ALLIANCE FOR AUTOMOTIVE INNOVATION

January 21, 2022

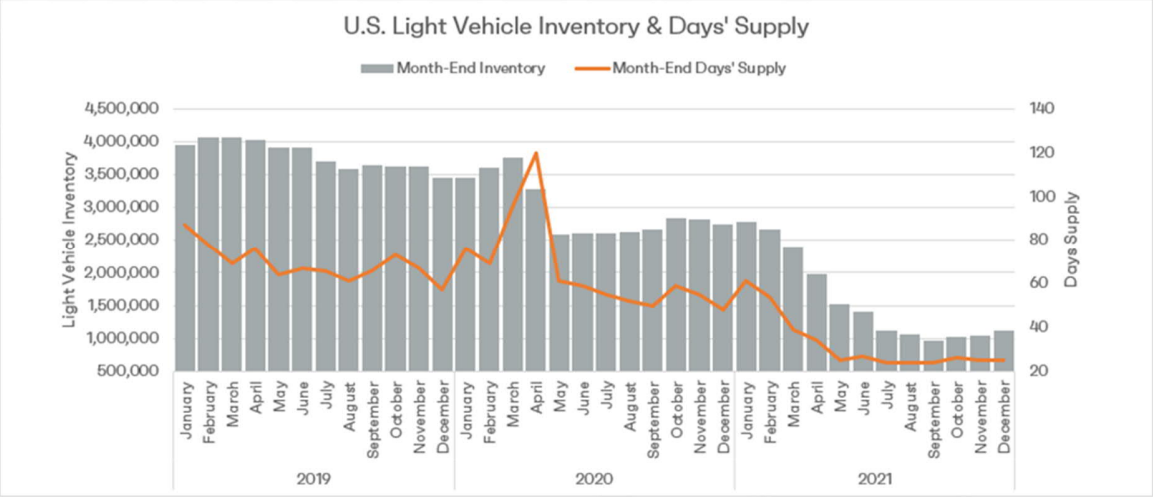
The Honorable Janet Yellen
Secretary of the Treasury
1500 Pennsylvania Avenue, N.W.
Washington, D.C. 20220

Dear Secretary Yellen:

The Alliance for Automotive Innovation (Auto Innovators) represents auto manufacturers that produce 99 percent of the cars and light trucks sold in the U.S., as well as major automotive suppliers and technology companies. I write to support letters received by the Assistant Secretary (Tax Policy) from the National Automobile Dealers Association (NADA) seeking relief under Section 473 of the Internal Revenue Code for new automobile and truck dealers who inventory their vehicles on a last-in/first-out (LIFO) basis and who are experiencing a significant decrease in inventories caused by the foreign trade interruption resulting from actions related to the COVID pandemic.

As our nation's largest manufacturing sector, our industry supports roughly 10 million jobs in America, and accounts for approximately 5.5 percent of our country's gross domestic product. To put the scale of auto manufacturing into perspective, a new finished vehicle contains over 10,000 parts—all of which need to be available for final assembly and ultimate delivery to auto dealerships for sale. In fact, the number of microchips in a vehicle can vary from a few hundred to roughly 3,000.

The well-documented global shortage of semiconductors—which are heavily dependent on international supply chains—has been the primary driver of a unique but prolonged disruption in auto manufacturing. Although sales levels are still below pre-COVID volumes, consumer demand for new vehicles remains high, yet auto dealers have been unable to acquire a sufficient number of new vehicles from manufacturers to replenish their depleted inventories. This can be seen in the following chart:[1]

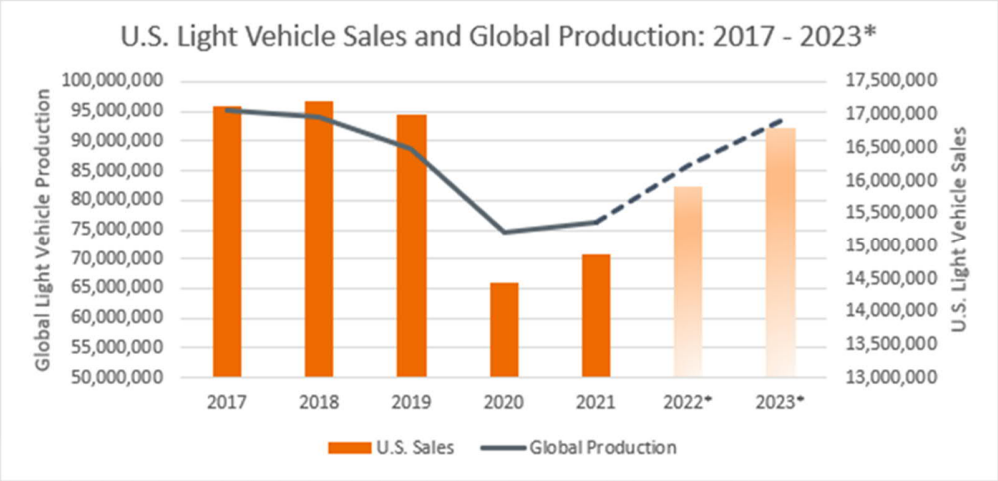


[1] *Source* Alliance for Automotive Innovation, "Reading the Meter: State of the Industry Report 1-6-2022." See https://www.autosinnovate.org/posts/papers-reports/reading-the-meter-1-6-2022)

In fact, the new vehicle production shortfall has been so significant that in September 2021:

> "light vehicle inventory fell below 1 million units for the first time in decades. This is a 64% drop in inventory from the prior year. Likewise, days supply dropped to 24, compared to 50 days in September 2020 and traditional average of 60+ days in September."[2]

This decreased inventory production is primarily a result of the foreign supply chain disruptions caused by actions related to the COVID pandemic, especially with respect to semiconductor shortages. For example, during the end of Q4 2020 and going into 2021, it became increasingly clear that a shortage of semiconductors used for a host of essential vehicle controls would reduce new vehicle production, further impeding the industry's recovery from the supply and demand shock at the beginning of the COVID pandemic. This is seen on the following chart.



As the following industry analysis from IHS Markit denotes, in calendar year 2021, vehicle production in the U.S., North America, and the world was reduced on account of the semiconductor shortage by roughly 1.5 million vehicles, 2.5 million vehicles, and 9.5 million vehicles, respectively.

Global Volume Loss[3]					
Region	**Q1 Loss**	**Q2 Loss**	**Q3 Loss**	**Q4 Loss**	**Total**
U.S.	193,122	601,530	558,579	132,517	1,485,748
Europe	428,990	743,100	747,350	465,820	2,385,260
Greater China	364,774	419,600	685,000	355,000	1,824,374
Japan/Korea	129,750	389,340	612,170	568,480	1,699,740
Middle East/Africa	15,000				15,000
North America	354,442	866,924	943,222	307,450	2,472,038
South America	56,530	130,980	141,570	108,140	437,220
South Asia	88,753	47,867	339,840	247,993	724,453
Grand Total	**1,438,239**	**2,597,811**	**3,469,152**	**2,052,883**	**9,558,085**

[2] IHS Markit, email, "IHS Markit Monthly Automotive Update - November 2021," 11/12/21
[3] Auto Production Loss Estimates for 2021: U.S., North America, and Global, (IHS Markit and Company Reports)

Currently, industry data shows that the U.S. accounts for roughly 12 percent of global semiconductor fabrication capacity, with the overwhelming majority of semiconductors that are installed in motor vehicles coming from, or are heavily dependent upon, foreign sources. For example, an analysis by IHS Markit observed that 70% of automotive microcontrollers (MCUs) were manufactured by one company in Taiwan.[4] Likewise, over the summer of 2021, the spread of COVID in Malaysia curtailed critical components of the semiconductor supply chain further exacerbating the global semiconductor supply constraint, including for automotive. As a result of this shortage of supplies of semiconductors from Taiwan and other foreign sources, automakers have been forced to curtail production in 2021.[5]

The fact that a foreign trade disruption for semiconductors has significantly impacted auto production has been well understood by this Administration and bipartisan members of Congress, who have sought to provide relief to bolster the supply of auto-grade chips, as well incentivizing the domestic production of semiconductors. For instance, last spring, the Vice President and the Department of Commerce pressed Taiwanese semiconductor producers to prioritize the needs of U.S. automakers to ease semiconductor shortages manufacturers were facing.[6]

Although there are limited domestic supplies of certain semiconductors, that supply is not nearly enough to support all auto production in the U.S. and abroad. Moreover, Auto Innovators is not aware of a single vehicle that is manufactured entirely with U.S.-sourced semiconductors. Every vehicle that rolls off an assembly line in the U.S. or North America, or is imported from a manufacturer overseas, is dependent to a high degree on the availability of semiconductors from foreign sources.[7] And because the auto industry has been impacted by a major foreign trade interruption in the supply of those semiconductors, it has been unable to keep up with consumer demand for new cars and trucks, let alone produce the same number of vehicles that were manufactured prior to the pandemic. This has made it difficult or impossible for our members' franchised dealerships to obtain sufficient replacement vehicles.

In conclusion, our members are very appreciative of efforts by the Biden Administration to seek solutions that can help to bolster additional semiconductor capacity for the auto sector. This has been evident in a host of efforts, including the Executive Order President Biden issued in February of 2021 regarding America's Supply Chains, and efforts to fully fund the CHIPS Act to bolster domestic production capacity of semiconductors, including auto-grade chips. I trust that you will find this information useful as you consider NADA's request for Section 473 relief.

Sincerely,

John Bozzella
President and CEO
Alliance for Automotive Innovation

cc: Hon. Lily Batchelder, Assistant Secretary (Tax Policy), Department of the Treasury
Mike Stanton, President, National Automobile Dealers Association

Enclosures:

Auto Production Loss Estimates for 2021: U.S., North America, and Global
Auto Innovator letter to EPA regarding the semiconductor shortage and EPA's response granting the requested flexibility (August 2021)

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[4] IHS Markit, *Managing the 2021 Automotive Chip Famine,* (February 2021).
[5] Reuters, "Three U.S. senators urge more Taiwan help on auto chip shortage" (available at https://www.reuters.com/business/autos-transportation/three-us-senators-urge-more-taiwanese-help-automotive-chip-shortage-letter-2021-08-19/)
[6] CNBC, "Commerce Department presses Taiwan to supply more chips to U.S. automakers" (available at https://www.cnbc.com/2021/05/05/commerce-department-presses-taiwan-to-supply-more-chips-to-us-automakers.html)
[7] To further underscore the unique situation the foreign trade disruption of semiconductors has caused our industry, attached you will find the formal request that Auto Innovators made of the U.S. Environmental Protection Agency (EPA) in August of 2021 seeking regulatory flexibility directly attributable to the semiconductor shortage. EPA subsequently agreed to provide the requested flexibility to extend the 12-month production timeframe for Model Year 2021 vehicles due to the lack of semiconductors, which would have otherwise made the supply of new vehicles even worse.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

OFFICE OF
AIR AND RADIATION

September 14, 2021

John Bozzella
President and CEO
Alliance for Automotive Innovation
1050 K Street, NW Suite 650
Washington, DC 20001

Dear Mr. Bozzella:

Thank you for your letter of August 26, 2021 to Administrator Regan on behalf of the members of the Alliance for Automotive Innovation requesting that EPA clarify how it would expect to interpret the model year of vehicles produced during the 2021 model year (2021 MY) which due to the circumstances described in the letter may have currently unavailable semiconductors retrofitted during the first quarter of 2022. Administrator Regan has asked that I respond to your letter on his behalf.

Under the circumstances described in your letter including that the vehicles will otherwise complete production as normal during the 2021 MY, that the cause of the semiconductor shortage was beyond the manufacturers control due to the COVID pandemic and global supply chain issues, and that the retrofits will simply add back the missing parts prior to sale to consumers, it is EPA's view that such vehicles may legally be introduced into commerce under a certificate of conformity for the 2021 MY.

This determination by EPA is limited to the 2021 MY and the specific circumstances described in your letter and should not be considered broader guidance for similar issues in the future. We would anticipate that manufacturers will continue to be proactive in addressing these supply chain issues in their production planning going forward, and therefore, would not expect these kinds of issues to recur on a regular basis.

I hope this letter is helpful to you and your members.

Sincerely,

Byron Bunker, Director
Compliance Division
Office of Transportation and Air Quality

ALLIANCE FOR AUTOMOTIVE INNOVATION

August 26, 2021

The Honorable Michael S. Regan
Administrator,
U.S. Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Request for Regulatory Clarity Regarding Semiconductor Supply Chain Impacts Arising from the COVID Pandemic

Dear Administrator Regan:

On behalf of our members, including auto manufacturers that produce 99 percent of the cars and light trucks sold in the U.S., as well as major automotive suppliers and technology companies, I write to request EPA's assistance in providing short-term confirmation of regulatory interpretation concerning unforeseen supply chain challenges to automotive production arising from the unprecedented and crippling semiconductor shortage that is a byproduct of the COVID pandemic.

At issue are EPA regulations concerning a "model year," and in particular 40 CFR § 85.2305, which restricts "production" of vehicles to no later than December 31 of the calendar year for which the model year is covered by a certificate of conformity.

Our members seek confirmation that EPA will not take the position that manufacturers who retrofit late-arriving semiconductors on already-produced vehicles will be considered to be in violation of the regulation. We do not consider such retrofits to be the type of "production" reasonably contemplated by the regulation. A contrary interpretation could present risk to vehicle production this year, impacting automakers, workers, and consumers alike, due to the unforeseen logistical delays arising from the continued shortage of semiconductors.[1] In an effort to keep workers employed and manufacturing facilities running, automakers have already produced many thousands of Model Year (MY) 2021 vehicles that are otherwise complete but for the semiconductors, or component parts requiring semiconductors, they are awaiting.

As manufacturers await delivery of these semiconductors, companies have had no choice but to store these vehicles and delay their entry into commerce until they are retrofitted with the missing semiconductors. As the semiconductor shortage has worsened, the industry now faces a situation where some of these vehicles may not be able to be retrofitted with semiconductors until after the new year.

[1] On February 24, 2021, the President signed Executive Order (E.O.) 14017, "America's Supply Chains," directing a whole-of-government approach to assessing vulnerabilities in, and strengthening the resilience of, critical supply chains (including semiconductors).

I am therefore writing to confirm that EPA does not consider retrofitting MY2021 vehicles with these late-arriving semiconductors that takes place during the first quarter of 2022 to be considered the type of "production" contemplated by 40 CFR § 85.2305, so that installation at that time will not affect the MY2021 certification of these vehicles. Our industry does not believe that EPA intended the regulation to preclude the late fitment after the end of the year, due to COVID pandemic global supply chain issues, of at most a handful of parts on vehicles that had been already appropriately produced in the calendar year corresponding to their model year.

In the alternative, to the extent that EPA determines that such late fitment does constitute "production" past January 1, then we request that EPA provide a No Action Assurance letter stating that manufacturers can proceed with retrofitting such vehicles in the first quarter of 2022, if necessary, and have them enter commerce under their MY2021 certificates of conformity. We also want to alert EPA that automakers may need an extension to file the required reports on final MY2021 sales to the various agencies to allow for time to deliver vehicles for sale after they receive all necessary components.

Without question, the stakes in terms of vehicle production, auto worker employment, and consumer impacts are high. Already, North American production is estimated to have lost 1.87 million vehicles this year and is projected to lose 2.18 million by the end of 2021.[2] As the following chart shows, the effect of this lost production is in addition to the unprecedented low level of new vehicle inventory. Currently, automakers are trying to make up for lost production capacity due to the unprecedented supply chain challenges that are a byproduct of the COVID pandemic and prevent further plant slowdowns or shutdowns, but not to "stockpile" vehicles before a model year change.

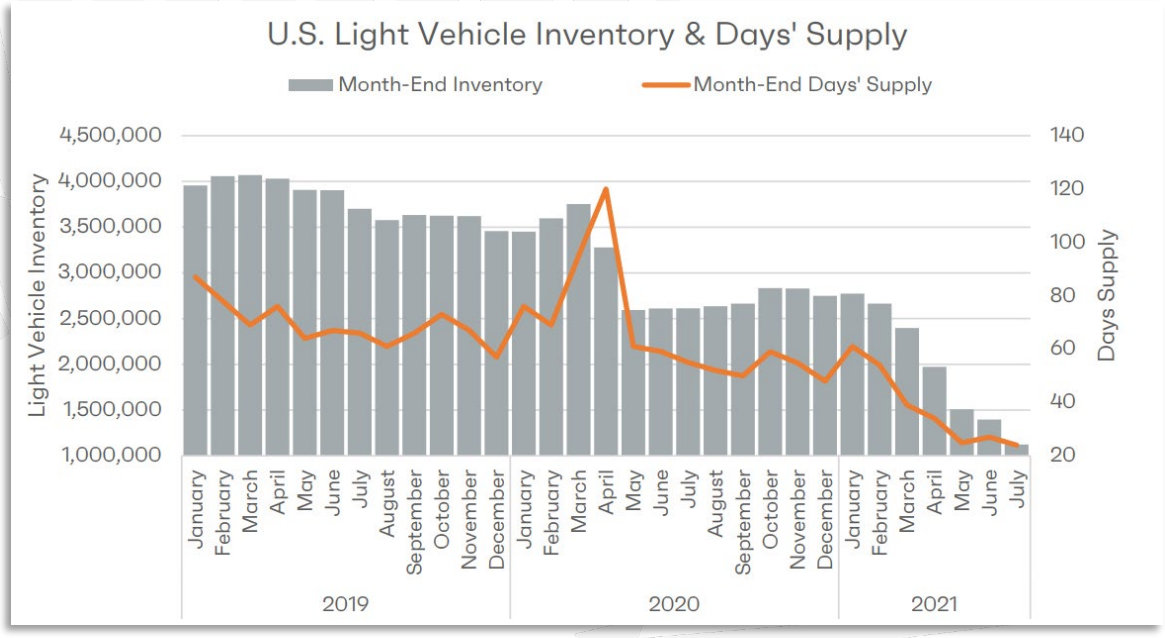

Figure 1: U.S. Light Vehicle Inventory & Days' Supply (source: Alliance for Automotive Innovation, "Reading the Meter: State of the Industry Report 8-12-2021." See https://www.autosinnovate.org/posts/papers-reports/reading-the-meter-8-12-21.)

[2] "[AutoForecast Solutions Inc] raised its estimate for the toll of vehicles that have been cut from worldwide production plans to date to 5.8 million. It now forecasts that as many as 7.1 million vehicles eventually could be eliminated because of the supply problem." "The Latest Numbers On The Microchip Shortage: Production Cuts Lessen," Automotive News, 9/8/21.

Earlier this month, WardsIntelligence noted that:

> U.S. light-vehicle inventory fell 19.4% from June, finishing July at 1.12 million units, 56% below the same year-ago period.
>
> The decline continues a trend of sharply falling inventory due to supply disruptions caused mostly by the global microchip [semiconductor] shortage that have sharply curtailed production for the U.S. market in North America and overseas plants. The downward slide has been ongoing since January, with declines accelerating in Q2.
>
> July 31 days' supply totaled 24, down from like-2020's 54 and well below the 60-65 range normal for the month.[3]

Meanwhile, vehicle demand remains high. In the context of this tight supply, high demand is pushing up vehicle prices, which is evidenced by July's all-time high transaction price of $41,044 for new vehicles.[4] Likewise, the lack of new vehicle supply has also increased used vehicle sales[5] with the Bureau of Labor Statistics noting the Consumer Price Index for used cars and trucks increased 41.7 percent over the 12-month period ending July 2021.[6]

Although production is projected to increase in the coming months, WardsIntelligence has noted that:

> [A]s has been the trend through the first seven months of this year, supply-chain disruptions could continue to push future production totals below expectations, mainly from the microchip shortage - and there already is planned factory downtime as far ahead as October due to the chip shortage - but existing bottlenecks in shipments via water, rail and truck also loom large. Furthermore, the rise in Covid-19 cases in North America and abroad could cause an increase in safety measures that further limit vehicle production for the U.S.[7]

Other industry projections are equally sobering when it comes to the challenges that automakers face. For instance, IHS Markit released the Monthly Automotive Update – August 2021, which noted:

> **North America**: The outlook for North America light vehicle production was sharply reduced by 775,000 units for 2021 and increased by 192,000 units for 2022 (and increased by 406,000 units for 2023). The production outlook for 2021 was meaningfully reduced in the near-term as the semiconductor supply chain is not improving at the pace that was expected with renewed COVID-19 restrictions adding further weight to an already hamstrung global supply chain. Production in Q3-2021 was revised down 11.8% or 433,000 units on continuing and expected incremental downtime. Production in the third quarter was expected to begin a marked improvement in the supply of semiconductors with the August 2021 forecast release essentially erasing any increases compared to the benchmark December 2020 forecast. Production in the Q4-2021 was revised down 8.3%

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[3] Haig Stoddard, "July U.S. Light-Vehicle Inventory Falls 19%; 2021 Sales Outlook Chopped," WardsIntelligence, 8/4/21.
[4] For July 2021, average transaction prices are expected reach an all-time high of $41,044. J.D. Power, Press Release, "Inventory Shortages Cause July Sales Pace to Weaken but Demand Drives Average Transaction Price Above $41,000 for First Time," 7/28/21.
[5] Cox Automotive noted that used-vehicle prices set another record in June, with "the average listing price for used vehicles surpassed the $25,000 mark for the first time – $25,101 to be exact. Cox Automotive, "Used-Vehicle Average Listing Price Sets Record," 7/22/21.
[6] Bureau of Labor Statistics, Press Release, "Consumer Price Index Summary," 8/11/21.
[7] Haig Stoddard, "July U.S. Light-Vehicle Inventory Falls 19%; 2021 Sales Outlook Chopped," WardsIntelligence, 8/4/21.

or 333,000 units amid expectations for disruptions to continue for a more protracted period that extends through Q2-2022. Production in 2022 was revised higher by 192,000 units with production more heavily weighted in the second half amid expectations that the semiconductor industry will be able to support levels that allow automakers to finally begin recovering lost volume. Significant production recovery is limited due to expectations of a tougher first half along with many high-volume plants unable to produce beyond their already strong work patterns with this phenomenon decidedly weighting on full-size pickup production.[8]

Our industry has stepped up to help fuel our nation's response to and recovery from the COVID pandemic, not to mention producing critically needed personal protective equipment for frontline workers and ventilators for those in need. Nevertheless, we are still witnessing the ramifications from the eight-week shutdown of all vehicle production facilities in North America – the first such time since World War II.[9]

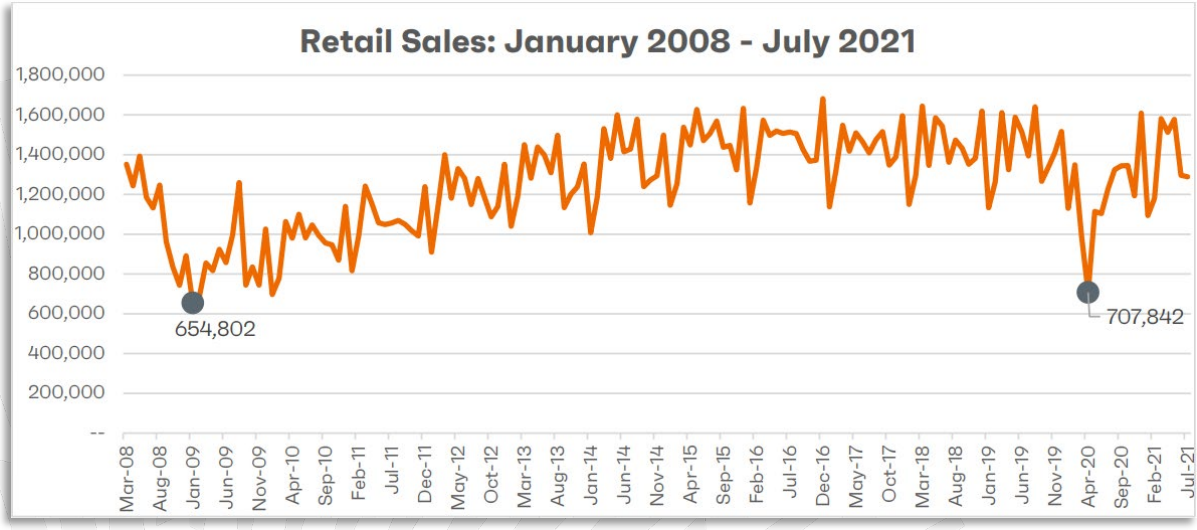


Figure 2: Retail Sales: January 2008 - July 2021 (source: Alliance for Automotive Innovation, "Reading the Meter: State of the Industry Report 8-12-2021." See https://www.autosinnovate.org/posts/papers-reports/reading-the-meter-8-12-21.)

To combat these supply chain challenges, the industry has taken measures to continue to produce vehicles (both MY2021 and MY2022) that are still awaiting semiconductors and are parked on manufacturers' lots. For a vehicle built at the end of the fourth quarter of 2021, needed semiconductors may not be available until early in the first quarter of 2022. As we near the fourth quarter of 2021, ensuring regulatory clarity will allow automakers the possibility of selling these MY2021 vehicles as soon as their corresponding semiconductors become available. Without this clarity, ongoing production may need to be halted prematurely, and the already-completed vehicles risk becoming a wasted investment and removed from the supply chain altogether ultimately as scrappage.

[8] IHS Markit, email, "IHS Markit Monthly Automotive Update - August 2021," 8/16/21.
[9] U.S. Auto Sales dropped nearly 15 percent to 14.463 million units in 2020 when compared to pre-COVID sales in 2019. WardsIntelligence, "U.S. Light Vehicle Sales, December 2020," 1/5/21.

I have enclosed some additional tables that show the estimated impact of the semiconductor shortage to U.S. facilities, North American facilities, and global auto production through Q3 of 2021.

Auto Innovators respectfully submits that its interpretation of the regulations to allow installation of semiconductors into MY2021 vehicles through Q1 of 2022 is appropriate due to the unique circumstances that manufacturers currently face. Administrator Regan, your assistance can further the Administration's focus on our nation's economic recovery by ensuring that automakers are able to maintain and increase vehicle production, save jobs, and reduce supply-based pressure on vehicle prices.

Auto Innovators appreciates your attention and timely consideration to this critically important matter.

Sincerely,

John Bozzella
President and CEO

cc: Joseph Goffman, EPA Office of Air and Radiation

Bryon Bunker, EPA Office of Transportation and Air Quality

White House National Economic Council

White House National Security Council

U.S. Department of the Treasury

U.S. Department of Commerce

U.S. Department of Transportation

Enclosures:

Auto Production Loss Estimates for 2021: U.S., North America, and Global (IHS Markit and Company Reports)

Auto Industry Letter to Biden Administration Regarding Semiconductor Shortage (January 19, 2021)

Auto Innovator Comments to U.S. Department of Commerce Semiconductor Supply Chain Request for Comment (April 5, 2021)

The attachments are included in the following pages. The link above will redirect you to the documents within this PDF.

Auto Production Loss Estimates for 2021: U.S., North America, and Global (IHS Markit and Company Reports)

U.S. Volume Loss				
Company	**Q1 Loss**	**Q2 Loss**	**Q3 Loss (Est)**	**Total**
Ford	63,600	347,700	85,500	496,800
Geely	600	-	-	600
General Motors	42,300	116,600	59,000	217,900
Honda	38,100	-	-	38,100
Hyundai	-	12,200	-	12,200
Nissan	3,400	26,300	8,100	37,800
Stellantis	17,700	63,600	47,300	128,600
Subaru	6,100	16,800	-	22,900
Toyota	20,900	6,000	-	26,900
Volkswagen	-	12,000	-	12,000
Grand Total	**192,700**	**601,200**	**199,900**	**993,800**

North America Volume Loss				
Company	**Q1 Loss**	**Q2 Loss**	**Q3 Loss (Est)**	**Total**
Ford	79,600	393,200	99,600	572,400
Geely	600	-	-	600
General Motors	99,800	189,300	107,900	397,000
Honda	63,100	1,000	-	64,100
Hyundai	-	12,200	-	12,200
Mazda	-	1,600	-	1,600
Nissan	3,400	55,200	8,100	66,700
Stellantis	69,100	134,700	71,900	275,700
Subaru	6,100	16,800	-	22,900
Toyota	23,900	6,000	-	29,900
Volkswagen	8,400	56,400	26,000	90,800
Grand Total	**354,400**	**866,900**	**313,500**	**1,533,900**

Global Volume Loss				
Region	**Q1 Loss**	**Q2 Loss**	**Q3 Loss (Est)**	**Total**
Europe	428,900	736,900	152,600	1,318,400
Greater China	364,700	419,600	60,000	844,300
Japan/Korea	129,700	389,300	136,600	655,600
Middle East/Africa	15,000	-	-	15,000
North America	354,400	866,900	313,500	1,534,800
South America	56,500	130,900	95,900	283,300
South Asia	88,700	47,800	103,300	239,800
Grand Total	**1,437,900**	**2,591,400**	**861,900**	**4,891,200**

U.S. Facility Estimated Volume Loss – January to Mid-Summer 2021		
Company	**Facility**	**Volume Loss**
Ford	Chicago	107,500
Ford	Dearborn Truck	82,200
Ford	Flat Rock	27,700
Ford	Kansas City #1	30,400
Ford	Kansas City #2	95,500
Ford	Kentucky Truck	61,900
Ford	Louisville	66,800
Ford	Michigan Assembly	16,900
Ford	Ohio Assembly	7,700
Geely	Charleston	600
General Motors	Bowling Green	5,700
General Motors	Fairfax	95,400
General Motors	Lansing Delta Township	15,700
General Motors	Lansing Grand River	19,800
General Motors	Orion	2,800
General Motors	Spring Hill	14,300
General Motors	Springfield	5,000
General Motors	Wentzville	58,900
Honda	East Liberty	4,400
Honda	Greensburg	10,200
Honda	Lincoln #1	2,800
Honda	Lincoln #2	3,800
Honda	Marysville	16,700
Hyundai	Montgomery	7,800
Hyundai	West Point	4,400
Nissan	Canton #1	7,700
Nissan	Canton #2	23,200
Nissan	Canton #3	100
Nissan	Smyrna #1	2,900
Nissan	Smyrna #2	3,700
Stellantis	Belvidere	43,900
Stellantis	Jefferson North	41,900
Stellantis	Sterling Heights	23,600
Stellantis	Toledo North	2,000
Stellantis	Warren Truck	17,000
Subaru	Lafayette #1	8,800
Subaru	Lafayette #2	14,100
Toyota	Georgetown #1	9,800
Toyota	Georgetown #2	9,800
Toyota	Georgetown #3	2,300
Toyota	San Antonio	3,500
Toyota	Tupelo	1,300
Volkswagen	Chattanooga	12,000
Grand Total		**992,500***

**Due to rounding differences, there's a slight variation between the U.S. facility volume loss and the U.S. volume loss chart (993,800 vs 992,500).*

January 19, 2021

The Honorable Brian Deese
Designated Director, National Economic Council
The Presidential Transition Team
1800 F Street NW, Room G117
Washington, DC 20270

Dear Mr. Deese,

We write as representatives of automotive companies, supplier partners and workers that collectively manufacture and sell 99 percent of the cars and light trucks distributed in the United States. By safely bringing automotive production and distribution back online following a complete eight-week shut down in the spring of 2020, our industry continues to be a leading contributor to America's ongoing economic recovery from the COVID pandemic. As such, we want to alert you to an urgent matter regarding a shortage of automotive semiconductors that is significantly impacting this critical manufacturing sector at home and abroad. We seek the Administration's assistance in helping to reduce the severity and longevity of this situation, in order to protect American jobs and minimize the negative impact to consumers and the broader economy that a drop in production would cause.

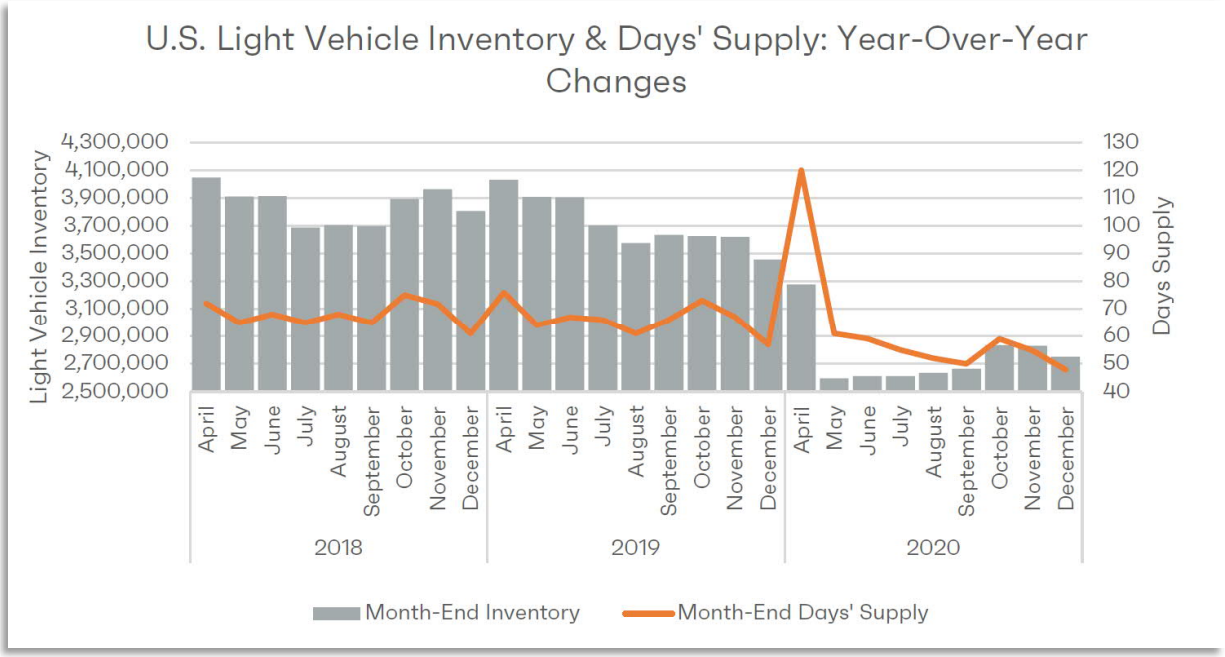
Semiconductors are used in a wide variety of automotive electronic components to perform critical vehicle control, safety, emissions, and driver information functions. The manufacture of these electronic components relies on the semiconductor industry that, in turn, relies on the silicon wafer foundry industry. The recent shortage of automotive semiconductors is a direct result of capacity reallocation in the silicon wafer foundry industry from the automotive sector to the consumer product sector during the automotive COVID-19 shutdown. This automotive grade wafer capacity has subsequently not been completely restored following the global restart of automotive manufacturing.

This shortage of automotive semiconductors will cause harm to American workers including layoffs and shift cancellations, resulting in production loss of hundreds of thousands of vehicles, if not more, in the first quarter alone. These losses, combined with a larger expected economic impact in Q2 and Q3, require urgent action. Because the lead time to manufacture silicon wafers is between 12 and 22 weeks, it is critical to address this shortage as quickly as possible. Currently, the automotive industry has no assurance that the silicon wafer foundries will return to manufacturing their "pre-COVID" volumes, thus perpetuating the global automotive grade wafer shortage and subsequent economic harm.

These events underscore the critical importance of a robust semiconductor supply chain to the future of the automotive industry. Many innovations currently underway in the automotive space – including electrification, automation, and connectivity – increasingly depend on access to silicon wafers and semiconductors. It is important, therefore, to also think longer-term when it comes to ways to address supply chain and capacity limitations here in the U.S. We stand ready to work with the Administration and other policy makers to address these long-term challenges to support semiconductor manufacturing and supply chain workforce needs.

In the near-term, we encourage the Biden Administration to explore immediate steps that can be taken to help resolve this issue, including urging major silicon wafer foundries to ramp-up production of automotive grade wafers by either expanding production capacity or by a short-term rebalancing of a modest portion of current wafer supply. These efforts could significantly reduce the longevity of this shortage, thus protecting American jobs and minimizing negative impacts to the U.S. economy. We understand that other countries are currently taking such steps to support their automotive industries and the U.S. must move quickly to address our domestic shortage.

To further underscore just how the current and projected silicon wafer shortage will impact the auto sector and consumers, it is important to note that even with the significant rebound from the industry shutdown last year, light-duty vehicle inventory stood at a nine-year low at the end of December 2020, or about 21 percent lower than December 2019. A production slowdown or stoppage now will only further reduce vehicle inventory levels to the detriment of suppliers, current and retired autoworkers, and prospective new vehicle purchasers.

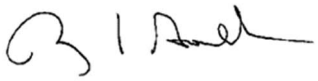


Source: Alliance for Automotive Innovation, "Reading the Meter," January 14, 2021.

We look forward to working with you and your senior team on this developing matter, as well as longer-term solutions, to help reduce or ameliorate the economic impact of the current semiconductor shortage on our economy, auto industry, as well as on American workers and consumers.

Sincerely,

John Bozzella
President and CEO
Alliance for Automotive Innovation



Rory L. Gamble
President
United Auto Workers

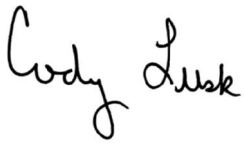
Mike Stanton
President and CEO
National Automobile Dealers Association

Bill Long
President and CEO
Motor & Equipment Manufacturers Association

Governor Matt Blunt
President
American Automotive Policy Council

Jennifer Safavian
President and CEO
Autos Drive America

Damon Lester
President
National Association of Minority Automobile Dealers



Cody Lusk
President and CEO
American International Automobile Dealers Association

ALLIANCE FOR AUTOMOTIVE INNOVATION

April 5, 2021

Matthew Borman
Deputy Assistant Secretary
Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Ave, NW
Washington, D.C. 20230

RE: Request for Comments on Risks in the Semiconductor Manufacturing and Advanced Packaging Supply Chain

Dear Deputy Assistant Secretary Borman:

The Alliance for Automotive Innovation ("Auto Innovators") is pleased to submit comments to the Department of Commerce ("Department") in response to its Request for Comments on Risks in the Semiconductor Manufacturing and Advanced Packaging Supply Chain. As you know, the auto industry has been uniquely and significantly impacted by the current semiconductor shortage. We appreciate the continued engagement and commitment of the Administration and the Department on this critical supply chain issue and welcome the opportunity to provide additional input and feedback.

Auto Innovators is the singular, authoritative, and respected voice of the automotive industry. Focused on creating a safe and transformative path for personal mobility, Auto Innovators represents the manufacturers that produce nearly 99 percent of cars and light trucks sold in the United States. Members of Auto Innovators include motor vehicle manufacturers, original equipment suppliers, technology companies, and others within the automotive ecosystem. As you are well aware, as the nation's largest manufacturing sector, the auto industry contributes $1.1 trillion to the United States economy and represents 5.5 percent of the country's GDP. As a significant engine for our nation's economy, the auto sector is responsible for 10.3 million jobs and $650 billion in paychecks.

Semiconductors are currently used in a wide and growing variety of automotive electronic components that perform vehicle control, safety, emissions, driver information, and other functions. Many innovations that are underway in the automotive space will define the future of mobility – including electrification, automation, and connectivity – and are highly dependent on semiconductors. With the increased incorporation of new safety and further emission reduction technologies, there is no doubt that auto production represents a growth sector for the semiconductor industry.

The chips that are generally used in vehicles are not the same chips used in consumer electronics devices. As with many defense and industrial control users, auto production largely relies on chips made using mature nodes. These chips are more robust and reliable than the advanced node chips that are used in consumer electronics devices and, as a result, can withstand the challenging environments in which vehicles operate and can last the life of a vehicle.

The microchip shortage that the auto industry is facing is an outgrowth of the unprecedented shutdown in auto production that occurred in the early weeks of the COVID pandemic. During that eight-week shutdown across all North America manufacturing plants (and similar shutdowns across the globe), silicon wafer foundries reallocated capacity away from auto grade chips to chips used in consumer electronics and other products. As you are aware, auto production has since resumed. However, the auto industry's demand for auto grade chips is not currently being met.

The microchip supply shortage facing the auto industry has been further exacerbated in recent weeks by severe weather in Texas that impacted domestic suppliers, a fire at a major overseas chip supplier, congestion at West Coast ports, and the significant stoppage of global trade through the Suez Canal shipping route. These additional challenges have further strained the existing supply of auto grade chips and have bolstered industry concerns and economic impacts.

The chip shortage has forced a number of automakers to halt production and cancel shifts in the United States, with serious consequences for their workers and the communities in which they operate. Our immediate priority, and one that we appreciate is shared by the Department, is reducing the severity and longevity of the microchip shortage for the auto industry in order to protect American jobs and minimize the negative impact to the broader economy.

We have been conducting anonymized surveys of our member companies since the onset of the chip shortage. The most recent survey was conducted within the last couple of weeks and, unfortunately, the high end projections indicate an even more significant impact to United States auto production than was projected in previous surveys. This survey, which is generally aligned with recent projections made by IHS Markit[1] and AlixPartners[2], revealed that the projected impact for 2021 could be as high as 1.276 million fewer vehicles produced. While there is no consensus among our member companies on how long the shortage will continue to impact production, some companies are predicting up to 6 more months of additional disruption.

The current semiconductor supply chain crisis has certainly exposed overall capacity limits in the semiconductor sector and revealed significant risks in the current automotive semiconductor supply chain. There is clearly a need to expand semiconductor capacity to meet the growing demand for semiconductors in the auto industry and across the economy. Policies that can incentivize this additional capacity in the United States, such as the programs authorized under the *CHIPS for America Act* and included in the *FY 2021 National Defense Authorization Act*, are essential to addressing the longer-term challenges. For this reason, Auto Innovators strongly supports full and robust funding for the programs authorized under the *CHIPS for America Act*.

That being said, it is critical that federal programs focused on increasing domestic capacity of semiconductors benefit all impacted industries and their workers. Given the importance of chips to current auto production and future automotive innovation, it would be regrettable if none of the funding under the *CHIPS for America Act*, once appropriated, was used to increase the resiliency of automotive supply chains through the construction of new facilities that produce or have the ability to produce auto grade chips. For this reason, we suggest that at least some portion of any *CHIPS for America Act* funding be used to build new capacity that will support the auto industry and mitigate the risks to the automotive

[1] On March 31, IHS Markit reported that it now expects the chip shortage to disrupt the production of nearly 1.3 million global light vehicles, up from a prior forecast of 1 million in the first quarter.

[2] AlixPartners recently predicted that automakers will produce 1.5 million to 5 million fewer vehicles worldwide than planned due to the microchip shortage.

supply chain evidenced by the current chip shortage. This could be accomplished by, for example, specifying that a particular percentage – that is reasonably based on the projected needs of the auto industry – be allocated for facilities that will support the production of auto grade chips in some manner.

New foundries take years to build, so Auto Innovators also recommends that policies be implemented that support increased chip capacity in the mid-term. This includes enactment of a semiconductor manufacturing investment tax incentive. Such an incentive can help companies offset the cost of creating new lines within existing facilities or reallocating current production to meet evolving needs.

A significant investment in and sustained commitment to building additional domestic semiconductor capacity that meets the future needs of the auto industry in the United States is absolutely essential. We appreciate your focus and attention to this critical issue and look forward to continuing to work with you to ensure that the auto industry in the United States continues to lead the world in innovation and in building a cleaner, safer, and smarter transportation future.

Sincerely,

John Bozzella
President and CEO