total land area of California and New York combined. Millions more acres are dedicated to nonfederal conservation programs.

More productive livestock operations allow ranchers, pork producers, poultry growers, egg producers, and dairy farmers to maintain their total contribution to GHG emissions at less than 4%. Innovation plays an important role, from methane digesters to advances in nutritional balance that lead to lower per-unit GHG emissions. In fact, we have seen a 26% reduction in per unit emissions of GHGs for our dairy industry while milk production is up 48%, a 20% reduction in swine with an 80% increase in pork production and close to a 10% drop for our cattle producers with an 18% increase in our production of beef.

U.S. farmers and ranchers contribute significantly fewer GHG emissions than their counterparts around the world. EPA data shows agriculture's global contribution to GHG emissions was 24% in 2010, more than double U.S. farmers' and ranchers' contributions to total

U.S. emissions in 2020. This significant difference is largely driven by U.S. farmers' enthusiastic adoption of technology. American farmers and ranchers are pioneers of sustainability, and any policy debate should recognize their contributions, efficiency gains, and the considerable impact of their carbon sequestration efforts.

Farm Bureau will continue to work to ensure that farm families maintain their ability to respond and adapt to climatic events and that public policies do not threaten the long-term resiliency of our rural communities. Congress must protect American agriculture and production practices from undue burden, and respect farmers' and ranchers' ability to innovate and solve problems. And that is why S. 1475, the Livestock Regulatory Protection Act, is so important and should be enacted into law.

American farm families want to leave the land better than when it was first entrusted to our care. That is the story of my family's farm in South Dakota and the story of millions of farms across this country. We want to protect the planet, feed and clothe people, and promote vibrant communities. Working with our partners, land-grant universities, policymakers, and the farmers and ranchers we represent, Farm Bureau intends to continue finding solutions for the challenges of the future.

Mr. Chairman, I commend you for convening this hearing. I will be pleased to respond to questions.

**Senate Committee on Environment and Public Works**
**Hearing Entitled,**
***"A Legislative Hearing to Examine S.2736, the Recognizing the Protection of Motorsports Act of 2021; S. 1475, the Livestock Regulatory Protection Act of 2021; S. 2661, Smoke-Ready Communities Act of 2021; and S. 2421, the Smoke Planning and Research Act of 2021"***
**September 7, 2022**
**Questions for the Record for Scott VanderWal**

**Ranking Member Capito:**

1. Would enacting the *Livestock Regulatory Protection Act* improve certainty for livestock farmers who currently rely on approval of a policy rider in the annual appropriations process for protection from burdensome regulations and permitting costs?

   *Absolutely. In a business that typically plans generationally, year-to-year appropriations riders do not provide long-term certainty.*

**Senator Boozman:**

1. As I am sure you are aware, the Biden Administration has taken an aggressive approach to tackling climate change. Some believe one way to do this is to significantly reduce or eliminate cattle production and beef consumption in the U.S. I am deeply concerned about such a policy. Will you share about the types of things you do on your ranch to promote environmental sustainability?

   *We do not do any ranching or grazing but do have a beef cattle feedlot. We have a "closed" system where manure nutrients are applied to the land based on soil tests for the crop to use. The manure is either injected if it is liquid or incorporated if it is solid. In either case it is to keep the nitrogen from escaping into the atmosphere and to keep the potassium, phosphorus and other nutrients from washing or blowing off the land. Some of the corn we produce is then fed to the cattle along with modified distillers grains from an ethanol plant. Many ranchers are working with intense rotational grazing and managing the grasslands very carefully. We have implemented these practices for three reasons. Sustainability must include not only environmentally and socially acceptable practices, but also must be economical so we can stay in business in order to implement these practices.*

2. Beef demand is on the rise globally. If we limit cattle production here in the U.S., I am afraid production would just move to a foreign competitor that does not sustainably produce beef as we do in the U.S. What impact could regulating agricultural emissions here in the U.S. have on the level of global emissions?

   *I share those same concerns. We operate in global markets so limiting opportunities here will shift production somewhere else. U.S. greenhouse gas (GHG) emissions from agriculture is only 10% whereas globally GHG emissions from agriculture is closer to 25%. Data supports more sustainable intensification of production here in the U.S. rather than land idling or regulatory constraints that limit the ability of U.S. producers to innovate.*

Senator CARPER. Thanks, Mr. VanderWal. Senator Merkley has asked for a chance to go ahead, out of order. We are happy to do that. Please proceed. After he asks questions, I think Senator Capito says Senator Ernst has made a similar request. I think you will follow Senator Merkley, and then after that, Senator Capito and myself, and we will take it from there. Senator Merkley?

Senator MERKLEY. Thank you, Mr. Chairman.

Dr. Moseley, Senate Bill 2421 calls for the creation of wildfire smoke centers of excellence to leverage the capacity and expertise at universities to help address the challenge of wildfire smoke and its impacts. The work that is being done at the University of Oregon under the community-initiated project right now is essentially the pilot project for this. What are the benefits of the centers of excellence model?

Ms. MOSELEY. Thank you for that question. The Federal Government supports research in a number of different ways. As the Ranking Member pointed out, the STAR program is one key way that we support research in this space.

Centers of excellence, however, are really useful in very specific circumstances. One is when you need to build new research capacity, and you need to build that research capacity that would be sustained over time. Because centers of excellence or research centers tend to be funded with more funds and over longer durations, you have the time to build the interdisciplinary partnerships you need to tackle complex problems, either among the academy or between the academy and practitioners.

Our center for wildfire research smoke and practice is focused on the latter, which is to build new relationships between academic researchers and communities that are seeking to tackle smoke at home, and we really want to be doing research that is driven by the needs of those communities and making sure that the research we do reaches those communities. That is why something like a focus center of excellence can be so important to tackling these kinds of complex problems. We have seen them be very effective in climate change, transportation, and many other areas where we have wicked problems to solve. Thank you.

Senator MERKLEY. Thank you, Doctor.

We have seen States taking some limited efforts to help address the challenge. For example, in Oregon, their environmental agency has provided a grant for the city of Ashland to set up an air purifier distribution program. In California, the State has launched a pilot program providing grants for smoke shelters, kind of a similar effort.

Still, most places are no better prepared for unhealthy air this year than they were in 2020 or 2015, even as smoke becomes more and more of a problem.

Doctor, what would be the benefit of providing dedicated resources to States to address the impacts of wildfire smoke?

Ms. MOSELEY. Thank you for that. I think one of the things that we are grappling with in the area of wildfire smoke is that, for many, this is actually more like a natural hazard than it is traditional pollution, like smokestack pollution. So we need to have new tools to be able to tackle this problem, which is becoming very ubiquitous.

We think of it, and communities that are frequently near fires see the problem of smoke very often, but for many places, smoke is maybe more rare. But we need to tackle it across the Country. As you said in your opening remarks, Washington D.C. is downwind from many, many fires, and so the enormity of the range of communities that need to be prepared to provide clean air shelters, similar to the cooling shelters or heating shelters that we provide for other kinds of weather events, is really critical.

We need to have some focus in this space, because it is really different than some of the other kinds of pollution that we face that we have been tackling through more traditional means.

Senator MERKLEY. Thank you very much, Doctor.

I yield back the rest of my time. Thank you.

Senator CARPER. All right, thanks. Senator Ernst, you are recognized.

Senator ERNST. Yes, thank you, Chairman Carper, and Ranking Member Capito.

Senator CARPER. Do you have a bigger sign than that?

Senator ERNST. Do we need bigger?

Senator CARPER. That is pretty big.

[Laughter.]

Senator ERNST. Thank you so much for holding this hearing today, and for those that are here as witnesses. These are issues that are really important to our State of Iowa.

Mr. VanderWal, I would like to start with you, please. Just like you, I grew up on my family farm in southwestern Iowa, and I know how much pride that our family took in raising livestock and in crops. Our hardworking farmers and ranchers really shouldn't have to worry about overly onerous regulations coming from the Federal Government and, of course, the increased production costs that go along with that.

Could you please speak to the impacts that previously proposed livestock emissions regulations would have had on your family's farm?

Mr. VANDERWAL. Thank you, Senator, for that question. I think that is one of the most important points that we need to make. Every time Congress puts a regulation, or an agency puts a regulation on agriculture, it makes it more difficult for small family farms and ranches to survive.

In our operation, we only feed about 1,000 thousand head of cattle, farm 2,000 acres. That is not big anymore. When regulations come out that take more employees, more time away from managing the operation, that detracts from the success of the operation. Certainly, those previous regulations would have been very difficult to manage. Like I said, a lot of smaller operations would probably just hang it up and quit.

Senator ERNST. Yes. Then, of course, we talk a lot about the cow tax, but how would those burdensome regulations, like the cow tax, increase costs on both livestock producers and our consumers? More of the same, right?

Mr. VANDERWAL. Exactly, yes.

Senator ERNST. I think this is something that is very important, obviously, to folks in Iowa and South Dakota, all across the Midwest where we do have large livestock operations on sweeping

through the South, but it is difficult for our small family farmers to really take on the burden of Federal Government regulations, again, that are overly onerous. It does cause increased costs to our consumers.

Of course, I am advocating not to pass a cow tax, of course, but I thank you for being here today.

I do want to move on to the RPM Act, as well. Mr. Brown, thank you very much for being here, and your family. Chairman Carper had made a comment about young boys that want to go into racing. I said, "and girls."

Mr. BROWN. Yes.

Senator ERNST. Yes. So, I grew up on a motorcycle. Of course, we had dirt bikes out on the farm. My brother was an avid motocross racer when he was a young man. My sister, shoutout to Adams County Speedway, the county over from us, we used to go there on Saturday nights. My folks would take us over dirt track racing, and that is the greatest place in the world to be on Saturday nights. My sister tried her hand at powderpuff racing, as well. We are a family that loves motorsports.

I think, Mr. Walke, to your point, it is illegal. It is illegal to have those types of vehicles on the streets, but certainly, we want to make sure that it is OK to modify certain vehicles for the love of racing.

Iowa has about 34 dirt and asphalt tracks, and we love it, so that is about one for every three counties. We host these races all throughout the year. We bring drivers in, race teams, and a heck of a lot of fans.

Can you talk about what would happen if we did not have this legislation? What would happen to the industry if we didn't allow for those modifications?

Mr. BROWN. The thing about it is, I could speak on my personal experience. If that legislation goes through, because we need it to be clear, and what I mean about that is, just like the Chairman said too, is looking for a solution without a problem.

The hard part is, let me just quote you something from EPA's legal briefing from a file of court in 2020. "An EPA-certified motor vehicle cannot become a non-road vehicle, even if it used exclusively for competition." That was filed. Then, another one in 2021 where the EPA says, "is illegal regardless of whether the vehicle is exclusively for competition purposes."

If that is the case, that is why this certainty is so important, especially for me, because I see my kids coming up. I was that kid, just like you growing up as a kid, that went to a local racetrack and saw my hero and said "this is what I want to do." That was a part of the American dream. When I was able to see that, it gave me hope to be there 1 day.

I fulfilled that want because I was able to take a standard motorized vehicle that I could afford, a motorcycle from a junkyard, and rebuild it and take it to the drag strip and made my dream into a reality through those steps. My kids are reaping that benefit where they are going through that same thing. They get out what they put in. You know what I mean?

When I look at that, when I see this, and I see notions like that, it is heartbreaking, because I see the girls and the boys that are

coming up in the junior dragster ranks across this whole Country where I help race a league called the Midwest Junior Super Series, where we are actually helping these kids understand what it takes to become a professional and show them the grass root levels on how to get there.

Senator ERNST. That is so great.

Mr. BROWN. Being able to modify that, and do those with those motor vehicles, that is the stepping stones in the building blocks for the next future professional racers tomorrow. Without that, there is no stepping stone.

Senator ERNST. Thank you so much. I appreciate that. Thanks to you and your family. Happy racing. Thank you.

Mr. BROWN. Thank you, Senator.

Senator ERNST. Thank you. Thank you, Chairman.

Senator CARPER. Senator Ernst, we learned a few things about you here, today. Senator Capito?

Senator CAPITO.

I am going to let Senator Inhofe go before me. Thank you.

Senator CARPER. You are kind to do that. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman. Thank you, madam.

I appreciate the really interesting thing that we are experiencing right now, we really do have some star power here that we are happy to have as part of it.

Mr. Brown, as you know, the EPA is threatening to restrict America's ability to convert motor vehicles into racing vehicles. Recognizing the protection of the Motorsport Act would clarify that it is legal for car racers convert street vehicles into a dedicated race vehicle. The bipartisan legislation provides certainty to motorsports companies employing tens of thousands of American workers that produce and sell special parts that racers need to build.

You are the one who is really interested and you are on the line on this thing. You have done a very good job. My kids will be very proud that we are spending this time together. I would like to just have you characterize the type of people.

Oklahoma is a small State. We are a rural State. We are an ag State. So I look at this in both these bills that we are going to be talking about today as things that would be very helpful to get to hear for Oklahoma. I would just like to have you share a little bit about the mom-and-pop type of population that benefits the most from this, Mr. Brown.

Mr. BROWN. Where the mom-and-pops benefit from this, you said, sir?

Senator INHOFE. No, how they benefit. We are talking Oklahomans now. These are not giant corporations. These are mom-and-pop operations.

Mr. BROWN. Yes. Well, the way they benefit is, believe it or not, in our community of motorsports, our 1,500 tracks reach across the whole Country, even in the small neighborhoods. I grew up, of course I grew up in New Jersey, but I go to 22 different venues across the Country in NHRA drag racing.

We go from all the way down there in Tulsa, that racetrack in Tulsa, Oklahoma all the way down to Dallas, Texas, Gainesville, Florida. We go all the way up to Brainerd, Minnesota. We impact so many of the small grassroots people that come in, and we affect

the communities by generally just where, I am not going to lie to you, I grew up on a 15-acre farm ground in the little town of Chesterfield, New Jersey. It is in the middle of nowhere. Cattle up the road, I drove a combine; my family had an excavating business on the farm.

What we did was do-it-yourselfers, so a lot of do-it-yourselfers back in those areas, this is actually who it benefits, because they work on their vehicles, and they are the ones who are able to take it where, racing and motorsports, when you take it to the area where you are able to take that station wagon that your mom had, and you can actually modify it. It doesn't take a lot of money, and you can take it to your local drag strip.

Where is the local drag strip? In those little towns across America, and you can go there and spend 20 bucks, and you can actually race that vehicle.

Senator INHOFE. Yes. We are operating on limited time here, and I want to come back. I have been fascinated by your background and what it has meant to you, but I have one question I wanted to ask Mr. VanderWal.

As you mentioned in your testimony, agriculture accounts for approximately 10 percent of the total greenhouse gas emissions, and livestock accounts for less than 4 percent of overall emissions. I think John Thune did a good job of explaining what a cow tax would do and who that would affect.

Mr. VanderWal, would you explain how passing the Livestock Regulatory Protection Act would keep food costs down for Americans buying beef and pork, eggs and egg products?

Mr. VANDERWAL. Thank you for that question, Senator. That is very important. Like I said, food security is national security to our Country. The more times we put more regulations on our farms and ranches, it causes people to quit if they can't afford to follow those regulations or meet them, if they have to hire more people. In turn, it reduces the supply, which increases prices to consumers. It is certainly in our Country's best interests to use common sense and keep those regulations low.

I talked about the fact that agriculture is doing such a good job already through innovation in the last decades and how we are doing things on a voluntary basis, always looking for a way to improve and doing the best we can. We believe that is the way to go in the future.

Senator INHOFE. I really believe that we have an opportunity to yield to the pressures that are out there on overregulation. Overregulation is something that people don't understand until they are one among those who are overregulated. Mr. Brown, are there any other thoughts, we are running a little short of time, that you would like to talk about further economic impact that this legislation would have on States like my State of Oklahoma?

Mr. BROWN. Absolutely, sir. One thing that I like to share too, in just our motorsports industry, throughout the whole Country, we have over a $100 billion impact on the communities and States across the Country that motorsports resonates and goes to. So it is definitely a big impact for communities, just from hotels, from everything that is around it.

It has a huge impact, and also for the small business owners, that actually make these parts and pieces, and also for the development of future technology that goes into vehicles tomorrow. Like we always say in racing, we are working on tomorrow's technology today, and that has a huge impact across the whole Country.

Senator INHOFE. That is a good point.

Thank you, Mr. Chairman.

Senator CARPER. You bet. I am going to ask unanimous consent to submit for the record two letters dated September 6th, 2022 in opposition to S. 2736, the Recognizing the Protection of Motorsports Act of 2021, as written, without objection.

[The referenced information follows:]

September 6, 2022

Dear Representatives/Senators

On behalf of our millions of supporters and members, we write today to strongly urge you to oppose the Recognizing the Protection of Motorsports (RPM) Act of 2021 (H.R. 3281/S.2736). As written, the bill is overly broad in its modification of the Clean Air Act and will restrict the Environmental Protection Agency's (EPA) critical authority to protect public health and welfare.

Currently, retailers are selling technologies that turn off or bypass the emission control systems in cars and trucks. We understand that these modifications increase racing performance and tailpipe emissions, but it is unacceptable and illegal for these vehicles to pollute outside of the racetrack while traveling on our nation's roadways and through our communities. Only a small fraction of these devices are sold specifically for permanently modified racing vehicles that don't drive on public roads; and many companies are not playing by the rules and are marketing these defeat devices to the general public, with enormous public health harm. In the numerous EPA enforcement actions against manufacturers of these defeat devices, manufacturers have repeatedly been unable to prove that any significant volume of these products are being used in racing, and the sheer sales numbers clearly indicate the falseness of such claims.[1]

For instance, EPA's Air Enforcement Division estimates that more than 550,000 diesel trucks -- approximately 15 percent of the nation's diesel truck fleet -- have had their emissions controls tampered with, resulting in more than 570,000 tons of NOx and 5,000 tons of particulate matter emitted over the lifetime of these vehicles.[2] That amounts to at least 10 times the emissions of the Volkswagen cheating scheme (a.k.a. Dieselgate). NOx, PM, and other pollutants associated with using defeat devices have been linked with problems such as asthma, bronchitis, lung cancer, strokes, and heart disease.[3,4]

Allowing vehicles with defeat devices to be driven on our roads is unacceptable and illegal, and the RPM Act would make it nearly impossible for EPA to prevent the sale and use of these defeat devices for vehicles used on public roads.[5] This is because the RPM Act creates a loophole centered on the usage of a

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[1] "We have found that many companies that make and sell aftermarket defeat devices claim "competition only" use but cannot provide any information to show that their products are used in competition motorsports. … The sheer volume of aftermarket defeat devices belies the assertion that they are only for competition motorsports." Letter from Susan Bodine to Senator Jack Reed, March 2020. https://www.northeastdiesel.org/pdf/lmrgermp/resp-ltr-sbodine-to-senator-reed.pdf

[2] https://www.epa.gov/sites/default/files/2021-03/documents/epaoedletterreportontamperedtrucksmy.pdf

[3] See EPA Consent Agreement with H&S Performance, Docket CAA-HQ-2015-MSEB 8248 at https://www.epa.gov/sites/production/files/2016-01/documents/hscafo.pdf; U.S. District Court Consent Decree with Casper Electronics, Civil Action No. 1:06-cv-03542 at https://www.epa.gov/sites/production/files/2013-09/documents/casper-cd.pdf; and U.S. District Court Consent Decree with Edge Products at https://www.epa.gov/sites/production/files/documents/edgeproductscd.pdf.

[4] See Department of Energy "Pollutants and Health" at https://www.afdc.energy.gov/vehicles/emissions_pollutants.html; EPA "Criteria Air Pollutants" at https://www.epa.gov/criteria-air-pollutants; American Lung Association "Outdoor Air Pollution" at http://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/

[5] EPA currently regulates motor vehicles based on design, not intended use. For example, a minivan moonlighting as an ambulance must meet emission standards for light-duty vehicles, not medium-duty vehicles (which an ambulance would be classified as). However, RPM Act modifies the CAA to exclude vehicles from the anti-tampering provisions based on intended use, which would be nearly impossible to enforce. See March 16, 2016 testimony of Brent D. Yacobucci at

motor vehicle, which gives cover to anyone who manufacturers, sells, or installs a defeat device—the RPM act as written would create an exemption "if the action is for the purpose of modifying a motor vehicle into a vehicle that is not legal for operation on a street or highway and is to be used solely for competition."

What this means in practice is that EPA would no longer be able to explicitly target manufacturers who sell these products online—these aftermarket providers would be able instead to hide behind a purported belief that a purchaser was going to modify their vehicle into a competition vehicle. It pushes enforcement away from the primary source of the problem—manufacturers selling defeat devices to the masses—and immediately limits investigation and enforcement actions to installers of the defeat device, at which point EPA would likely have to further prove that the installer or seller of the device knew that the product was not for a competition-only vehicle.

EPA recently provided additional assurance for amateur competition vehicles and race enthusiasts by clarifying that vehicles converted for exclusive non-public road competition were not subject to tampering enforcement and individuals were not the focus of enforcement, either.[6] Congressional attacks on EPA's enforcement authority to deliver clean air and public health benefits as directed by Congress are therefore both unnecessary and hazardous to our health. The public overwhelmingly supports Clean Air Act protections and is favorable to the health and economic benefits that would come with less diesel pollution and a cleaner transportation sector.[7] We strongly urge you to oppose the RPM Act as written, for the health and safety of all Americans.

Sincerely,

Alliance of Nurses for Healthy Environments
Anthropocene Alliance
Center for Biological Diversity
Chispa Arizona
Chispa LCV
Earth Ethics, Inc
Elders Climate Action
Environment America
Environmental Law & Policy Center
Fresh Energy
GreenLatinos
Interfaith Power and Light
League of Conservation Voters (LCV)
NRDC

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https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-114-SY21-WState-JWycobucci-20160315.pdf and September 13, 2017 testimony of Alexandra E. Teitz at http://docs.house.gov/meetings/IF/IF18/20170913/106394/HHRG-115-IF18-Wstate-TeitzA-20170913.pdf.

6 See November 23, 2020 EPA Enforcement Memo "EPA Tampering Policy" signed by Assistant Administrator Susan Bodine https://www.epa.gov/sites/default/files/2020-12/documents/epatamperingpolicy-enforcementpolicyonvehicleandenginetampering.pdf

7 See https://www.lung.org/media/press-releases/new-poll-smog; https://www.lung.org/media/press-releases/seventy-percent-of-voters-support-federal-actio; https://www.lung.org/media/press-releases/zero-emissions-school-buses

Public Citizen
Sierra Club
U.S. PIRG
Union of Concerned Scientists
Voices for Progress
Waterway Advocates, Inc.


September 6, 2022

The Honorable Tom Carper, Chairman
The Honorable Shelley Moore Capito, Ranking Member
Committee on Environment and Public Works
U.S. Senate
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito:

The undersigned national health and medical organizations urge you to oppose the Recognizing the Protection of Motorsports (RPM) Act of 2021 (H.R. 3281/S.2736). The bill, as written, could worsen local air quality and negatively impact health by allowing high-polluting vehicles on the roads and limiting EPA's authority to regulate motor vehicle emissions.

Thanks to the Clean Air Act, cars and trucks have gotten dramatically cleaner over time thanks to emissions control technology. Despite progress on reducing vehicle pollution, emissions from vehicles and trucks are a significant contributor to air pollution and are creating health burdens. Vehicle emissions include nitrogen oxides, particle pollution and volatile organic compounds, which can all lead to asthma attacks, reduced lung function and increases in hospital visits. Particle pollution can also cause heart attacks, strokes and lung cancer. Some volatile organic compounds are known or likely carcinogens. Vehicles also emit greenhouse gases, which are worsening climate change and therefore the health harms that stem from it.

A report from the American Lung Association found that more than four in ten Americans — more than 137 million people — live in communities impacted by unhealthy levels of air pollution. The health outcomes from air pollution exposure are not shared equitably. Many communities of color and lower income communities are at greater risk due to increased exposure to transportation pollution. Controlling air pollution from the transportation sector is a necessary and commonsense step to improve air quality and reduce health harms.

The RPM Act, as written, would result in the installation of defeat device technology on vehicles that are driven on public roads. Defeat devices are specifically designed to bypass emissions controls, leading to increases in harmful air pollution. They are popular among race car drivers and are often used for vehicles used in motorsport competitions.

The bill would create a loophole that would let aftermarket parts manufacturers off the hook for complying with the Clean Air Act's prohibition on tampering of emissions control systems. These manufacturers could install defeat devices on vehicles as long as they claimed they were not aware the vehicles would be used in non-competitive settings, i.e., regular streets or highways. Of course, many of these vehicles would then be driven on public roads, in addition to or even instead of on a closed racetrack.

In order to truly protect health from air pollution, the nation needs to dramatically reduce the emissions that come from the transportation sector. The RPM Act, as written, could lead to *increases* of emissions by creating opportunities for vehicle tampering given the likelihood that those vehicles would be used on public roads, threatening the health of the individuals and communities living along major roads and highways who are already overburdened by poor quality.

The health and medical community urge you to oppose the RPM Act in its current form and to instead look for a path forward that would maintain EPA's authority to hold violators accountable for failure to use required emissions controls.

Sincerely,

Allergy & Asthma Network
American Lung Association
Alliance of Nurses for Healthy Environments
American Public Health Association
American Thoracic Society
Asthma and Allergy Foundation of America
Climate Psychiatry Alliance
Medical Students for a Sustainable Future
National Association of Pediatric Nurse Practitioners
National League for Nursing
Physicians for Social Responsibility
Utah Physicians for a Healthy Environment

Senator CARPER. Again, to our witnesses, thank you all for joining us.

I mentioned right at the beginning of my comments, I spoke of what we are seeing in terms of weather across the Country, record floods, not far from where my mom and sister live in eastern Kentucky. We have seen sea level rise all over the coasts of our Country. We have seen record droughts.

In terms of agriculture, we have seen a lot of places where crops just aren't growing. It is not just in America, but it is across the planet. If you look at the major cause of what is creating this, it is too much carbon dioxide in the air. If you look at where does it come from, about 30 percent of the carbon dioxide emissions in this Country come from our vehicles that we drive, our cars, trucks, vans, motorcycles. I say that as a former motorcycle driver and owner.

The second greatest source is power plants. About 25 percent of the emissions come from power plants, and about another 20 percent from manufacturing operations; think cement plants, think steel mills, that sort of thing.

This is a serious matter. The amount of property damage is not just in the millions, it is not just tens of millions, or hundreds of millions. It is in the billions of dollars, hundreds of billions of dollars, within this year, so this is serious. This is a serious matter. We have to make sure that we are looking at every significant source of carbon emissions, and that is why this is so critical.

Mr. Walke, as you know, emissions from our transportation sector are a large contributor to the climate crisis and to smog, to soot, to air toxic pollutants that are dangerous to our health. I believe we can all agree that drivers should face a Clean Air Act liability for vehicles that are used solely for organized racing.

EPA has never gone after, let me say, the EPA has never gone after racecar drivers through its Clean Air Act enforcement actions, and does not intend to do so in the future. Having said that, EPA is finding massive Clean Air Act violations as after-market parts are installed on cars and trucks that are used daily on streets in our communities. That means more asthma attacks, more lung disease, more mortalities. Somebody needs to be held accountable for these results.

My question is this, Mr. Walke. What is your advice to us as lawmakers about who should be held accountable, and how should we do that?

Mr. WALKE. Thanks, Senator Carper. We should not be holding racecar drivers accountable. The minimal amounts of air pollution that occur on weekend driving racing is not the air pollution problem. It is the defeat device industry that is the problem.

I understand and appreciate Mr. Brown's desire for certainty for himself, for his family, and for racecars drivers, and I think that is something that Congress can address through a narrowly tailored amendment. The problem is that the bill limits the ability of EPA to enforce against businesses who should have known their defeat devices were not being used on racecars.

I don't have his driving skills. I really wish I did. I have had much less significant skills as a Clean Air Act attorney for 30 years. If I were an attorney for the defeat device industry, I would

write language like this, because it says, no, no, we shouldn't ask whether people know or should have known that their devices were not used on racecars. We should ask solely, what was your purpose in selling this? Well, they are going to say their purpose was to sell it to racecar drivers.

But as these enforcement cases have shown by the Trump Administration and then Biden Administration, they aren't able to prove those facts in actual cases, so we have hundreds of thousands of tons of illegal vehicles, hundreds of thousands of tons of illegal pollution. It is my professional opinion that this bill would make things worse.

Senator CARPER. All right, thank you.

Another question. I want to go back to Dr. Moseley. I want to turn to wildfire events. Best climate science tells us that the conditions that are driving wildfires, including extreme heat and drought that I mentioned earlier, are getting worse, not better. This summer, at least one-third of Americans were under a heat advisory, one-third, and tens of millions have experienced extreme temperatures surpassing 100 degrees Fahrenheit. That is in a bunch of places where they don't even have air conditioning.

At the same time, the historic extreme drought affecting the west is worsening and spreading east. It shows, as of yesterday, I am told, 69 active wildfires across our Country, some as big as my State. In July, that number was at least 82 wildfires burning at one time.

My question, Dr. Moseley, briefly tell us, do these startling figures reflect the reality you see on the ground? In other words, do you agree that wildfires are becoming more frequent and intense due to climate change?

Ms. MOSELEY. I think the scientific evidence is fairly clear that we have a number of drivers, not the least of which is climate change, that is increasing the size and severity of wildfire. As you say, we are seeing hotter, dryer climate, particularly in the arid West.

I think it is also important for folks to realize that we see a lot of wildfires on CNN or on cable news, but there is, in fact, a very broad array of what wildfire is and where it occurs.

In this Fiscal Year to date, we have had more than six million acres burned in wildfire. Half of that occurred in the State of Alaska. A million of it occurred in the southern United States. We have wildfire, really, everywhere.

What we really need to be thinking about as wildfire continues to grow, and I think the scientific evidence is also clear, that we are not yet at a new normal. It feels like a new normal, but it is going to continue to grow for some time, even with our best climate mitigation measures. More and more folks are going to need to be prepared for and learn to live with fire and fire smoke, and that is why adaptations such as contemplated in the bills here are so important.

Senator CARPER. Dr. Moseley, thank you.

Now, Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman, and thank all of you all for being here today.

The RPM Act, as I mentioned in my opening statement, this is the second hearing over the last several years that we have had on something that, to me, seems like a simple, very common-sense fix. We are saying that it is a solution in search of a problem, but we have spent a lot of time trying to fix this problem.

There is a problem there. Mr. Brown, you testified to that, and Mr. Walke has acknowledged that we need to have a fix here. I guess my question to you, Mr. Brown, because you have been really explicit about talking about your youth and the STEM education, and you have your wonderful family there that is involved in racing. I would imagine that most of your audience are families that come out on an evening to an affordable way to enjoy being with their families and watching a great sport.

But if a looming EPA lawsuit is looking over you, and you saic you just created your new team, what kind of reaction do you have to that as a small business owner? How would you ever be able to fight that?

Mr. BROWN. That is the hard thing. I agree with Mr. Walke on the purpose that, speaking as a racer, when I am looking at the things from their standpoints, we are all against people with defeat devices. The thing about it is, you don't have to come after the racers or the race teams, but if you go after legitimate companies that are producing race parts, and they don't have the power to sustain, and you shut those small companies down, then it hurts the whole motorsports industry as a whole because those companies were supplying legitimate race products to the racing industry.

I do agree that they should also have a deal of sale, where they actually have a record of sale, or they go, hey, this is what this part is for. This is where it goes, and this is what it is used for. If they have that categorized, that might help the solution to the problem.

For me in general, it was mind-shocking because, hold up, and you are seeing where sports, I live in Indianapolis, Indiana, and I came from New Jersey. The reason why I moved there was because this was the race capital of the world. Then when you see things that come down from the EPA, it actually puts a stronghold on that where you can see it dissipating, going away, from the outside in. Being a racer, we will be the last ones affected by it when we don't have any parts and pieces to buy.

Senator CAPITO. Right. Thank you, very good.

Mr. BROWN. Thank you.

Senator CAPITO. Mr. VanderWal, we also heard that the cow tax proposal, there is really no need for this legislation because it is taken care of every year in Appropriations. I am on Appropriations. I wouldn't be betting on what is going to happen every year in an appropriations process here in the U.S. Congress.

We are heading up to a continuing resolution, which is not the way that this whole system was conceived. We should have our appropriations bills in line by September 30th, have them passed, and have our wishes moved forward.

So, a year-by-year band-aid is not, I don't think, a solution to the issue that you are talking about. How do you all feel about every year, having to fight, and some years more than others? That has got to be an issue for you.

Mr. VANDERWAL. Well, thank you, Senator. It certainly is. That causes uncertainty, when we have to wait every year in anticipation of something that might happen in a bill, or something that EPA might do administratively. It would be far, far better to have this in statute by Congress that would say the EPA does not regulate agriculture based on greenhouse gas emissions, recognizing all the things we have talked about.

It would provide certainty for us going forward. People could really concentrate on innovation and technology and be able to work on those things, rather than worrying about what the government might do in the next year, in the next round.

Senator CAPITO. I think you have stated the statistics that, without something, as you are moving forward as an industry with the innovation and technology that is coming forward, you are able to bring your emissions down almost at a voluntary manner because it is good for the environment, it is good for the farmer, it is good for the consumer. I think putting our emphasis in those positive areas is a much more beneficial way than in a punitive way, such as a cow tax would put forward.

Thank you for commenting. Thank all the panelists, thank you.

Senator CARPER. Thanks, Senator Capito.

Senator Whitehouse? Good to see you. Welcome.

Senator WHITEHOUSE. Thank you, Chairman.

Let me start with offering a little bit of context. This comes from the National Institutes of Science, I believe, and it shows the mammal creatures on the Earth measured out by biomass. If you look here, you see that all the wild mammals on the planet amount to 4 percent of the biomass of mammals, from field mice to rabbits to deer to elk to tigers and elephants, all of them, as mammals, 4 percent.

Cattle alone are 35 percent. There are nine times as many cattle, at least by weight. There are nine times as much cattle by weight as there is all of the wild animals, mammals, anywhere on the planet together. What the cattle are doing out there, obviously, has big effects on our planet.

Mr. VanderWal, you have said that livestock emissions make up less than 4 percent of overall emissions in the U.S., and that they are declining thanks to improvements in feed and production practices. You have said that U.S. farmers and ranchers have long been at the forefront of climate-smart farming, utilizing scientific solutions, technology, and innovations to raise crops and care for livestock, and that innovations include methane digesters and advances in nutritional balance that lead to lower per-unit. I assume there, you mean per-animal, GHG emissions.

Could you just say a word about what the technologies and innovations are that are proving most effective in reducing methane emissions from livestock?

Mr. VANDERWAL. Thank you, Senator. Just to comment on part of your question, when I talk about——

Senator WHITEHOUSE. Don't comment too long, because I am on a clock here, so I would really like you to answer my question.

Mr. VANDERWAL. I understand. What I mean by reduction in per unit is per unit of production, so in a dairy cow, that would be per gallon of milk or per pound of milk.

Senator WHITEHOUSE. Got it.

Mr. VANDERWAL. In regard to emissions, the anaerobic digesters that people are putting in, that energy is being used, actually, to generate electricity for farms, those kinds of things, so we are not pulling on the grid. There are technologies such as varieties of corn that can be fed to livestock that are more efficient, produce less methane and greenhouse gases.

Senator WHITEHOUSE. Do algal and seaweed supplements do the same thing?

Mr. VANDERWAL. I can't answer that for sure. I am not an expert on that.

Senator WHITEHOUSE. All right. Well, I just wanted to flag for you that the Growing Climate Solutions Act was a very bipartisan measure. As it gets implemented by the Department of Agriculture, my sort of nutshell version of it is that the equivalent of a farm agent can go out to a farmer and say, here is the stuff that you can do that will reduce either CO2 or methane emissions. I have the science behind me, so I can put a number on that.

Then I can give you basically a good housekeeping seal of approval for those savings, and then you can take that and get credit for reducing your emissions. Is that the kind of incentive that you think the American farming community would welcome as we try to solve together the problem of climate change?

Mr. VANDERWAL. Yes. Certainly, incentives are much better than a stick. If it is economically viable, or if somebody can finance it to show that it will be economically viable at some point, those are the things farmers are looking for. Certainly, we want to do the right thing for the right reasons, and we want to do these environmental things because they are the right thing to do.

Senator WHITEHOUSE. Well, the Farm Bureau supported it, and I appreciate that very much.

Also, I would just give Mr. Walke a chance to respond as he may wish in my remaining 30 seconds.

Mr. WALKE. Thank you, Senator Whitehouse. Just two clarifications.

One, I just want to emphasize that the Clean Air Act permitting program that is the subject of the livestock bill imposes no emissions limitations, none whatsoever. So any discussion here of concerns over emissions limits and emissions standards being opposed, they just don't arise under that program. It is a program to compile preexisting requirements. There may not be any. It also has some monitoring to provide for public awareness.

The second clarification I would just like to offer is that, as my testimony details in written form, EPA has never brought an enforcement case against a company that sells products just for racing cars. What Mr. Brown is talking about, his suppliers are——

Senator CARPER. Would you say that again? Never?

Mr. WALKE. EPA has never brought an enforcement case against a manufacturer that sells products exclusively for racing cars. They are bringing cases again defeat device manufacturers that are selling their products to the general public that end up on roads illegally in the hundreds of thousands.

Senator CARPER. All right, thank you.

Mr. WALKE. Mr. Brown is buying products from the top racing car companies and manufacturers in the world, and they have not been the subject of enforcement any more so than racecar drivers have. None.

Senator WHITEHOUSE. Thank you.

Senator CARPER. Thank you, Senator Whitehouse. Senator Kelly, you are next. Welcome.

Senator KELLY. Thank you, Mr. Chairman. I have questions for both Mr. Brown and Mr. Walke, 14 questions, so we are going to go quickly, short answers, yes and no. Mr. Brown, I am trying to remember. Did we meet at the track in Chandler, Arizona, or was it in Texas? Where was it?

Mr. BROWN. I believe we met in Texas, in Houston, and I went to the NASA center.

Senator KELLY. Oh, I may have taken you in the simulator with Bob Tasset, maybe.

Mr. BROWN. Yes, and I landed the space shuttle. I did it.

Senator KELLY. You did? You landed the—let me clarify. You landed the space shuttle simulator?

Mr. BROWN. Yes, not the real space shuttle, the space shuttle simulator.

Senator KELLY. I want to congratulate you. I saw what your best time and your best speed was at the track in Chandler, Arizona. Congratulations on that.

Mr. BROWN. Yes, sir. Thank you.

Senator KELLY. I have six questions for you, eight for Mr. Walke in less than 4 minutes. In your testimony, you discussed how, in your early days of racing, you converted a street-legal motorcycle into a racing vehicle. You said it was used, from a junkyard. How much cheaper was buying that vehicle as compared to purchasing a bike built for racing?

Mr. BROWN. For racing, I would say I probably built that bike for five grand, and a race vehicle of that nature probably would have been over $50,000.

Senator KELLY. Since this bike was used for racing, did you register your bike with DMV and get insurance for it?

Mr. BROWN. No, sir.

Senator KELLY. So, no insurance, no registration. As you know, some have raised concerns that there are bad actors out there who will buy a device built to be used for racing, but then will install it on a car that they use to drive on city streets.

Do you believe that there are ways, such as asking a driver to show that they have canceled their vehicle's registration, which could help sellers and mechanics easily know that they are only selling parts to drivers for legitimate racing reasons?

Mr. BROWN. Yes, I believe that will be where you can make it void, where it is not street legal anymore, at all, period, and most race vehicles are like that.

Senator KELLY. Can you briefly talk about the process in California, which allows racers to purchase equipment needed for their vehicles?

Mr. BROWN. Yes, California being one of the most strict States out there, they actually have that part of the legislation where it

excludes race vehicles from all the normal that they do for normal motor vehicles that are on the road.

Senator KELLY. I understand that there are some devices sold today which allow drivers to turn off and on the emissions control on a vehicle, or there are devices programmed to trick the computer when the vehicle has its emissions tested.

Can you think of any reason that a racer might need a device that has these features?

Mr. BROWN. No, sir, because we actually strip all the vehicle's standard stuff out of it and put electronic EFI and everything to control everything that we do down on the racetrack, which all the standard stuff would be null and void, what we need in a race vehicle.

Senator KELLY. Mr. Walke, I have 2 minutes, and I appreciate your testimony on the RPM Act. Let me just step through these. I want to start off with an easy question: do race cars or street vehicles converted and used exclusively for racing have a measurable or meaningful impact on overall air pollution?

Mr. WALKE. Not to my knowledge.

Senator KELLY. Given that, would you oppose a properly crafted compromised version of the RPM Act which had guardrails to protect amateur racers and businesses whose goal is to serve amateur racers, while going after bad actors?

Mr. WALKE. Not drivers. I would be very interested to see what the law said about businesses.

Senator KELLY. Would you agree that there are vehicle owners, mechanics, and parts sellers who legitimately want to modify vehicles exclusively for racing?

Mr. WALKE. Yes.

Senator KELLY. In your testimony, you explained that EPA maintains that a device which defeats emissions controls is illegal, regardless of how a motor vehicle is used. This means that EPA maintains that modifying a vehicle's emissions controls for racing is illegal. Correct?

Mr. WALKE. That is correct, and they have said they will exercise enforcement discretion, but that is not a legal exemption.

Senator KELLY. Does this also mean that EPA has not provided any regulations or guidelines to good-faith vehicle owners, mechanics, or parts sellers explaining how they could avoid being subject to EPA enforcement actions related to the Clean Air Act?

Mr. WALKE. EPA has provided numerous instances of that guidance and specific ones targeting the racing competition vehicle market.

Senator KELLY. So, there is guidance?

Mr. WALKE. There is.

Senator KELLY. All right. Would you be more likely to support the bill if EPA were required to issue regulations within a reasonable period of time before a racing exemption took effect?

Mr. WALKE. I am not fully understanding the question. The key is the statute, and whether the statute is weaker before and after, and then EPA will issue regulations following the statute.

My testimony today has solely been about not weakening the statute as it applies to defeat device manufacturers and sellers.

Senator KELLY. I was asking if there were, if in a reasonable period of time, if the EPA were required to have some clear regulations, would you then be more likely to support it?

Mr. WALKE. Sure, especially if those regulations made clear that drivers like Mr. Brown were not covered by the law. I would support that 100 percent. I have tried to be very clear about that.

Senator KELLY. Would you be more likely to support the bill if EPA were required to, in implementing regulations, describe documentation needed to ensure a vehicle would be used exclusively for racing?

Mr. WALKE. The key to enforcement is placing the burden of proof on the defeat device manufacturers to show that their products are not being used in racing cars. If that standard is preserved in the law the way it has been for decades, EPA can write regulations with lots of additional guidance and information to help carry out that law.

Senator KELLY. I just have one more, Mr. Chairman. If clear implementing regulations are developed by EPA explaining how a part seller mechanic could comply with the Clean Air Act, would you agree that EPA should avoid applying a strict liability standard against a retailer or mechanic who is duped by a small number of bad actors?

Mr. WALKE. Yes. That is not the law, and it has never been the law. It should not be the law.

Senator KELLY. OK, thank you. Thank you, Mr. Chairman.

Senator CARPER. Senator Padilla, you are recognized. Senator Markey, welcome. You are next in line.

Senator PADILLA. Thank you, Mr. Chair.

First of all, I want to thank Senator Merkley for his leadership in introducing both the Smoke Planning and Research Act of 2021 and the Smoke-Ready Communities Act of 2021. It is not just the State of Oregon, not just the State of California, but the entire western United State, but California in particular that is all too familiar with the devastation caused by wildfires. Not just the fires themselves, I am also referring to the smell and effects of wildfire smoke.

Again, it is not just a California issue. It is not just a western United States issue, because as a lot of people remember, I got calls from my colleagues all the way to Illinois, even colleagues on the Eastern Seaboard last year complaining about the air quality. Think about that, the air quality on the East Coast that was the result of wildfires burning in the West. It truly is a national concern.

Wildfire smoke is a complex mixture of air pollutants, clearly unhealthy to breathe, and it can be especially dangerous for children, for the elderly, for pregnant women, for anyone with heart or respiratory conditions. A recent Stanford University study found that single-family homes across the Country tend to have three to four times higher particulate pollution during wildfire events than public health guidelines recommend.

My question is for Dr. Moseley. Given that time is of the essence with increasingly extreme and more frequent wildfires continuing across the West, how crucial do you think it is to enact these bills

as quickly as possible to protect public health and better inform communities of the dangers posed by wildfire smoke?

Ms. MOSELEY. Thank you for that question. Wildfire is growing so rapidly that, for those of us who live in the West, you can almost barely imagine it. The fires in your State and mine have been just astonishing. The importance of taking action to protect people from wildfire smoke is increasingly urgent, not only in our States, but as you say, across the Country, as we learn more and more about the negative impacts of smoke, as well as the rapid increase in the number of people in all walks of life who are affected by that smoke.

Senator PADILLA. I appreciate that, in your written testimony, you referenced to equity concerns, how there is a disproportionate impact on lower-income individuals, lower-income communities.

Mr. Walke, my home State of California has long been recognized as a national leader in the fight against the climate crisis and for our efforts to protect communities from toxic air and water pollution, as well. California is also the largest agricultural State, home to a $50 billion agricultural economy and the largest dairy industry in the Country. California's farmers and ranchers know better than most in our ability to feed the Nation, and to support family farmers and farm workers alike relies on clean air and clean water.

That is why California is working to cut methane emissions by at least 40 percent by 2030 in partnership with farmers and ranchers as they transition to more sustainable manure management and emission reduction practices. Senate Bill 1475 would preemptively restrict EPA's authority, preventing the agency from considering policies to address the industrial livestock sector. To your knowledge, is there precedent for exempting entire industries from major components of the Clean Air Act?

Mr. WALKE. No, certainly not in this manner. I was shocked to learn that agriculture emits more methane emissions in the United States than the oil and gas sector. The vast majority of that comes from the digestion processes of animals.

It is not a problem that we should be permanently codifying into an exemption in the law. If we kick the can down the road with an appropriation rider, we can always change our mind. But if it becomes a permanent exemption of the Clean Air Act, my experience says it is just never going to go away, and we are never going to solve this problem.

Senator PADILLA. So, just to underscore the point, how important is the EPA's Operating Permit Program to the ability of States like California to protect the public and support investments in smart, sustainable agricultural practices?

Mr. WALKE. The key to the Operating Permit Program, and it is sometimes misunderstood, is really to just have some monitoring reporting so that there is public awareness and some accountability, so the States and the Federal Government can get a handle on how much the emissions are from this industry.

Right now, we don't know. There is nothing to require it. EPA was required by a court in 2005 to develop emissions estimation methodologies for concentrated animal feeding operations, or CAFOs. They are 17 years overdue.

Now, they are supposed to come out with something this fall. I am waiting with bated breath to see what it will say. B ut we are just not taking this problem seriously, and unfortunately, a permanent exemption from the Clean Air Act is just not the right approach, in my opinion.

Senator PADILLA. Thank you very much. Thank you, Mr. Chair.

Senator CARPER. Senator Padilla, good to see you. Thanks for joining us today. Senator Markey, how are you?

Senator MARKEY. Thank you, Mr. Chairman. I am doing great. I hope you are as well.

Senator CARPER. Indeed.

Senator MARKEY. Mr. Walke, as you know well, factory farms produce immense quantities of waste that fuel climate change and pollute the surrounding soil, air, and water. According to a study conducted in 2021, simply living in proximity to a factory farm can decrease life expectancy, rural, low-income, agricultural, dependent, and black and brown communities are directly affected by these environmental hazards.

Mr. Walke, do you believe that codifying this exemption for factory farm emissions, which is already regularly included in appropriations packages, would be beneficial to nearby communities?

Mr. WALKE. No, Senator Markey, quite the opposite. One of the pollutants that the bill exempts is nitrogen oxide, which is a precursor to smog, so that is a health hazard to communities surrounding these factory farms. This takes us backward, I am afraid.

Senator MARKEY. So, it would not improve, in fact, it would harm those communities that are in proximity?

Mr. WALKE. That is correct.

Senator MARKEY. According to the EPA's latest greenhouse gas inventory, emissions from agriculture have continued to rise, while emissions from some other sectors have decreased, and these emissions are significant.

For example, a recent report found that JBS, the world's largest livestock corporation with substantial U.S.-based operations is responsible for more emissions than the whole country of Italy on a yearly basis, one company. We just have to be realistic about it. As we are waiting for Italy to come to Egypt in November, we should be inviting JBS as well, in terms of what their plans are to reduce greenhouse gases.

If corporate agriculture is given broad, permanent exemptions like those proposed in the Livestock Regulatory Protection Act, what prevents corporations like Exxon and Shell and BP from asking similarly large industry-wide exemptions? They will say, you gave it to agriculture, why not give it to us as well? We only produce the same amount of emissions as JBS, so give us the exemption too.

What would stop that from being the inevitable and inexorable course that this whole discussion would take?

Mr. WALKE. Nothing would stop that. I think it is just a matter of political muscle. We have 50 years of experience in this Country to know that voluntary measures don't cut greenhouse gases enough to avoid a climate crisis. We need to take that seriously with actual, real measures.

Senator MARKEY. Yes, I think we should be heading, I agree with you, in the opposite direction, in terms of what the requirements are going to be on companies that have been allowed to use the air as a large sewer to be sending up these very dangerous emissions.

Robust air pollution standards are critical to protecting communities. The transportation sector is the largest contributor to climate pollution in the United States. Over a single year, in the Northeast and Mid-Atlantic alone, more than 7,100 deaths were linked to pollution from vehicle emissions.

Mr. Walke, in your testimony, you mentioned the extensive use of illegal defeat devices in diesel pickup trucks, which resulted in an additional 570,000 tons of nitrogen oxide and 5,000 tons of particulate matter. As you point out, this is quite alarming, considering that all electric power plants in the United States released 780,000 tons of nitrogen oxide emissions last year. Those are crazy numbers. The use of illegal defeat devices is creating an easily avoidable threat to public health.

Mr. Walke, does preventing the use of defeat devices and prohibiting tampering with emission controls protect environmental justice communities, who historically bear the brunt from living in areas with dirty air?

Mr. WALKE. Absolutely. We know they live closer to highways than a lot of the rest of us. Those figures you quoted were just from diesel pickup trucks. But there are a lot of other vehicles in the roads with defeat devices near where these low-income and black and brown communities live.

Senator MARKEY. Yes, so these are crazy numbers. Again, all electric power plants in the United States release 780,000 tons of nitrogen oxide last year, and just the diesel pickup trucks is 570,000. We have to work harder and smarter here and just look at JBS and look at what it does, compared to other industries.

The same thing is true here with the diesel pickup trucks and the other issues that we are trying to deal with. We just have to get serious. We can do it because we are a technological giant in the United States. That is our strength. That is who we are, and we only lose our opportunities when we allow for our greatest strength to be offshored. We will wait for some other country to start producing chips for us, our solar panels, our wind turbans, rather than saying no, we are going to do it here.

That is where all of these technologies that will be the solutions have to be developed, and we have to say, we will go first, and then the rest of the world will follow.

I thank you, Mr. Chairman, for your great leadership on all these issues. Thank you for this hearing.

Senator CARPER. Thank you for being a great partner over all these years.

Senator Capito, is she going to be coming back? OK, all right. I think she may have just a few words to say in closing.

This has been an interesting hearing. It is our first hearing back. We have been on August recess. A lot of times, we don't have an August recess. We did last month after we finished an active period of time here in the Senate and the House, but it is a good hearing to come back on.

We are grateful to each and every one of you for your presence. Some of you have been before us before, some not, but we are grateful for your presence and your participation today.

I think a big part of why I have had some success in my life, I like to say, my sister and I picked the right parents, a coal-mining town in Beckley, West Virginia. They instilled in us the core values that I carry around with me to this day and have served me well in my life. You can probably think of core values that your parents instilled in you. Among those were hard work, the Golden Rule, treat other people the way you want to be treated, and trying to figure what is the right thing and just do it.

Our hearing today reminded me of something that my dad used to say to us. My dad was a Chief Petty Officer in the Navy in World Word II, the Korean War, and for about 30 years after that. He would say to my sister and me when we were little kids growing up, we were born in West Virginia, grew up in Virginia, but he would say to my sister and me, when we would pull some boneheaded stunt, he was always saying, "just use some common sense." You can probably think of things your parents said. He said it a lot. We must not have had much common sense.

Using common sense means that we need to do more to protect Americans from the impact of climate change and unhealthy air. Mr. Brown, Mrs. Brown, it was a pleasure to meet your sons, who I think 14 and 18? Yes, 14 and 18. Our biological sons are about a generation older, 32, 34. We always have worried about them growing up, just to make sure they didn't get into an accident, whether they were on a bicycle or car or whatever, always worrying about them, but we wanted to make sure they had a chance to grow up and grow old. Your boys, hopefully, will have a chance to grow up and grow old.

The greatest threat to their generation is, frankly, our planet is on fire. It is getting worse, and it is getting worse faster, rather than not. That is the bad news.

I would just say, my colleagues hear me do this probably more than I ought to. I like to think of it, how do we have clean air, clean water, do something real about climate change? How do we do it? Create economic opportunity and jobs. That is my focus.

I am an old Governor, and I am always trying to figure out how do we create a nurturing environment for job creation and job preservation. As it turns out, in the legislation that we passed a month or so ago, the Inflation Reduction Act, which has a lot in it that deals with clean air and climate change, but there is a very clear connection between doing the right thing for our planet and for the people who live on that planet or are growing up on that planet, do the right thing for them, but also making sure that they will have jobs. They are creating literally millions of good-paying jobs going forward. That is critical.

The question is, can we do both? Can we both look out for our planet, provide for our kids going forward, and making sure they not only have clean air and clean water to drink and don't live in a planet that is on fire, but have good-paying jobs? One of our challenges is, how do we realize that? How do we realize that potential and make it happen?

In Delaware, we raise a lot of chickens. We have some cows, but mostly we have chickens. For every person, Senator Capito, for every person that lives in Delaware, there are roughly 300 chickens. They provide a lot of food for people in our State and around the world, but they also create a lot of manure, chicken manure.

We empty out our poultry houses on a fairly regular basis. We used to put it out in the farm fields. It would rain and end up in streams and in the Chesapeake Bay and places like that, the other bays in our State. Not good, not good. We have gotten smarter about doing that. We still have a lot of runoff on the Delmarva Peninsula that degrades the quality of water.

One of the smartest ideas I have seen, and I will relate this back to poultry, one of the smartest things I have seen in terms of trying to look for a market solution to help protect our planet and our air and all, is, I saw it out in California. I like to do customer calls at businesses large and small, all over the Country.

In California, you have a bunch of technology businesses, as you know, that are especially interesting. I visited one in the Bay Area where they take cow manure and they mix it with food waste, and they create a renewable form of gas that can be used to power large trucks and vans and buses. What a great market solution.

We are trying to seize on the same approach on the Delmarva Peninsula where we take chicken manure and maybe food waste as well and, through a process called, I think, anaerobic digestion, to be able to transform that into something that actually has market value.

The other thing, as Senator Capito and I know, we support the legislation that came out of the Ag Committee a year or two ago on regenerative agriculture, trying to encourage farmers to put back into the soil, topsoil especially, carbon dioxide components that will increase the quality and richness of the soil and increase yields. We have legislation that is designed to provide an economic model to incentivize that. So there are a bunch of good ideas out there, and we need more. We need more.

Last thing I would say, as we discuss today, that means more actions to protect Americans from deadly woodsmoke, which now blankets our western States, all 12, to extreme wildfires driven by climate change. It also means using common sense to ensure racecar drivers at Dover Downs may continue to race, while cars and trucks we use on our streets and highways meet their pollution standards of good citizens.

I may have driven my old Chrysler Town and Country minivan around the racetrack at Dover Downs, but that doesn't make it a racecar that should be exempt from emissions standards. With that having been said, I look forward to further conversations with Senator Capito and with our colleagues on these and other matters.

Before we adjourn, Senator Capito, any last closing statements, please?

Senator CAPITO. I would just like to thank the witnesses. I think we have gotten a broad view of things. We have a lot of common area here, and now that the Chairman, I have a visual of him driving around a racetrack in a minivan, that scares me, and then we are leading into lunch, and he is describing what we are going to be doing our cow manure.

[Laughter.]

Senator CAPITO. In all seriousness, these have been very serious topics. There are a lot of things at stake here, so I just appreciate everybody being here with us, and thank you so very much.

Senator CARPER. Before we adjourn, just a tiny bit of housekeeping, to close on a lighter note.

When my minivan reached 600,000, a fellow who does yard work in a bunch of homes in our neighborhood always said he wanted to buy my minivan. If I ever sold my minivan, he wanted to buy my minivan.

Finally, the day came. The electric vehicle came in, red car, and he said, will you sell me your minivan? I said, sure. He said, how much? I said, a dollar. He said, how much? I said, no, a dollar. He said, oh, that is not enough. I said, no, no, a dollar.

So we drove to the DMV, got there, took a number, sat down. Finally they called the number. They called us up to the desk, and the lady who was in charge, she said, Governor, how are you doing? She still thinks of me as her Governor, which was nice.

She said, Governor, how is your minivan? I said, funny you should ask. My minivan is better known than me in Delaware. She said, how is your minivan? I said, funny you should ask; I am going to sell it. She said, to whom? I reached over and said, to Eric right here.

She said, really? Do you have the title? I said yes. She said, well, how much are you going to sell it for? I said, a dollar. She said, how much? I said, a dollar. She said, well, write on the back, $1.00. You sign it, he signs it.

So we signed it and gave it to her. She said, there is a transfer fee. I said, how much is that? She said 3 percent. I said, how much would that be then? She said, well, three cents. I reached into my pocket and pulled out a nickel and gave it to her, and I said, keep the change.

[Laughter.]

Senator CARPER. All right. A little bit of housekeeping. Senators will be allowed to submit written questions for the record through the close of business on Wednesday, September 21st, 2022. We will compile those questions; we will send them to our witnesses. We ask our witnesses to reply by Wednesday, October the 5th of this year.

Again, there has been some humor in today's hearing. These are serious matters. I know that you realize that. Together, hopefully, we can come to a good conclusions, good outcomes, so that Mr. and Mrs. Brown, those boys of yours will someday be sitting here before us testifying again, 50, 60, 70 years from now and trying to keep our Country on the right path.

With that, this hearing is adjourned. Thank you.

[Whereupon, at 11:59 a.m., the hearing was adjourned.]

[Additional material submitted for the record follows.]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

ASSISTANT ADMINISTRATOR
FOR ENFORCEMENT AND
COMPLIANCE ASSURANCE

The Honorable Jack Reed
U.S. Senate
Washington, D.C. 20510

Dear Senator Reed:

Thank you for your letter of December 11, 2019, to the U.S. Environmental Protection Agency concerning the Clean Air Act (Act or CAA) and converting motor vehicles into vehicles used for competition motorsports. You requested information on this issue including the applicable law.

The EPA has the twin goals of letting racers race while also keeping tampered, high-polluting vehicles off our streets and highways. Dedicated competition-use only vehicles should be able to operate as they historically have. At the same time, the EPA must retain the ability to prevent the manufacturing, sale, and installation of aftermarket devices that defeat pollution controls on vehicles used on streets and highways.

Mobile sources are a significant contributor to air pollution in the United States. The Act authorizes the EPA to set standards applicable to emissions from many categories of vehicles and engines. One such category is "motor vehicle," which the Act defines as "any self-propelled vehicle designed for transporting persons or property on a street or highway."[1] A second category is "nonroad vehicle." The term "nonroad vehicle" includes, for example, snowmobiles, all-terrain vehicles, and other vehicles that are not operated on a street or highway, but it specifically excludes "motor vehicles" and vehicles that are used solely for competition.[2] Purpose-built, dedicated competition vehicles, like the kind used in professional competition motorsports, do not fall within either category. Accordingly, such vehicles are not subject to the Clean Air Act regulation of motor vehicles and nonroad vehicles and the Act does not authorize enforcement actions against persons who manufacture or sell parts for such vehicles.

To comply with emissions standards, motor vehicle manufacturers develop emissions control technologies, which they incorporate in the design of the motor vehicles they certify for sale in the United States (EPA-certified motor vehicles). Such emissions controls include filters and catalysts in the vehicle's exhaust system, as well as software and calibrations that manage fueling strategy and other operations in the engine itself.

[1] CAA § 216(2); 42 U.S.C. § 7550(2); *see also* 40 C.F.R. § 85.1703 (further defining "motor vehicle").

[2] CAA § 216(2); 42 U.S.C. § 7550(2).

The Act prohibits tampering with these emissions controls, as well as manufacturing, selling, and installing aftermarket parts that defeat those controls (commonly known as aftermarket defeat devices).[3] These prohibitions apply to all devices used to defeat emissions controls installed on EPA-certified motor vehicles, regardless of how the motor vehicle is used.[4]

The Act does not contemplate removing emissions controls from an EPA-certified motor vehicle in order to convert it into a competition vehicle that operates only on a race track, not streets and highways. As a matter of enforcement discretion, the EPA is not interested in bringing enforcement actions against persons who manufacture, sell, or install parts that transform a street-legal vehicle into a race car that is operated only on a race track. Our focus is on addressing defeat devices that are installed on street vehicles which, we have found, accounts for most of the defeat devices sold today.

In fact, the EPA has found numerous companies and individuals that have manufactured and sold both hardware and software specifically designed to defeat required emissions controls on motor vehicles used on public roads. Our recent enforcement cases have addressed more than one million such aftermarket defeat devices. Illegally-modified vehicles contribute substantial excess pollution that harms public health and impedes efforts by the EPA, tribes, states, and local agencies to plan for and attain air quality standards. For these reasons, and in response to requests from states, the EPA has made *Stopping Aftermarket Defeat Devices* one of our National Compliance Initiatives for 2020 – 2023. Under this initiative, EPA personnel are providing compliance assistance and taking enforcement actions to secure compliance with the Act's prohibitions on tampering and aftermarket defeat devices.

Our enforcement focus on aftermarket defeat devices has led some to think that the EPA seeks to stop the tradition of converting EPA-certified motor vehicles to vehicles that are used solely for competition motorsports. That is not the case. The EPA has never taken, and has no intention to take, enforcement action against vehicle owners for removing or defeating the emission controls of an EPA-certified motor vehicle for the purpose of permanently converting it to a vehicle used solely for competition motorsports.

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[3] The Act's prohibitions against tampering and aftermarket defeat devices are set forth in section 203(a)(3) of the Act, 42 U.S.C. § 7522(a)(3), as follows:

- **Tampering:** CAA § 203(a)(3)(A), 42 U.S.C. § 7522(a)(3)(A), 40 C.F.R. § 1068.101(b)(1): "[The following acts and the causing thereof are prohibited ] for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter prior to its sale and delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser;"
- **Aftermarket Defeat Devices:** CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B), 40 C.F.R. § 1068.101(b)(2): "[The following acts and the causing thereof are prohibited ] for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use;"

[4] The 1990 amendments to the Act expanded the prohibitions on tampering and defeat devices. Prior to those amendments, in order to enforce against an aftermarket defeat device manufacturer, the EPA needed to prove that manufacturer's devices were actually used by the buyer or someone else to tamper a vehicle. Congress thought that required "an indirect and cumbersome method of proof," and therefore created section 203(a)(3)(B) of the Act, 42 U.S.C. § 7522(a)(3)(B), to "clearly prohibit the manufacture, sale, or offering for sale of such devices where it is known or should be known that they will be used for tampering." S. Rep. No. 101-228, at 124 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3509.

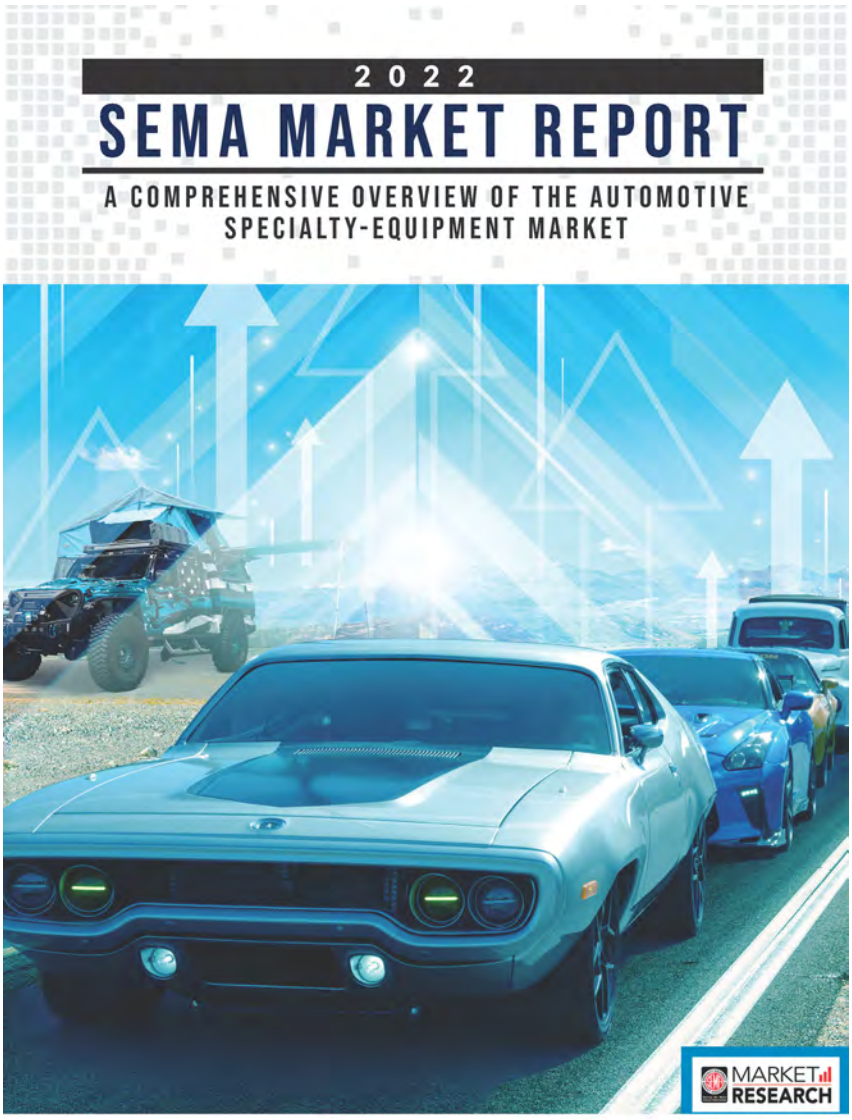
In the course of investigating companies concerning their manufacture and sale of parts designed to defeat emissions controls on EPA-certified motor vehicles, these companies sometimes claim that the parts were intended only for competition motorsports. EPA personnel ask such companies to substantiate their claims and, as a matter of enforcement discretion, forego enforcement where the company can provide information showing that the vehicle for which a part or component is manufactured, sold, or installed is in fact used solely for competition motorsports. No particular information is in and of itself conclusive. When exercising enforcement discretion, the EPA considers the totality of the circumstances, including the attributes of the aftermarket parts and overall volume of sales.

We have found that many companies that make and sell aftermarket defeat devices claim "competition only" use but cannot provide any information to show that their products are used in competition motorsports. In many instances, such claims are dubious because the parts at issue are for motor vehicles rarely used in competition motorsports (such as diesel trucks) or the parts have features suited for the road rather than the race track (such as improved fuel economy). Many companies we investigate operate wholesale or internet-based retail businesses that sell indiscriminately to the public at large. Some utilize point-of-sale disclaimers or require buyers to check a box to acknowledge the part is for "competition only," but such measures are inadequate for keeping aftermarket defeat devices off vehicles used on public roads. To illustrate this point, recent EPA investigations have revealed evidence showing that hundreds of thousands of diesel pickup trucks have had their emissions controls completely removed, and most or all the aftermarket defeat devices used to tamper these trucks were sold under the claim of "competition only." The sheer volume of aftermarket defeat devices belies the assertion that they are only for competition motorsports.

Again, thank you for your letter. If you have further questions, please contact me or your staff may contact Carolyn Levine in the EPA's Office of Congressional and Intergovernmental Relations at Levine.Carolyn@epa.gov or (202) 564-1859.

Sincerely,

Susan Parker Bodine


2022
SEMA MARKET REPORT
A COMPREHENSIVE OVERVIEW OF THE AUTOMOTIVE SPECIALTY-EQUIPMENT MARKET
MARKET RESEARCH

## *INTRODUCTION*

**Specialty-Equipment Market Produces Another Record Year in 2021.**

For the first time, we are reporting a market size over $50 billion. Overall consumer spending on parts and accessories jumped 6.3% last year. This new high point for industry sales reached $50.9 billion.

The truck continues to be a driving force for the industry. Pickup mods accounted for nearly one-third of parts and accessory sales. The shift toward light-truck sales continues in the new-vehicle market, and those pickup and utility vehicles are great platforms for accessorization.

But, it's not just about utility. Performance mods have seen great sales too. People are always looking for more power. Most people can't afford a Lamborghini or even a Hellcat. Still, this industry helps anyone boost their own car toward those lofty goals.

People have voted with their wallet. Consumers continue to show that they love their cars and accessorizing them. Contrary to what some would have us believe, car culture is alive and well in the United States. And that culture has driven our industry to its best sales year ever.

Enthusiasts have been taking advantage of these strange times to do what they love: work on their cars and trucks. Even amid all the disruptions, people found the opportunity to do something fun with their cars. That's what makes this industry so cool.

Even as consumers continue to spend, we are facing some headwinds in 2022 and beyond. We've all seen the effects of the supply-chain issues that ramped up last year. Shipping, raw material and sub-assembly shortages will likely continue into 2023. Inflation has risen across the board, as gas prices have shot up and companies in our industry feel the need to raise prices amid increased costs. Consumer confidence has remained down, as a pandemic, politics, and supply issues have weighed on their minds. Some economists see a slowdown coming this year.

But unemployment is low. Many people are still eschewing some travel and entertainment options, which leaves more time and money for other hobbies. Even with higher gas prices, "road trip" may be the hot travel buzzwords this year, which helps further connect people to their cars. Some economists see signs of continued spending and growth.

We expect our industry to keep growing. Sales growth may slow a bit this year, but we aren't forecasting a drop. As we get further past the pandemic and supply-chain issues, we expect to return to the growth trend we've seen for a decade.

People really do like cars. And they like personalizing their cars. They spent over $50 billion last year to prove it. I can't wait to tell you what our sales record becomes next year.

Gavin Knapp

Director, Market Research

SEMA

## OVERVIEW

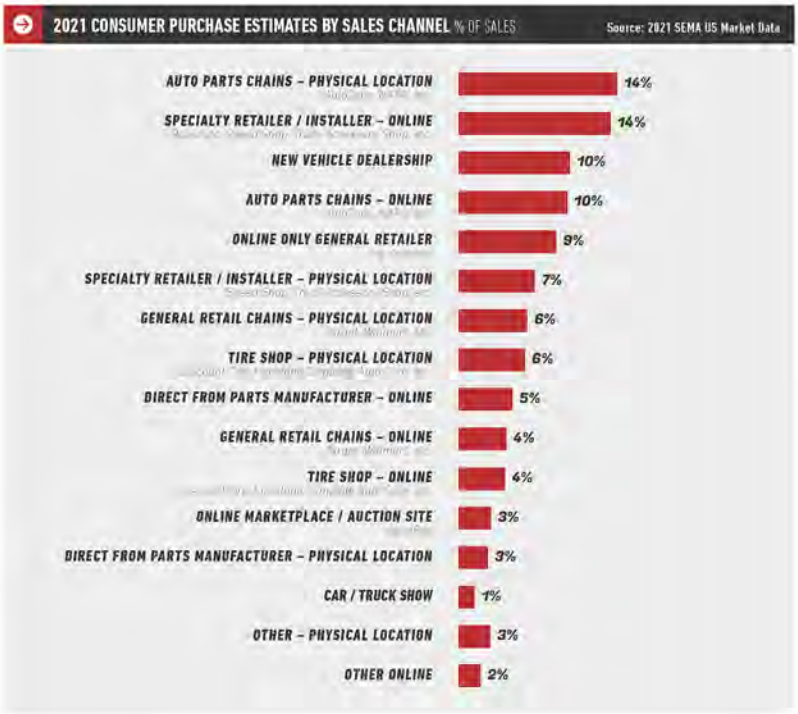
The specialty-equipment industry continues to grow. U.S. sales topped $50 billion for the first time in 2021. U.S. consumers spent $50.9 Billion on accessorizing and modifying their vehicles last year. This represents a 6.3% increase over 2020, and a new high for our industry.

Many businesses saw record sales in 2021, even as the U.S. continued its recovery from COVID and navigated growing disruptions to global shipping and production. Even while dealing with supply-chain uncertainty, shipping delays, product shortages, and reduced new-vehicle sales, 2021 was another great year for the specialty-equipment industry overall. Consumers spent more time than in a typical year working on their vehicles and as restrictions eased on in-person contact, returned to in-store shopping and auto events.

That said, there are still more headwinds as we head work through 2022. The supply-chain and logistical challenges that began to emerge in 2021 have not been addressed as quickly as many had hoped, and it's looking like they may persist through 2022. While we do not expect sales to decline in 2022, our forecast calls for more modest growth—though some economists believe a downturn may arrive this year, which could further dampen consumer spending. As of now, our estimates are that supply issues will clear up in 2023 and the industry will ramp back up towards our historical growth trend. Still, businesses should be paying attention to the economic headwinds going forward.

While the specialty-equipment market typically sees a higher share of online sales than the overall economy, in-store retail channels have historically provided the bulk of automotive specialty parts to consumers. Pandemic disruptions pushed even more sales into online channels during 2020. That online shift seems to be a short-term spike that was partially normalized in 2021, as online and in-person sales evened out.

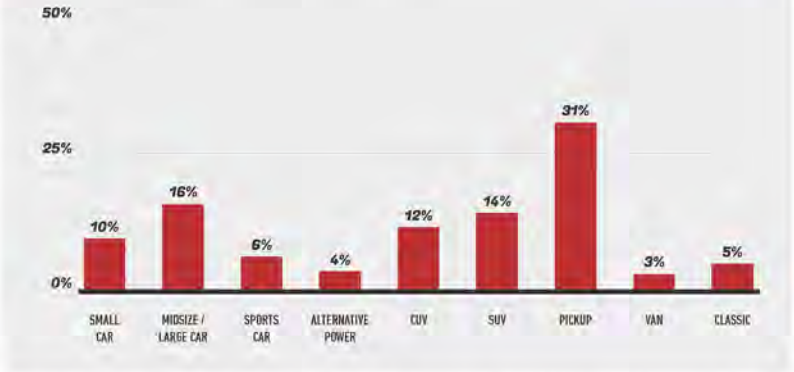
The cost, complexity, size, ease of install, and local availability of all impact where a given product type is likely to be bought. Engine products, for instance, are more likely to be sourced from specialized retailers, while more commoditized products like batteries and chemicals see a higher share of dollars flow through traditional auto-parts chains. And for more niche vehicles or objectives, like restoring a classic, there may not be any local stores that carry the exact parts a consumer needs. SEMA also consistently finds that accessorizers may favor going online for inexpensive, easy-to-install parts, but value getting in-person advice and expertise with complex or big-ticket products.



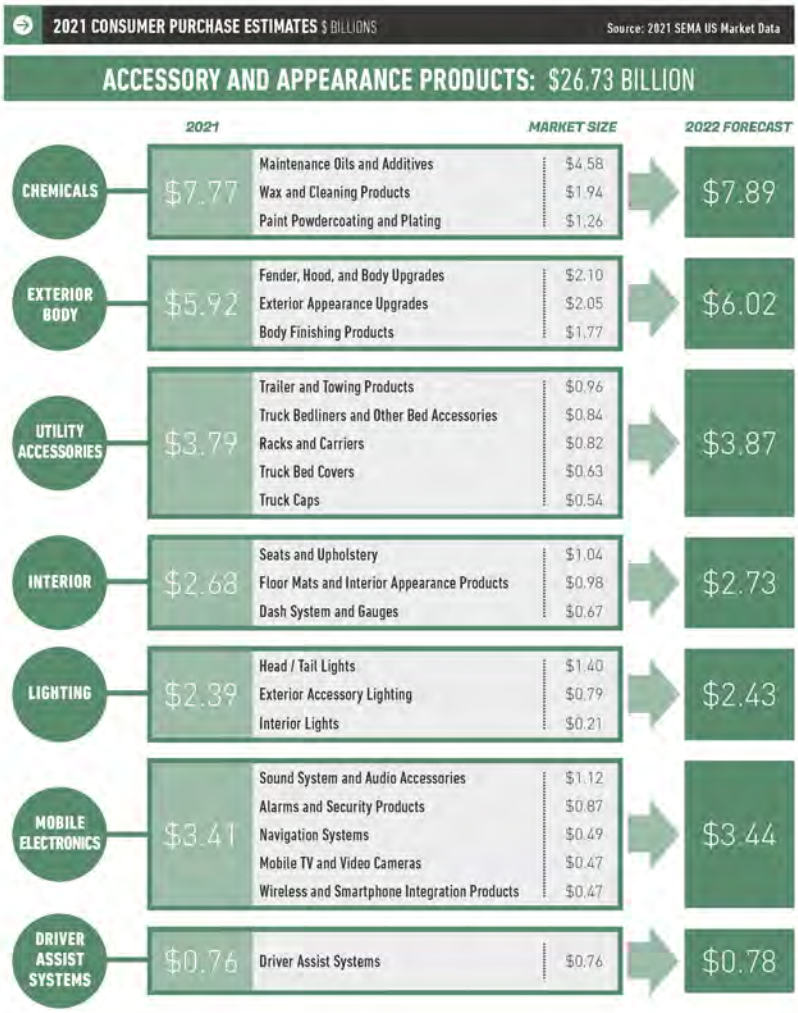
Pickup parts remained big business for the specialty-equipment market in 2021, accounting for 31% of retail sales. Crossover utility vehicles (CUVs), midsize/large cars, and sport utility vehicles (SUVs, including the Jeep Wrangler) also account for significant shares of the market. These are also the most common vehicle types on the road today. Some vehicle models are more likely to be modified (or modified more heavily) than others, but our industry is as diverse as the vehicle population itself. Products are made, and sold, for all types of cars and trucks.

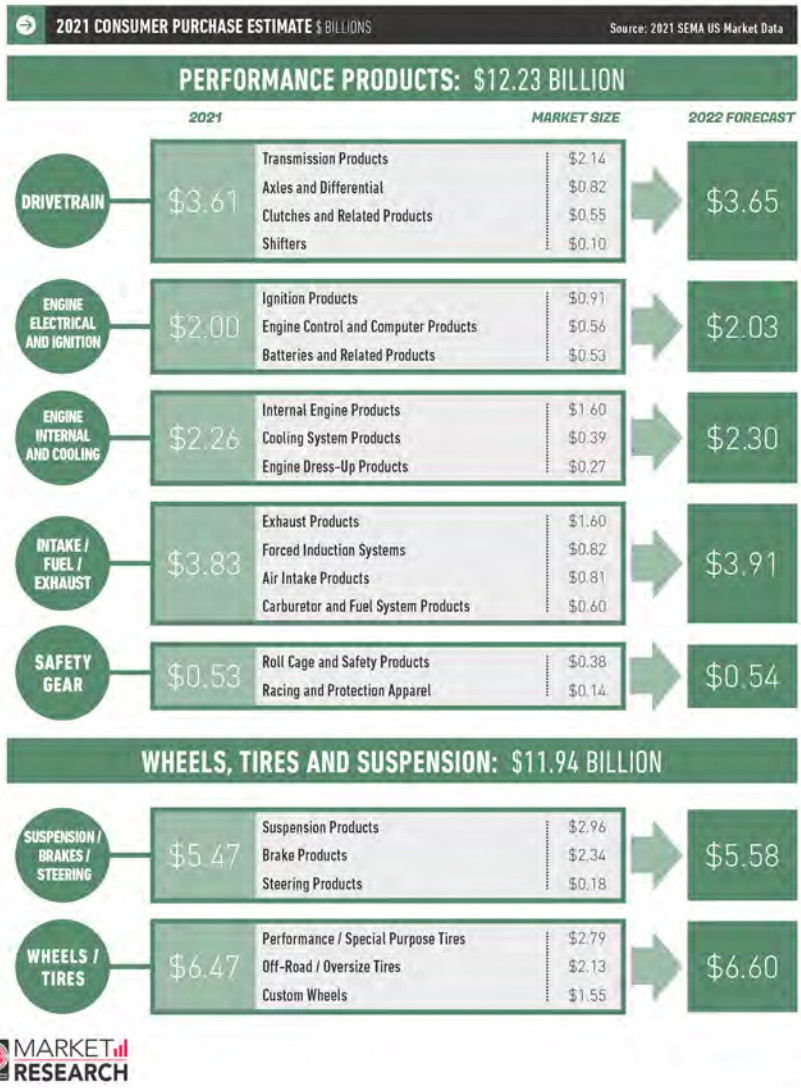
It's also worth noting that different segments inspire different types of modifications. The vehicle segment section of the report details which part categories are preferred by each vehicle-type owner.

**2021 CONSUMER PURCHASE ESTIMATES BY VEHICLE SEGMENT** % OF SALES Source: 2021 SEMA US Market Data




Readers of our previous reports may notice that the vehicles segments reported have changed somewhat. We follow the vehicle segmentation of our VIO data provider Experian Automotive, who has recently updated their segments to better represent the vehicle fleet. These changes will be reflected throughout this report.


2021 CONSUMER PURCHASE ESTIMATES $ BILLIONS
Source: 2021 SEMA US Market Data
ACCESSORY AND APPEARANCE PRODUCTS: $26.73 BILLION
2021
MARKET SIZE
2022 FORECAST
CHEMICALS
$7.77
Maintenance Oils and Additives $4.58
Wax and Cleaning Products $1.94
Paint Powdercoating and Plating $1.26
$7.89
EXTERIOR BODY
$5.92
Fender, Hood, and Body Upgrades $2.10
Exterior Appearance Upgrades $2.05
Body Finishing Products $1.77
$6.02
UTILITY ACCESSORIES
$3.79
Trailer and Towing Products $0.96
Truck Bedliners and Other Bed Accessories $0.84
Racks and Carriers $0.82
Truck Bed Covers $0.63
Truck Caps $0.54
$3.87
INTERIOR
$2.68
Seats and Upholstery $1.04
Floor Mats and Interior Appearance Products $0.98
Dash System and Gauges $0.67
$2.73
LIGHTING
$2.39
Head / Tail Lights $1.40
Exterior Accessory Lighting $0.79
Interior Lights $0.21
$2.43
MOBILE ELECTRONICS
$3.41
Sound System and Audio Accessories $1.12
Alarms and Security Products $0.87
Navigation Systems $0.49
Mobile TV and Video Cameras $0.47
Wireless and Smartphone Integration Products $0.47
$3.44
DRIVER ASSIST SYSTEMS
$0.76
Driver Assist Systems $0.76
$0.78


2021 CONSUMER PURCHASE ESTIMATE $ BILLIONS
Source: 2021 SEMA US Market Data
PERFORMANCE PRODUCTS: $12.23 BILLION
2021
MARKET SIZE
2022 FORECAST
DRIVETRAIN
$3.61
Transmission Products $2.14
Axles and Differential $0.82
Clutches and Related Products $0.55
Shifters $0.10
$3.65
ENGINE ELECTRICAL AND IGNITION
$2.00
Ignition Products $0.91
Engine Control and Computer Products $0.56
Batteries and Related Products $0.53
$2.03
ENGINE INTERNAL AND COOLING
$2.26
Internal Engine Products $1.60
Cooling System Products $0.39
Engine Dress-Up Products $0.27
$2.30
INTAKE / FUEL / EXHAUST
$3.83
Exhaust Products $1.60
Forced Induction Systems $0.82
Air Intake Products $0.81
Carburetor and Fuel System Products $0.60
$3.91
SAFETY GEAR
$0.53
Roll Cage and Safety Products $0.38
Racing and Protection Apparel $0.14
$0.54
WHEELS, TIRES AND SUSPENSION: $11.94 BILLION
SUSPENSION / BRAKES / STEERING
$5.47
Suspension Products $2.96
Brake Products $2.34
Steering Products $0.18
$5.58
WHEELS / TIRES
$6.47
Performance / Special Purpose Tires $2.79
Off-Road / Oversize Tires $2.13
Custom Wheels $1.55
$6.60
MARKET RESEARCH

## MAINTENANCE OILS AND ADDITIVES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $4.10 BILLION | $4.23 BILLION | $4.35 BILLION | $4.58 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 35% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 17% |
| New Vehicle Dealership | 7% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 4% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 1% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 2% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 15% |
| Midsize / Large Car | 18% |
| Sports Car | 4% |
| Alternative Power | 2% |
| CUV | 15% |
| SUV | 10% |
| Pickup | 27% |
| Van | 5% |
| Classic | 4% |

### EXAMPLE PARTS

Engine Treatments, Engine / Injector Cleaner,
Fuel Additives, Performance ATF,
Performance Gear Oil,
Performance Motor Oil / Synthetic Oil

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 16% OF PURCHASES | 12% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 65% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

96%

### DIY INSTALLATION SHARE

76%

## WAX AND CLEANING PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.80 BILLION | $1.85 BILLION | $1.86 BILLION | $1.94 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 26% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 25% |
| New Vehicle Dealership | 4% |
| Specialty Retailer/Installer | 3% |
| Tire Shop | 1% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 9% |
| Online Marketplace/Auction Site | 1% |
| Online Only General Retailer | 11% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 15% |
| Midsize / Large Car | 17% |
| Sports Car | 5% |
| Alternative Power | 3% |
| CUV | 16% |
| SUV | 11% |
| Pickup | 23% |
| Van | 5% |
| Classic | 6% |

### EXAMPLE PARTS

Cleaning Products (interior or exterior),
Polish / Wax,
Other Chemicals

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 30% OF PURCHASES | 9% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 55% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

91%

### DIY INSTALLATION SHARE

90%

## PAINT POWDERCOATING AND PLATING

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 20120 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.14 BILLION | $1.16 BILLION | $1.21 BILLION | $1.26 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 18% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 8% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | <1% |
| Other | 5% |
| **ONLINE** | |
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 1% |
| Online Only General Retailer | 6% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 16% |
| Midsize / Large Car | 29% |
| Sports Car | 4% |
| Alternative Power | 2% |
| CUV | 6% |
| SUV | 16% |
| Pickup | 18% |
| Van | 1% |
| Classic | 8% |

### EXAMPLE PARTS

Paint Powdercoating / Plating

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 26% OF PURCHASES | 21% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 47% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

94%

### DIY INSTALLATION SHARE

64%

## FENDER, HOOD AND BODY UPGRADES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.84 BILLION | $1.91 BILLION | $1.97 BILLION | $2.10 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 2% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 11% |
| Specialty Retailer/Installer | 19% |
| Tire Shop | 3% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 11% |
| Sports Car | 12% |
| Alternative Power | 8% |
| CUV | 11% |
| SUV | 14% |
| Pickup | 29% |
| Van | 2% |
| Classic | 2% |

### EXAMPLE PARTS

Fenders, Hood, Body Modifications, Bumper / Grille Guard / Step Bumper

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 50% OF PURCHASES | 19% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 24% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

83%

### DIY INSTALLATION SHARE

53%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## EXTERIOR APPEARANCE UPGRADES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.70 BILLION | $1.76 BILLION | $1.92 BILLION | $2.05 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 1% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 16% |
| Specialty Retailer/Installer | 16% |
| Tire Shop | 1% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 4% |
| Midsize / Large Car | 9% |
| Sports Car | 3% |
| Alternative Power | 3% |
| CUV | 12% |
| SUV | 18% |
| Pickup | 48% |
| Van | 1% |
| Classic | 2% |

### EXAMPLE PARTS

Grille, Side Steps / Running Boards, Mirrors, Sunroof / Moonroof, Window Shades / Vents, Car Covers, Other Exterior Body Upgrades

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 54% OF PURCHASES | 13% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 25% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

79%

### DIY INSTALLATION SHARE

66%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## BODY FINISHING PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.53 BILLION | $1.58 BILLION | $1.67 BILLION | $1.77 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 5% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | 2% |
| Other | 5% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 7% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 18% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 2% |
| Other | 3% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 15% |
| Sports Car | 8% |
| Alternative Power | 6% |
| CUV | 12% |
| SUV | 20% |
| Pickup | 21% |
| Van | 5% |
| Classic | 3% |

### EXAMPLE PARTS

Decals / Graphics / Emblems / Wraps, Window Tinting / Lamination

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 37% OF PURCHASES | 16% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 5% OF PURCHASES | 43% OF PURCHASES |

**MANUFACTURERS WITH SALES GROWTH**
61%

**DIY INSTALLATION SHARE**
54%

## TRAILER AND TOWING PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.81 BILLION | $0.85 BILLION | $0.90 BILLION | $0.96 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 13% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 2% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 12% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | <1% |
| Midsize / Large Car | 1% |
| Sports Car | 0% |
| Alternative Power | 5% |
| CUV | 11% |
| SUV | 14% |
| Pickup | 60% |
| Van | 6% |
| Classic | 3% |

### EXAMPLE PARTS

Trailer Hitch,
Winch

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 40% OF PURCHASES | 15% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 38% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

96%

### DIY INSTALLATION SHARE

71%

## TRUCK BEDLINERS AND OTHER BED ACCESSORIES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.72 BILLION | $0.74 BILLION | $0.78 BILLION | $0.84 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 8% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 1% |
| Other | 4% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 6% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | 1% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 0% |
| Midsize / Large Car | 0% |
| Sports Car | 0% |
| Alternative Power | <1% |
| CUV | <1% |
| SUV | <1% |
| Pickup | 98% |
| Van | 0% |
| Classic | <1% |

### EXAMPLE PARTS

Pickup Bed Rack System,
Drop-in or Spray Bedliner,
Tool Box

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 29% OF PURCHASES | 24% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 39% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

86%

### DIY INSTALLATION SHARE

57%

## RACKS AND CARRIERS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.71 BILLION | $0.80 BILLION | $0.76 BILLION | $0.82 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 6% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 1% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 17% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 1% |
| Other | 3% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 2% |
| Midsize / Large Car | 3% |
| Sports Car | <1% |
| Alternative Power | 3% |
| CUV | 30% |
| SUV | 24% |
| Pickup | 31% |
| Van | 7% |
| Classic | 1% |

### EXAMPLE PARTS

Hitch Mounted Cargo Carrier,
Roof Rack / Carriers,
Mounted Tent (Roof / Truck Bed),
Other Exterior Accessories

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 49% OF PURCHASES | 17% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 27% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

88%

### DIY INSTALLATION SHARE

61%

## TRUCK BED COVERS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.52 BILLION | $0.54 BILLION | $0.58 BILLION | $0.63 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 3% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | <1% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 17% |
| Tire Shop | <1% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 5% |
| Direct from Parts Manufacturer | 8% |
| General Retail Chains | 1% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 23% |
| Specialty Retailer/Installer | 19% |
| Tire Shop | <1% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 0% |
| Midsize / Large Car | 0% |
| Sports Car | 0% |
| Alternative Power | 0% |
| CUV | 0% |
| SUV | 0% |
| Pickup | 99% |
| Van | 0% |
| Classic | <1% |

### EXAMPLE PARTS

Pickup Tonneau Cover

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 55% OF PURCHASES | 10% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 29% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

88%

### DIY INSTALLATION SHARE

67%

## TRUCK CAPS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.50 BILLION | $0.51 BILLION | $0.51 BILLION | $0.54 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 5% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 0% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 12% |
| Tire Shop | 1% |
| Other | 4% |
| **ONLINE** | |
| Auto Parts Chains | 18% |
| Direct from Parts Manufacturer | 9% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 1% |
| Online Only General Retailer | 11% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | <1% |
| Other | 3% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 0% |
| Midsize / Large Car | 0% |
| Sports Car | 0% |
| Alternative Power | 0% |
| CUV | 0% |
| SUV | 1% |
| Pickup | 95% |
| Van | 0% |
| Classic | 4% |

### EXAMPLE PARTS

Pickup Truck Cap / Shell

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 48% OF PURCHASES | 17% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 3% OF PURCHASES | 31% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

78%

### DIY INSTALLATION SHARE

68%

## SEATS AND UPHOLSTERY

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.92 BILLION | $0.95 BILLION | $0.97 BILLION | $1.04 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 13% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 2% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 7% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 16% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 7% |
| Midsize / Large Car | 14% |
| Sports Car | 7% |
| Alternative Power | 6% |
| CUV | 17% |
| SUV | 14% |
| Pickup | 19% |
| Van | 6% |
| Classic | 9% |

### EXAMPLE PARTS

Custom Seats, Headliners,
Seat Covers / Dash Covers, Upholstery

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 46% OF PURCHASES | 15% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 32% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

74%

### DIY INSTALLATION SHARE

73%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## FLOOR MATS AND INTERIOR APPEARANCE PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.88 BILLION | $0.90 BILLION | $0.92 BILLION | $0.98 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 12% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 8% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 3% |
| Tire Shop | 2% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 6% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 19% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 8% |
| Midsize / Large Car | 16% |
| Sports Car | 4% |
| Alternative Power | 5% |
| CUV | 21% |
| SUV | 12% |
| Pickup | 23% |
| Van | 6% |
| Classic | 5% |

### EXAMPLE PARTS

Cargo / Trunk Mat,
Custom Floor Mats/Carpeting
Knobs / Handles, Interior Mirrors,
Pedals, Other Interior Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 52% OF PURCHASES | 13% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 27% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

73%

### DIY INSTALLATION SHARE

77%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## DASH SYSTEM AND GAUGES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.58 BILLION | $0.61 BILLION | $0.63 BILLION | $0.67 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 12% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 3% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 16% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 10% |
| Specialty Retailer/Installer | 12% |
| Tire Shop | 4% |
| Other | <1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 6% |
| Midsize / Large Car | 16% |
| Sports Car | 6% |
| Alternative Power | 4% |
| CUV | 15% |
| SUV | 12% |
| Pickup | 20% |
| Van | 2% |
| Classic | 18% |

### EXAMPLE PARTS

Aftermarket Air Conditioning Kits, Dash Kits, Custom Gauges

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 52% OF PURCHASES | 21% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 20% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

88%

### DIY INSTALLATION SHARE

60%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## HEAD / TAIL LIGHTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.26 BILLION | $1.31 BILLION | $1.31 BILLION | $1.40 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 17% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 7% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 2% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 15% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 17% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 12% |
| Midsize / Large Car | 17% |
| Sports Car | 5% |
| Alternative Power | 4% |
| CUV | 9% |
| SUV | 17% |
| Pickup | 29% |
| Van | 2% |
| Classic | 5% |

### EXAMPLE PARTS

Head Light / Tail Light Housings / Covers / etc,
Upgrade Replacement Bulbs

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 53% OF PURCHASES | 13% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 28% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

67%

### DIY INSTALLATION SHARE

74%

## EXTERIOR ACCESSORY LIGHTING

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.69 BILLION | $0.71 BILLION | $0.74 BILLION | $0.79 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 14% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 2% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 13% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 17% |
| Specialty Retailer/Installer | 12% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 16% |
| Sports Car | 4% |
| Alternative Power | 6% |
| CUV | 12% |
| SUV | 16% |
| Pickup | 32% |
| Van | 2% |
| Classic | 2% |

### EXAMPLE PARTS

Exterior Lighting Add-On,
Driving / Fog Lights,
Other Lighting Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 52% OF PURCHASES | 14% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 28% OF PURCHASES |

**MANUFACTURERS WITH SALES GROWTH**
87%

**DIY INSTALLATION SHARE**
69%

## INTERIOR LIGHTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.19 BILLION | $0.20 BILLION | $0.20 BILLION | $0.21 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 16% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 2% |
| Tire Shop | 1% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 13% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 20% |
| Specialty Retailer/Installer | 11% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 17% |
| Midsize / Large Car | 23% |
| Sports Car | 6% |
| Alternative Power | 6% |
| CUV | 15% |
| SUV | 11% |
| Pickup | 16% |
| Van | 1% |
| Classic | 5% |

### EXAMPLE PARTS

Interior Lighting

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 53% OF PURCHASES | 15% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 25% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

80%

### DIY INSTALLATION SHARE

70%

## SOUND SYSTEM AND AUDIO ACCESSORIES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.03 BILLION | $1.03 BILLION | $1.06 BILLION | $1.12 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 9% |
| New Vehicle Dealership | 7% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 2% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 9% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 15% |
| Specialty Retailer/Installer | 11% |
| Tire Shop | 1% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 12% |
| Midsize / Large Car | 18% |
| Sports Car | 3% |
| Alternative Power | 5% |
| CUV | 9% |
| SUV | 18% |
| Pickup | 26% |
| Van | 3% |
| Classic | 7% |

### EXAMPLE PARTS

Satellite Radio Add-On, In-Dash Stereo System,
Speakers / Subwoofer / Amplifier,
Other Mobile Electronics Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 41% OF PURCHASES | 21% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 4% OF PURCHASES | 33% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

76%

### DIY INSTALLATION SHARE

60%

## ALARMS AND SECURITY PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.83 BILLION | $0.82 BILLION | $0.83 BILLION | $0.87 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 9% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 19% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 2% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 11% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 3% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 17% |
| Sports Car | 8% |
| Alternative Power | 10% |
| CUV | 16% |
| SUV | 9% |
| Pickup | 28% |
| Van | 3% |
| Classic | 0% |

### EXAMPLE PARTS

Alarm / Remote Start / Keyless Entry

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 30% OF PURCHASES | 21% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 41% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

N/A

### DIY INSTALLATION SHARE

42%

## NAVIGATION SYSTEMS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.47 BILLION | $0.47 BILLION | $0.47 BILLION | $0.49 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 9% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 1% |
| Other | 1% |
| **ONLINE** | |
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 11% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 15% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 17% |
| Sports Car | 5% |
| Alternative Power | 10% |
| CUV | 17% |
| SUV | 12% |
| Pickup | 21% |
| Van | 4% |
| Classic | 4% |

### EXAMPLE PARTS

GPS Navigation System

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 40% OF PURCHASES | 25% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 26% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

N/A

### DIY INSTALLATION SHARE

56%

## MOBILE TV AND VIDEO CAMERAS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.44 BILLION | $0.45 BILLION | $0.45 BILLION | $0.47 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 6% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 11% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 3% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 8% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 15% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 4% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 9% |
| Midsize / Large Car | 15% |
| Sports Car | 2% |
| Alternative Power | 8% |
| CUV | 18% |
| SUV | 21% |
| Pickup | 19% |
| Van | 6% |
| Classic | 2% |

### EXAMPLE PARTS

Dashboard Camera,
DVD Player / Video Monitor / Mobile Satellite TV

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 43% OF PURCHASES | 22% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 29% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

N/A

### DIY INSTALLATION SHARE

61%

## WIRELESS AND SMARTPHONE INTEGRATION PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.42 BILLION | $0.43 BILLION | $0.44 BILLION | $0.47 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 6% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 9% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 1% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 9% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 15% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 15% |
| Midsize / Large Car | 16% |
| Sports Car | 7% |
| Alternative Power | 6% |
| CUV | 13% |
| SUV | 16% |
| Pickup | 22% |
| Van | 2% |
| Classic | 2% |

### EXAMPLE PARTS

In-Car Wi-Fi Access / Mobile Hot Spot,
Smartphone Integration - Hands-Free Talk,
Smartphone Integration - Stereo Connection

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 40% OF PURCHASES | 23% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 31% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

N/A

### DIY INSTALLATION SHARE

54%

## DRIVER ASSIST SYSTEMS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.68 BILLION | $0.71 BILLION | $0.71 BILLION | $0.76 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 25% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 1% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 7% |
| Online Only General Retailer | 12% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 8% |
| Midsize / Large Car | 15% |
| Sports Car | 4% |
| Alternative Power | 8% |
| CUV | 21% |
| SUV | 13% |
| Pickup | 25% |
| Van | 4% |
| Classic | 0% |

### EXAMPLE PARTS

Backup Camera / Sensors, Blind Spot Monitoring
Front Collision Warning,
Lane Departure Warning,
Adaptive Cruise Control,
Other Driver Assist Systems

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 39% OF PURCHASES | 26% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 29% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

N/A

### DIY INSTALLATION SHARE

40%

## TRANSMISSION PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.88 BILLION | $1.96 BILLION | $2.02 BILLION | $2.14 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 11% |
| Car / Truck Show | 6% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 11% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 3% |
| Other | 6% |
| **ONLINE** | |
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 9% |
| General Retail Chains | 1% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 4% |
| Specialty Retailer/Installer | 17% |
| Tire Shop | 1% |
| Other | 3% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 8% |
| Midsize / Large Car | 19% |
| Sports Car | 7% |
| Alternative Power | 2% |
| CUV | 7% |
| SUV | 18% |
| Pickup | 31% |
| Van | 3% |
| Classic | 6% |

### EXAMPLE PARTS

Bellhousing, Torque Converters, Performance Upgrade/Replacement Transmission, Transmission Cooler, Engine/Transmission Sensors, Other Drivetrain Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 37% OF PURCHASES | 22% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 34% OF PURCHASES |

**MANUFACTURERS WITH SALES GROWTH**
69%

**DIY INSTALLATION SHARE**
44%

## AXLES AND DIFFERENTIAL

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.74 BILLION | $0.76 BILLION | $0.78 BILLION | $0.82 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 19% |
| Car / Truck Show | 7% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 1% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 8% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 4% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 8% |
| Midsize / Large Car | 12% |
| Sports Car | 5% |
| Alternative Power | 3% |
| CUV | 19% |
| SUV | 31% |
| Pickup | 18% |
| Van | <1% |
| Classic | 4% |

### EXAMPLE PARTS

Axles, Driveshaft,
Limited Slip / Locking Differential /
Differential Housing / Ring & Pinion,
U-Joints

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 32% OF PURCHASES | 23% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 19% OF PURCHASES | 26% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

78%

### DIY INSTALLATION SHARE

58%

## CLUTCHES AND RELATED PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.47 BILLION | $0.50 BILLION | $0.51 BILLION | $0.55 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 8% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 4% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 21% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 7% |
| Online Only General Retailer | 2% |
| Specialty Retailer/Installer | 20% |
| Tire Shop | 7% |
| Other | 0% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 16% |
| Midsize / Large Car | 18% |
| Sports Car | 11% |
| Alternative Power | 1% |
| CUV | 7% |
| SUV | 15% |
| Pickup | 30% |
| Van | 1% |
| Classic | 1% |

### EXAMPLE PARTS

Clutches / Clutch Plates / Flywheel

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 40% OF PURCHASES | 25% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 9% OF PURCHASES | 26% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

62%

### DIY INSTALLATION SHARE

57%

## SHIFTERS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.10 BILLION | $0.10 BILLION | $0.10 BILLION | $0.10 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 5% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 24% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 3% |
| Other | 3% |
| **ONLINE** | |
| Auto Parts Chains | 8% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 7% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 5% |
| Other | 7% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 15% |
| Midsize / Large Car | 20% |
| Sports Car | 10% |
| Alternative Power | 1% |
| CUV | 11% |
| SUV | 10% |
| Pickup | 11% |
| Van | 3% |
| Classic | 18% |

### EXAMPLE PARTS

Shifter Knob / Handle, Short Throw Shifter

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 46% OF PURCHASES | 13% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 19% OF PURCHASES | 22% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

63%

### DIY INSTALLATION SHARE

57%

## IGNITION PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.80 BILLION | $0.82 BILLION | $0.86 BILLION | $0.91 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 28% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 4% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 16% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 6% |
| Specialty Retailer/Installer | 14% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 19% |
| Sports Car | 6% |
| Alternative Power | 3% |
| CUV | 9% |
| SUV | 17% |
| Pickup | 20% |
| Van | 8% |
| Classic | 7% |

### EXAMPLE PARTS

Alternator, Ignition Controllers / Coils,
Ignition Wires / Spark Plugs,
Starter Motor / Solenoid,
Other Engine Electrical and Ignition Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 30% OF PURCHASES | 18% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 9% OF PURCHASES | 43% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

76%

### DIY INSTALLATION SHARE

65%

## ENGINE CONTROL AND COMPUTER PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.47 BILLION | $0.49 BILLION | $0.52 BILLION | $0.56 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 13% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 3% |
| Other | 5% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 13% |
| Direct from Parts Manufacturer | 8% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 7% |
| Specialty Retailer/Installer | 18% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 20% |
| Midsize / Large Car | 29% |
| Sports Car | 8% |
| Alternative Power | 2% |
| CUV | 13% |
| SUV | 13% |
| Pickup | 12% |
| Van | 1% |
| Classic | 3% |

### EXAMPLE PARTS

Engine Management System,
Performance Chip,
Computer / Tuner

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 36% OF PURCHASES | 23% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 4% OF PURCHASES | 37% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

73%

### DIY INSTALLATION SHARE

39%

## BATTERIES AND RELATED PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.46 BILLION | $0.49 BILLION | $0.50 BILLION | $0.53 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 36% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 11% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 5% |
| Tire Shop | 5% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 14% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 2% |
| Specialty Retailer/Installer | 3% |
| Tire Shop | 1% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 16% |
| Midsize / Large Car | 21% |
| Sports Car | 4% |
| Alternative Power | 3% |
| CUV | 14% |
| SUV | 15% |
| Pickup | 19% |
| Van | 5% |
| Classic | 4% |

### EXAMPLE PARTS

Battery Wraps,
Performance/Heavy Duty Battery

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 14% OF PURCHASES | 16% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 64% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

74%

### DIY INSTALLATION SHARE

58%

## INTERNAL ENGINE PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.36 BILLION | $1.42 BILLION | $1.50 BILLION | $1.60 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 10% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 4% |
| Other | 3% |
| **ONLINE** | |
| Auto Parts Chains | 15% |
| Direct from Parts Manufacturer | 8% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 18% |
| Tire Shop | 2% |
| Other | 5% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 16% |
| Sports Car | 7% |
| Alternative Power | 4% |
| CUV | 5% |
| SUV | 14% |
| Pickup | 29% |
| Van | 2% |
| Classic | 13% |

### EXAMPLE PARTS

Camshaft / Valvetrain, Cylinder Heads, Engine Swap / Crate Engine, Oil Pan / Pump, Gaskets, Pistons, Connecting Rods, Rings, Crankshafts, Other Engine Internal and Cooling Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 37% OF PURCHASES | 24% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 5% OF PURCHASES | 34% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

89%

### DIY INSTALLATION SHARE

51%

## COOLING SYSTEM PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.34 BILLION | $0.35 BILLION | $0.37 BILLION | $0.39 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 19% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 2% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 3% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 9% |
| Midsize / Large Car | 20% |
| Sports Car | 5% |
| Alternative Power | 2% |
| CUV | 15% |
| SUV | 14% |
| Pickup | 20% |
| Van | 6% |
| Classic | 11% |

### EXAMPLE PARTS

Engine Fan,
Radiator

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 33% OF PURCHASES | 19% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 42% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

80%

### DIY INSTALLATION SHARE

49%

## ENGINE DRESS-UP PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.23 BILLION | $0.24 BILLION | $0.26 BILLION | $0.27 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 21% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 8% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 6% |
| Other | 3% |
| **ONLINE** | |
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 4% |
| Specialty Retailer/Installer | 20% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 7% |
| Midsize / Large Car | 14% |
| Sports Car | 5% |
| Alternative Power | 3% |
| CUV | 5% |
| SUV | 13% |
| Pickup | 38% |
| Van | 4% |
| Classic | 11% |

### EXAMPLE PARTS

Custom Valve Covers,
Performance Plumbing

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 34% OF PURCHASES | 17% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 44% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

83%

### DIY INSTALLATION SHARE

57%

## EXHAUST PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.38 BILLION | $1.44 BILLION | $1.49 BILLION | $1.60 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 10% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 3% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 11% |
| General Retail Chains | 1% |
| Online Marketplace/Auction Site | 6% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 23% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 12% |
| Midsize / Large Car | 12% |
| Sports Car | 22% |
| Alternative Power | 2% |
| CUV | 6% |
| SUV | 6% |
| Pickup | 29% |
| Van | <1% |
| Classic | 12% |

### EXAMPLE PARTS

Catalytic Converter,
Exhaust Headers, Exhaust Kit,
Exhaust Pipe Tip Only

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 45% OF PURCHASES | 14% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 32% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

80%

### DIY INSTALLATION SHARE

54%

## FORCED INDUCTION SYSTEMS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.69 BILLION | $0.72 BILLION | $0.76 BILLION | $0.82 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 6% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 3% |
| Tire Shop | 1% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 16% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 10% |
| Specialty Retailer/Installer | 16% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 25% |
| Sports Car | 18% |
| Alternative Power | 1% |
| CUV | 14% |
| SUV | 4% |
| Pickup | 23% |
| Van | 1% |
| Classic | 5% |

### EXAMPLE PARTS

Nitrous Oxide Kit, Supercharger, Turbocharger

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 43% OF PURCHASES | 23% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 14% OF PURCHASES | 20% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

81%

### DIY INSTALLATION SHARE

48%

## AIR INTAKE PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.70 BILLION | $0.73 BILLION | $0.75 BILLION | $0.81 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 13% |
| Car / Truck Show | 3% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 7% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 1% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 17% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 1% |
| Online Marketplace/Auction Site | 7% |
| Online Only General Retailer | 9% |
| Specialty Retailer/Installer | 20% |
| Tire Shop | 1% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 25% |
| Sports Car | 18% |
| Alternative Power | 1% |
| CUV | 14% |
| SUV | 4% |
| Pickup | 23% |
| Van | 1% |
| Classic | 5% |

### EXAMPLE PARTS

Cold Air Intake Conversion,
Performance Air Filter Replacement
Intake Manifold

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 54% OF PURCHASES | 13% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 9% OF PURCHASES | 24% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

78%

### DIY INSTALLATION SHARE

63%

## CARBURETOR AND FUEL SYSTEM PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.53 BILLION | $0.55 BILLION | $0.56 BILLION | $0.60 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 16% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 3% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 18% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 1% |
| Other | 3% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 15% |
| Sports Car | 6% |
| Alternative Power | 2% |
| CUV | 14% |
| SUV | 12% |
| Pickup | 21% |
| Van | 2% |
| Classic | 17% |

### EXAMPLE PARTS

Carburetor, Fuel Injectors,
Fuel Pressure Regulators,
Fuel Pump / Rails, Fuel Tank / Cells,
Other Intake / Fuel / Exhaust Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 39% OF PURCHASES | 18% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 8% OF PURCHASES | 35% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

72%

### DIY INSTALLATION SHARE

53%

## ROLL CAGE AND SAFETY PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.36 BILLION | $0.36 BILLION | $0.37 BILLION | $0.38 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 9% |
| Car / Truck Show | 4% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 11% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 3% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 6% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 10% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 3% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 9% |
| Midsize / Large Car | 14% |
| Sports Car | 7% |
| Alternative Power | 5% |
| CUV | 23% |
| SUV | 17% |
| Pickup | 19% |
| Van | 4% |
| Classic | 3% |

### EXAMPLE PARTS

Fire Extinguisher, Roll Cage / Bar, Seat Belts / Harnesses / Restraints, Other Safety Gear

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 35% OF PURCHASES | 20% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 12% OF PURCHASES | 33% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

69%

### DIY INSTALLATION SHARE

57%

## RACING AND PROTECTION APPAREL

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.14 BILLION | $0.14 BILLION | $0.14 BILLION | $0.14 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 8% |
| Car / Truck Show | 8% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 5% |
| New Vehicle Dealership | 8% |
| Specialty Retailer/Installer | 5% |
| Tire Shop | 4% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 9% |
| General Retail Chains | 7% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 7% |
| Specialty Retailer/Installer | 16% |
| Tire Shop | 4% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 15% |
| Midsize / Large Car | 11% |
| Sports Car | 6% |
| Alternative Power | 26% |
| CUV | 7% |
| SUV | 22% |
| Pickup | 9% |
| Van | 3% |
| Classic | <1% |

### EXAMPLE PARTS

Head Protection,
Racing Suit, Shoes, Gloves

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 38% OF PURCHASES | 24% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 17% OF PURCHASES | 21% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

80%

### DIY INSTALLATION SHARE

61%

## SUSPENSION PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $2.46 BILLION | $2.56 BILLION | $2.75 BILLION | $2.96 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 1% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 4% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 13% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 8% |
| Specialty Retailer/Installer | 21% |
| Tire Shop | 2% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 7% |
| Midsize / Large Car | 17% |
| Sports Car | 4% |
| Alternative Power | 2% |
| CUV | 5% |
| SUV | 18% |
| Pickup | 41% |
| Van | 2% |
| Classic | 3% |

### EXAMPLE PARTS

Air Suspension System, Lift Kits, Shocks,
Coil Springs / Coil Overs, Leaf Springs,
Sway Bars / Control / Trailing Arms, Lowering Kits,
Leveling Kits,
Other Suspension / Brakes / Steering Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 45% OF PURCHASES | 20% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 29% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

85%

### DIY INSTALLATION SHARE

53%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## BRAKE PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $2.04 BILLION | $2.12 BILLION | $2.20 BILLION | $2.34 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 23% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 2% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 7% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 16% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 2% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 9% |
| Midsize / Large Car | 28% |
| Sports Car | 6% |
| Alternative Power | 2% |
| CUV | 12% |
| SUV | 10% |
| Pickup | 25% |
| Van | 4% |
| Classic | 5% |

### EXAMPLE PARTS

Performance Brakes (e.g., Calipers, Rotors, etc.), Brake Pads

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 31% OF PURCHASES | 18% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 6% OF PURCHASES | 44% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

81%

### DIY INSTALLATION SHARE

52%

## STEERING PRODUCTS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $0.15 BILLION | $0.16 BILLION | $0.16 BILLION | $0.18 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 12% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 4% |
| Other | 5% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 5% |
| Online Only General Retailer | 6% |
| Specialty Retailer/Installer | 13% |
| Tire Shop | 4% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 12% |
| Midsize / Large Car | 29% |
| Sports Car | 6% |
| Alternative Power | 1% |
| CUV | 17% |
| SUV | 16% |
| Pickup | 15% |
| Van | 1% |
| Classic | 3% |

### EXAMPLE PARTS

Steering Columns,
Steering Wheels

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 31% OF PURCHASES | 24% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 38% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

83%

### DIY INSTALLATION SHARE

42%

MARKET RESEARCH

NOTE: Product category definition has changed since previous report.

## PERFORMANCE / SPECIAL PURPOSE TIRES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $2.46 BILLION | $2.54 BILLION | $2.64 BILLION | $2.79 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 9% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 25% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 6% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 4% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 13% |
| Other | 1% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 12% |
| Midsize / Large Car | 19% |
| Sports Car | 11% |
| Alternative Power | 3% |
| CUV | 15% |
| SUV | 12% |
| Pickup | 19% |
| Van | 4% |
| Classic | 3% |

### EXAMPLE PARTS

Snow / Winter Tires,
Low Profile Tires, Performance Tires,
Reproduction / Vintage Tires,
Other Wheel / Tire Products

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 19% OF PURCHASES | 26% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 5% OF PURCHASES | 50% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

69%

### DIY INSTALLATION SHARE

25%

## OFF-ROAD / OVERSIZE TIRES

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.78 BILLION | $1.88 BILLION | $2.00 BILLION | $2.13 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 7% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 27% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 5% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 2% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 16% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | <1% |
| Midsize / Large Car | <1% |
| Sports Car | <1% |
| Alternative Power | 1% |
| CUV | 4% |
| SUV | 23% |
| Pickup | 68% |
| Van | <1% |
| Classic | 4% |

### EXAMPLE PARTS

Off-Road / Oversize Tires

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 18% OF PURCHASES | 25% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 5% OF PURCHASES | 51% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

76%

### DIY INSTALLATION SHARE

27%

## CUSTOM WHEELS

Source: 2021 SEMA US Market Data

| 2018 MARKET SIZE | 2019 MARKET SIZE | 2020 MARKET SIZE | 2021 MARKET SIZE |
|---|---|---|---|
| $1.32 BILLION | $1.36 BILLION | $1.45 BILLION | $1.55 BILLION |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 6% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 12% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 17% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 8% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 5% |
| Specialty Retailer/Installer | 11% |
| Tire Shop | 11% |
| Other | 2% |

### VEHICLE SEGMENT – SHARE OF DOLLARS

| | |
|---|---|
| Small Car | 10% |
| Midsize / Large Car | 14% |
| Sports Car | 8% |
| Alternative Power | 3% |
| CUV | 12% |
| SUV | 20% |
| Pickup | 28% |
| Van | 3% |
| Classic | 3% |

### EXAMPLE PARTS

Aluminium or Alloy Wheels,
Carbon Fiber or Composite Wheels,
Beadlock Conversion Kit,
Steel Wheels, Wheel Covers / Hubcaps / Lugnuts

### ORDERED ONLINE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 31% OF PURCHASES | 21% OF PURCHASES |

### ORDERED IN-STORE

| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
|---|---|
| 7% OF PURCHASES | 40% OF PURCHASES |

### MANUFACTURERS WITH SALES GROWTH

76%

### DIY INSTALLATION SHARE

40%

## SMALL CAR

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $4.98 BILLION | 10% OF PARTS SALES | 5.4 MILLION | 14% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| | |
|---|---|
| **PHYSICAL LOCATION** | |
| Auto Parts Chains | 16% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 10% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 5% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 11% |
| Specialty Retailer/Installer | 12% |
| Tire Shop | 3% |
| Other | 1% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 24% |
| Driver Assist Systems | 1% |
| Drivetrain | 7% |
| Engine Electrical and Ignition | 6% |
| Engine Internal and Cooling | 4% |
| Exterior Body | 9% |
| Utility Accessories | <1% |
| Intake / Fuel / Exhaust | 10% |
| Interior | 4% |
| Lighting | 6% |
| Mobile Electronics | 8% |
| Safety Gear | 1% |
| Suspension / Brakes / Steering | 9% |
| Wheels / Tires | 10% |

### EXAMPLE VEHICLES

Ford Focus, Honda Fit
Hyundai Elantra, Mistubishi Lancer,
Subaru Impreza, Toyota Yaris

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 35% OF PURCHASES | 16% OF PURCHASES | 6% OF PURCHASES | 43% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 37% | 59% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## MIDSIZE / LARGE CAR

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $7.98 BILLION | 16% OF PARTS SALES | 7.6 MILLION | 14% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 15% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 14% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 5% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 16% |
| Direct from Parts Manufacturer | 7% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 6% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 3% |
| Other | 1% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 19% |
| Driver Assist Systems | 2% |
| Drivetrain | 8% |
| Engine Electrical and Ignition | 6% |
| Engine Internal and Cooling | 5% |
| Exterior Body | 9% |
| Utility Accessories | <1% |
| Intake / Fuel / Exhaust | 8% |
| Interior | 5% |
| Lighting | 5% |
| Mobile Electronics | 7% |
| Safety Gear | 1% |
| Suspension / Brakes / Steering | 16% |
| Wheels / Tires | 10% |

### EXAMPLE VEHICLES

Buick LeSabre, Chevrolet Impala, Ford Fusion, Chevrolet Cruze, Mercedes E-Class, Toyota Camry

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 33% OF PURCHASES | 19% OF PURCHASES | 7% OF PURCHASES | 41% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 46% | 57% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## SPORTS CAR

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $3.08 BILLION | 6% OF PARTS SALES | 2.0 MILLION | 21% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | 4% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 4% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 5% |
| Other | 3% |
| **ONLINE** | |
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 10% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 8% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 4% |
| Other | 2% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 10% |
| Driver Assist Systems | 1% |
| Drivetrain | 8% |
| Engine Electrical and Ignition | 4% |
| Engine Internal and Cooling | 5% |
| Exterior Body | 15% |
| Utility Accessories | <1% |
| Intake / Fuel / Exhaust | 20% |
| Interior | 4% |
| Lighting | 4% |
| Mobile Electronics | 6% |
| Safety Gear | 1% |
| Suspension / Brakes / Steering | 9% |
| Wheels / Tires | 14% |

### EXAMPLE VEHICLES

Chevrolet Camaro, Corvette, Dodge Challenger, Ford Mustang, Mazda MX-5 Miata, Subaru WRX

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 41% OF PURCHASES | 21% OF PURCHASES | 8% OF PURCHASES | 30% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 54% | 65% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## ALTERNATIVE POWER

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $1.88 BILLION | 4% OF PARTS SALES | 1.3 MILLION | 17% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | 6% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 5% |
| New Vehicle Dealership | 16% |
| Specialty Retailer/Installer | 6% |
| Tire Shop | 4% |
| Other | 1% |
| **ONLINE** | |
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 5% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 9% |
| Specialty Retailer/Installer | 10% |
| Tire Shop | 3% |
| Other | 0% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 9% |
| Driver Assist Systems | 3% |
| Drivetrain | 5% |
| Engine Electrical and Ignition | 3% |
| Engine Internal and Cooling | 4% |
| Exterior Body | 18% |
| Utility Accessories | 4% |
| Intake / Fuel / Exhaust | 5% |
| Interior | 8% |
| Lighting | 6% |
| Mobile Electronics | 14% |
| Safety Gear | 5% |
| Suspension / Brakes / Steering | 7% |
| Wheels / Tires | 8% |

### EXAMPLE VEHICLES

Any Hybrid, Electric, Fuel Cell, or CNG Vehicle Including
BMW i8, Ford Mustang Mach-E,
Tesla Model X, Toyota Prius

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 33% OF PURCHASES | 24% OF PURCHASES | 10% OF PURCHASES | 33% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 45% | 44% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## CUV

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $5.92 BILLION | 12% OF PARTS SALES | 7.7 MILLION | 12% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 15% |
| Car / Truck Show | 1% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 16% |
| Specialty Retailer/Installer | 5% |
| Tire Shop | 6% |
| Other | 2% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 12% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 9% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 3% |
| Other | 1% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 19% |
| Driver Assist Systems | 3% |
| Drivetrain | 6% |
| Engine Electrical and Ignition | 4% |
| Engine Internal and Cooling | 3% |
| Exterior Body | 12% |
| Utility Accessories | 6% |
| Intake / Fuel / Exhaust | 7% |
| Interior | 8% |
| Lighting | 4% |
| Mobile Electronics | 8% |
| Safety Gear | 1% |
| Suspension / Brakes / Steering | 8% |
| Wheels / Tires | 12% |

### EXAMPLE VEHICLES

Chevrolet Equinox, Ford Escape, Honda CR-V, Nissan Rogue, Subaru Outback, Toyota RAV4

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 30% OF PURCHASES | 18% OF PURCHASES | 8% OF PURCHASES | 43% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 44% | 52% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## SUV

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $7.13 BILLION | 14% OF PARTS SALES | 5.8 MILLION | 19% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 15% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 9% |
| Tire Shop | 6% |
| Other | 1% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 10% |
| Direct from Parts Manufacturer | 3% |
| General Retail Chains | 3% |
| Online Marketplace/Auction Site | 3% |
| Online Only General Retailer | 8% |
| Specialty Retailer/Installer | 15% |
| Tire Shop | 4% |
| Other | 2% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 12% |
| Driver Assist Systems | 1% |
| Drivetrain | 10% |
| Engine Electrical and Ignition | 4% |
| Engine Internal and Cooling | 4% |
| Exterior Body | 14% |
| Utility Accessories | 5% |
| Intake / Fuel / Exhaust | 3% |
| Interior | 5% |
| Lighting | 5% |
| Mobile Electronics | 7% |
| Safety Gear | 2% |
| Suspension / Brakes / Steering | 11% |
| Wheels / Tires | 16% |

### EXAMPLE VEHICLES

Chevrolet Tahoe, Dodge Durango, Honda Pilot, Jeep Wrangler, Lincoln Navigator, Toyota 4Runner

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 37% OF PURCHASES | 14% OF PURCHASES | 8% OF PURCHASES | 41% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 52% | 59% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## PICKUP

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $16.00 BILLION | 31% OF PARTS SALES | 13.6 MILLION | 24% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 14% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 5% |
| New Vehicle Dealership | 9% |
| Specialty Retailer/Installer | 8% |
| Tire Shop | 6% |
| Other | 4% |
| **ONLINE** | |
| Auto Parts Chains | 11% |
| Direct from Parts Manufacturer | 5% |
| General Retail Chains | 4% |
| Online Marketplace/Auction Site | 4% |
| Online Only General Retailer | 10% |
| Specialty Retailer/Installer | 12% |
| Tire Shop | 3% |
| Other | 2% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 12% |
| Driver Assist Systems | 1% |
| Drivetrain | 6% |
| Engine Electrical and Ignition | 2% |
| Engine Internal and Cooling | 4% |
| Exterior Body | 12% |
| Utility Accessories | 17% |
| Intake / Fuel / Exhaust | 6% |
| Interior | 3% |
| Lighting | 4% |
| Mobile Electronics | 5% |
| Safety Gear | <1% |
| Suspension / Brakes / Steering | 11% |
| Wheels / Tires | 15% |

### EXAMPLE VEHICLES

Chevrolet Silverado, Dodge Dakota, Ford F-Series, Jeep Gladiator, RAM 1500/2500/3500, Toyota Tacoma

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 39% OF PURCHASES | 16% OF PURCHASES | 6% OF PURCHASES | 39% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 66% | 67% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## VAN

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $1.56 BILLION | 3% OF PARTS SALES | 2.2 MILLION | 13% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 16% |
| Car / Truck Show | 2% |
| Direct from Parts Manufacturer | 1% |
| General Retail Chains | 7% |
| New Vehicle Dealership | 13% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 6% |
| Other | 3% |

| ONLINE | |
|---|---|
| Auto Parts Chains | 8% |
| Direct from Parts Manufacturer | 4% |
| General Retail Chains | 9% |
| Online Marketplace/Auction Site | 2% |
| Online Only General Retailer | 13% |
| Specialty Retailer/Installer | 7% |
| Tire Shop | 4% |
| Other | 1% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 21% |
| Driver Assist Systems | 2% |
| Drivetrain | 4% |
| Engine Electrical and Ignition | 7% |
| Engine Internal and Cooling | 4% |
| Exterior Body | 10% |
| Utility Accessories | 8% |
| Intake / Fuel / Exhaust | 2% |
| Interior | 9% |
| Lighting | 3% |
| Mobile Electronics | 7% |
| Safety Gear | 2% |
| Suspension / Brakes / Steering | 10% |
| Wheels / Tires | 11% |

### EXAMPLE VEHICLES

Chevrolet Express, Dodge Grand Caravan, Ford Transit, Honda Odyssey, Kia Sedona, Toyota Sienna

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 27% OF PURCHASES | 25% OF PURCHASES | 8% OF PURCHASES | 41% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 41% | 61% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## CLASSIC

Source: 2021 SEMA US Market Data

| MARKET SIZE | SHARE OF MARKET | VEHICLES MODIFIED IN 2021 | ACCESSORIZATION RATE |
|---|---|---|---|
| $2.36 BILLION | 5% OF PARTS SALES | 1.8 MILLION | 15% OF VEHICLES |

### SALES CHANNEL – SHARE OF DOLLARS

| PHYSICAL LOCATION | |
|---|---|
| Auto Parts Chains | 11% |
| Car / Truck Show | <1% |
| Direct from Parts Manufacturer | 2% |
| General Retail Chains | 3% |
| New Vehicle Dealership | 2% |
| Specialty Retailer/Installer | 4% |
| Tire Shop | 3% |
| Other | 2% |
| **ONLINE** | |
| Auto Parts Chains | 9% |
| Direct from Parts Manufacturer | 6% |
| General Retail Chains | 2% |
| Online Marketplace/Auction Site | 10% |
| Online Only General Retailer | 8% |
| Specialty Retailer/Installer | 28% |
| Tire Shop | 4% |
| Other | 6% |

### PART CATEGORY – SHARE OF DOLLARS

| | |
|---|---|
| Chemicals | 17% |
| Driver Assist Systems | <1% |
| Drivetrain | 7% |
| Engine Electrical and Ignition | 4% |
| Engine Internal and Cooling | 12% |
| Exterior Body | 6% |
| Utility Accessories | 3% |
| Intake / Fuel / Exhaust | 14% |
| Interior | 11% |
| Lighting | 4% |
| Mobile Electronics | 5% |
| Safety Gear | 1% |
| Suspension / Brakes / Steering | 9% |
| Wheels / Tires | 9% |

### EXAMPLE VEHICLES

Any Vehicle From Model Year 1989 or Older, Including
1985 Ford Mustang, 1968 Porsche 911,
1939 Studebaker Champion

| ORDERED ONLINE | | ORDERED IN-STORE | |
|---|---|---|---|
| SHIPPED TO HOME | IN-STORE PICKUP/INSTALL | SHIPPED TO HOME | IN-STORE PICKUP/INSTALL |
| 65% OF PURCHASES | 6% OF PURCHASES | 5% OF PURCHASES | 24% OF PURCHASES |

| MANUFACTURERS WITH SALES GROWTH | DIY INSTALLATION SHARE |
|---|---|
| 55% | 83% |

MARKET RESEARCH

NOTE: Vehicle segment definition has changed since previous report.

## OVERVIEW

While the main portion of this report focuses on the sales aspects of the market, understanding the consumer is crucial for effectively developing and selling your products. This section utilizes the data from the SEMA U.S. Market Data project both to profile buyers of automotive parts and accessories in 2021 and to provide insights into how consumers interact with our industry as they move past the pandemic.

Despite lingering effects from the pandemic, consumers bought a lot of our industry's parts and accessories in 2021. Accessorizers used the extra savings they accumulated during the pandemic to upgrade and modify their vehicles, despite having other spending options. Because of record-high car prices, more consumers upgraded their vehicles instead, including more non-enthusiasts. As a result, the industry saw record sales and demand in 2021. While spending is likely to soften somewhat moving forward, the industry remains optimistic for 2022.

As is consistently the case in prior research, SEMA finds that there are still many young people who enjoy accessorizing their vehicles. Younger drivers are more likely to be enthusiasts than older drivers, and often buy more involved performance parts or accessories and make heavier modifications to their vehicles. Young drivers continue to be an important and engaged part of our industry.

The pandemic pushed accessorizers online for parts in 2020. While many returned to shops and stores in 2021, inventory issues and lingering safety concerns kept some consumers online. SEMA expects these levels to normalize as the disruption eases. That said, online is an important channel for the aftermarket. Accessorizers often rely on the web for research and information, but still pick up the parts in-store. Having a robust online presence can only help companies reach and engage with customers.

## ACCESSORIZER PROFILE: HOW THE VEHICLE IS USED

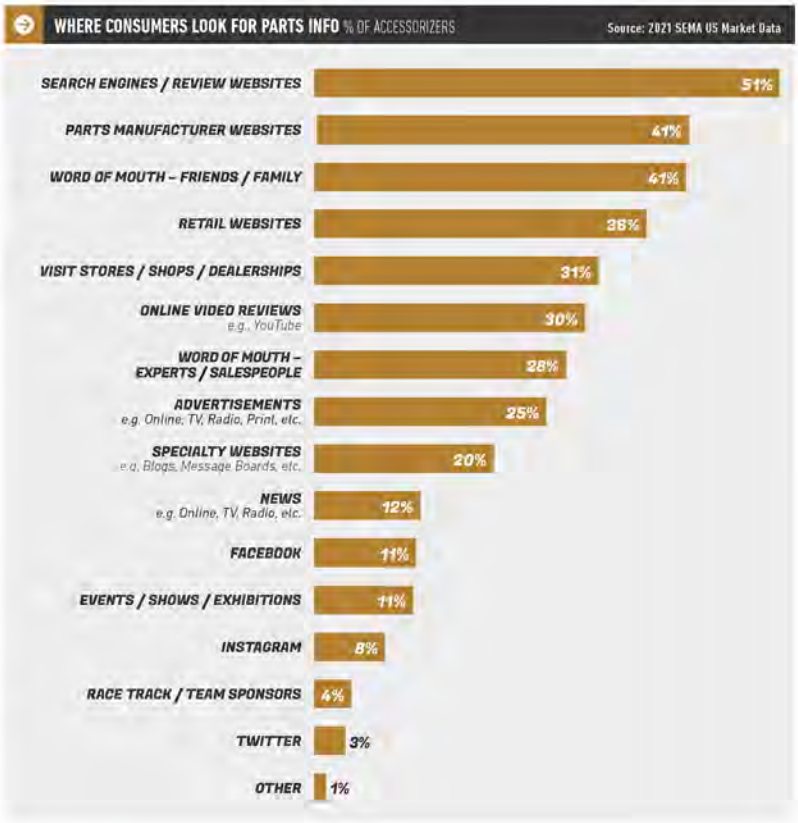
Most accessorized vehicles today are still daily drivers and are often used for commuting, running errands and cruising. Classics (pre-1990) are an exception, which are usually driven more occasionally and are often shown off at car shows. Sports cars sit somewhere in the middle: many are used for everyday use, but also kept as collector cars or for racing and track use as well.

**HOW THE VEHICLE IS USED** % OF ACCESSORIZERS' VEHICLES Source: 2021 SEMA US Market Data

| | TOTAL VEHICLES | SMALL CAR | MIDSIZE / LARGE CAR | SPORTS CAR | ALTERNATIVE POWER | CUV | SUV | PICKUP | VAN | CLASSIC |
|---|---|---|---|---|---|---|---|---|---|---|
| Running Errands | 71% | 73% | 76% | 55% | 68% | 79% | 72% | 70% | 77% | 33% |
| Pleasure Driving | 66% | 66% | 65% | 80% | 69% | 69% | 68% | 62% | 59% | 64% |
| Commuting | 61% | 68% | 68% | 47% | 72% | 73% | 60% | 56% | 61% | 14% |
| Work Use | 46% | 49% | 49% | 27% | 52% | 45% | 43% | 52% | 47% | 18% |
| Off-Road | 16% | 4% | 3% | 4% | 11% | 10% | 33% | 27% | 6% | 17% |
| Collector Vehicle | 5% | 3% | 4% | 24% | 7% | 2% | 2% | 3% | 1% | 47% |
| Car Shows | 5% | 4% | 5% | 23% | 8% | 1% | 2% | 2% | <1% | 35% |
| Track Days | 3% | 4% | 3% | 16% | 9% | 2% | 2% | 3% | 2% | 1% |
| Dedicated Racing Vehicle | 2% | 2% | 2% | 9% | 6% | 1% | 1% | 1% | <1% | 2% |
| Non-Operational | 1% | 1% | 1% | 1% | 1% | <1% | 1% | 1% | <1% | 11% |

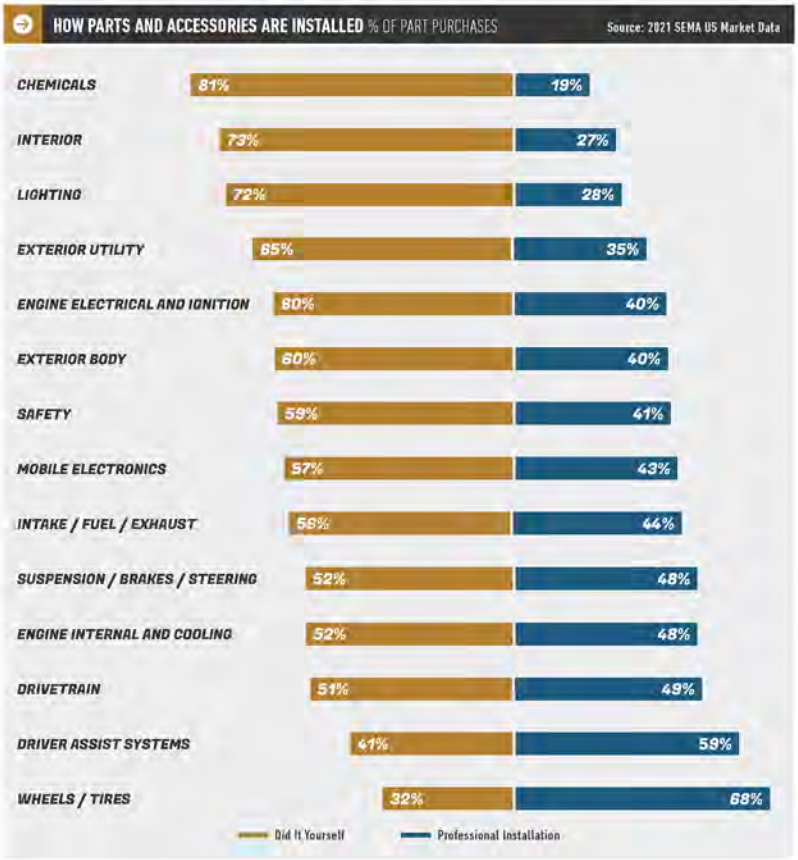
## ACCESSORIZER PROFILE: WHERE CONSUMERS LOOK FOR PARTS INFORMATION

Accessorizers rely on multiple sources of information when researching aftermarket parts and accessories. Most tend to look both online as well as consult with people they know when shopping. Therefore, maintaining an online presence is important. Social media and especially YouTube continues to help the industry reach potential customers, inform them about their brand, and even demonstrate how to properly install/use the company's products.



## ACCESSORIZER PROFILE: HOW PARTS AND ACCESSORIES ARE INSTALLED

Consumers are more comfortable installing and applying simpler products themselves, such as chemicals, but are more likely to rely on professionals for more complex upgrades.



### ACCESSORIZER PROFILE: AGE

Accessorizers skew young. More than half of those modifying their vehicles are under 40, and they grow less likely to buy aftermarket parts as they age. Younger accessorizers are also more likely to be true enthusiasts and tend to make more complex and daring modifications to their cars and trucks.

**AGE** % OF TOTAL VEHICLE OWNERS — Source: 2021 SEMA US Market Data

| | TOTAL VEHICLE OWNERS | ACCESSORIZERS | NON-ACCESSORIZERS |
|---|---|---|---|
| 16–29 | 22% | 31% | 19% |
| 30–39 | 17% | 23% | 14% |
| 40–49 | 15% | 18% | 15% |
| 50–59 | 17% | 14% | 17% |
| 60+ | 29% | 14% | 35% |

### ACCESSORIZER PROFILE: WHERE PARTS ARE BOUGHT

Because of lingering pandemic restrictions and inventory shortages, more accessorizers shopped for aftermarket parts and upgrades online in 2021 than in a typical year. Many, especially younger consumers, bought parts online but picked them up in-store. SEMA anticipates that in-person sales will continue returning to more normal levels as the ongoing disruption improves.

**WHERE PARTS ARE BOUGHT** % OF PART PURCHASES — Source: 2021 SEMA US Market Data

| | TOTAL ACCESSORIZERS | AGES 16–29 | AGES 30–39 | AGES 40–49 | AGES 50–59 | AGES 60+ |
|---|---|---|---|---|---|---|
| Ordered Online, Shipped to Home | 37% | 35% | 37% | 37% | 39% | 42% |
| Ordered Online, Picked Up/Installed In-Store | 17% | 19% | 18% | 16% | 15% | 13% |
| Ordered In-Store, Shipped to Home | 7% | 7% | 7% | 8% | 6% | 5% |
| Ordered In-Store, Picked Up/Installed In-Store | 39% | 40% | 38% | 39% | 40% | 40% |

## ACCESSORIZER PROFILE: WHAT PART TYPES ARE BOUGHT

Younger accessorizers are more likely to make extensive changes to their vehicle, and thus buy more parts. They are also more comfortable making more complex, under-the-hood upgrades. However, consumers make a wide variety of upgrades, and even older accessorizers buy from all categories.

**PART CATEGORIES INSTALLED** % OF ACCESSORIZERS' VEHICLES — Source: 2021 SEMA US Market Data

| | TOTAL ACCESSORIZERS | AGES 16-29 | AGES 30-39 | AGES 40-49 | AGES 50-59 | AGES 60+ |
|---|---|---|---|---|---|---|
| Chemicals | 25% | 23% | 28% | 27% | 25% | 26% |
| Drivetrain | 4% | 5% | 6% | 4% | 3% | 3% |
| Engine Electrical and Ignition | 15% | 17% | 14% | 14% | 15% | 15% |
| Engine Internal and Cooling | 9% | 11% | 9% | 8% | 7% | 8% |
| Exterior Body | 29% | 29% | 28% | 32% | 31% | 27% |
| Exterior Utility | 16% | 11% | 16% | 19% | 19% | 22% |
| Intake / Fuel / Exhaust | 13% | 13% | 16% | 15% | 9% | 10% |
| Interior | 20% | 23% | 21% | 19% | 16% | 15% |
| Lighting* | 20% | 21% | 24% | 20% | 18% | 15% |
| Mobile Electronics | 14% | 17% | 16% | 15% | 11% | 6% |
| Driver Assist Systems | 5% | 6% | 5% | 7% | 4% | 3% |
| Safety Gear | 4% | 4% | 4% | 4% | 3% | 1% |
| Suspension / Brakes / Steering | 22% | 25% | 24% | 23% | 20% | 18% |
| Wheels / Tires* | 27% | 32% | 29% | 27% | 27% | 15% |

*Note: Excludes Standard Replacement Lightbulbs, All-Season Tires

## ACCESSORIZER PROFILE: WHAT TYPES OF VEHICLES ARE OWNED

Accessorizers are more likely to own pickups, SUVs and sports cars than non-accessorizers. CUVs, the highest-selling new vehicle segment, tend to be more common among non-accessorizers. While CUVs represent an opportunity for the aftermarket, they are also a challenge given the high diversity of platforms both currently available and projected to be released over the next decade.

**VEHICLE OWNERSHIP DISTRIBUTION** % OF TOTAL U.S. VEHICLES — Source: 2021 SEMA US Market Data

| | TOTAL VEHICLE OWNERS | ACCESSORIZERS | NON-ACCESSORIZERS |
|---|---|---|---|
| Small Car | 13% | 12% | 14% |
| Midsize / Large Car | 18% | 16% | 19% |
| Sports Car | 3% | 4% | 3% |
| Alternative Power | 2% | 2% | 2% |
| CUV | 23% | 19% | 25% |
| SUV | 11% | 12% | 10% |
| Pickup | 20% | 25% | 18% |
| Van | 6% | 6% | 6% |
| Classic | 4% | 5% | 4% |

Accessorizers across every age group own a wide range of vehicle types. Older consumers are more likely to own a pickup, while younger consumers are more likely to own a passenger car.

**VEHICLE OWNERSHIP DISTRIBUTION BY AGE** % OF ACCESSORIZERS' VEHICLES — Source: 2021 SEMA US Market Data

| | TOTAL ACCESSORIZERS | AGES 16–29 | AGES 30–39 | AGES 40–49 | AGES 50–59 | AGES 60+ |
|---|---|---|---|---|---|---|
| Small Car | 12% | 13% | 13% | 10% | 11% | 9% |
| Midsize / Large Car | 16% | 20% | 15% | 15% | 14% | 13% |
| Sports Car | 4% | 5% | 4% | 4% | 4% | 4% |
| Alternative Power | 2% | 2% | 3% | 2% | 1% | 2% |
| CUV | 19% | 18% | 18% | 18% | 19% | 19% |
| SUV | 12% | 12% | 13% | 15% | 12% | 10% |
| Pickup | 25% | 20% | 26% | 24% | 27% | 31% |
| Van | 6% | 6% | 5% | 5% | 5% | 6% |
| Classic | 5% | 4% | 4% | 7% | 6% | 6% |

## ACCESSORIZER PROFILE: BUYER TYPES

With the "SEMA Consumer Segmentation Report" we developed a framework of six distinct types of specialty-equipment buyers. Subsequently, we can evaluate these buyer segments in all our consumer survey work. These six types contain both "enthusiast" and "non-enthusiast" buyer types. Enthusiasts buy more parts, are more engaged in our industry and make more daring modifications. However, non-enthusiasts actually represent the majority of our industry's consumer base. In 2021, the industry saw more non-enthusiasts purchase aftermarket upgrades and accessories, due to extra savings from stimulus payments as well as high new- and used-vehicle prices.

### ENTHUSIAST BUYER TYPES

**BUILDER:** Buys parts because they enjoy working on their vehicle.

**DRIVER:** Buys parts to maximize the fun of driving.

**IN-CROWD:** Buys parts to make their vehicle stand out.

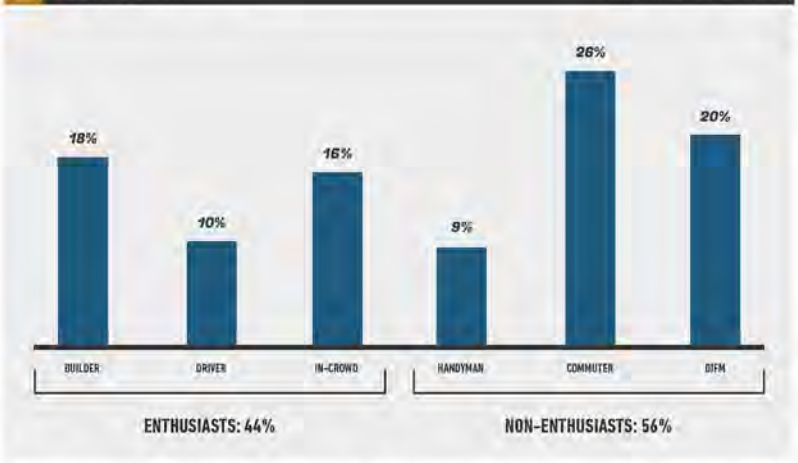
### NON-ENTHUSIAST BUYER TYPES

**HANDYMAN:** Buys parts to upgrade when performing repairs or maintenance.

**COMMUTER:** Buys parts to maximize driver comfort and mild personalization.

**DIFM:** "Do-it-for-me" buyers who prefer leaving the installation to professionals.

**BUYER TYPES** % OF ACCESSORIZERS Source: 2021 SEMA US Market Data

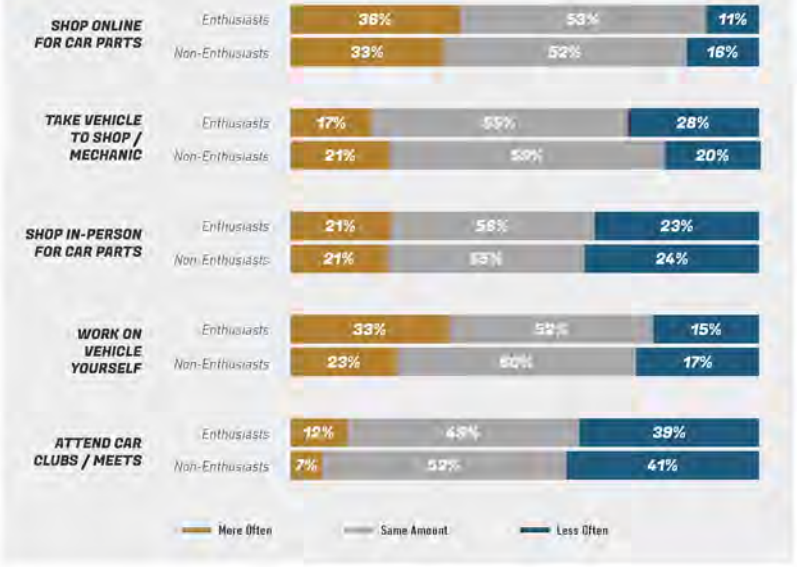



For more information on these buyer types, download the "SEMA Consumer Segmentation Report" at: www.sema.org/research.

## ACCESSORIZER PROFILE: MOVING PAST THE PANDEMIC

In 2021, even amid lingering COVID-19 waves, supply-chain disruption and increased costs, consumers continued to work on their vehicles, especially enthusiasts. Accessorizers returned to shopping in-store more than they did in 2020, but also continued to shop online for parts amid safety fears and inventory constraints. Many also returned to going to car clubs and events, but continued pandemic restrictions in 2020 dampened participation.

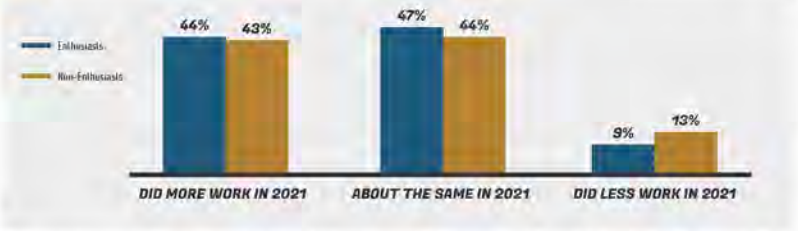
**HOW OFTEN CONSUMERS DID THE FOLLOWING IN 2021 VS. 2020** % OF ACCESSORIZERS Source: 2021 SEMA US Market Data



## ACCESSORIZER PROFILE: MOVING PAST THE PANDEMIC

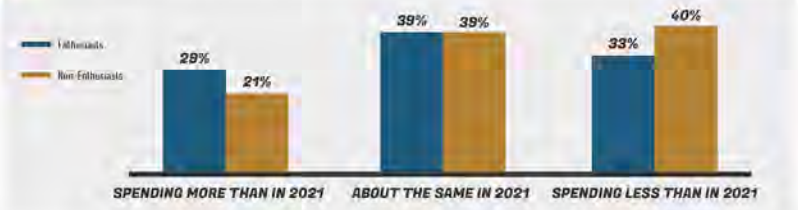
During the height of the pandemic in 2020, many consumers took the time to work on their vehicles while they were stuck at home. This did not change in 2021, with the vast majority saying that they worked on their car just as much or even more.

**AMOUNT OF WORK DONE ON VEHICLES IN 2021 VS. 2020** % OF ACCESSORIZERS Source: 2021 SEMA US Market Data




Many accessorizers plan on continuing to spend just as much, if not more, on aftermarket parts and accessories in 2022 than they did in 2021. This is especially true of enthusiasts. However, some softening in sales is expected in 2022, given higher costs and reduced savings.

**PLANNED SPENDING ON AUTOMOTIVE SPECIALTY PARTS IN 2022 VS. 2021**
% OF ACCESSORIZERS Source: 2021 SEMA US Market Data



## ACCESSORIZER PROFILE: OWNERSHIP OF SPORTS/RECREATIONAL EQUIPMENT

Accessorizers in the United States are almost twice as likely as the rest of the population to own recreational or off-road equipment, especially RVs, ATVs and motorboats. Just under half of all accessorizers own at least one of these types of vehicles, opening potential cross-selling opportunities.

**OWNERSHIP OF SPORTS / RECREATIONAL EQUIPMENT** % OF TOTAL U.S. POPULATION Source: 2021 SEMA US Market Data

| | TOTAL VEHICLE OWNERS | ACCESSORIZERS | NON-ACCESSORIZERS |
|---|---|---|---|
| **OWN AT LEAST ONE** | **32%** | **49%** | **26%** |
| RV / Camper / Motorhome | 9% | 14% | 7% |
| ATV / Quad Runner | 8% | 14% | 5% |
| Motorboat | 7% | 11% | 5% |
| Golf Cart | 5% | 8% | 5% |
| Scooter | 5% | 8% | 4% |
| On-Road / Dual Purpose Motorcycle | 5% | 8% | 4% |
| Personal Watercraft | 4% | 8% | 3% |
| UTV / Side by Side | 4% | 7% | 2% |
| Off-Road Motorcycle | 3% | 7% | 2% |
| Go Kart | 3% | 6% | 2% |
| Snowmobile | 3% | 5% | 2% |
| Sailboat | 1% | 2% | 1% |
| Dune Buggy | 1% | 2% | <1% |
| Other | 1% | 1% | 1% |

## OVERVIEW

The year 2021 started off on an optimistic note. COVID-19 was, for the most part, in retreat, and by April many states decided that on balance, easing restrictions on in-person interactions was the right move. This led to a release of pent-up consumer demand for goods, services, travel and leisure. While things were not truly back to "normal," Americans were ready to get back out there.

However, as the year wore on it became clear that a return to the pre-pandemic normal was elusive. Businesses—especially retail services and restaurants—often struggled to fill the job openings they needed to return to normal operations, finding that workers had either moved on or were willing to hold out for a better offer. At the same time, supply-chain disruptions—including a microchip shortage, pervasive shipping backlogs and rising commodity input prices—created both a struggle to get products on the shelf and, in some cases, a need to raise prices to pass along their own elevated costs.

Our industry certainly faced all these issues, but for the most part 2021 was still a positive year overall. Consumers were still interested in buying our products, and retailers were once again able to open their doors and let customers shop in-person. As the year went on, however, it became clear there was no easy solution to the supply-chain disruptions complicating matters for businesses and consumers alike. By the time 2022 arrived, concerns about still-lagging vehicle sales and ongoing challenges with shipping and sourcing were leading some businesses to temper their expectations for what 2022 might hold.

What do we at SEMA expect? Unfortunately, our data suggests it's likely that the supply-chain challenges we've been seeing will persist until, if not through, late in the year. It's likely that some amount of broader economic slowdown may occur, as low consumer confidence sparks some belt-tightening and less-devoted automotive enthusiasts decide that buying a new vehicle or modifying their current one is an expense they can do without.

At the end of the day, purchasing from our industry is voluntary. We sell "the stuff you want" not "the stuff you need." In economic terms, our products fall under discretionary spending—which leaves our industry open to fluctuations and shortfalls when economic winds change. At the same time, this is also an enthusiast industry and hardcore enthusiasts will always find a way to keep pursuing their passion—even as other consumers scale back or delay making non-essential purchases. The industry certainly faces some headwinds in the latter part or 2022 and into 2023, but most companies remain optimistic about their sales for the coming year.

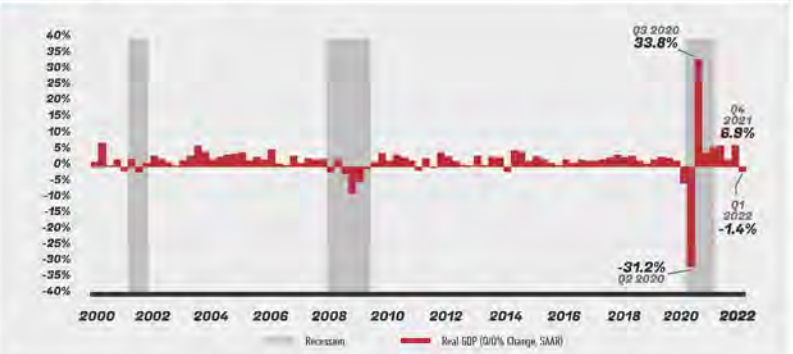
This year, in addition to our usual economic metrics, we've also included results from our recent research to show how companies have been impacted by the ongoing supply-chain disruptions and their outlook for the future. We hope the information is helpful as you continue to navigate the recovery and grow your business.

## NATIONAL ECONOMIC AND CONSUMER TRENDS

After a roller-coaster of a year in 2020—including the quite possibly the biggest swing in GDP on record between Q2 and Q3—2021 ended up being a year of continued adjustment and recovery as things slowly worked towards returning to normal. However, shortages and shipping delays began to take a toll, driving up prices as the year went on. By the end of the year, new-vehicle prices, in particular, were in historically short supply—and prices were hitting record highs. By early 2022, signs were beginning to emerge that things might not be sustainable and a second recession might be looming.

### U.S. ECONOMIC GROWTH % CHANGE

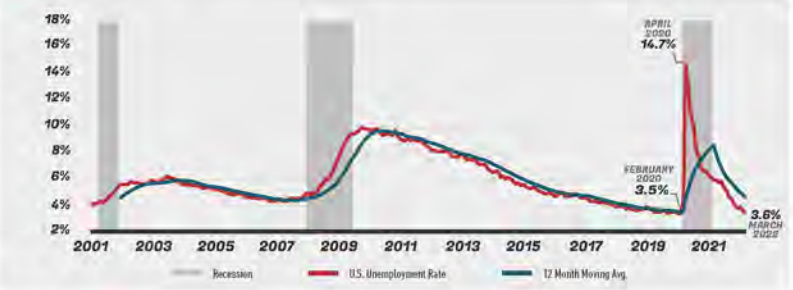
Source: Bureau of Economic Analysis




At the height of the pandemic in April 2020, the unemployment rate in the United States hit a record 14.8%—its highest level since the Great Depression. However, as businesses adapted and economic activity recovered, unemployment fell steadily throughout 2020 and continued to decline through 2021. If anything, businesses found themselves having to compete harder than they were used to for new talent—especially for more entry-level service jobs.

### U.S. UNEMPLOYMENT

Source: Bureau of Labor Statistics




MARKET RESEARCH

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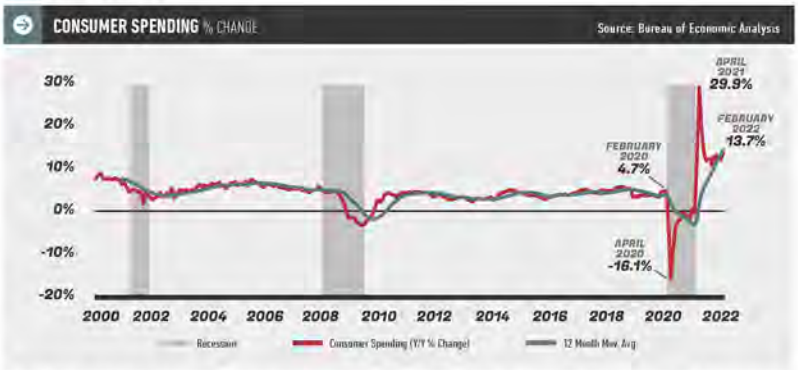
After the sharp drop in consumer spending brought on by COVID-19-related restrictions in Q2, consumer spending snapped back along with the rest of the economy. Once restrictions on businesses eased in April of 2021, pent-up consumer demand ended up driving a spike in spending. While the rate of growth fell off, it nonetheless continued to climb throughout the year. However, while this might appear to be good news on the surface, the nuance is that at least part of this growth in spending came from price inflation—particularly with products, like cars and trucks, where supply struggled to keep up with demand. That meant consumers' increased spending came at the cost of eating into their savings.




In fact, when we look at consumer sentiment it becomes clear that all was not well as 2021 went on. While consumers were ready for a return to normal, and the nationwide easing of restrictions on activity in April gave a significant boost to consumer confidence, "normal" remained elusive and the boost was short-lived. Many businesses, saddled with shipping delays, product shortages and, in some cases, skyrocketing commodity input prices, struggled to keep up. Things had not improved by early 2022, and by March the consumer sentiment index was nearly as low as it was during the worst of the late-2000s recession.

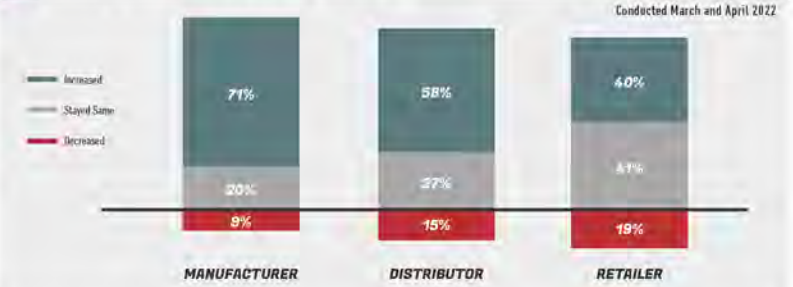
## STATE OF THE INDUSTRY

Industry results in 2021 were for the most part stable or positive. Manufacturers, in particular, were likely to see continued sales growth versus 2020. In some cases, manufacturers enjoyed record years as consumers remained interested in working on their vehicles to indulge their passions or to make improvements while holding off on buying a new vehicle amid rising prices and falling dealer inventory. Retailers were more likely to struggle, but even they, for the most part, reported stable or growing revenues as restrictions eased and customers were able to come check out products in stores.

**CHANGE IN COMPANY SALES OVER LAST 12 MONTHS** MARCH/APRIL 2022

Source: SEMA State of the Industry—Spring 2022

Conducted March and April 2022




Looking ahead, there is some tempering of optimism from manufacturers. Concerns about how the continued lag in new vehicle sales—which are often an important trigger for consumers to modify or personalize their vehicle—along with ongoing supply-chain issues leave a majority still expecting their sales to grow this year. But a number are expecting to end up flat or even down versus 2021. This sentiment is surprisingly similar among distributors and retailers.

**EXPECTATIONS FOR COMPANY SALES IN 2022** MARCH/APRIL 2022

Source: SEMA State of the Industry—Spring 2022

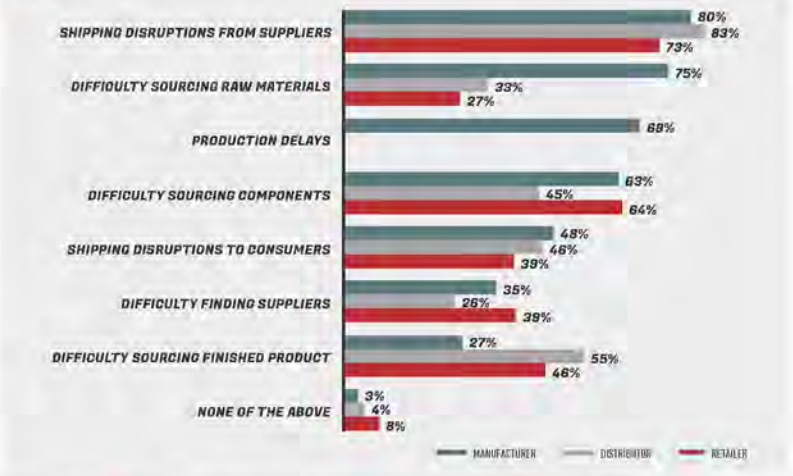
Conducted March and April 2022

Shipping delays, product and component shortages, and input prices are having a tangible impact on specialty-equipment businesses' ability to get their products into consumers' hands. While most businesses feel they have been able to adapt, with no clear end to these challenges in sight it's no wonder that some are bracing for a slower sales year in 2022.

**IMPACT OF SUPPLY CHAIN CHALLENGES ON COMPANY OPERATIONS**
MARCH/APRIL 2022
Source: SEMA State of the Industry—Spring 2022


Shipping delays are pervasive across the economy in general, and the specialty-equipment industry is no exception. For manufacturers, shipping delays and other factors have led many to report production delays as they struggle to source the materials and components they need—and for retailers and distributors to struggle to keep their shelves stocked.

**SUPPLY CHAIN ISSUES EXPERIENCED** MARCH/APRIL 2022
Source: SEMA State of the Industry—Spring 2022



## OVERVIEW

In order to make informed decisions about which products to produce or carry, companies need to understand the size of their potential market. While the Market Sizing section of this report covers the current level of sales for different products and vehicles, this section looks at a key piece of the potential market; i.e., how many vehicles are actually on the road.

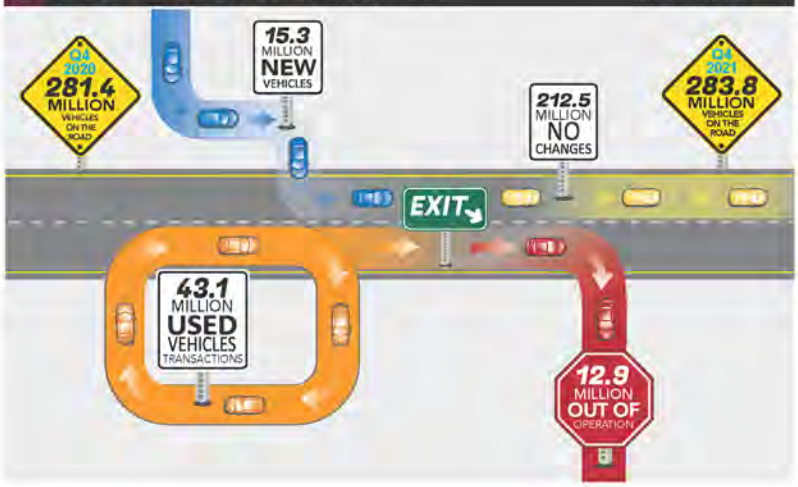
The total light-duty vehicle fleet stood at more than 280 million cars and light trucks at the end of 2021. Most of these are from model years '01 and onward, and in general, the population of a given model year starts to drop once it has been on the road for more than a decade.

Note that the data presented in this section is aggregated. Eligible SEMA-member companies can access more detailed information (e.g., by make/model, engine size or location) at no cost through our SEMA Member VIO Program, made possible by our partnership with Experian. For more information, visit www.sema.org/vio. Additionally, through its partnership with Wards Automotive, SEMA has access to up-to-date vehicle model sales information which can also be provided to SEMA members.

## VEHICLE REGISTRATIONS

The U.S. passenger vehicle fleet increased by nearly 2.5 million cars and light trucks from 2020 to 2021. While the economy continued its recovery over the year, sales of new vehicles remained below pre-COVID levels due to supply constraints. Used-vehicle sales, though, were actually ahead of 2019 levels as consumers turned to the resale market as an alternative to the limited—and marked-up—new-vehicle supply. Most new vehicles were from the '21 and '22 model years. Conversely, the vehicles taken out of operation were largely from '11 and earlier (i.e., more than 10 years old).

**CHANGE IN LIGHT-VEHICLE POPULATION VS. 2020** IN MILLIONS Source: ©Experian 2022



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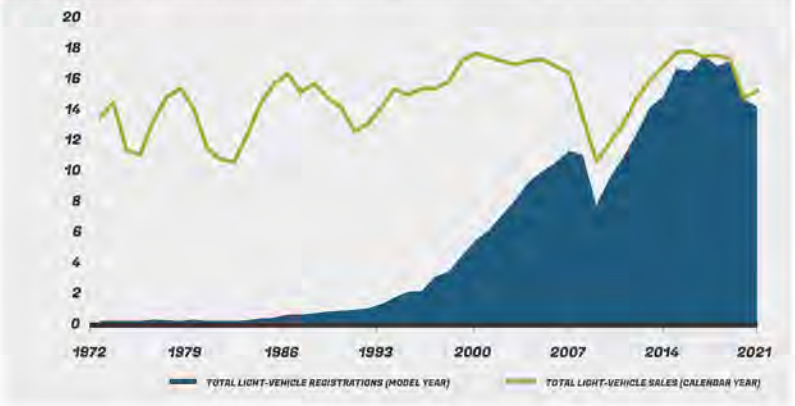
Eligible SEMA member companies can access more detailed registration data at www.sema.org/vio.

## HISTORICAL VEHICLE SALES

New-vehicle sales partially rebounded in 2021, ending up with just under 15 million light vehicles sold. Initial expectations were, admittedly, for a quicker recovery. However, while consumer demand remained strong, the available supply of new vehicles dwindled as production shortages and shipping backlogs forced dealer inventories down to record lows—and prices climbing upward.

Vehicle registrations show how many cars and light trucks are actually on the road. Most of the vehicles sold during and after the 2007–2009 recession are still out there being driven, but '06-and-older vehicles are becoming increasingly rare. Classic and collector vehicles more than 20 years old represent a unique opportunity in the market, but the bulk of vehicles available to be modified are later-model.

**LIGHT-VEHICLE SALES vs LIGHT-VEHICLE REGISTRATIONS** IN MILLIONS Source: ©Experian 2022, ©Informa PLC 2022

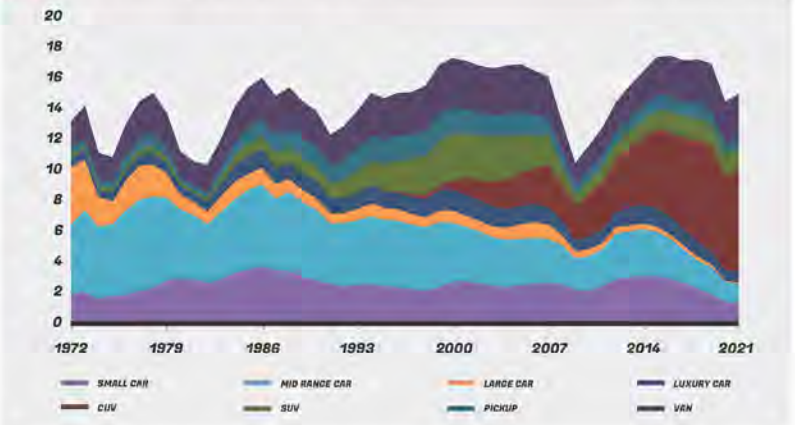


## COMPOSITION OF U.S. LIGHT VEHICLE POPULATION

The new-vehicle sales rebound in 2021 was driven largely by light trucks—pickups, SUVs, CUVs and vans—with CUVs and SUVs leading the charge in particular. CUV sales grew by 7%, or 0.4 million, while SUV sales went up 15% versus 2020. Sales of passenger cars declined slightly, with middle (AKA midsize) car sales declining 11% versus 2020 sales and some near-offsetting growth in the small- and luxury-car segments.

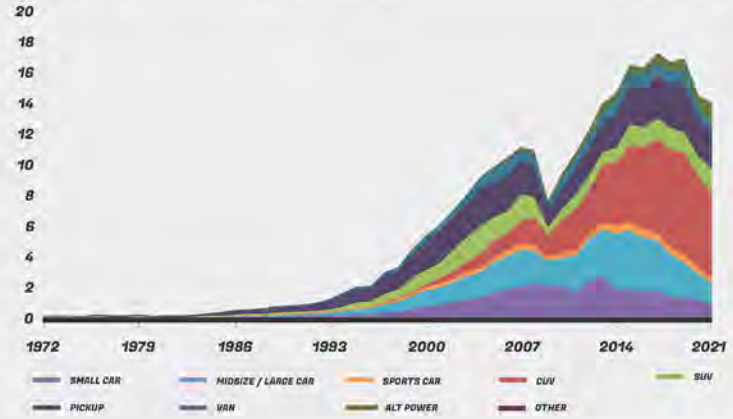
Both short-term and long-term factors are likely contributing to these shifts. Shortages and delays due to supply-chain issues forced OEMs to prioritize how they allocated production capacity, and often priority went to more-profitable light trucks and higher-end cars. In addition, the continued shift towards light-truck offerings, particularly CUVs, meant that there were fewer planned car offerings than in the mid-'10s and earlier.

**ANNUAL NEW VEHICLE SALES BY SEGMENT** IN MILLIONS Source: @Informa PLC 2022



Pickups tend to stay on the road longer than other vehicle types, and account for a disproportionate share of the older-vehicle population. However, the composition of the post-'90 vehicle population makes the impact of the emergence of CUVs even more apparent, along with the strategic shift by vehicle manufacturers towards putting greater emphasis on CUVs and other light trucks. We are also starting to see growth in the number of alternative-power vehicles—hybrid, electric and other fuel types apart from pure gasoline or diesel. While the share of the vehicle population these vehicles comprise is still small, vehicle manufacturers are starting to push them more earnestly.

**PASSENGER VEHICLE SEGMENTS BY MODEL YEAR** IN MILLIONS Source: ©Experian 2022

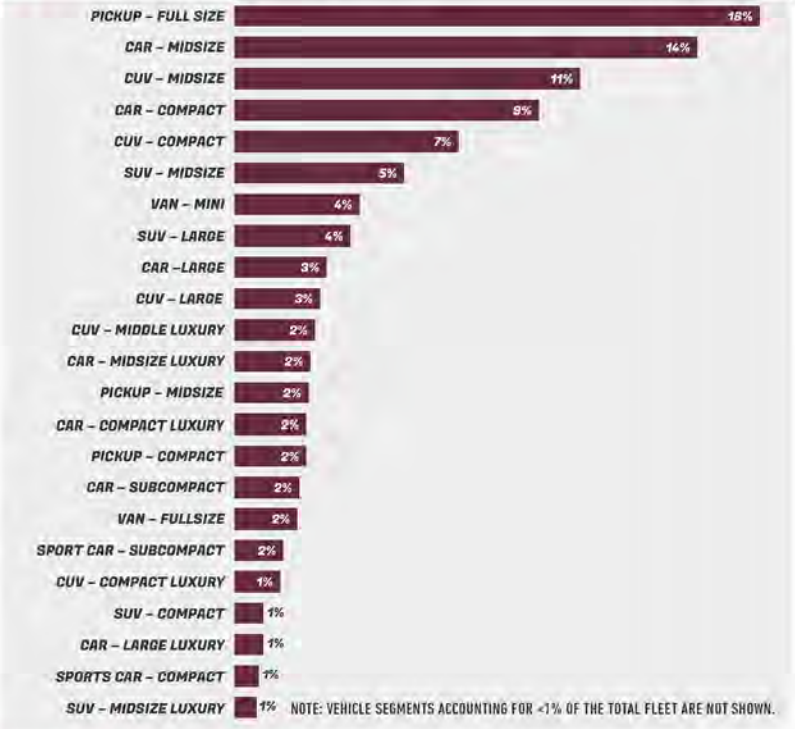


## VEHICLE SEGMENTS

Fullsize pickups are the most common subtype on the road today, and a lot of that is owed to the continued popularity of domestic light-duty pickups—Ford F-150s, Chevrolet Silverado 1500s and RAM 1500s. Midsize and compact CUVs are also major subsegments, representing a combined 18% of the passenger vehicle fleet—a share that is likely to only increase as more models are rolled out.

While not explicitly broken out into their own segment/subsegments by Experian, available data on alternative-fuel vehicles does point to a greater push on battery-electric (BEV) vehicles. At roughly 2% of the total U.S. light-vehicle fleet, gasoline/electric hybrid vehicles account for the lion's share of alternative-fuel registrations. But an uptick in BEV sales, and a slew of new BEV models or options planned over the next few years, fall in line with strategies announced by several vehicle manufacturers to get behind and push electric vehicles.

**VEHICLE SEGMENT SUBTYPES** % REGISTRATIONS AS OF 12/31/2021 Source: ©Experian 2022




NOTE: VEHICLE SEGMENTS ACCOUNTING FOR <1% OF THE TOTAL FLEET ARE NOT SHOWN.

## NEW VEHICLE SALES FORECAST

Early on in 2021, it looked like new-vehicle sales were headed for a strong recovery by end of year. Industry estimates favored a scenario where supply mostly caught back up to consumer demand by summer, with full recovery requiring a couple more years.

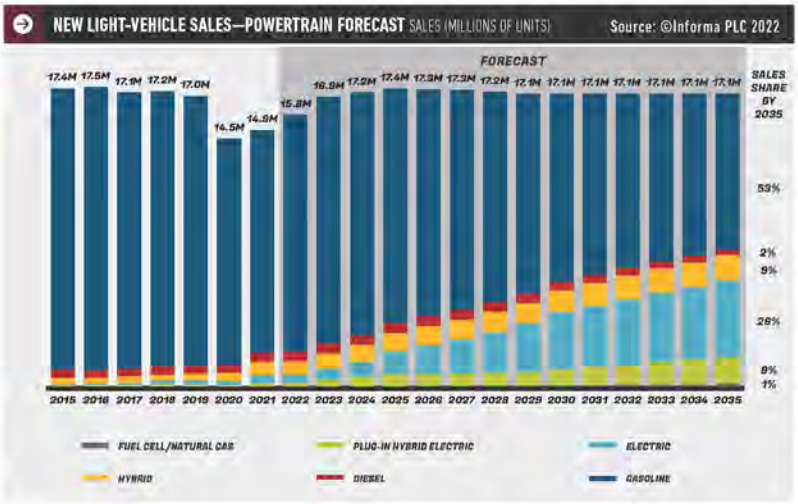
This projection was, it turns out, half right. More recent estimates do still anticipate new-vehicle sales returning to pre-COVID levels by 2023/2024. However, the anticipated rapid bounceback never materialized. Instead, production shortages and shipping delays depleted vehicle dealership inventories down to historic lows, which both drove up prices and discouraged consumers from shopping for a new vehicle. Unfortunately, things have not improved as much as some might have hoped. While dealers are still selling vehicles as fast as they get them onto the lot, until the new-vehicle supply becomes less constrained, sales are unlikely to get back to 2019 levels.

**U.S. NEW LIGHT VEHICLE SALES FORECAST** SALES (MILLIONS OF UNITS) Source: ©Informa PLC 2022

## POWERTRAIN SALES FORECAST

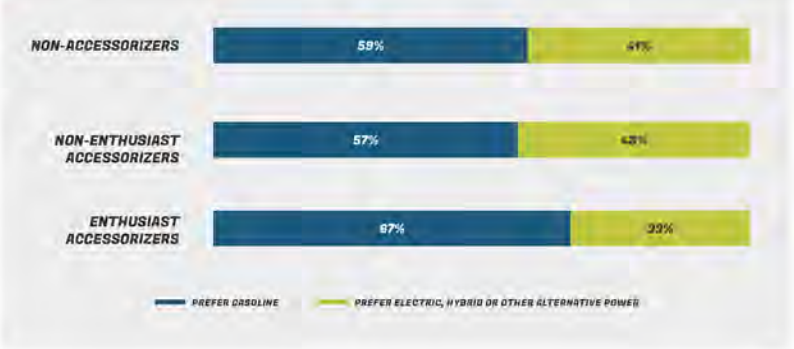
Internal-combustion, and specifically gasoline, engines are going to account for a solid majority of new-vehicle sales for the time being. That said, hybrid and electric vehicles are expected to account for a growing share of new-vehicle sales as new alternative-fuel models are launched and hybrid, plug-in hybrid, and battery-electric options are added to existing vehicle models.

Alternative-fuel vehicles comprised just 3% of new vehicles sold in 2015. This share grew to 5% by 2020, but in 2021 that number jumped to 9% of total new-vehicle sales. As more effort is placed by manufacturers into getting alternative-power vehicles on the road, particularly battery-electric vehicles, we expect this trend to continue. By 2035, SEMA estimates that—assuming the charging infrastructure, supply of necessary components, and sourcing of raw materials needed for vehicle batteries can scale with demand—hybrid and electric vehicles will account for 44% of new-vehicle sales by 2035.



Still, U.S. consumers are not fully sold on the idea that alternative-power vehicles are right for them. Even a majority of non-accessorizers indicated they prefer to own a gasoline-powered vehicle, and those who in principle would like to own an electric or hybrid vehicle may find themselves deterred by price, charging station availability or even a simple lack of options. Among auto enthusiasts, the preference for gasoline vehicles is even more pronounced. Vehicle manufacturers have still got plenty of work to do, both in terms of getting consumers on board and in putting out alternative-fuel vehicles that they're actually willing and able to own.

**WHICH POWERTRAIN DO DRIVERS WANT FOR THEIR NEXT VEHICLE?** % OF DRIVERS Source: 2021 SEMA US Market Data



## RESEARCH METHODOLOGY

The "2022 SEMA Market Report" was compiled utilizing a variety of data sources, including interviews with industry sources, consumer surveys, secondary data sources and published government statistics. The main data was provided by the following resources:

### SEMA MARKET DATA: CONSUMER MARKET DATA, CONSUMER PROFILE

The study surveyed about 19,000 adults across the United States who own or lease an automobile. Among those interviewed, more than 5,000 people were identified as having modified or accessorized their vehicle in 2021. This study represents the buying habits of a large cross-section of specialty-equipment purchasers.

### EXPERIAN: VEHICLE REGISTRATIONS, VEHICLE SEGMENTS



Experian's vehicle segmentation definitions are used throughout the market sizing and profiling sections to consistently differentiate vehicle types. To learn more about Experian and their automotive product offerings, visit www.experian.com/automotive. Through the SEMA Member VIO program—Powered by Experian Automotive, eligible SEMA-member companies can get specific insight into the number of vehicles on the road at www.sema.org/vio.

### WARDS AUTO/INFORMA PLC: VEHICLE SALES



SEMA has partnered with Wards Auto Intelligence, a division of Informa PLC, to obtain access to vehicle sales data in order to help SEMA-member companies understand current trends and developments.

Wards Auto is part of the Transportation Intelligence Group of Informa PLC, providing news and insights on the global automotive industry.

### BUREAU OF ECONOMIC ANALYSIS: U.S. ECONOMIC GROWTH, CONSUMER SPENDING
### BUREAU OF LABOR STATISTICS: U.S. UNEMPLOYMENT

Data was collected from published government statistics.

### UNIVERSITY OF MICHIGAN (UMI): CONSUMER SENTIMENT INDEX

Data was collected from the published results of UMI's "Survey of Consumers."

### AVRIO INSTITUTE: ECONOMIC AND CONSUMER INDICATORS

Economic and industry analysis provided by Avrio Institute, in collaboration with SEMA Market Research.

### "SEMA INDUSTRY INDICATORS"

This monthly report provides a high-level snapshot of the overall U.S. economy with an emphasis on economic data that directly or indirectly affects the automotive aftermarket industry.

### "SEMA FUTURE TRENDS REPORT"

This report takes a deeper dive into both the overall economy and the specialty-equipment market, and forecasts how the industry will change and evolve over the next few years.

### "SEMA STATE OF THE INDUSTRY REPORT"

Each year, SEMA surveys industry professionals to learn more about the state of the industry, perceived market barriers, and current/projected product trends. This report looks at how the specialty-equipment industry is doing from the perspective of those working in it.

## MARKET DEFINITIONS

### DEFINING THE SPECIALTY-EQUIPMENT MARKET

The specialty-equipment market includes parts and accessories that are manufactured, sold and distributed for cars, light trucks and other passenger vehicles (motorcycles, ATVs, UTVs, boats, etc.). This report, including the market sizing, focuses specifically on cars and light trucks. Specialty-equipment products are designed to customize or enhance the performance, handling or appearance of new or used vehicles. The market does not, however, include OEM-spec repair or replacement parts intended to replicate factory parts (except in the case of restoration parts for classic vehicles). The specialty-equipment market is often described as "the parts you want" rather than "the parts you need." Some examples of products that fall into the specialty-equipment market include exhaust kits, suspension kits, body kits or spoilers, custom wheels, stereo systems and engine modifications to increase horsepower.

### DEFINING SPECIALTY-EQUIPMENT CONSUMERS

Throughout this report, we use the terms "accessorizer" and "consumer" interchangeably. When we talk about specialty-equipment consumers or about accessorizers, we mean individuals who, in 2020, bought parts for their passenger vehicle to alter the appearance, performance, handling or function of the vehicle. This includes someone who bought accessories, such as custom floor mats, all the way up to a hardcore enthusiast who performed a full engine swap.

Accordingly, specialty-equipment consumers are very diverse in their objectives, attitudes and behaviors. SEMA Market Research partnered with an independent research firm to identify six broad types of people who buy specialty-equipment parts and accessories.

**Builders:** The core hobbyists. They focus on the enjoyment and satisfaction gained from working on their vehicles.

**Drivers:** Auto enthusiasts. They accessorize and modify with an eye toward the enjoyment they get from using their vehicles.

**In-Crowd:** Social enthusiasts. They enjoy the interactive aspects and recognition they get from having a unique or high-profile vehicle. They are often car club members and attend car shows.

**Handyman:** Do-it-yourself mechanics. They work on their vehicles to save money and prolong vehicle life and may be open to upgrades as part of their repair projects.

**Commuter:** The everyday drivers. They view their vehicles more as functional tools for getting around, may still want to do some personalization for their interests or lifestyles.

**DIFM:** "Do-it-for-me," the least savvy owners. They rely on their mechanic for all vehicle maintenance and upgrade needs.

Builders, Drivers and In-Crowd buyers are considered to be auto enthusiasts. They are typically more engaged in the automotive aftermarket scene and tend to spend more on parts. Non-enthusiasts include the Handyman, Commuter and DIFM segments. While they spend less and are less likely to make complex modifications, they comprise a large portion of the specialty-equipment customer base.

For more information on these segments and their habits, download the "SEMA Consumer Segmentation Report" at www.sema.org/research.

## SEMA MARKET RESEARCH

While the "SEMA Market Reports" provide a detailed overview of the specialty-equipment market, they are far from the only research SEMA conducts on the industry's behalf. The SEMA Market Research team regularly commissions research from independent providers to address topics of interest, ranging from bite-size monthly updates on relevant trends to full-length custom research reports.

The following are some examples of other information readers can find on our website, www.sema.org/research.

### CONSUMER INSIGHTS RESEARCH

#### SEMA CUV MARKET SNAPSHOT


In this report, SEMA Market Research provides insight into the crossover utility vehicle (CUV) market, both overall and specifically regarding the emerging opportunity they represent for the specialty-equipment market. Download the report to learn more about these vehicles, how they fit into our industry, and trends to watch.

#### SEMA 2021 RETAIL TRENDS REPORT


In this report, SEMA Market Research explores the state of retail in the United States, both overall and specifically for the specialty-automotive aftermarket. It includes a look at how our industry fits into the broader retail landscape, trends affecting retail consumers and businesses, and what sellers of specialty-automotive products may want to keep an eye on in the future.

#### SEMA EMERGING TRENDS: ELECTRIFICATION, ALTERNATIVE POWER AND ADVANCED TECHNOLOGY

In this report, SEMA Market Research explores the current landscape of alternative power and electrification in the United States, providing a realistic outlook for electric vehicles in the future as well as implications for the specialty-equipment industry. This report also examines other advanced technologies that are being developed for new vehicles today.

## INDUSTRY-FOCUSED RESEARCH

### "STATE OF THE INDUSTRY" REPORTS


SEMA's "State of the Industry Reports" offer insight into the current specialty-equipment industry landscape, providing a look at overall trends, current sales and forecasts, dynamics affecting specific types of businesses, and special topics unique to each issue.

### "SEMA INDUSTRY INDICATORS" REPORTS

SEMA INDUSTRY INDICATORS

Starting in November 2017, SEMA Market Research began releasing monthly "SEMA Industry Indicators" reports. These quick, easy-to-read snapshots are meant to give specialty-equipment businesses a view of key auto industry and broader economic trends through the lens of how they could impact their business. New reports are released on the second or third Thursday of every month.

### "SEMA FUTURE TRENDS" REPORT–JANUARY 2022


The "SEMA Future Trends" report offers a look at what lies ahead through forward-looking analyses of economic and automotive factors that impact the specialty-equipment industry. In addition to an expanded look at the kinds of data covered in our monthly "SEMA Industry Indicators" reports, this report also includes forecasting and spotlights on key trends facing the industry.

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### 2022 SEMA MARKET REPORT

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