

READING THE METER

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



ALLIANCE FOR AUTOMOTIVE INNOVATION

Contents – January 20, 2021

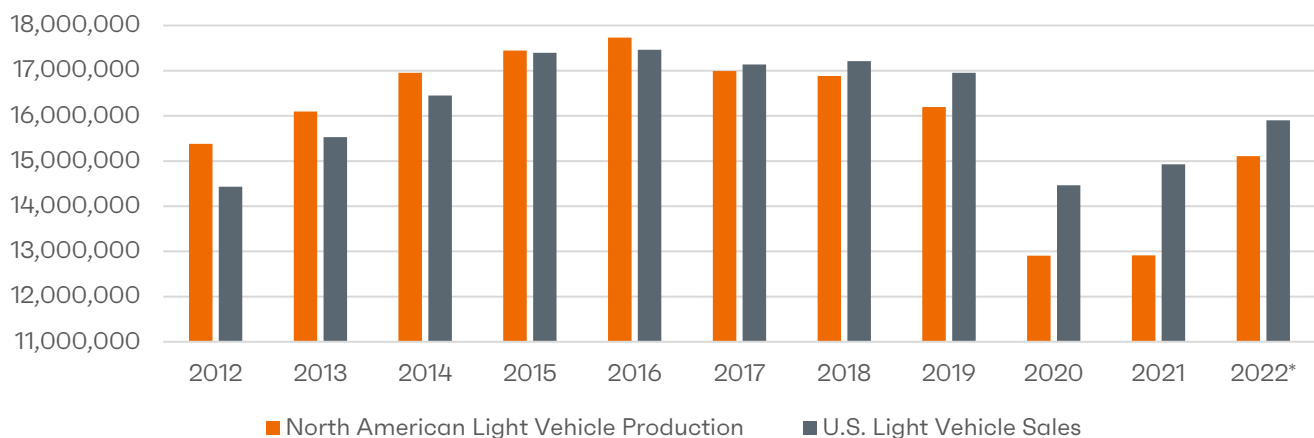
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Forecast Meter

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

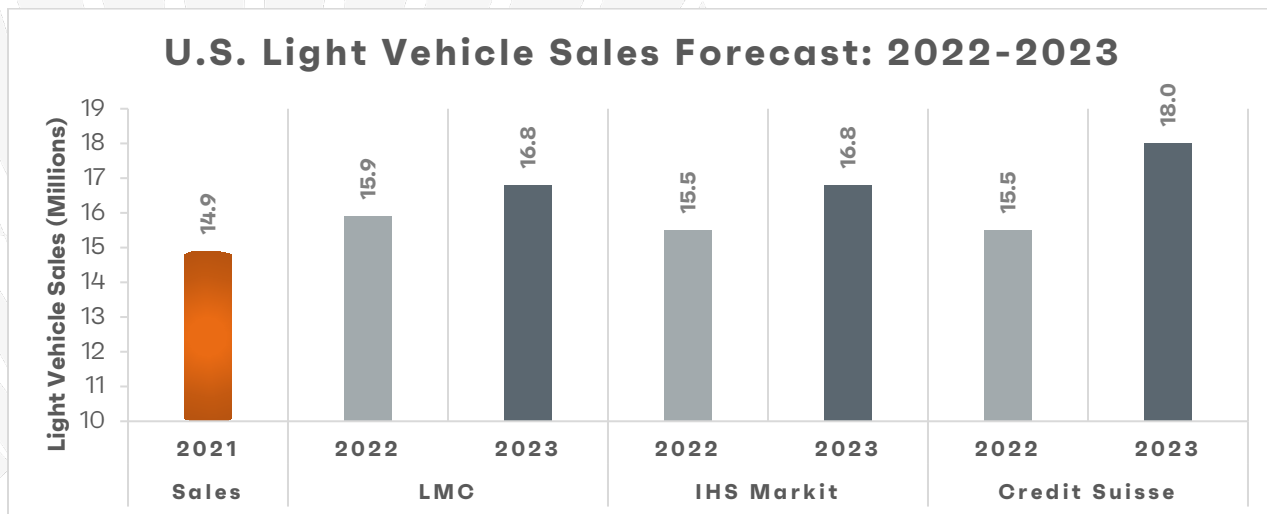
2021-2022 Sales, ¹ Extended Sales Forecast ² and Production Forecasts ³		
	U.S. Sales & Forecasts	North American Production
January '21	1,094,689 (-3.6% YoY)	1,175,940 (-14.0% YoY)
February '21	1,180,506 (-5.3% YoY)	1,120,200 (-22.9% YoY)
March '21	1,581,067 (+59.7% YoY)	1,376,904 (31% YoY)
April '21	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)
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 1/6)

Wards Intelligence Outlook (1/6)⁴: “The speed new-vehicle availability increases will determine how quickly sales resume consistent month-to-month growth and begin meeting the pent-up demand created over the past two years due directly to the pandemic in 2020 and its impact on the supply chain in 2021. U.S. light-vehicle inventory ended December at 1.12 million units, 7.4% above November’s 1.05 million units, and 59% below like-2020’s 2.75 million. It’s also the highest level since the same total in July and marks the third straight increase since September’s rock-bottom 973,000 units. Initial modeling indicates January U.S. light-vehicle sales will total close to 900,000 units for a seasonally adjusted annual rate of 13.2 million, which would be the first month-to-month increase since October, and best results since 14.7 million in July. Wards Intelligence/LMC Automotive forecasts 2022 sales to total 15.9 million units. Based on the sales outlook, including sequential volume gains in each quarter, and on forecast production for the U.S. market, inventory should continue growing through the end of the year. . . . Until inventory begins to greatly improve for more affordable vehicles, sales could stay relatively flat with Q4-2021.”



North American Production & Inventory Outlook (Updated 1/20)

IHS Markit North American Outlook 2022 (1/20)⁵: “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)⁶: “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.

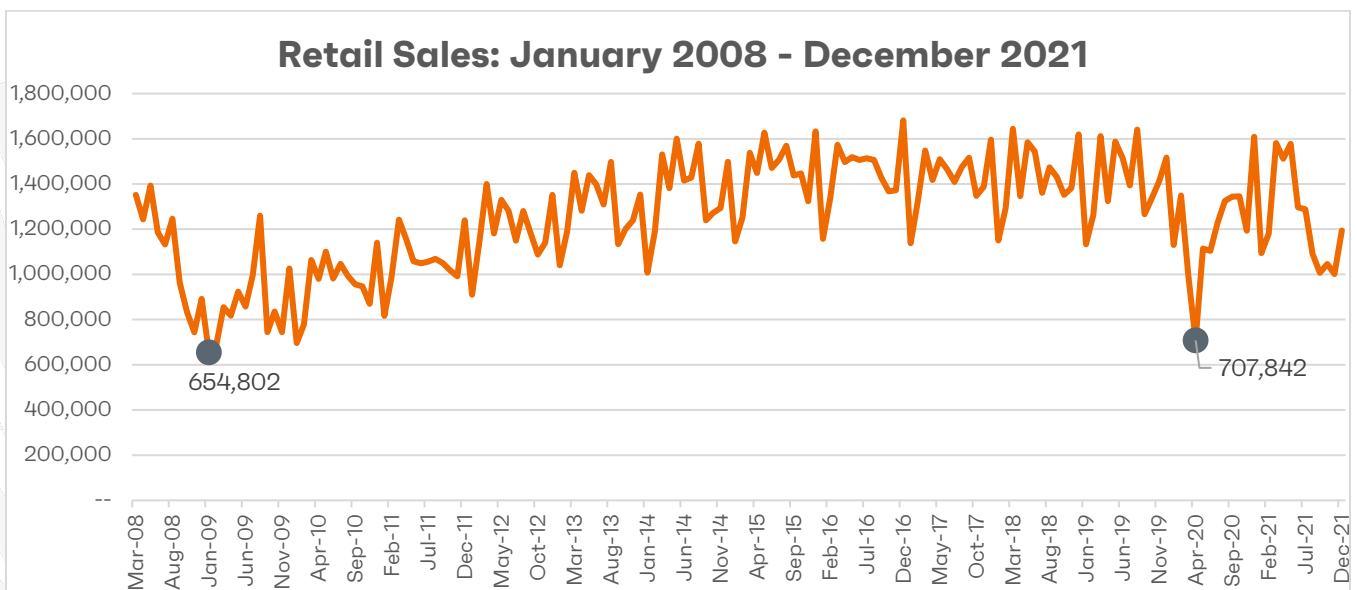
“First-quarter 2022 light-vehicle output is pegged at 3.60 million units, flat with January-March 2021.”

Market Meter

U.S. Light Vehicle Sales (Updated 1/6)

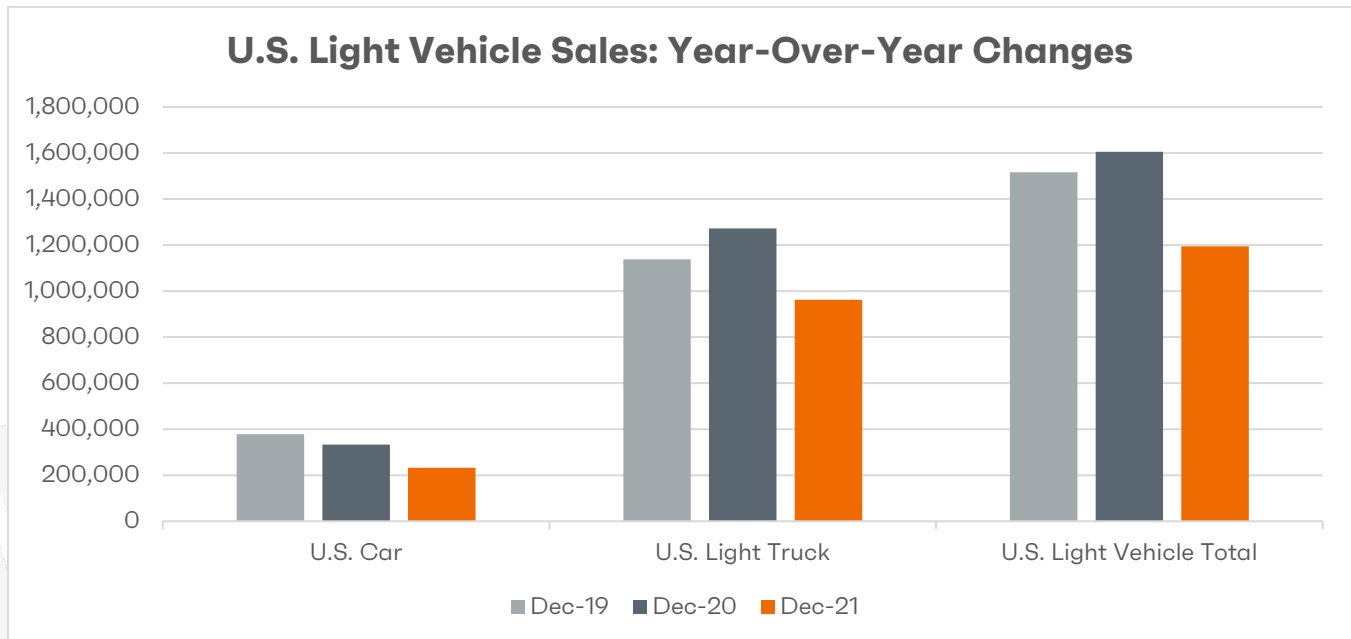
Monthly Sales (Updated 1/6)

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.



December Sales (Updated 12/2)

WardsIntelligence⁷: “For the second straight month, U.S. sales on a seasonally adjusted annual basis fell from the prior month, even finishing slightly below expectations again. December’s 12.4 million-unit seasonally adjusted annual rate was a decline from November’s 12.9 million and lower than October’s 13.1 million, which at the time was thought to be the beginning of a long line of sequential increases after September bottomed out at 12.3 million. The fourth-quarter SAAR ended at 12.8 million units, a decline from Q3’s 13.4 million, Q2’s 16.9 million and Q1’s 16.8 million – first-half totaled 16.9 million. Fourth-quarter 2020 totaled 16.2 million units. Calendar-year 2021 totaled sales of 14.93 million units, up 3.1% from 2020’s pandemic-impacted 8-year-low of 14.47 million, but well below the 17.2 million averaged in the five years through 2019. Per the usual seasonal trend, December’s raw volume increased from November, rising 19.0%, but it was a 25.6% drop from same-month 2020’s 1.605 million. The daily selling rate of 44,234 over the month’s 27 selling days was 22.9% decline from December 2020’s 57,339 – 28 selling days – and a 5.8% increase from November’s DSR of 41,790 over 24 selling days. A double-digit increase from November’s DSR is more typical.”



Fleet Sales (Updated 12/2)

TrueCar⁸: “Fleet sales for December 2021 are expected to be down 29% from a year ago and down 3% from November 2021 when adjusted for the same number of selling days.”

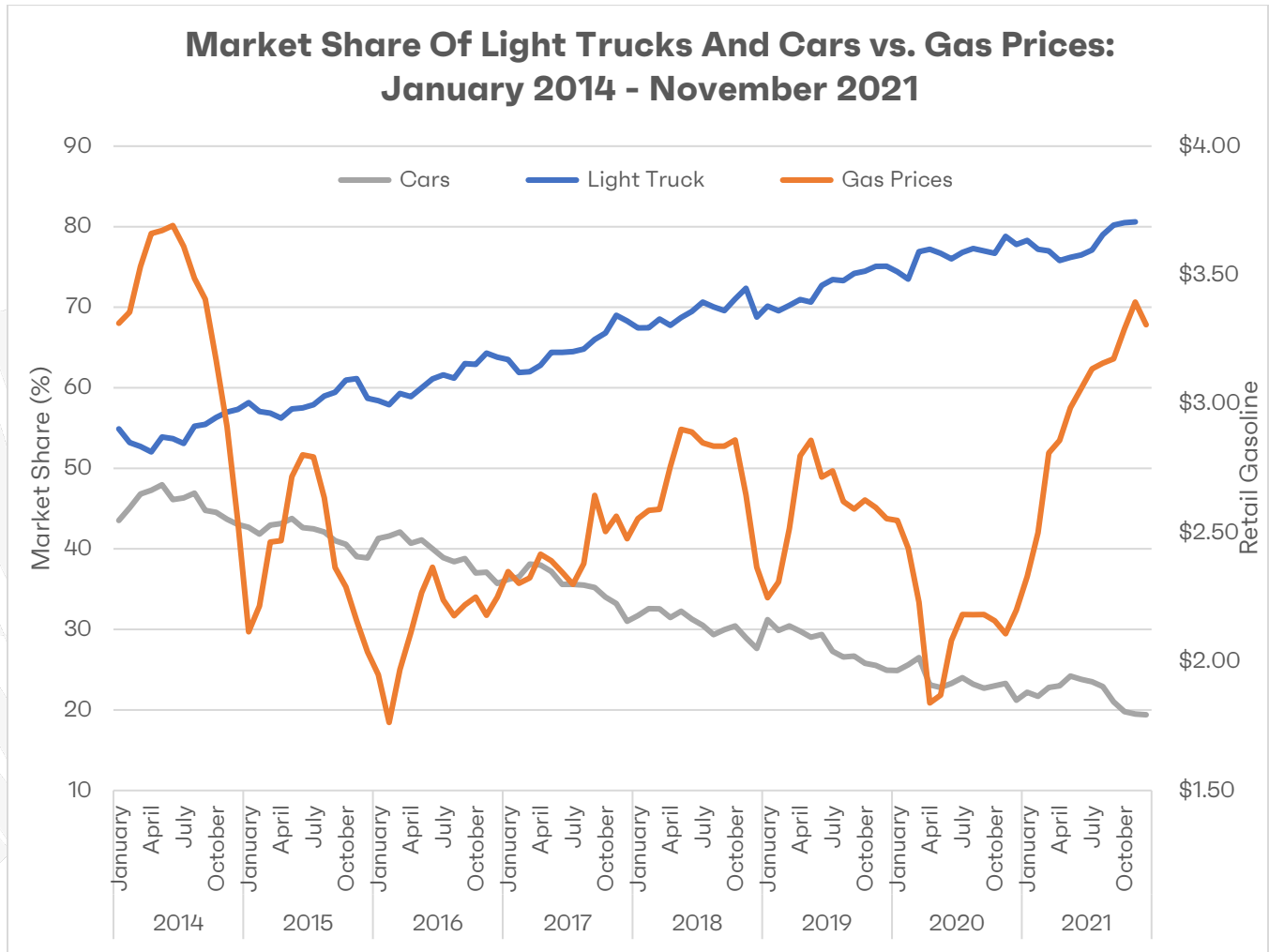
J.D. Power⁹: “Fleet sales are expected to total 140,000 units in December, down 38.6% from December 2020 on a selling day adjusted basis. Fleet volume is expected to account for 11% of total light-vehicle sales, down from 15% a year ago.”

Segments vs. Gas Prices (Updated 1/6)

Monthly Sales For September: Light trucks accounted for 80.6% of sales in December, a 1.3 pp increase in market share from a year ago, and the highest level ever. Compared to the same period in 2020, sales of cars are down more than 100,000, and down nearly 150,000 from December 2019, when cars comprised 25% of the market as opposed to the 19.4% of the market passenger cars have now.

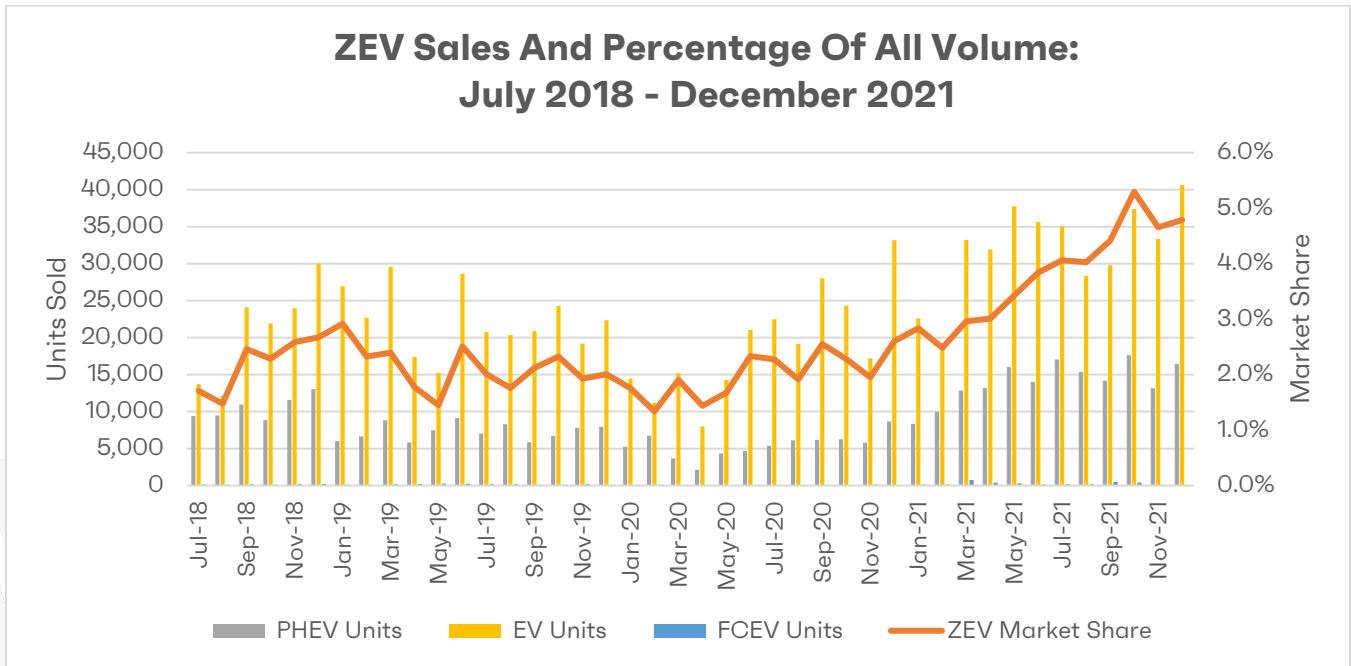
Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments¹⁰ and gas was over \$3.00¹¹ a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off. Gas prices since have averaged only \$2.57 a gallon (through August 2021) 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.¹²



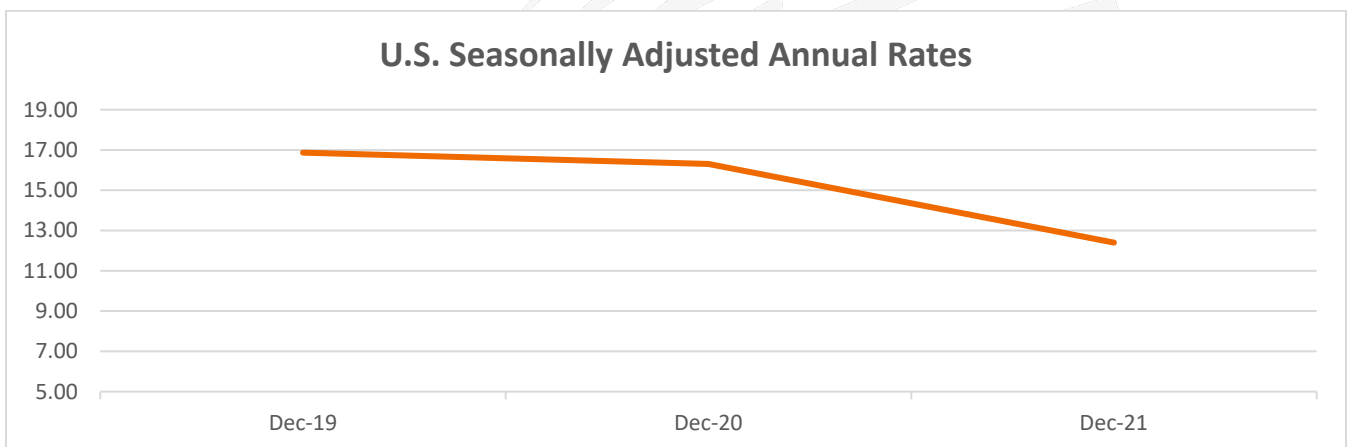
ZEV Powertrain Sales (Updated 1/6)

Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for 4.8% of total vehicle sales in December 2021, up 2.2 pp from a year ago and up .1 pp from November 2021. Sales of battery electric vehicles led the way for ZEVs, accounting for 3.4% of total sales, up 1.34 pp from December 2020. Plug-in hybrids accounted for 1.38%, nearly three times the amount from the same time last year.¹³



Seasonally Adjusted Annual Rates (Updated 1/6)

WardsIntelligence: “December’s 12.4 million-unit seasonally adjusted annual rate was a decline from November’s 12.9 million and lower than October’s 13.1 million, which at the time was thought to be the beginning of a long line of sequential increases after September bottomed out at 12.3 million. The fourth-quarter SAAR ended at 12.8 million units, a decline from Q3’s 13.4 million, Q2’s 16.9 million and Q1’s 16.8 million – first-half totaled 16.9 million. Fourth-quarter 2020 totaled 16.2 million units.”¹⁴

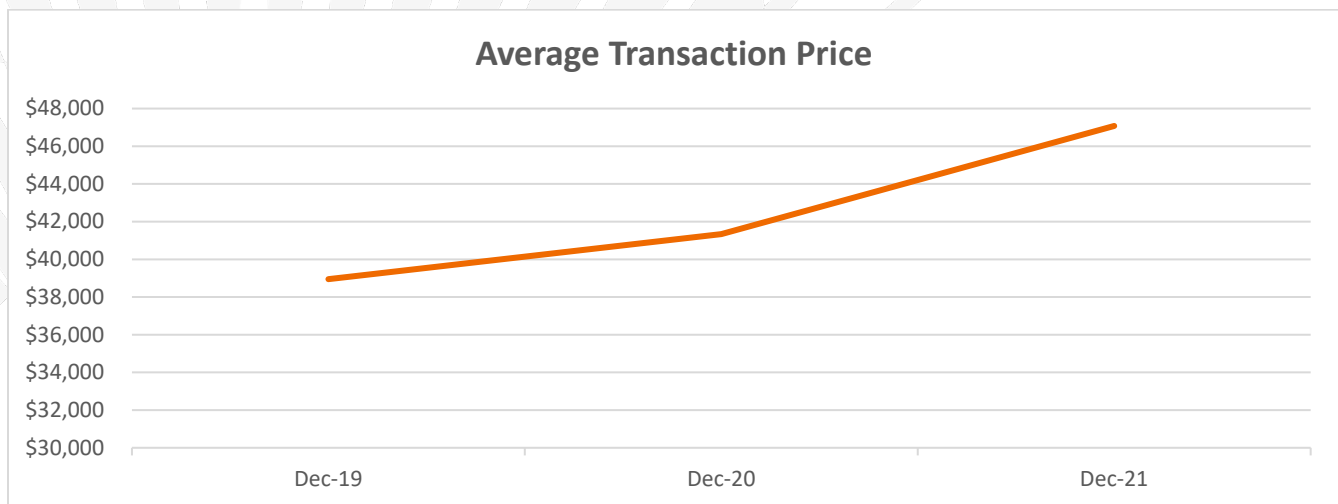


Average Transaction Price (Updated 1/12)

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).”¹⁵

Used Vehicle Prices Are Continuing To Increase, With Wholesale Vehicle Prices Increasing 43.5% Year-Over-Year. “Used car prices are still going up. Wholesale vehicle prices, or what dealers pay, rose 3.9% in November, putting the year-over-year increase at 43.5%.”¹⁶

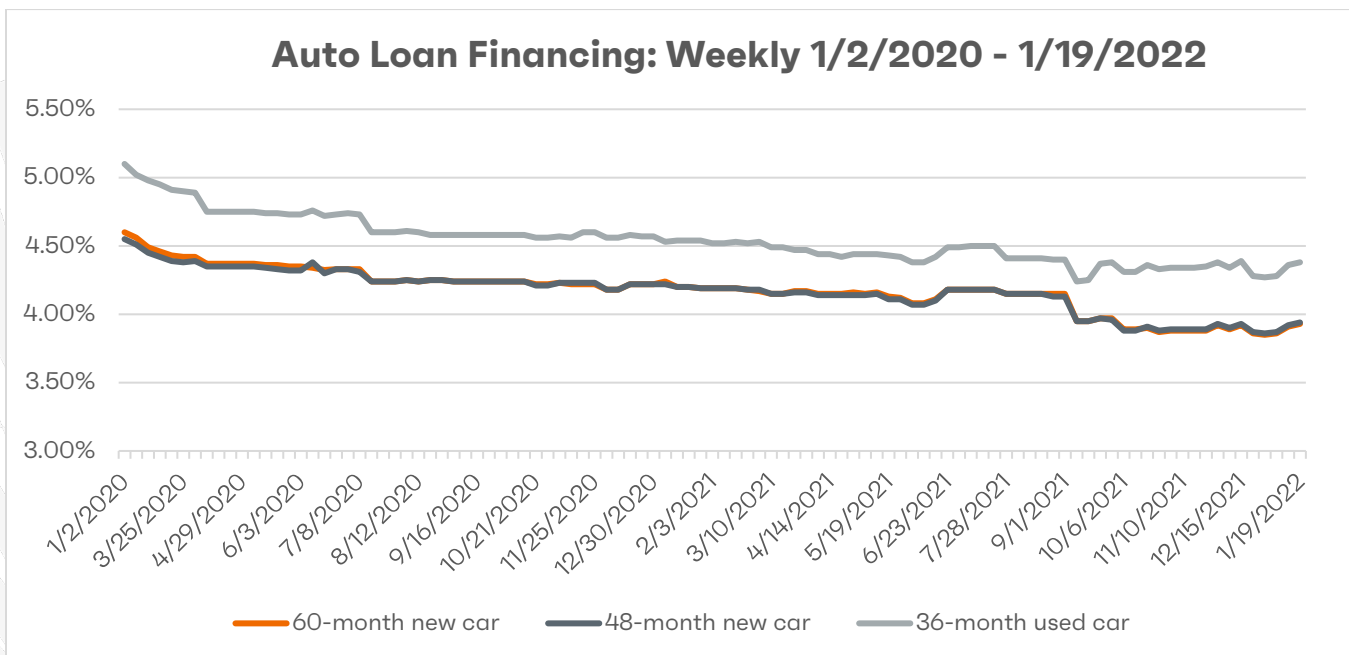
J.D. Power¹⁷: “Average transaction prices are expected to reach a November record of \$44,043, a sixth consecutive month above \$40,000, and 18.1% higher than November 2020 when prices hit \$37,284. This is partly due to record-low manufacturer incentives. The average manufacturer incentive per vehicle is on pace to be a November low of \$1,612, a decrease of \$2,089 from a year ago. Expressed as a percentage of the average vehicle MSRP, incentives for November 2021 are trending toward a record-tying low of 3.6%, down nearly five percentage points from a year ago and the second time on record below 4.0%.”



Auto Loan Financing (Updated 1/20)

Interest Rates Rise Slightly: Interest rates for new cars rose 0.02 pp and now stand at 3.93%. Rates also rose .02 pp on the 36-month used car loan and now stand at 4.38%. Since the beginning of 2020, rates are down 0.67 pp, and down 0.27 pp since the same time a year ago.¹⁸

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
1/20/2021	4.20%	4.20%	4.54%
1/12/2022	3.91%	3.92%	4.36%
1/19/2022	3.93%	3.94%	4.38%
One Week Change	0.02%	0.02%	0.02%
Two Week Change	0.07%	0.07%	0.10%
Change since 1/3/20	-0.67%	-0.61%	-0.72%
One Year Change	-0.27%	-0.26%	-0.16%



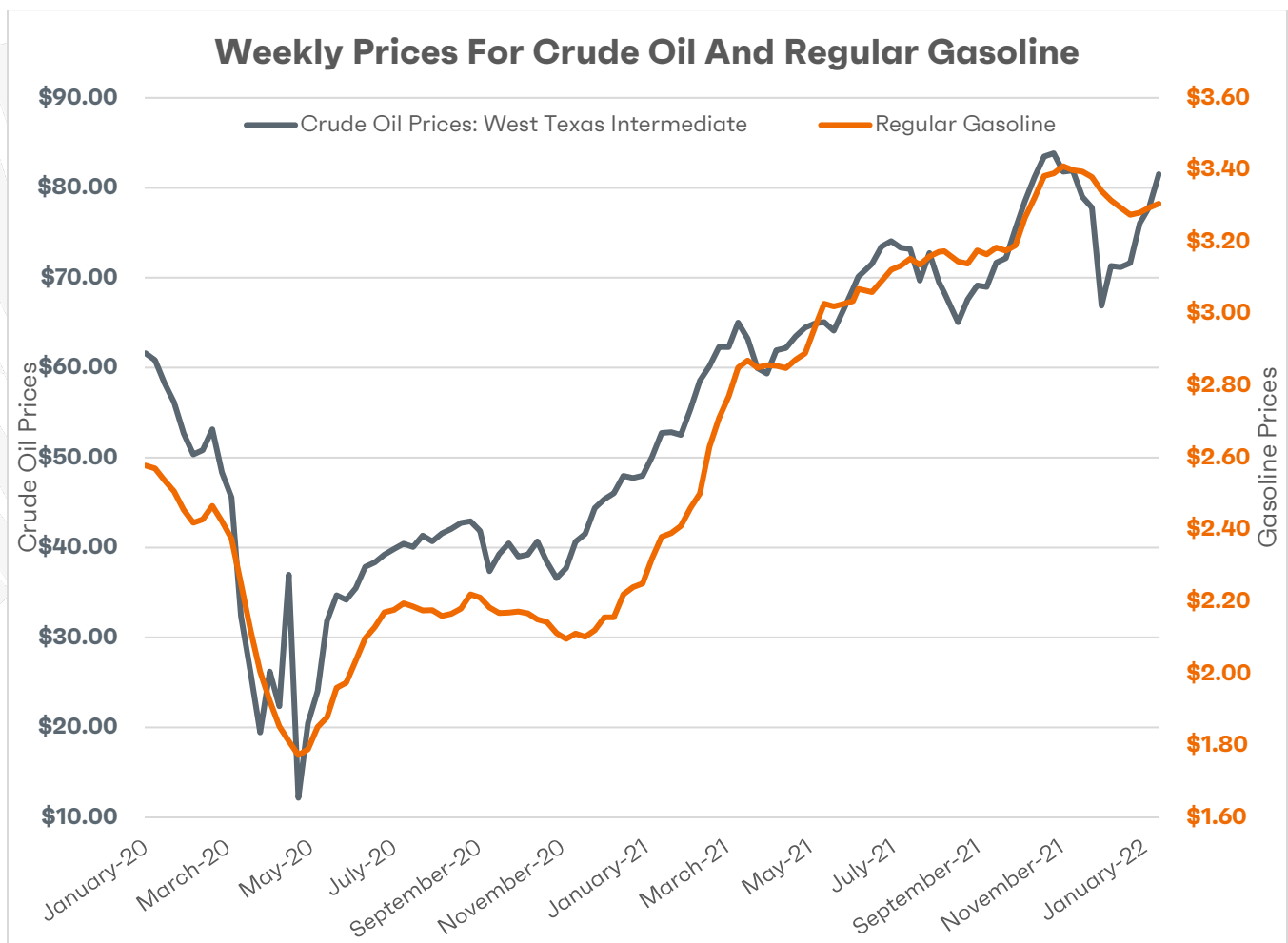
Crude Oil and Gas Prices (Updated 1/20)

EIA Outlook For Gasoline (1/12)¹⁹: “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)²⁰: “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.”

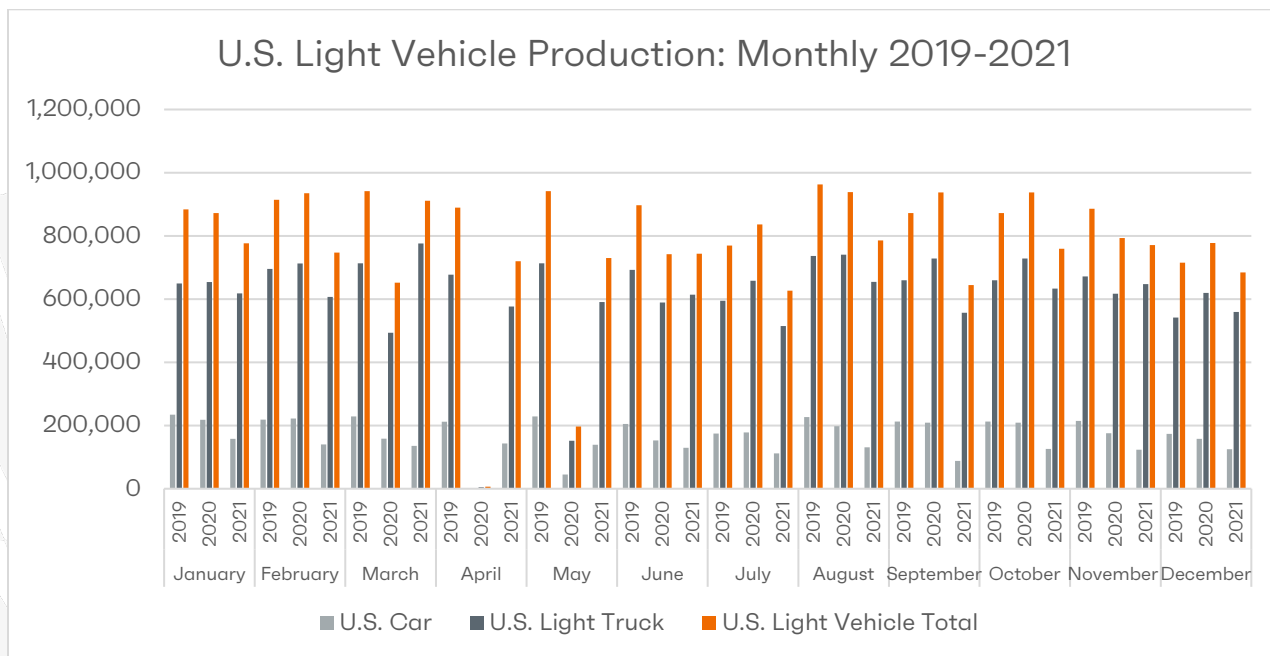
Oil and Gas Continue To Rise: Oil prices, as benchmarked at West Texas Intermediate, rose \$3.66 to \$81.52 a barrel. Since election day 2020, oil prices have climbed more than \$44 a barrel. Gas prices rose \$0.01 to \$3.31, remaining near the highest level since October 2014. Gas is 28% higher than the beginning of 2020.²¹



Production Meter

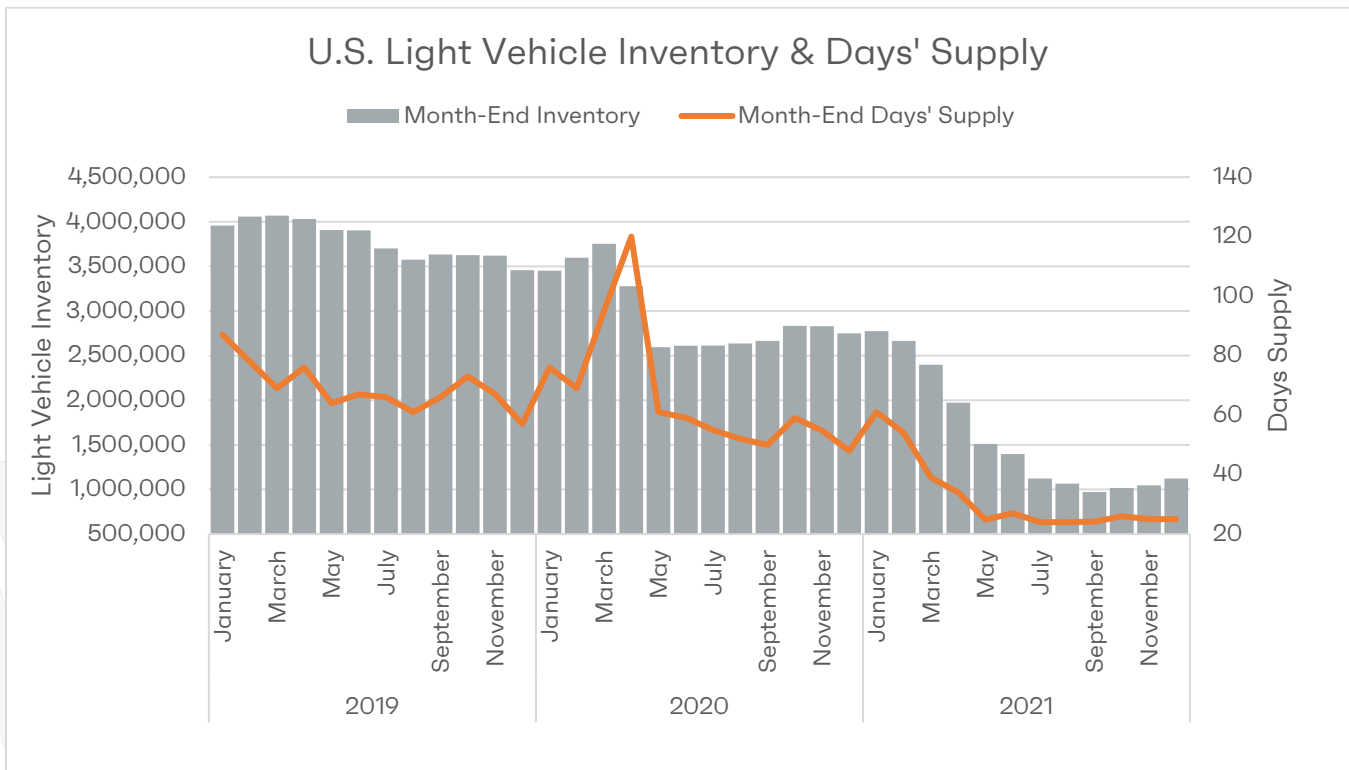
U.S. Light Vehicle Production (Updated 1/20)

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. ²²



U.S. Light Vehicle Inventory and Days' Supply (Updated 1/6)

WardsIntelligence Inventory Update (1/6)²³: “U.S. light-vehicle inventory – unexpectedly – increased from November to December, despite holiday-related plant shutdowns at the end of the month that limited production for U.S. dealers. Inventory normally declines from November to December, but the increase clearly shows that supply-chain blockages and bottlenecks are improving, and more parts are getting to vehicle assembly plants. . . . U.S. light-vehicle inventory ended December at 1.12 million units, 7.4% above November’s 1.05 million units, and 59% below like-2020’s 2.75 million. It’s also the highest level since the same total in July and marks the third straight increase since September’s rock-bottom 973,000 units. . . . Days’ supply ended December at 25, flat with the prior month but well below like-2020’s 48. A 60 days’ supply is normal for December.”



Global Meter

Global Light Vehicle Sales Outlook (Updated 1/6)

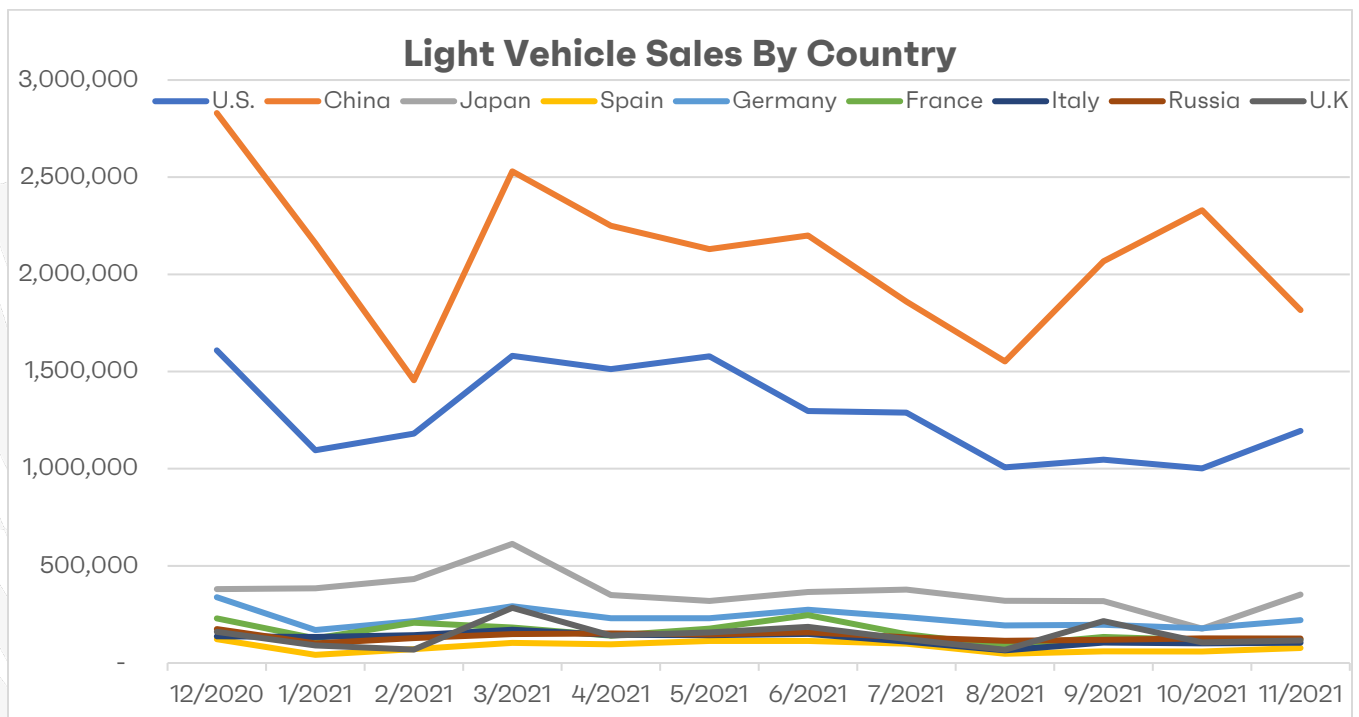
Wards Intelligence Outlook²⁴: “World vehicle sales in November declined 12.6% year-over-year to 6.86 million. November marked the fifth consecutive month of losses as the auto market has not recovered yet from the global semiconductor supply crisis.

All regions reported losses for the month, with Europe facing the biggest drop at 16.6% to 1.26 million, compared to 2020’s 1.51 million. The region’s market share slightly dropped to 18.3% from year-ago’s 19.2%. Russia (-17.6%), Spain (-15.7%) and France (-5.4%) saw declines in sales for November. The downturn was sharper for Germany (-30.6%) and Italy (-23.4%), while the U.K. (+2.9%) increased its tally. Year-to-date vehicle sales for Europe were up 3.2% to 15.32 million.

“The picture was similar in North America, where sales shrank 15.0% to 1.25 million for the month. All countries reported losses, with the U.S. facing the biggest decline at 16.1% to 1.04 million deliveries. Mexico fell 12.9% to 85,000, while Canada faced a modest loss of 5.4% to 126,000 deliveries. The

region’s 11-month total was up 7.2% to 16.7 million. In the Asia Pacific region, sales were down 11.4% to 3.76 million compared to last year’s 4.24 million.

“November marked the seventh consecutive month of losses for China, as vehicle sales fell 12.2% to 2.52 million compared to year-ago’s 2.87 million. Still, year-to-date deliveries improved 4.1% to 24.33 million. South Korea (-15.6%, estimated), Japan (-14.4%, estimated) and Thailand (-3.0%, estimated) experienced declines for the month, while Indonesia (+62.4%) reported gains with 87,000 deliveries.”



Global Light Vehicle Production Outlook (Updated 1/20)

Wards Intelligence Outlook (1/12)²⁵: “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

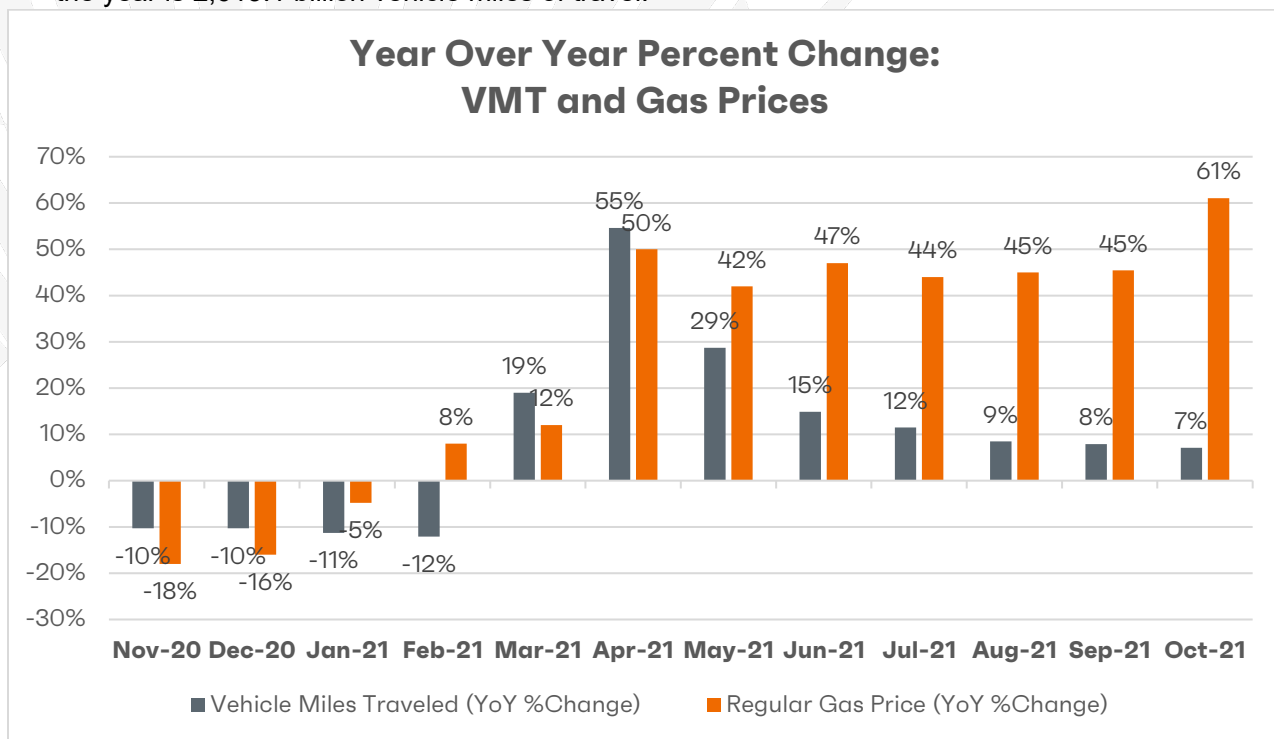
restrictions. However, these efforts will continue to be governed by the ongoing status of supply chain challenges as well as COVID conditions throughout the region.”²⁶

Recovery Meter

Roadway Travel (Updated 12/22)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in October rose 7.1% from the same time a year ago. The cumulative travel estimate for 2021 is 262.5 billion vehicle miles.²⁷

- Travel on all roads and streets changed by 7.1% (18.4 billion vehicle miles) for October 2021 as compared with October 2020. Travel for the month is estimated to be 277.5 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for October 2021 is 266.8 billion miles, a 7.9% (19.6 billion vehicle miles) increase over October 2020. It also represents 0.5% increase (1.3 billion vehicle miles) compared with September 2021.
- Cumulative Travel for 2021 changed by 11.2% (262.5 billion vehicle miles). The cumulative estimate for the year is 2,613.1 billion vehicle miles of travel.



Economic News (Updated 1/12)

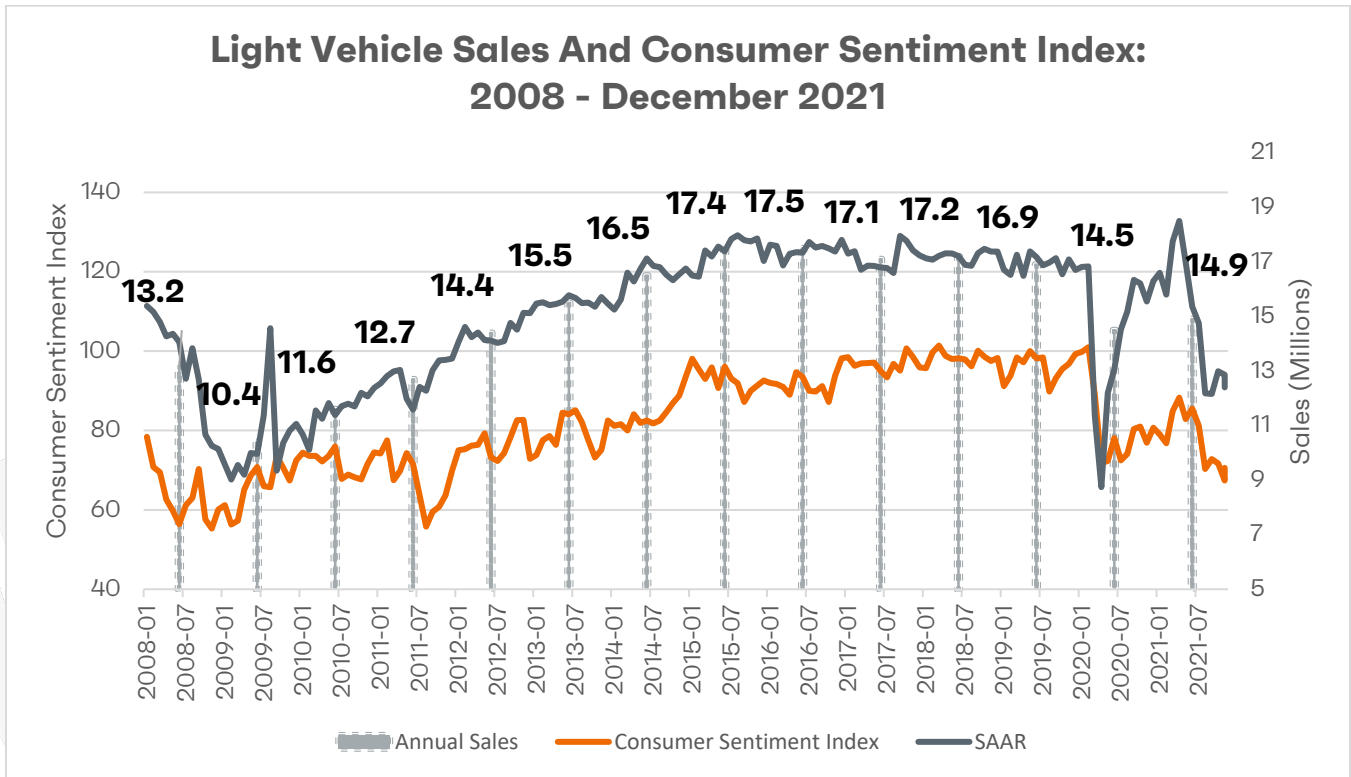
Manufacturing Gained 26,000 Jobs In December, Including 4,200 By Motor Vehicles And Parts.

“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.”²⁸

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.”²⁹

Consumer Confidence and Sales (Updated 1/20)

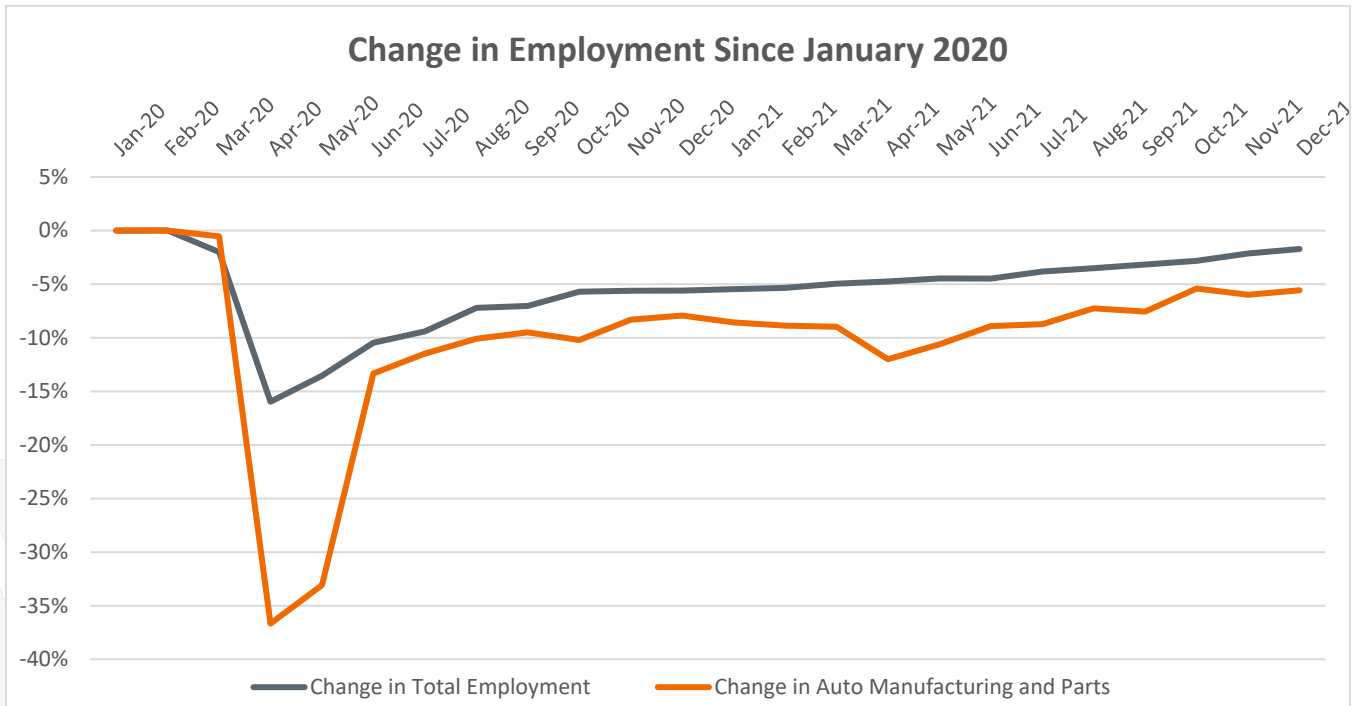
Surveys of Consumers chief economist, Richard Curtin: “Sentiment posted a small loss in early January (-2.5%), falling to the second lowest level in a decade, which was recorded in November (67.4). The Sentiment Index has averaged just 70.3 in the past six months, whereas in the first six months of 2021 it averaged 82.9. While the Delta and Omicron variants certainly contributed to this downward shift, the decline was also due to an escalating inflation rate. Three-quarters of consumers in early January ranked inflation, compared with unemployment, as the more serious problem facing the nation. Given that inflation’s impact is regressive, the Sentiment Index fell by 9.4% among households with total incomes below \$100,000 in early January, but rose by 5.7% among households with incomes over that amount. The same split was observed for prospects for the national economy, with lower income households more negative, and higher income households holding a more positive outlook. Even among the more optimistic, they are still more likely to anticipate bad rather than good economic times in the year ahead. Importantly, confidence in government economic policies is at its lowest level since 2014. It will be a difficult task to gauge the appropriate mix of fiscal and monetary policies when such fine-tuning is necessary in an era of large economic and non-economic disruptions. The most crucial and difficult task will be defusing the developing wage-price spiral.”³⁰



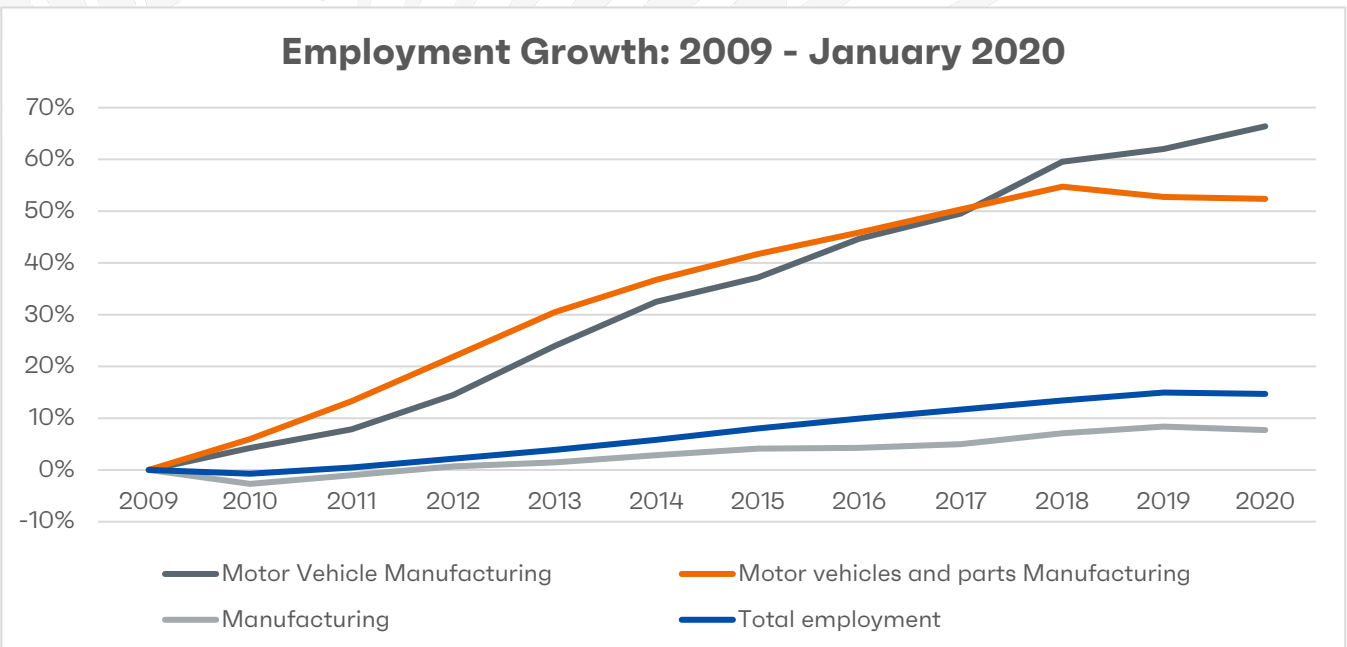
Employment (Updated 1/12)

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 2020.³¹

- **Motor Vehicle And Parts Manufacturing Gained 4,200 Jobs In December.**³²



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.³³ 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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- ¹⁹ EIA, “[Short-Term Energy Outlook](#),” 12/9/21
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- ²¹ U.S. Energy Information Administration, Regular Gasoline, www.eia.gov, Accessed 12/22/21; U.S. Energy Information Administration, Weekly Cushing, OK WTI Spot Price, www.eia.gov, Accessed 12/22/2021
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