

READING THE METER

*A look inside a cleaner, safer,
smarter auto industry.*



ALLIANCE FOR AUTOMOTIVE INNOVATION

Contents – February 3, 2022

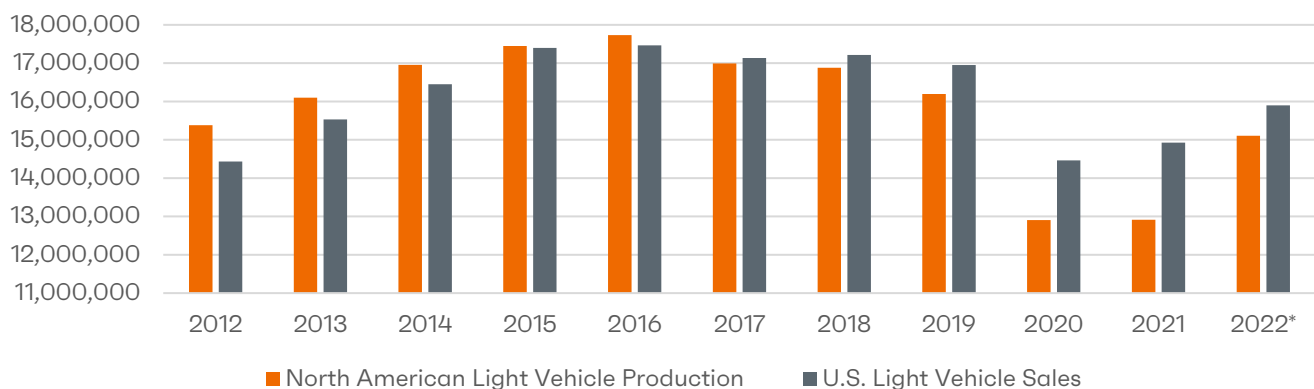
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Forecast Meter

Sales & Production Summary and Forecast (Updated 1/20)

2021-2022 Sales, ¹ Extended Sales Forecast ² and Production Forecasts ³		
	U.S. Sales & Forecasts	North American Production
January '21	1,094,689 (-3.6% YoY)	1,175,940 (-14.0% YoY)
February '21	1,180,506 (-5.3% YoY)	1,120,200 (-22.9% YoY)
March '21	1,581,067 (+59.7% YoY)	1,376,904 (31% YoY)
April '21	1,512,186 (+111.4 YoY)	1,094,891 (-21% YoY)
May '21	1,577,941 (+41% YoY)	729,879 (+271% YoY)
June '21	1,296,517 (+17% YoY)	1,107,958 (-1.9% YoY)
July '21	1,288,494 (-7.9% YoY)	926,035 (3% YoY)
August '21	1,090,446 (-11% YoY)	1,113,327 (-19% YoY)
September '21	1,006,875 (-25% YoY)	907,470 (-33.4% YoY)
October '21	1,046,282 (-20% YoY)	1,140,383 (-22.1% YoY)
November '21	1,001,351, (-20% YoY)	1,168,245 (-9% YoY)
December '21	1,194,313 (-22.9% YoY)	1,029,501 (-13.8% YoY)
January '22	991,156 (-10% YoY)	1,111,390 (-4% YoY) (forecast)
1st Quarter '21	3,869,872 (+11.3 YoY)	3,688,512 (-4.7% YoY)
2nd Quarter '21	4,153,855 (+20.2% YoY)	3,309,000 (132% YoY)
3rd Quarter '21	3,377,045 (-13% YoY)	2,930,000 (-26.7% YoY)
4th Quarter '21	3,249,377 (+139% YoY)	3,360,749 (-14.7% YoY)
2021 Full Year	14,926,933 (+3.1% YoY)	13,397,531 (.3% YoY)
2022 Full Year Estimate	15.9 million units (+7% YoY)	15,107,419 (+17% YoY)

North American Production And U.S. Light Vehicle Sales

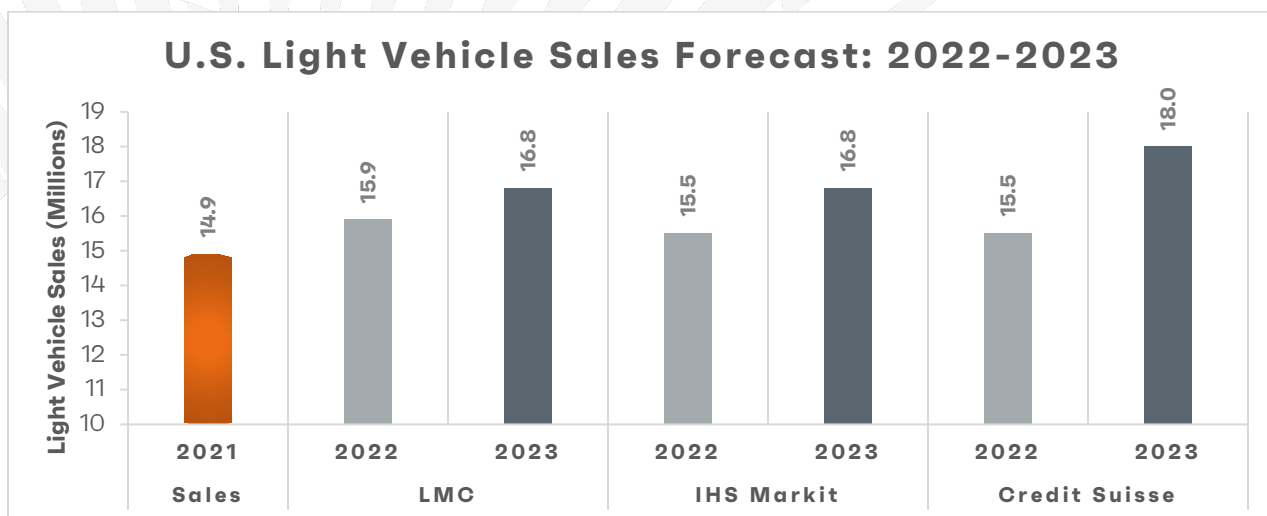


U.S. Light Vehicle Sales Outlook (Updated 2/3)

Wards Intelligence February Outlook (2/3)⁴: “U.S. light-vehicle inventory fell at the end of January from December, which could mean sequential sales growth on an annualized basis could temporarily stall after January’s uptick following a bottoming out in the market in Q4-2021. However, if sales on an annualized basis do flatten or decline in February from last month – actual volume will rise from January - deliveries over the remainder of the year overall still are expected to gradually improve now that production is rising as the supply-chain disruptions continue easing. . . . Initial modeling puts February sales at a 15.1 million-unit seasonally adjusted annual rate, which would be relatively flat with January’s 15.0 million. Volume in March will rise from February, but the annualized outlook for the month is flat with the prior two months, putting the quarter at a 15.1 million-unit SAAR. The Q1-2021 SAAR was 16.8 million units.

Wards Intelligence First Quarter Outlook (1/26)⁵: “However, the Q1 SAAR outlook is a preliminary view based on currently available data from January. Inventory is expected to sequentially rise in February and March, which is a primary reason to put more upside risk than downside to the Q1 outlook. WI partner LMC Automotive currently is maintaining its forecast for the entire year of 15.9 million units.

JD Power Outlook (1/26)⁶: “New-vehicle retail sales for January 2022 are expected to decline when compared with January 2021, according to a joint forecast from J.D. Power and LMC Automotive. Retail sales of new vehicles this month are expected to reach 828,900 units, an 8.3% decrease compared with January 2021.”



North American Production & Inventory Outlook (Updated 1/26)

Wards Intelligence Inventory Outlook (1/26)⁷: “Rising inventory and improving production for the U.S. market, due mostly to the bottleneck of semiconductors for the automotive sector easing – though still a problem – are increasing vehicle availability. Inventory, which usually declines from November to December, increased 7.4% month-to-month heading into January, and is pegged to rise by double digits at the end of this month, totaling 1.26 million units, highest since June’s 1.39 million.”

IHS Markit North American Outlook 2022 (1/20)⁸: “The outlook for North America light vehicle production was increased by 23,000 units and by 31,000 units for 2022 and 2023, respectively (and reduced by 149,000 units for 2024). While the pandemic, supply chain and logistics issues which significantly impacted 2021 production will continue to be problematic as we enter 2022, conditions are improving, and the resulting reduced levels of downtime and stronger production results point to moving past the compounding effects of these disruptive factors. Despite the momentum heading into 2022 resulting in a modest upward revision for the year, the January 2022 forecast continues to reflect weakness more heavily weighted in H1-2022 as expectations are for the supply of semiconductors to improve steadily throughout the year. While there are indications that production schedules are ramping up for a number of automakers, those positive signs are offset by continued near-term supply chain pressures. A scenarios-based approach is recommended to help guide the assessment of upside potential and downside risk, particularly in the extreme near-term. Production in 2023 was revised higher by 0.2% to total 17.2 million units as remnants of the semiconductor situation will likely be felt in early 2023, yet the industry is expected to largely move past the current limitations and shift towards restocking heavily depleted inventory levels.”

Wards Intelligence Production Outlook (1/20)⁹: “Higher-than-expected output in December, plus upward revisions to previously estimated data in October and November, led Q4-2021 North America vehicle production to end 38,600 units above month-ago’s projections. Additionally, the Q1-2022 outlook has been raised.

“More good news for manufacturers is production in Q1-2022 is tracking to a total of 3.725 million units, a slight increase from Q1-2021’s 3.718 million. With two months remaining in the quarter there is a significant level of uncertainty whether Q1 ends a few thousand units above (or below) the year-ago total. But the outlook shows production is coming back after being pummeled by parts and materials shortages – mostly caused by the semiconductor shortage – as well as other pandemic-related issues, in 2021.

“Although it began in other regions in the end of 2020, the year-ago quarter is when the semiconductor shortage forcibly began impacting production in North America, getting worse in Q2 and Q3. The resurgence of infections due to the Omicron variant of the Covid-19 virus is increasing the downside risk to the Q1 outlook, but January-March should be the foundation for a positive trajectory during 2022, with strong year-over-year gains in the final three quarters.

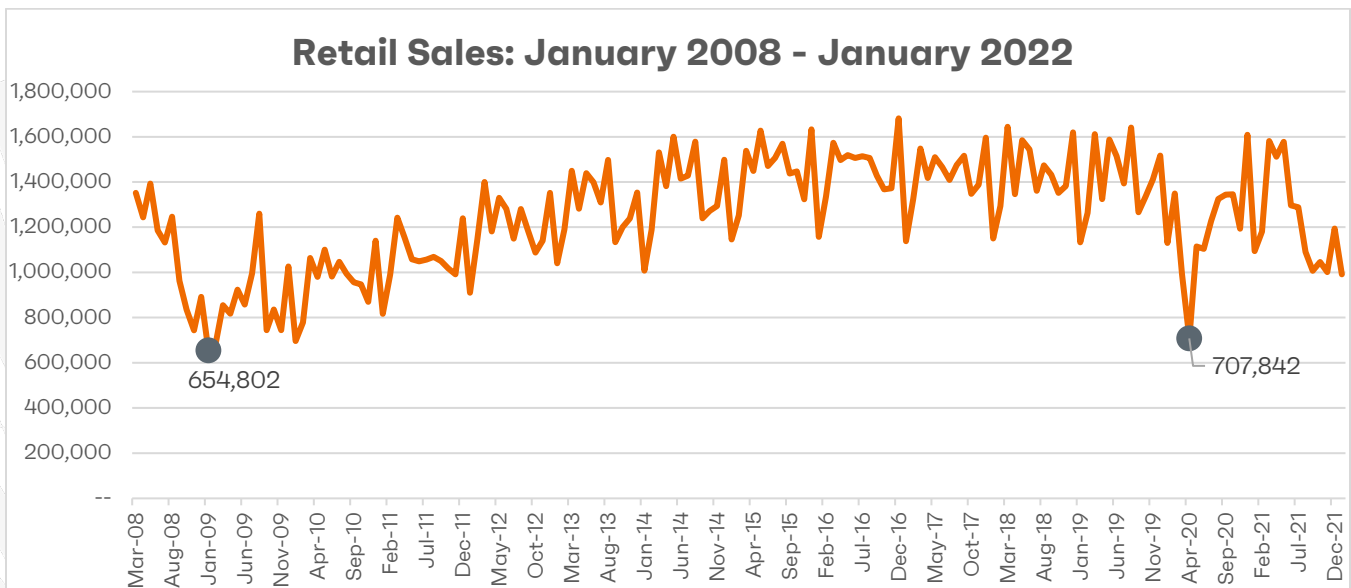
“First-quarter 2022 light-vehicle output is pegged at 3.60 million units, flat with January-March 2021.”

Market Meter

U.S. Light Vehicle Sales (Updated 2/3)

Monthly Sales (Updated 2/3)

This chart helps to put into context the monthly retail sales due to the COVID pandemic and showing the relative drop in sales compared to the 2008 financial crisis.



January Sales (Updated 2/3)

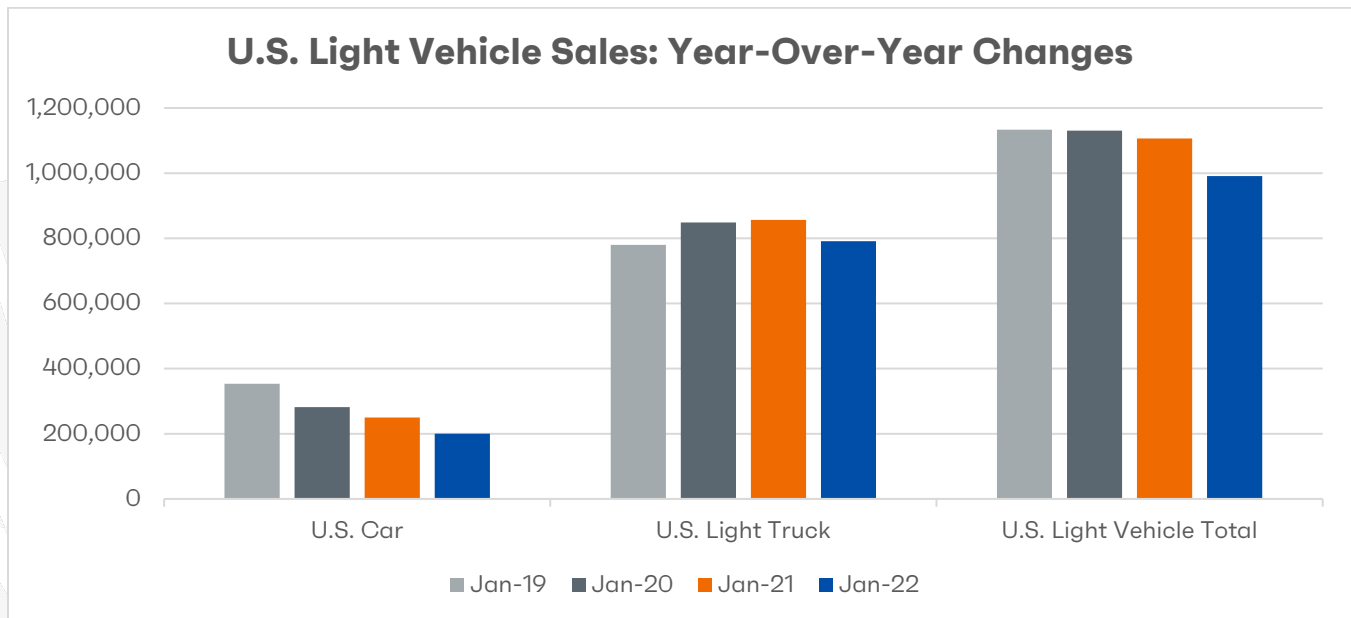
WardsIntelligence¹⁰: “Despite severe winter storms in the Northeast at the end of the month that certainly delayed some purchases until later in Q1, U.S. light-vehicle sales in January still finished close to expectations by recording a 7-month high annualized rate.

“Final volume, which includes estimates for some European brands, Mitsubishi and Tesla, totaled 991,156 units, and equated to a 15.0 million-unit seasonally adjusted annual rate. The SAAR was well below like-2021’s 16.8 million units, but a big increase from December’s 12.5 million and an any-month high since June’s 15.5 million.

“January’s raw volume was the lowest for any month since the pandemic-smacked total of 715,322 units in April 2020, but the low total does not mean sales are weakening from the end of last year. January typically is the lowest volume month in most years and always records heavy declines from

December. In fact, compared to typical declines of 20% to 25%, January’s daily selling rate of 41,298 over its 24 selling days was just 7.4% below December’s 44,952 – 27 selling days.

“However, that is not saying sales are strong. They are still weak, and inventory, though improving and why deliveries should rise over the rest of the year, still is drastically low. Nevertheless, the SAAR increase over December can mainly be traced to rising inventory, which is expected to increase again from the prior month when it is reported later this week.”



Fleet Sales (Updated 2/3)

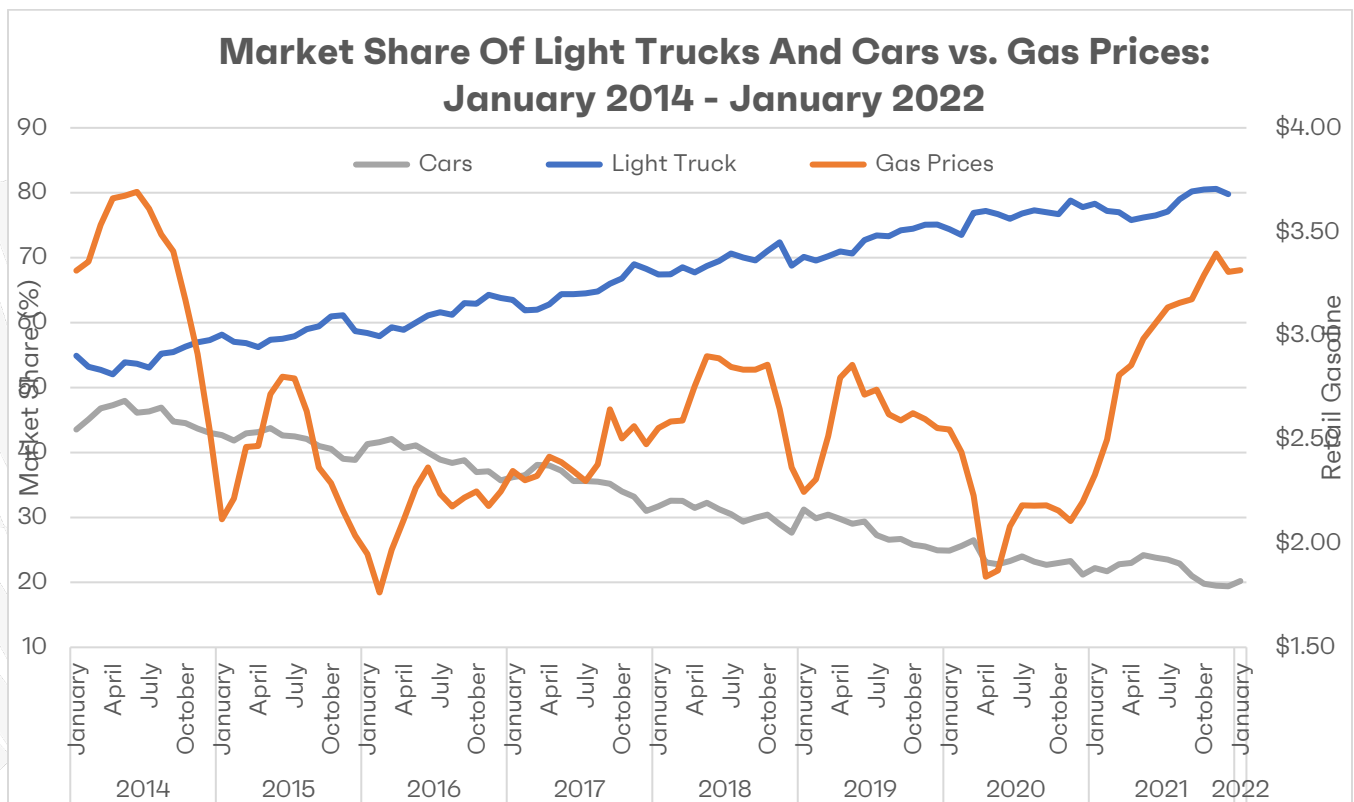
TrueCar¹¹: “Fleet sales for January 2022 are expected to be down 5% from a year ago and on par with December 2021 when adjusted for the same number of selling days.”

J.D. Power¹²: “Fleet sales are expected to total 103,200 units in January, down 48.6% from January 2021 on a selling day adjusted basis. Fleet volume is expected to account for 11% of total light-vehicle sales, down from 18% a year ago.”

Segments vs. Gas Prices (Updated 2/3)

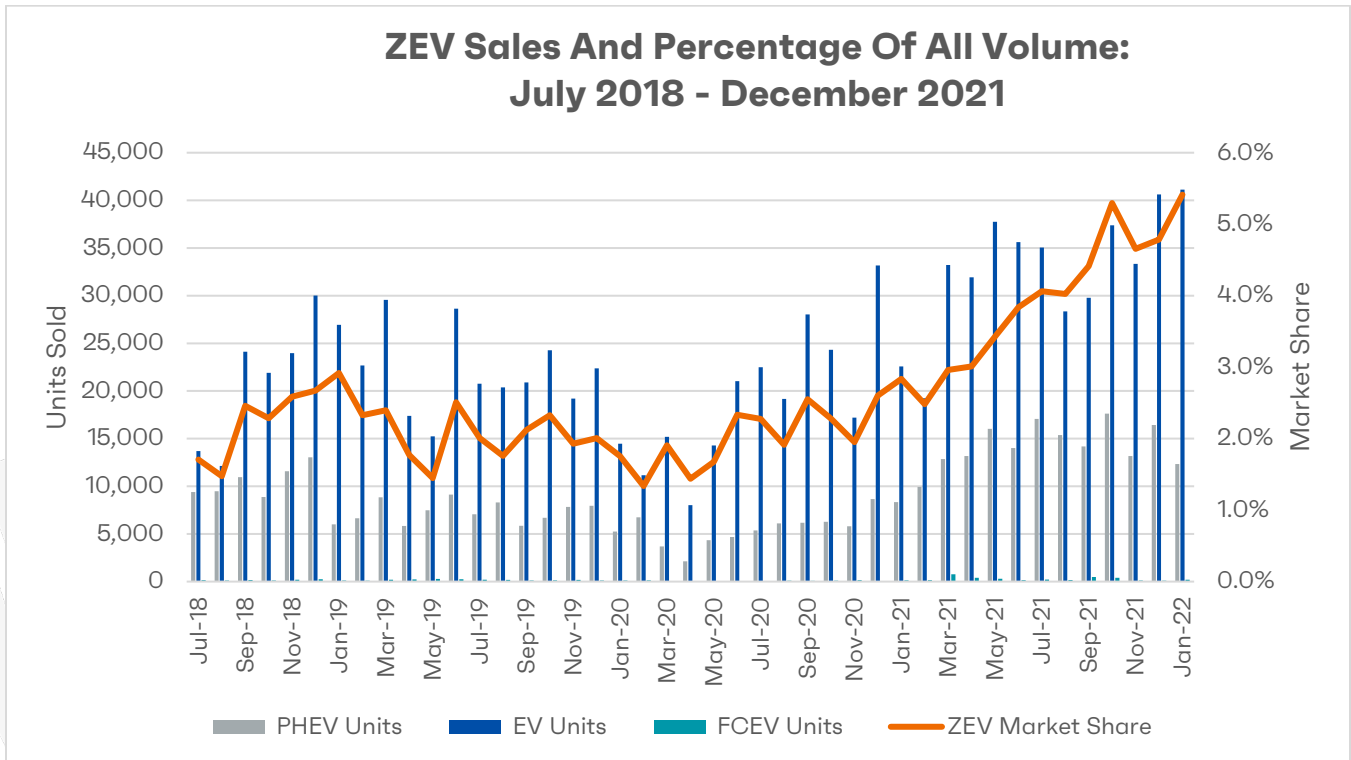
Monthly Sales For September: Light trucks accounted for 79.8% of sales in January, a 0.8 pp decrease in market share from a year ago. Compared to the same period in 2021, sales of cars are down nearly 50,000, and down more than 150,000 from January 2019, when cars comprised 31% of the market as opposed to the 20.2% of the market passenger cars have now.

Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments¹³ and gas was over \$3.00¹⁴ a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off. Gas prices since have averaged only \$2.61 a gallon (through January 2022) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013, the perfect conditions existed to continue fueling light truck market growth.¹⁵



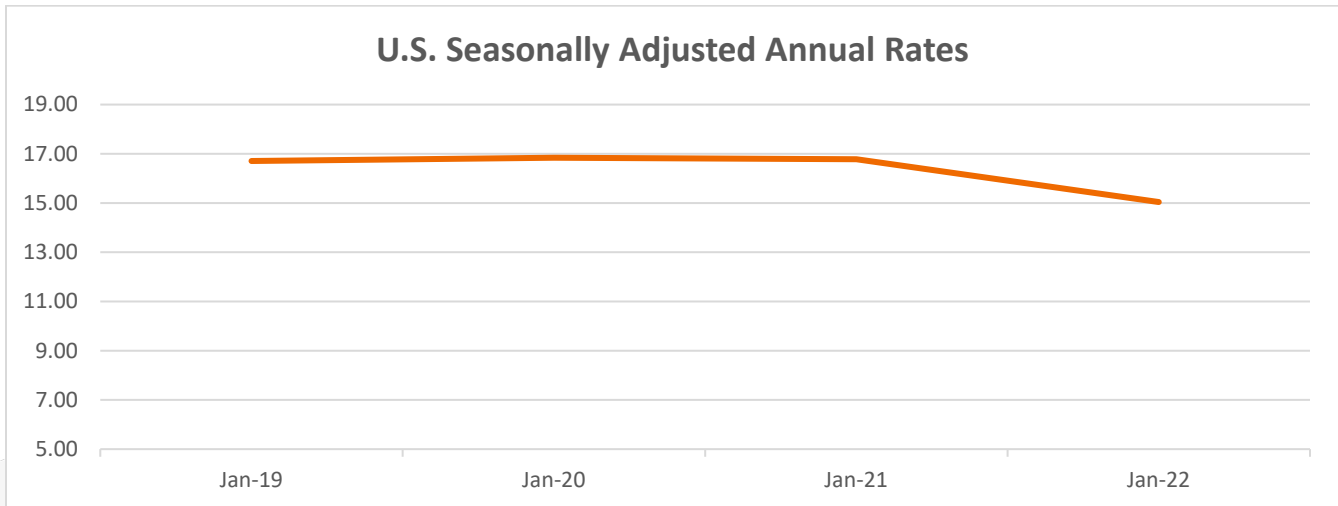
ZEV Powertrain Sales (Updated 2/3)

Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for 5.4% of total vehicle sales in January 2022, up 2.6 pp from a year ago and up 0.6 pp from December 2021. Sales of battery electric vehicles led the way for ZEVs, accounting for 4.15% of total sales, up 2.09 pp from January 2021. Plug-in hybrids accounted for 1.25%, 0.5 pp higher than the same time last year.¹⁶



Seasonally Adjusted Annual Rates (Updated 2/3)

WardsIntelligence: “Despite severe winter storms in the Northeast at the end of the month that certainly delayed some purchases until later in Q1, U.S. light-vehicle sales in January still finished close to expectations by recording a 7-month high annualized rate. Final volume, which includes estimates for some European brands, Mitsubishi and Tesla, totaled 991,156 units, and equated to a 15.0 million-unit seasonally adjusted annual rate. The SAAR was well below like-2021’s 16.8 million units, but a big increase from December’s 12.5 million and an any-month high since June’s 15.5 million.”¹⁷

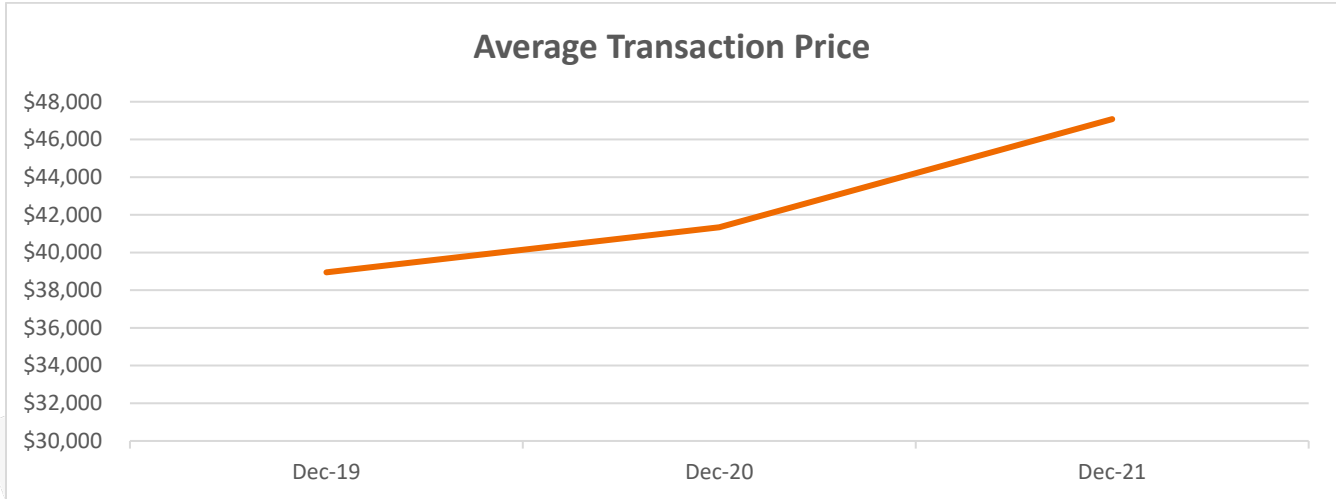


Average Transaction Price (Updated 2/3)

Wards Intelligence (2/3) “Caused by the ongoing inventory shortage, and further juiced by rising pent-up demand, average transaction prices as tracked by TrueCar increased 16.3% year-over-year in January to \$43,954. It was the highest year-over-gain in the 11 years Wards Intelligence has tracked the data. Average incentives declined 18.6% to \$1,479, the largest decrease on record. Exacerbating the rise in prices is that a high mix of January’s sales were due to a combination of luxury vehicles and non-luxury fullsize trucks. In total, the grouping of higher-priced vehicles equaled 40.4% of the mix compared to 40.1% in January 2021. However, considering inventory of the same group of vehicles came into the month at 48% of the mix vs. 35% in the year-ago period, it was not much of an increase in share. It could mean there is some pushback from inflationary-like pricing in that overall group, or pent-up demand for retail versions of those vehicles lightening up compared to more affordable vehicles, or both.”

J.D. Power¹⁸: “Average transaction prices are expected to reach a January record of \$44,905. Inventory shortages are resulting in even fewer incentive offers from manufacturers. The average manufacturer incentive spend per vehicle is on pace to be \$1,319, a decrease of \$2,163 from a year ago. Expressed as a percentage of the average vehicle MSRP, incentives for January are trending toward a record low of 2.9%, down nearly 5.2 percentage points from a year ago and the first time below 3.0%.

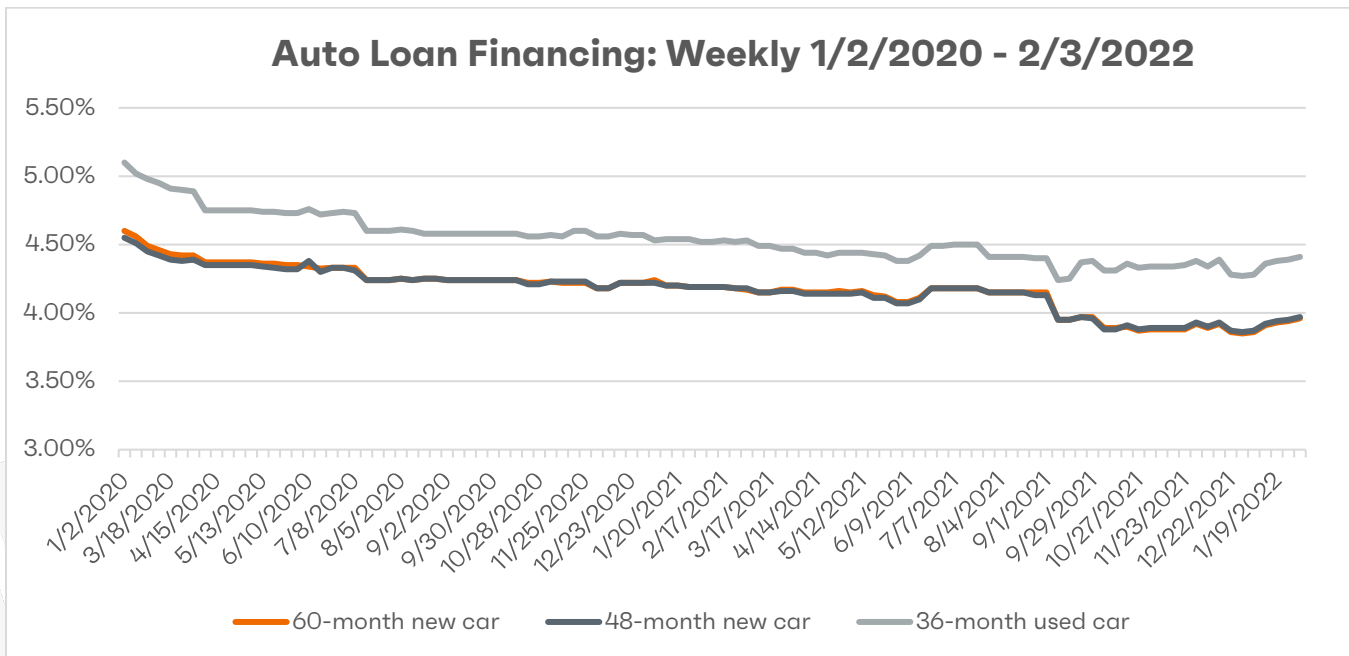
Kelley Blue Book (December): “New-vehicle average transaction prices (ATPs) increased further into record territory in December 2021 to reach \$47,077, according to new data released today by Kelley Blue Book. Prices are sharply elevated from last year, up nearly 14% (\$5,742) from December 2020 and up 1.7% (\$808) month over month. New-vehicle inventory levels remain tight, and with sufficient consumer demand, dealers continue to hold prices at or above the manufacturer’s suggested retail price (MSRP).”¹⁹



Auto Loan Financing (Updated 2/3)

Interest Rates Rise Slightly: Interest rates for new cars rose 0.02 pp and now stand at 3.96%. Rates also rose .02 pp on the 36-month used car loan and now stand at 4.41%. Since the beginning of 2020, rates are down 0.64 pp, and down 0.26 pp since the same time a year ago.²⁰

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
2/3/2021	4.19%	4.19%	4.52%
1/26/2022	3.94%	3.95%	4.39%
2/2/2022	3.96%	3.97%	4.41%
One Week Change	0.02%	0.02%	0.02%
Two Week Change	0.03%	0.03%	0.03%
Change since 1/3/20	-0.64%	-0.58%	-0.69%
One Year Change	-0.26%	-0.25%	-0.14%

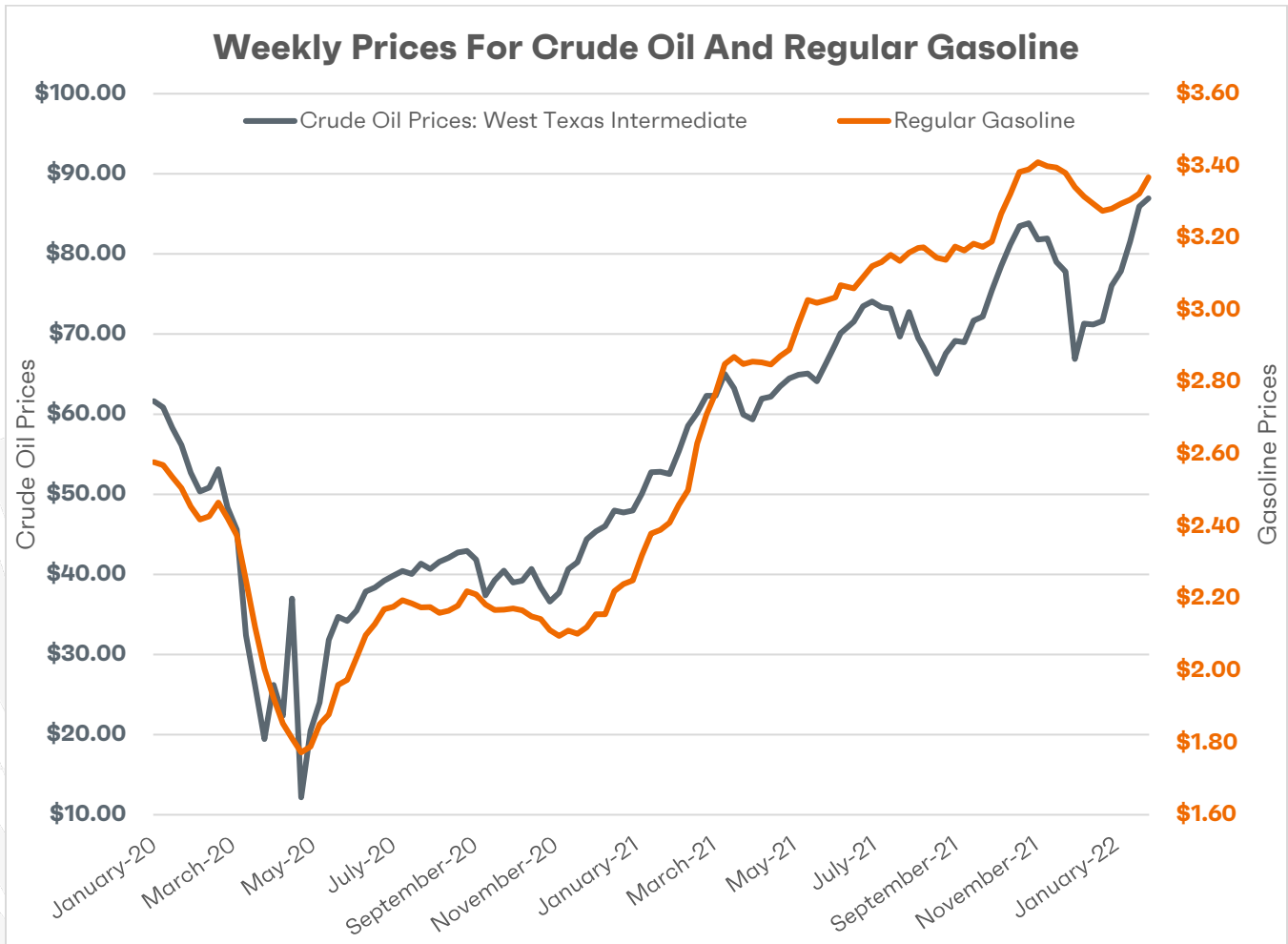


Crude Oil and Gas Prices (Updated 2/3)

EIA Outlook For Gasoline (1/12)²¹: “U.S. regular gasoline retail prices averaged \$3.02 per gallon (gal) in 2021, compared with an average of \$2.18/gal in 2020. We forecast gasoline prices will average \$3.06/gal in 2022 and \$2.81/gal in 2023. U.S. diesel fuel prices averaged \$3.29/gal in 2021, compared with \$2.56/gal in 2020, and we forecast diesel prices will average \$3.33/gal in 2022 and \$3.27/gal in 2023.”

EIA Outlook For Oil (1/12)²²: “Brent crude oil spot prices averaged \$71 per barrel (b) in 2021, and we forecast Brent prices will average \$75/b in 2022 and \$68/b in 2023. . . . We forecast West Texas Intermediate (WTI) crude oil prices will average about \$3/b less than Brent prices in the first half of 2022 before widening to a discount of \$4/b less than Brent prices through 2023. This price discount is based on our assumption that the recent discount of WTI to Brent, which averaged less than \$3/b in 2021, reflected low global demand for oil exports and relatively low levels of U.S. crude oil production. As global refinery demand for crude oil and U.S. crude oil supply increases, we expect the WTI discount to return to \$4/b by 2H22. This discount reflects the relative cost of exporting crude oil from the distribution hub in Cushing, Oklahoma, to Asia, compared with the cost of exporting Brent crude oil from the North Sea to Asia.”

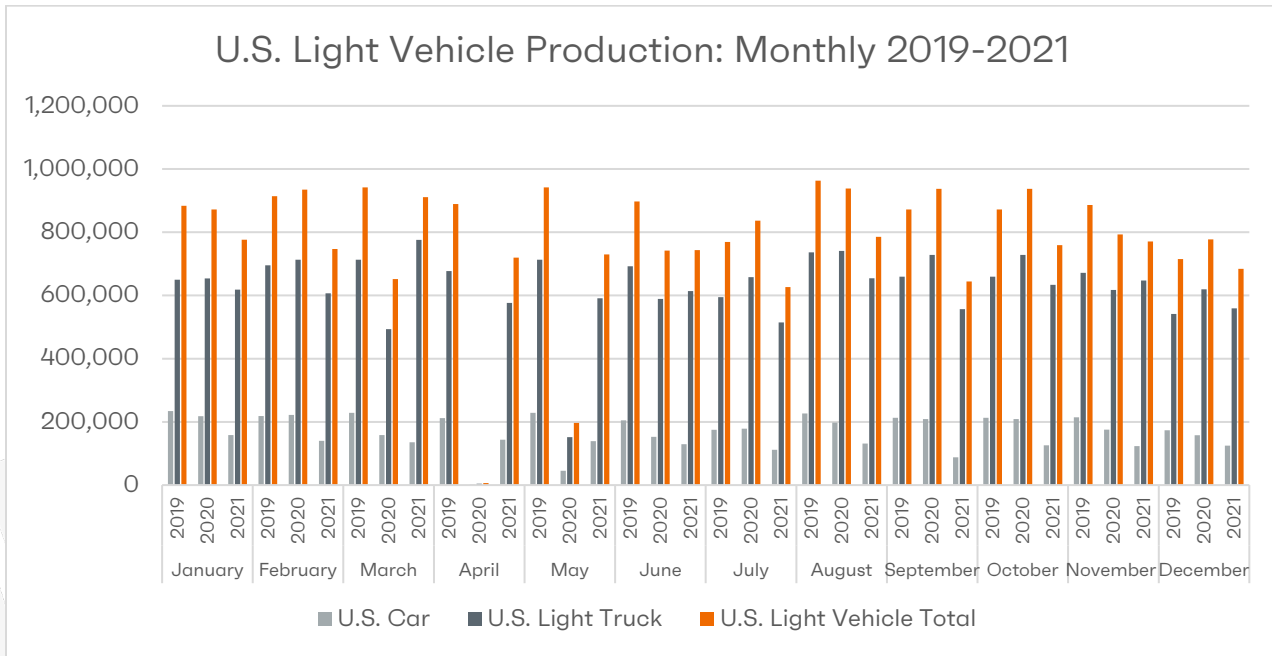
Oil and Gas Continue To Rise: Oil prices, as benchmarked at West Texas Intermediate, rose \$1 to \$86.94 a barrel. Since election day 2020, oil prices have climbed more than \$50 a barrel. Gas prices rose \$0.04 to \$3.37, remaining near the highest level since October 2014. Gas is 28% higher than the beginning of 2020.²³



Production Meter

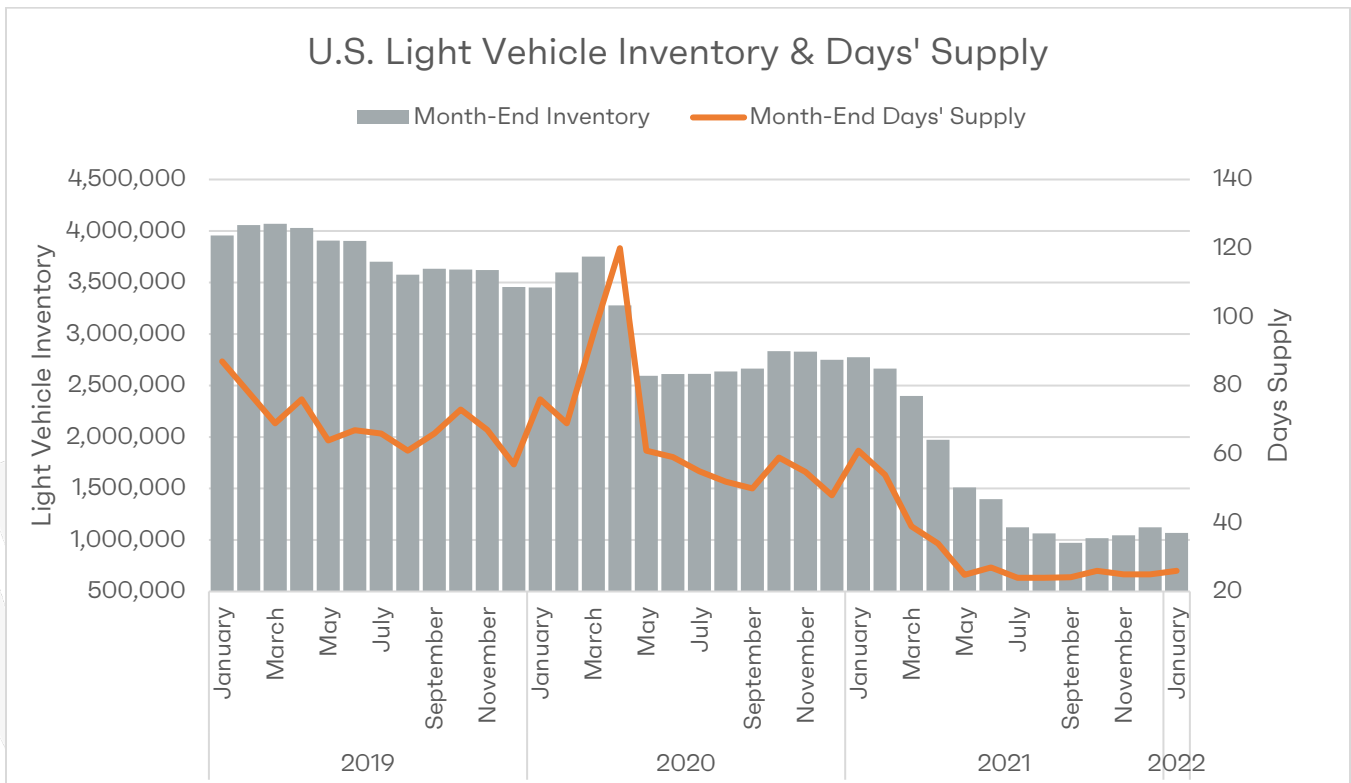
U.S. Light Vehicle Production (Updated 1/20)

U.S. Light vehicle production for December 2021 decreased month-over-month by 12 percent, totaling 684,220 (124,826 cars, 559,394 light trucks), year-over-year, production is down 12% from 2020. ²⁴



U.S. Light Vehicle Inventory and Days' Supply (Updated 2/3)

WardsIntelligence Inventory Update (2/3)²⁵: “Jan. 31 inventory totaled 1.07 million units, 4.9% below December’s 1.12 million units, and a whopping 61.5% below January 2021’s 2.77 million units, which was a 9-year low for the period due to production slowdowns in 2020 caused by the onset of the Covid-19 pandemic. The dearth of inventory still means sales will remain well below demand well into the second half of the year, if not the entire year. . . . January’s days’ supply totaled 26, a slight increase from December’s 25, but below like-2021’s 60. In the five years through 2019 – the last year before the pandemic overwhelmed the market – January’s days’ supply averaged 83.”



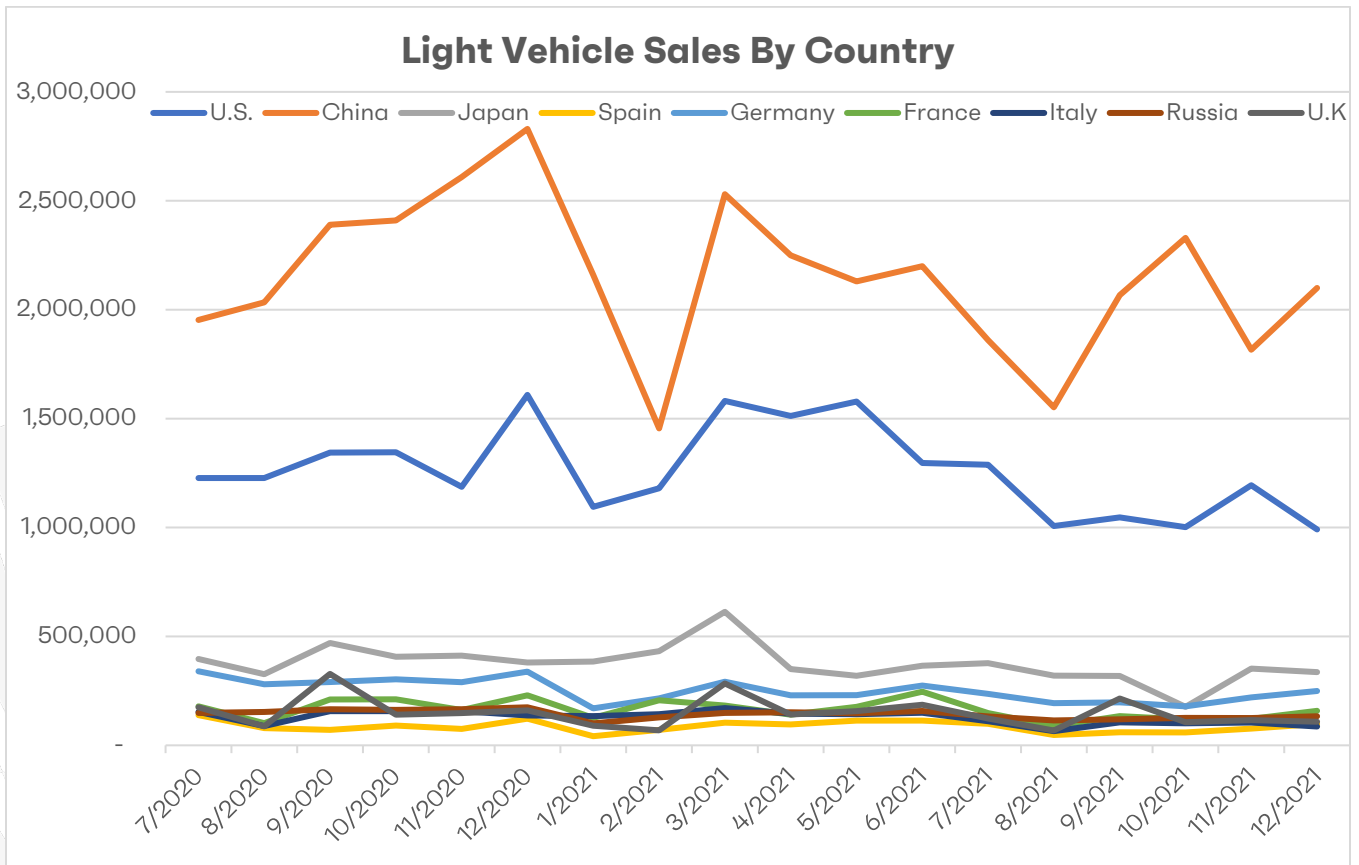
Global Meter

Global Light Vehicle Sales (Updated 2/3)

Wards Intelligence Outlook²⁶: “World vehicle sales totaled 7.59 million deliveries in December, falling 10.4% below year-ago’s 8.49 million. The year ended with 84.37 million units sold, growing 5.2% over 2020’s 80.20 million. Monthly sales were up in the first half of the year but started to decline as the pandemic and the global microchip shortage negatively impacted the auto industry.

“Demand was high in Q2 as regional restrictions began to lift due to COVID-19 vaccination rollouts, and the global monthly sales volume peaked in March at 8.75 million. At the end of June sales rose 29.6% year-over-year, then July marked the first month of declines. By the end of Q3 all regions had experienced monthly drops in vehicle sales.

“All regions reported losses in December, with North America facing the biggest drop at 22.0% to 1.46 million, compared to 2020’s 1.87 million. The region’s market share fell to 19.2% for the month from year-ago’s 22.1%.



Global Light Vehicle Production (Updated 1/20)

Wards Intelligence Outlook (1/12)²⁷: “The Omicron variant of the Covid-19 virus potentially could put a damper on prospects, but it appears the impact on global light-vehicle production from the semiconductor shortage has peaked, with the outlook for 2022 improving since November’s forecast. Wards Intelligence partner LMC Automotive is forecasting global light-vehicle output of 85.8 million units in 2022, 12.5% above 2021’s anemic 76.2 million and even higher than 2020’s 74.6 million, the year the pandemic first hit in full force. Although still including some year-end estimates, the 2021 total is an increase from 75.8 million units forecast for the period in the prior update and reflects a cut in estimated production losses caused by the semiconductor shortage of 600,000 units to 9.4 million. The 2021 total is just 2.2% above 2020.

“The 2022 forecast also is an improvement from the 84.9 million units expected for 2022 in the prior revision and accounts for an estimated loss of 4.0 million units due to the lack of semiconductors. “Global output is forecast to rise 8.9% in 2023 to 93.4 million units, followed by a 6.3% increase to 99.3 million in 2024, which also will beat the all-time high set in 2017 of 95.1 million.”

IHS Markit Forecast (1/20): “With a new year upon us, the auto industry finds itself continuing to battle a host of “old” challenges. As the highly contagious COVID-19 Omicron variant spreads around the world and supply chains struggle to keep pace with demand, the industry is working diligently ramp-up production levels. Across various regions, production in late 2021 finished on a stronger note and some of that strength is carrying into early 2022 on recent improvement with semiconductor inventories. Nevertheless, challenges remain regarding the state and composition of chip capacity and the vulnerability of the general supply chain to further disruption, which work to temper expectations in the near-term. The January 2022 forecast update reflects noteworthy upgrades, albeit mostly modest in nature, as the industry navigates the ongoing twin challenges of COVID-19 containment and supply chain challenges. In the near-term, the upgrades are particularly focused on Q1-2022 with the recent build-up of semiconductor inventories supporting production, yet succeeding periods continue to reflect the inherent challenges regarding overall chip capacity and robust demand across various industries. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was unchanged for 2022 and reduced by 84,000 for 2023 (and reduced by 93,000 units for 2024). Europe production ended 2021 slightly ahead of expectations and that pace has carried into early 2022 as the availability of semiconductors has improved, at least temporarily. As a result, we have increased Q1-2022 production by around 195,000 units, reflecting a better sequential improvement over Q4-2021. However, as there is little change in available analog chip capacity in the near-term while the demand outlook for these parts grows, we have downgraded the second half of the year by the same amount as the Q1 upgrade, leaving the full year outlook unchanged. As a result, 2022 is now forecast with a more traditional seasonality and less significant improvements as the year progresses. We continue to monitor the state of the supply chain, particularly for semiconductors, for signs that conditions are improving (or deteriorating). The outlook for Europe production in the mid-term was reduced and is aligned with corresponding adjustments to the demand outlook for those periods.

“Greater China: The outlook for Greater China light vehicle production was increased by 419,000 units and by 120,000 units for 2022 and 2023, respectively (and reduced by 399,000 units for 2024). Despite the stress of ongoing semiconductor shortages, the mainland China auto industry achieved solid momentum into late 2021 with production of over 2.5 million units in November and December, exceeding IHS Markit expectations. This energy is expected to continue into 2022, resulting in the aforementioned upgrade in near-term production outlook despite supply chain and financial sector challenges. Note, the near-term upward revisions are expected to result in some payback effect, particularly impacting intermediate-term production expectations. Light vehicle production for Greater China in 2022 is expected to total 24.7 million units, reflecting a year-on-year increase of 0.8%, an improvement relative to our December forecast. The New Energy Vehicle (NEV) market was a major factor contributing to the 2021 automotive rebound and that momentum is expected to continue going forward. In total, 3.5 million NEVs were produced in 2021, reflecting the transition from policy-orientated to market-driven demand. The largest NEV producer, BYD, built nearly 750,000 units last

year, rebounding with over 70% year-on-year growth. In addition, Tesla produced nearly 500,000 NEVs in 2021, supported by the export business of Model 3 and increasing domestic demand for Model Y.

“Japan/Korea: Full-year 2022 Japan production volume was increased by 46,000 units relative to the December forecast as Japan production is expected to maintain momentum in Q1-2022 due to accumulated semiconductor inventory. However, we expect production to flatten somewhat for the balance of the year given limited chip capacity that remains in the system. Japan production volumes in the 2023-2024 timeframe were upgraded by 1.3% per year as Japan OEMs are expected to finally have opportunities to recover lost production due to semiconductor shortages. Full-year 2022 South Korea production was increased by 45,000 units relative to the previous forecast as semiconductor inventory accumulated in late 2021 on efforts of back-end packaging and testing operations to work through a backlog of chips. However, the effect of rising stocks without more available chip capacity is expected to be short-lived in 2022, so significant adjustments were not made in 2023/2024. In the long term, the supply of small SUVs such as the Hyundai Kona and the Kia Seltos are expected to further expand and more than offset the discontinuation of products such as the Kia Pride, Stonic, K3 and the Hyundai Venue, resulting in an increase of 30,000 units or 1.0% per year on average relative to the previous forecast.

“South America: The outlook for South America light vehicle production was increased by 86,000 units and reduced by 17,000 units for 2022 and 2023, respectively (and increased by 1,000 units for 2024). With 2021 actualization, South American production closed higher than expected with 56,000 units added relative to the prior forecast, reflecting stronger activity than anticipated. That near-term production strength carries into Q1-2022 as somewhat lesser disruption from the semiconductor side is expected contributing to automakers bolstering their production plans. Contrary to past periods where downward revisions were more focused on challenges in Brazil, this month’s near-term upgrades are more heavily aligned with an improved outlook for Brazil production, particularly for Toyota and Stellantis. The outlook for 2023 and 2024 (and beyond) was not changed significantly and remains aligned with the demand outlook for the region.

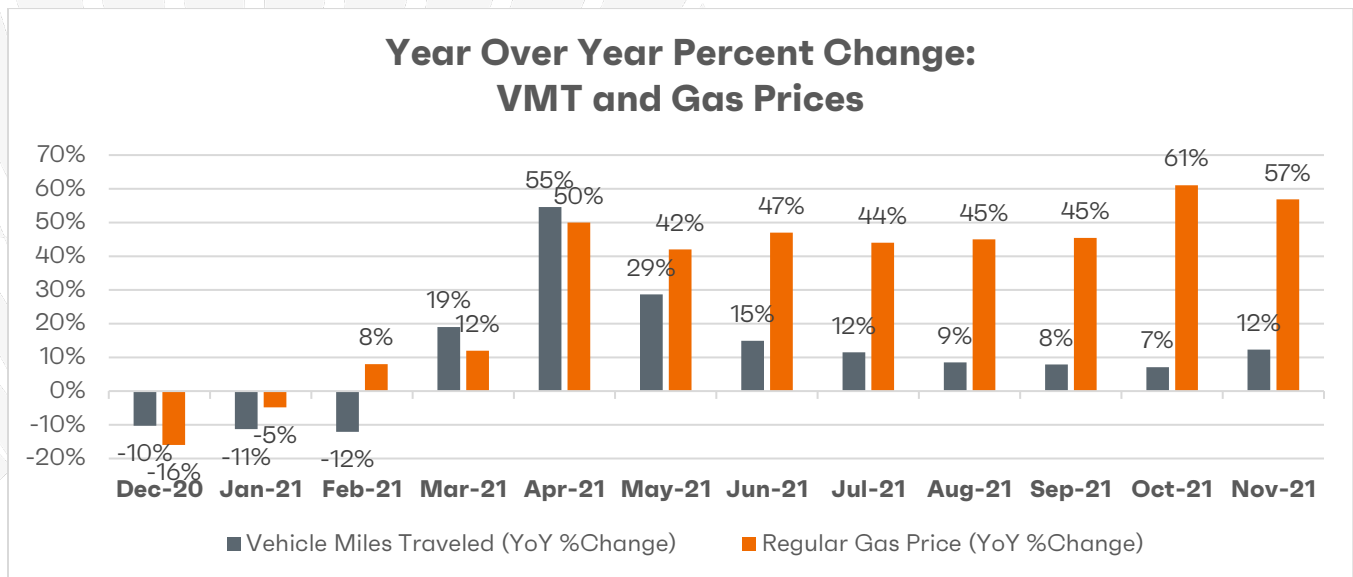
“South Asia: The outlook for South Asia light vehicle production was increased by 64,000 units and by 52,000 units for 2022 and 2023, respectively (and increased by 2,000 units for 2024). The near-term outlook for the region was upgraded modestly due primarily to some additional relief regarding the semiconductor situation in India. The outlook for the ASEAN market was largely maintained, yet ongoing supply chain pressures as well as the potential for the highly contagious COVID-19 Omicron variant to weaken the economic recovery in the region are being closely monitored. Notwithstanding recent semiconductor supply improvements in India, the industry remains vulnerable and the production outlook for 2022 reflects lingering supply chain uncertainties. The near-term production outlook for the ASEAN market is largely unchanged as the region grapples with supply chain challenges and COVID mitigation. Across the market, efforts are being made to ramp-up production where possible to compensate for prior production losses due to component shortages and COVID-19 restrictions. However, these efforts will continue to be governed by the ongoing status of supply chain challenges as well as COVID conditions throughout the region.”²⁸

Recovery Meter

Roadway Travel (Updated 1/26)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in November rose 11.3% from the same time a year ago. The cumulative travel estimate for 2021 is 2,960.3 billion vehicle miles.²⁹

- Travel on all roads and streets changed by +12.3% (+29.2 billion vehicle miles) for November 2021 as compared with November 2020. Travel for the month is estimated to be 267.5 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for November 2021 is 279.4 billion miles, a +11.3% (+28.3 billion vehicle miles) increase over November 2020. It also represents a +1.6% increase (+4.4 billion vehicle miles) compared with October 2021
- Cumulative Travel for 2021 changed by +11.2% (+298.1 billion vehicle miles). The cumulative estimate for the year is 2,960.3 billion vehicle miles of travel.



Economic News (Updated 1/12)

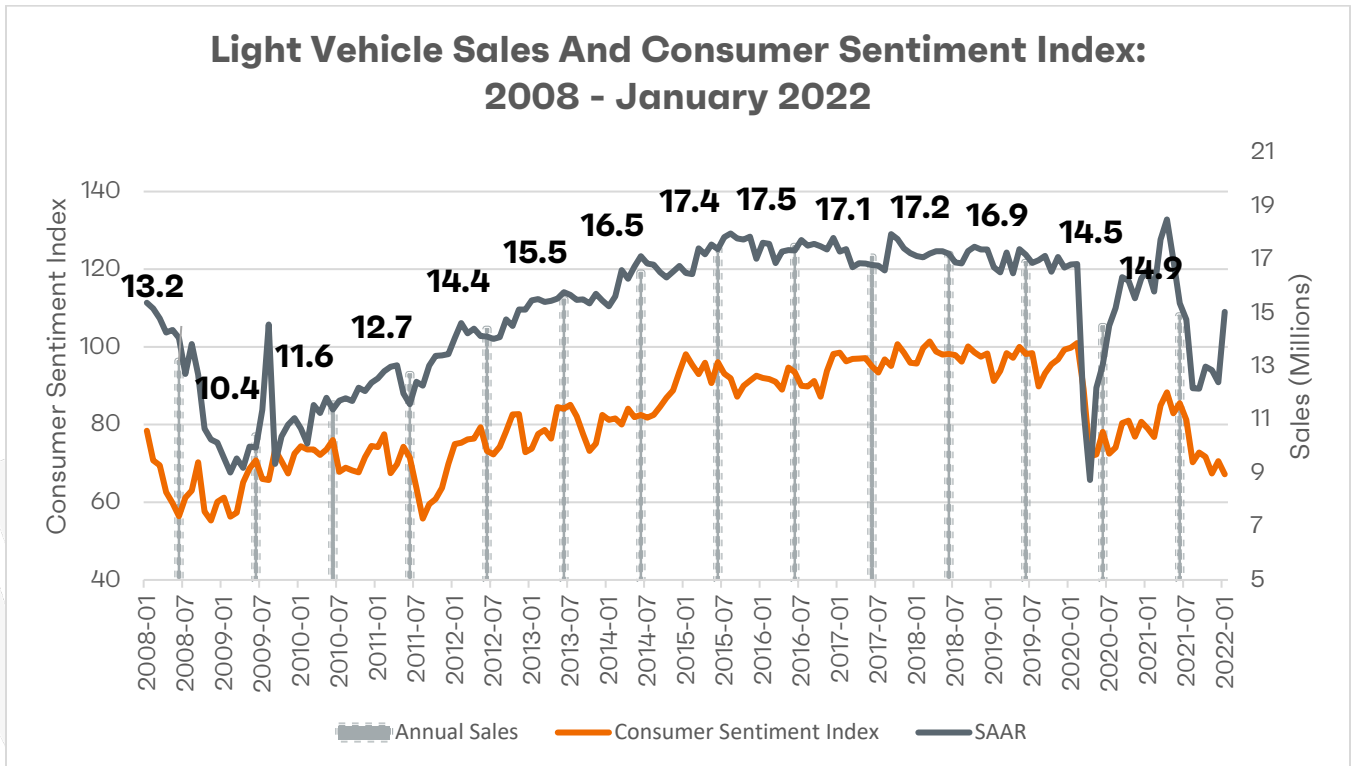
Manufacturing Gained 26,000 Jobs In December, Including 4,200 By Motor Vehicles And Parts.

“The Department of Labor’s December 2020 employment situation report found that 20,000 of the 26,000 new manufacturing jobs were in durable goods production. The durable-goods category with the largest gains, machinery, saw 7,700 new jobs in December, which the Bureau of Labor Statistics noted “reflected the return of workers from a strike.” The UAW’s strike of Deere & Co. factories included more than 10,000 workers and ended November 17. Motor vehicles and parts production, the next-best manufacturing sector for new hires, added about 4,200 new jobs.”³⁰

The ISM Index Fell To 58.7 In December, The Lowest Reading Since January 2021. “Manufacturing’s economic expansion slowed in December, the Institute for Supply Management said today. The group also said the Omicron variant of COVID-19 likely will complicate manufacturing in early 2022. ISM’s manufacturing index, known as the PMI, registered at 58.7 percent last month. That was down from 61.1 percent in November. The PMI is based on a survey of executives in 18 industries. An index reading above 50 percent indicates economic expansion, below that mark shows economic contraction. The December PMI was the lowest since January 2021 when the index was also 58.7 percent. The PMI averaged 60.7 percent in 2021.”³¹

Consumer Confidence and Sales (Updated 2/3)

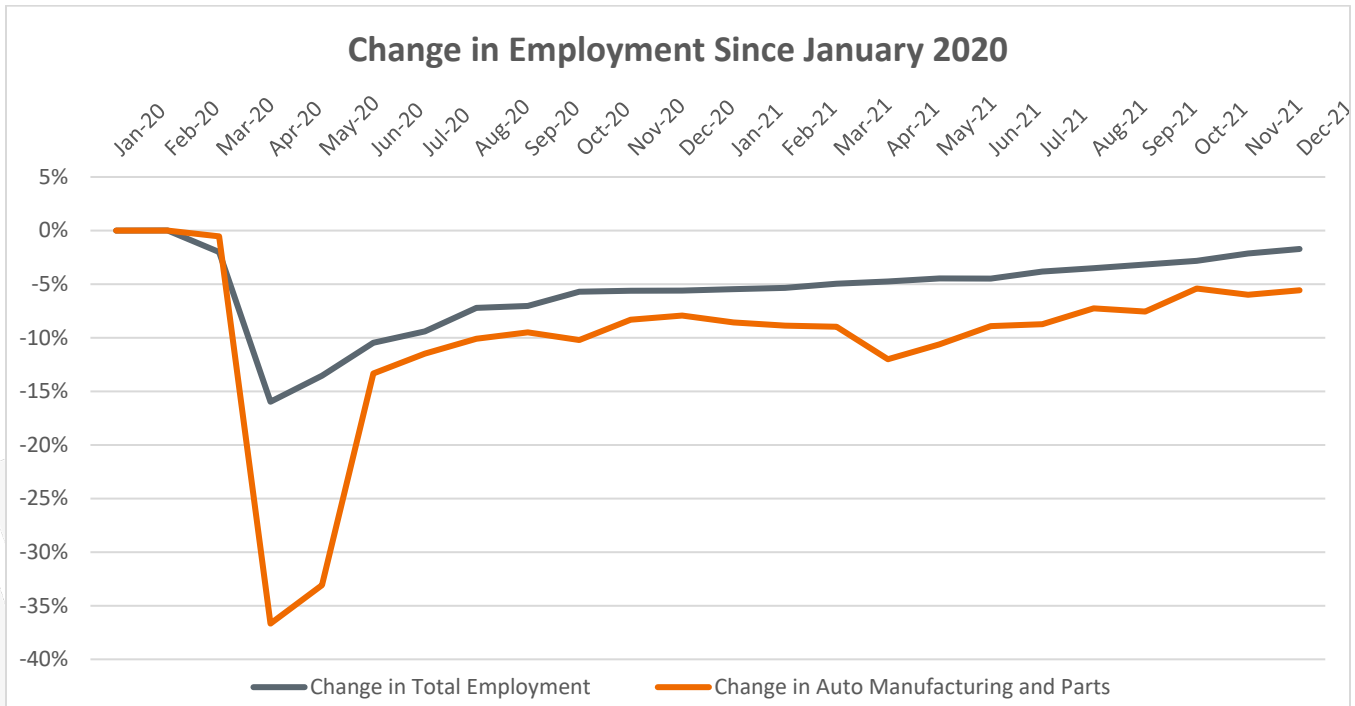
Surveys of Consumers chief economist, Richard Curtin: “Sentiment fell throughout January, posting a cumulative loss of 4.8%, sinking to its lowest level since November 2011. The current slump was due to two sharp declines separated by a brief interlude of rising optimism. The initial steep decline occurred in just two months, a 28.9% plunge in optimism from February to April 2020 due to the shutdown in the economy. Confidence recorded an equally strong recovery beginning in late-2020, rising 23.0% by April 2021. That upturn was reversed during the past nine months, with the Sentiment Index falling by 23.9%. The Delta and Omicron variants were largely responsible, but other factors, some of which were initially triggered by covid, have become independent forces shaping sentiment. While supply chains and essential workers have sparked the initial increases in prices and wages, a wage-price spiral that has subsequently developed is no longer tied to those precipitating conditions. Household spending had been supported by an extraordinary pace of rising home and stock prices that is likely to turn negative in the year ahead. Overall confidence in government economic policies is at its lowest level since 2014, and the major geopolitical risks may add to the pandemic active confrontations with other countries. Although their primary concern is rising inflation and falling real incomes (see the chart), consumers may misinterpret the Fed’s policy moves to slow the economy as part of the problem rather than part of the solution. The danger is that consumers may overreact to these tiny nudges, especially given the uncertainties about the coronavirus and other heightened geopolitical risks. Clear policy communication is insufficient if it does not also advance consumers’ understanding of the economic tradeoffs involved and their plans to actively alleviate any undue harm.”³²



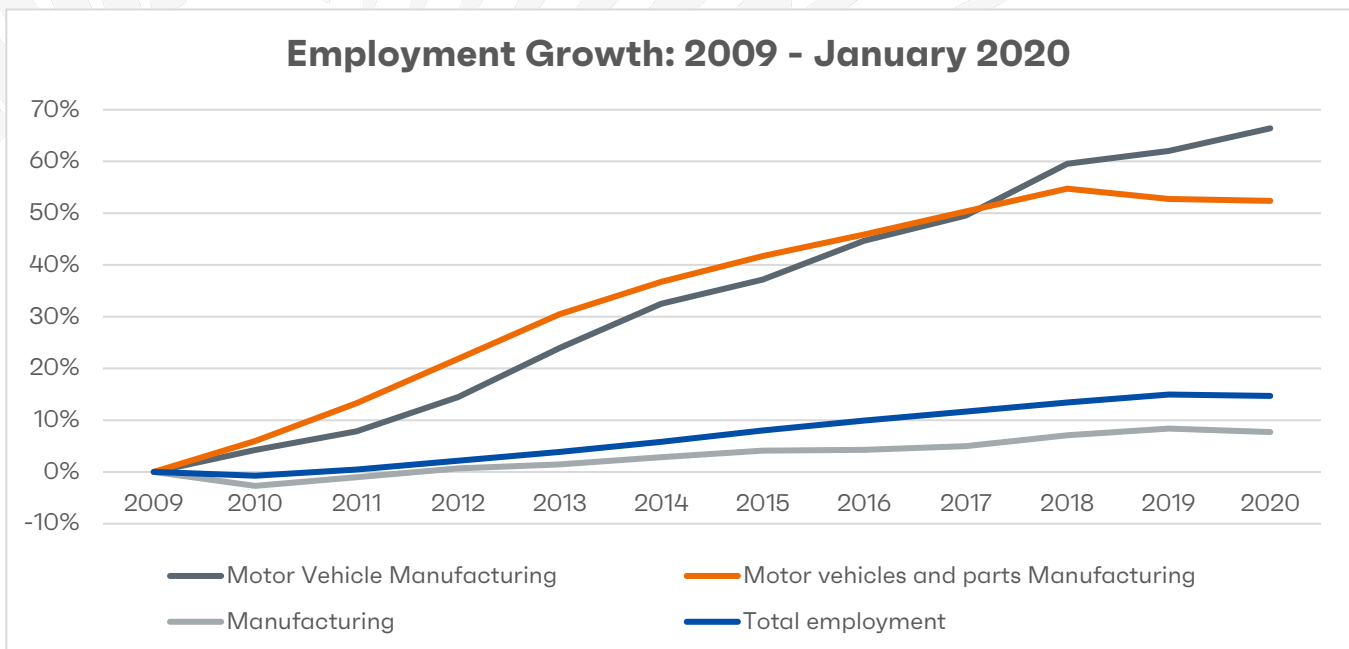
Employment (Updated 1/12)

After a loss of nearly 350,000 employees (about 35% of the workforce) in the height of the pandemic, employment in the Automobile Manufacturing and Parts sectors raced back but is now fighting losses due to supply chain disruptions with semiconductors. Employment in motor vehicles and parts is down 42,000 jobs since January 2020.³³

- **Motor Vehicle And Parts Manufacturing Gained 4,200 Jobs In December.**³⁴



After the recession in 2009, the auto industry was credited with being on the leading edge of the recovery, which began a ripple effect through other parts of the country.³⁵ Additionally, the chart below shows how the recovery of jobs in motor vehicle manufacturing alone and motor vehicle and parts manufacturing far outpaced the recovery of manufacturing and total jobs.



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