# READING THE METER

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

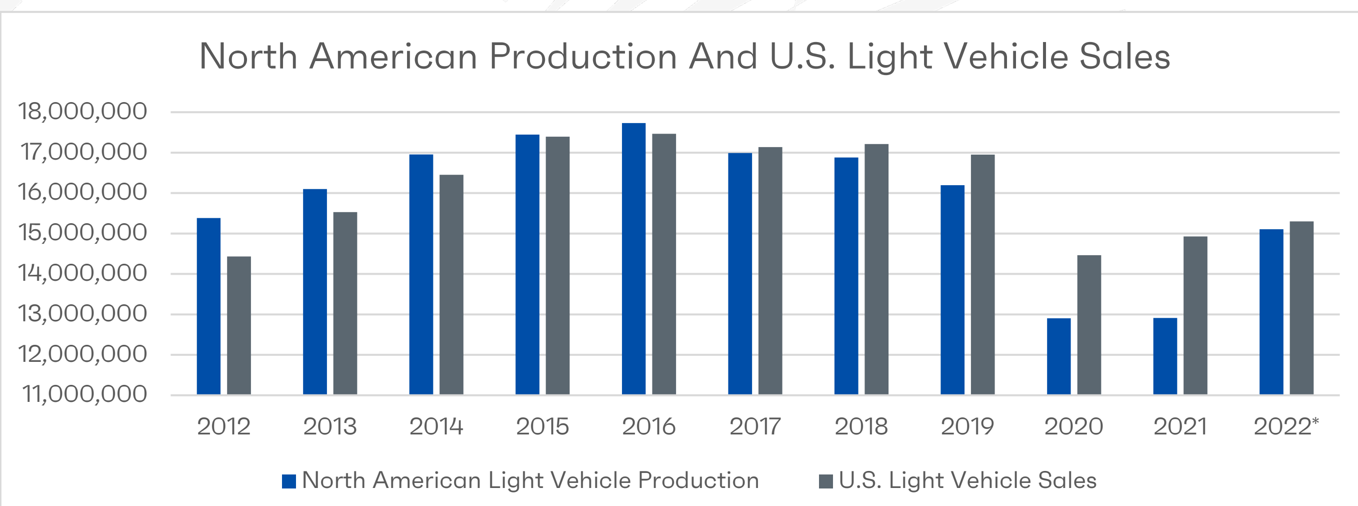
ALLIANCE FOR AUTOMOTIVE INNOVATION

## Contents – April 20, 2022

# Forecast Meter

## Sales & Production Summary and Forecast (Updated 4/20)

| 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) |
| **February '22** | 1,052,524 (-11.8% YoY) | 1,112,429 (-1% YoY) |
| **March '22** | 1,246,336 (-22% YoY) | 1,350,102 (-.1% YoY) |
| **1st Quarter '22** | 14.8 million-unit SAAR (forecast) | 3,458,480 (-1.4% YoY) |
| **2021 Full Year** | 14,926,933 (+3.1% YoY) | 8,899,632 (+4% YoY) |
| **2022 Full Year Estimate** | 15.3 million units | 15,107,419 (+17% YoY) |



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## U.S. Light Vehicle Sales Outlook (Updated 4/6)

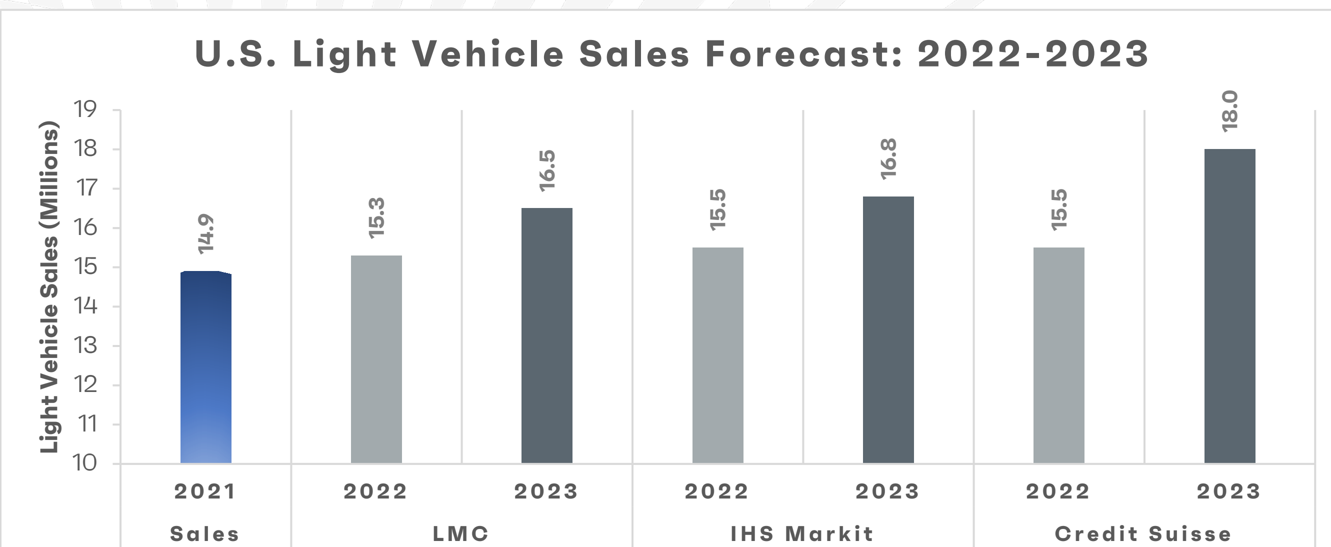
**Wards Intelligence Outlook (4/6)[4]:** "U.S. light-vehicle inventory in March recorded its strongest month-to-month gain since the pandemic slammed the market in Q1-2020, boding well for continued sales growth over the remainder of the year.

"However, the outlook for new-vehicle availability over the next three quarters from Q1 still calls for only modest gains thanks to an increase in expected production slowdowns caused by myriad impacts on the global supply chain.

"Thus, the light-vehicle sales outlook for the year has been ratcheted down again, now forecast by Wards Intelligence partner LMC Automotive at 15.3 million units, pushing it further below both underlying and pre-pandemic, or pre-2020, demand of roughly 17 million units annually.

"Despite elevated risk due to the ongoing assault on the supply chain ranging from geopolitics to Covid 19 to inflation, each quarter over the remainder of the year is expected to show continuous improvement over the prior period.

"Following a Q1 SAAR of 14.0 million units, Wards Intelligence expects the remainder of 2022 to rollout with a Q2 SAAR of 14.4 million units, 16.1 million in Q3 and 16.4 million in October-December."



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## North American Production & Inventory Outlook (Updated 4/20)

**Wards Intelligence Production Outlook (4/20)[5]:** "Even though North America vehicle production in March finished above expectations, the outlook for the second quarter has been cut, thanks mainly to a higher level of uncertainty with the global supply chain.

"But the cuts are not just because of increased disruption to the supply of raw materials and parts caused by Russia's invasion of Ukraine or lockdowns in China due to rising Covid-19 cases, the overall economic picture looks dimmer – though not disastrous – for the remainder of the year. Chief among economic concerns is the prospect of inflation and rising interest rates putting a dent in consumer confidence and pocketbooks, which could hurt new-vehicle demand. One bright spot is March's overbuild of 58,100 units from month-ago's projection for the period. . . .

"Although the month is tracking to a hefty 119,300 units below its month-ago expectations, April's estimated output of 1.168 million is 7.1% above the year-ago total. In fact, May is projected to rise 23.9% year-over-year and June is pegged to increase 21.2%. Underlying the huge May-June increases is that the impact of the semiconductor shortage, which had begun in the prior quarter, hit automakers full force in North America during Q2-2021, causing huge production stoppages in the period.

"Production in April-June is tracking to a total of 3.862 million units, reflecting a reduction of 239,000 units from month-ago's outlook, but a 17.4% increase over year-ago's 3.290 million. Light-vehicle output is tracking to a Q2 total of 3.723 million units, 18.2% above like-2021.

"Compared to Q2-2019, or the last pre-pandemic year, Q2 output is down 18.2%. Currently, it looks like sometime in 2023 before production returns to pre-2020-like levels."

**S&P Global Mobility Production Outlook (4/20)[6]:** "The outlook for North America light vehicle production was increased by 9,000 units and reduced by 177,000 units for 2022 and 2023, respectively (and reduced by 242,000 units for 2024). In spite of the backdrop of the Russia/Ukraine conflict and continued supply chain challenges, the outlook for North American light vehicle production in 2022 remains flat at 14.75 million units. Production in Q1-2022 came in a bit higher than forecast with 3.55 million units produced. However, production in Q2- 2022 was revised down approximately 78,000 units on continued supply chain struggles and concerns surrounding additional logistics issues at border crossings between the US and Mexico in Texas that may exacerbate already strained conditions in the near-term. Despite some of the negative sentiment associated with supply chain and logistics challenges, upside exists in the forecast depending on manufacturers ability to produce vehicles as demonstrated with the stronger results in Q1-2022. Production for 2023 was revised down by 1.1% to total 16.49 million units on the growing threat of demand destruction. Further, production in 2024 was reduced by 1.4% to total 17.24 million units. Latent demand is currently stronger than US sales results to date, yet pent-up demand remains under threat from inflationary pressures."

**Wards Intelligence Inventory Outlook (4/6)[7]:** "Based on forecast production for the U.S. and the aforementioned sales projections, inventory is forecast to enter 2023 37% above the total heading into

January of this year. That makes for a hefty year-over-year increase, but the forecast end-of-year total of 1.54 million units is less than half the total in December 2019, three months before the pandemic tore into the U.S. market.

“The inventory mix of higher-price vehicles points to manufacturers still leaning toward producing them over more affordable cars and trucks when supply-chain disruptions force a choice. Inventory of luxury-segment vehicles totaled 200,131 units, while dealer stocks of non-luxury fullsize trucks – which often sell for $50,000 or more – totaled 403,265. Together, the two groups accounted for 49% of March inventory, which is roughly the same level those vehicles have been running at beginning with last August. By comparison, in the five years prior to the pandemic in 2020, the combined mix of the two groupings averaged 36%.

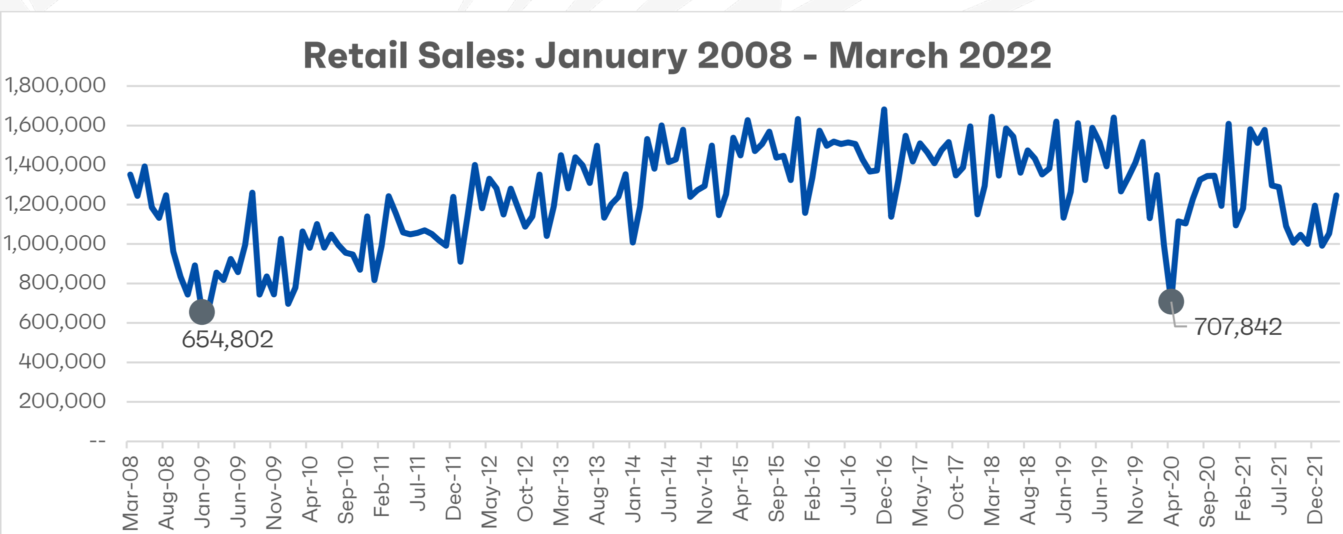
“Production bias toward more profitable vehicles likely is slightly capping total sales volumes. Inventory turnover of higher-priced vehicles is high, which justifies keeping the inventory mix heavily bent toward them, but lack of affordable vehicles is keeping some consumers out of the market or turning more new-vehicle intenders to used vehicles.”

## Market Meter

### U.S. Light Vehicle Sales (Updated 4/6)

**Monthly Sales (Updated 4/6)**

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.



## March Sales (Updated 4/6)

**WardsIntelligence[8]:** "U.S. light-vehicle sales weakened for the second straight month on an annualized basis in March, while first-quarter results, though well below year-ago, were an improvement over the past two three-month periods.

"Depleted inventory remains the overarching reason deliveries still are well below demand and year-ago levels.

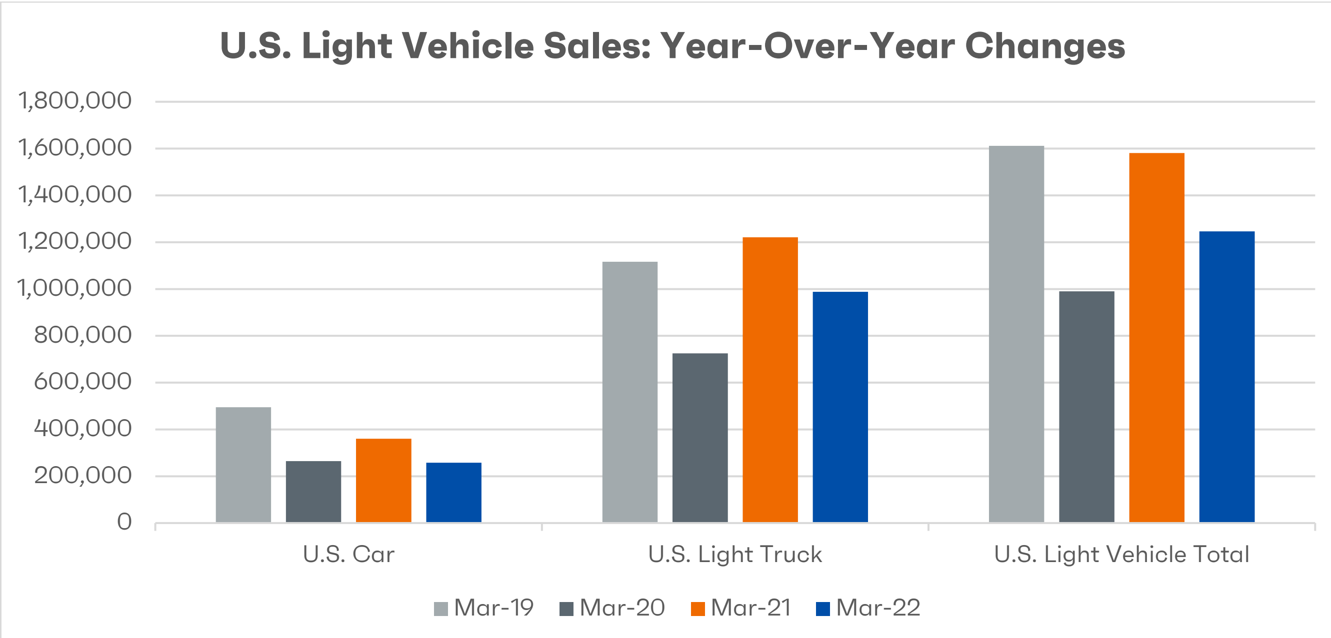
"March's seasonally adjusted annual rate totaled 13.3 million units, down from February's 14.0 million and January's 15.0 million. The March 2021 SAAR, when inventory still had not gone into a complete nosedive due to the production slowdowns caused mostly by the global semiconductor shortage, was 17.6 million units.

"However, the Q1 SAAR of 14.0 million units, though down from like-2021's 16.8 million, was an increase from Q4-2021's 12.8 million, and highest since Q2-2021's 16.9 million – midway through Q2-2021 was the point sales began a sharp descent to the rock-bottom results recorded in the final five months of the year due to the drain on inventory caused by supply-chain disruptions.

"Raw volume in March totaled 1.246 million units, down 22.0% from like-2021, but the highest total for any month since July 2021's 1.28 million. March's daily selling rate over its 27 selling days of 46,161 was 24.9% below same-month 2021's 61,429 – 26 selling days.

"The first quarter totaled 3.28 million units, down 15.8% from Q1-2021's 3.90 million. January-March's volume was the lowest for the period since 3.06 million units in 2011. However, Q1 volume was slightly higher than Q4-2021's 3.27 million units – Q1 volumes usually decline from the prior quarter.

"Although its volume and mix of total sales were expected to be well below pre-Covid totals, there was anecdotal evidence that fleet deliveries perked up in March, and that their percent of total sales might have improved vs. what fleet mix has been pacing at – about 12% vs. pre-pandemic levels of 19-20% - since Q1-2021."




## Fleet Sales (Updated 4/6)

**TrueCar[9]:** "Fleet sales for March 2022 are expected to be down 30% from a year ago and up 31% from February 2022 when adjusted for the same number of selling days."

**J.D. Power[10]:** "Fleet sales are expected to total 143,800 units in March, down 35.9% from March 2021 on a selling day adjusted basis. Fleet volume is expected to account for 12% of total light-vehicle sales, down from 13% a year ago."

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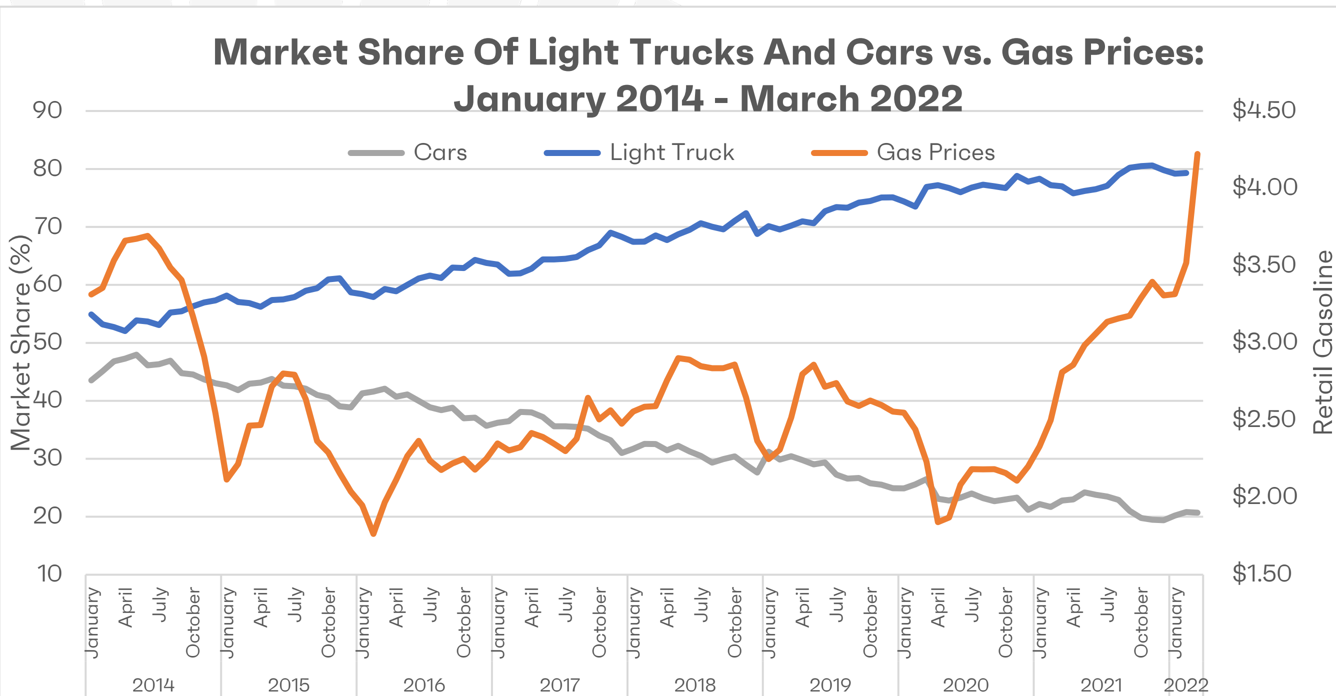
## Segments vs. Gas Prices (Updated 4/6)

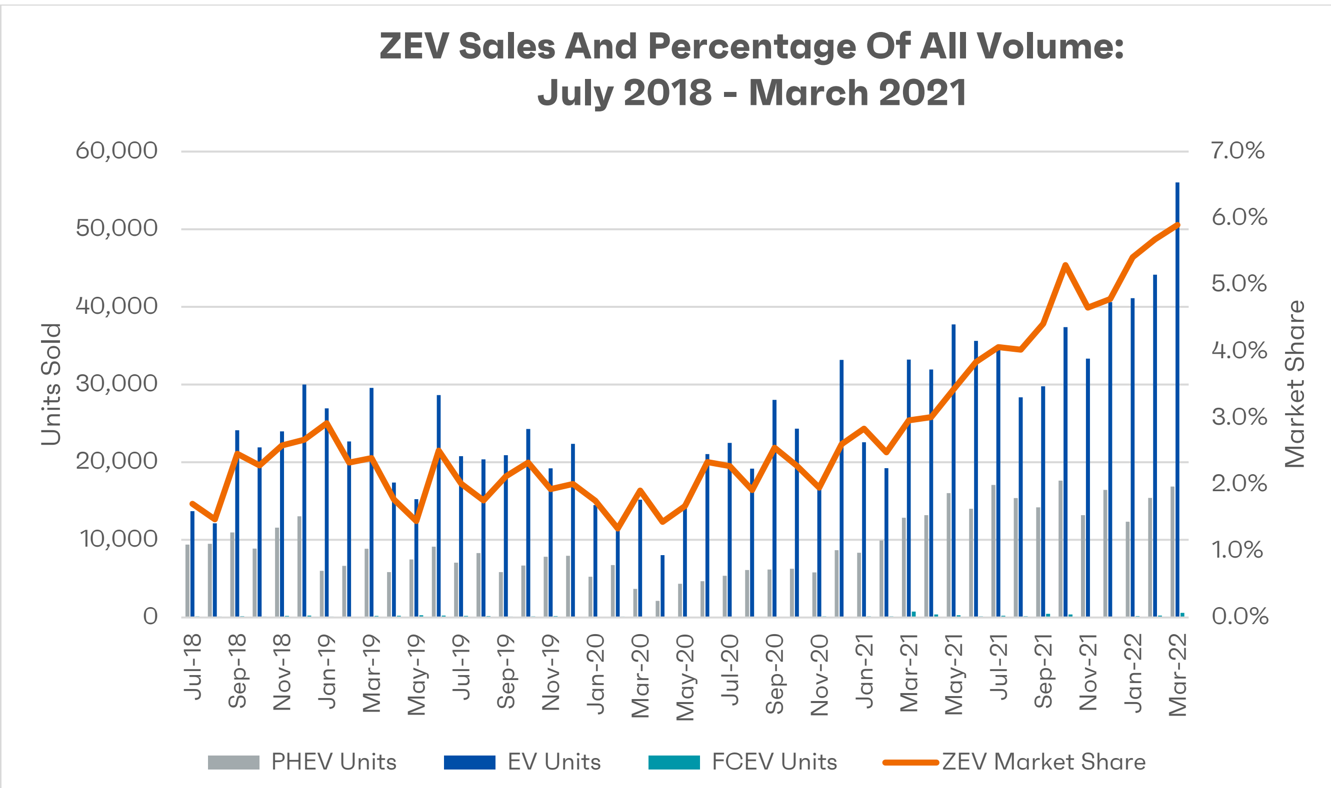
**Monthly Sales For March:** Light trucks accounted for 79.3% of sales in March, a 2.0 pp increase in market share from a year ago. Compared to the same period in 2021, sales of cars are down more than 102,000, and down more than 236,000 from March 2019, when cars comprised 31% of the market as opposed to the 20.7% 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 segments[11] and gas was over $3.00[12] 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.[13]



# ZEV Powertrain Sales (Updated 4/6)

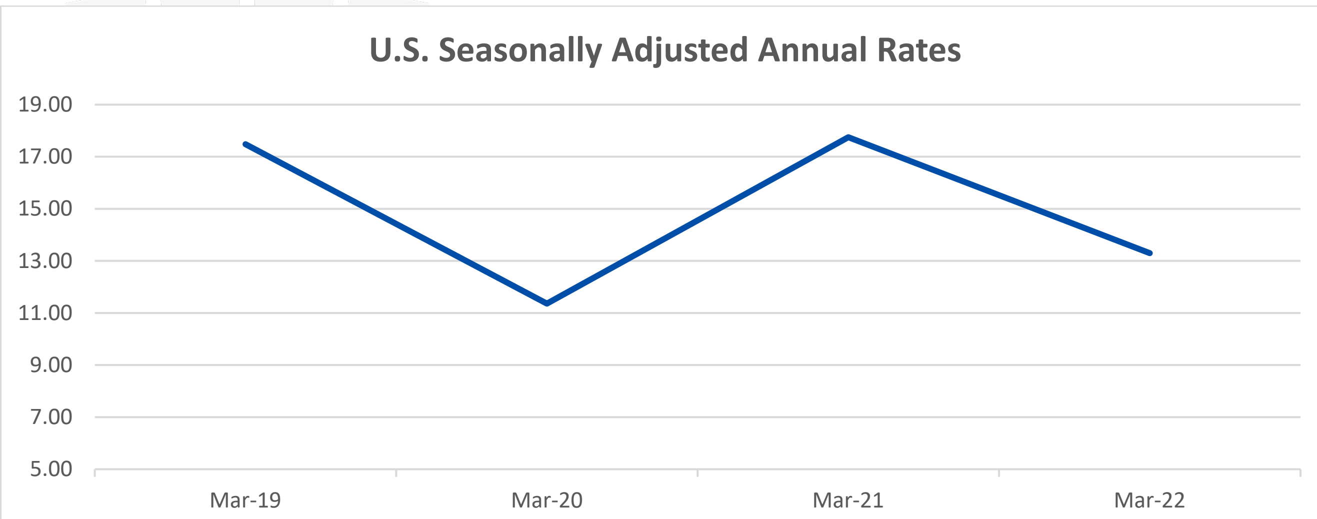
Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for 5.9% of total vehicle sales in March 2022 (73,501 units, the highest volume ever), up 2.9 pp from a year ago and up 0.2 pp from February 2022. Sales of battery electric vehicles led the way for ZEVs, accounting for 4.5% of total sales, up 2.4 pp from March 2021. Plug-in hybrids accounted for 1.35%, 0.54 pp higher than the same time last year. [14]



## Seasonally Adjusted Annual Rates (Updated 4/6)

**WardsIntelligence:** "March's seasonally adjusted annual rate totaled 13.3 million units, down from February's 14.0 million and January's 15.0 million. The March 2021 SAAR, when inventory still had not gone into a complete nosedive due to the production slowdowns caused mostly by the global semiconductor shortage, was 17.6 million units.

"However, the Q1 SAAR of 14.0 million units, though down from like-2021's 16.8 million, was an increase from Q4-2021's 12.8 million, and highest since Q2-2021's 16.9 million – midway through Q2-2021 was the point sales began a sharp descent to the rock-bottom results recorded in the final five months of the year due to the drain on inventory caused by supply-chain disruptions." [15]

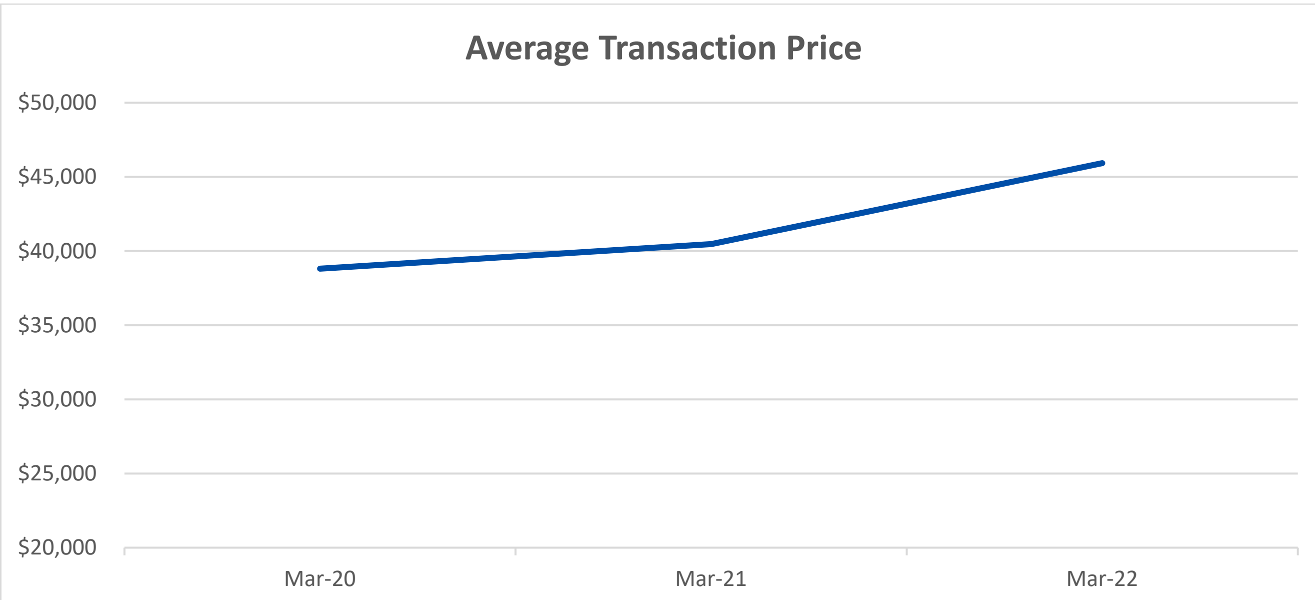


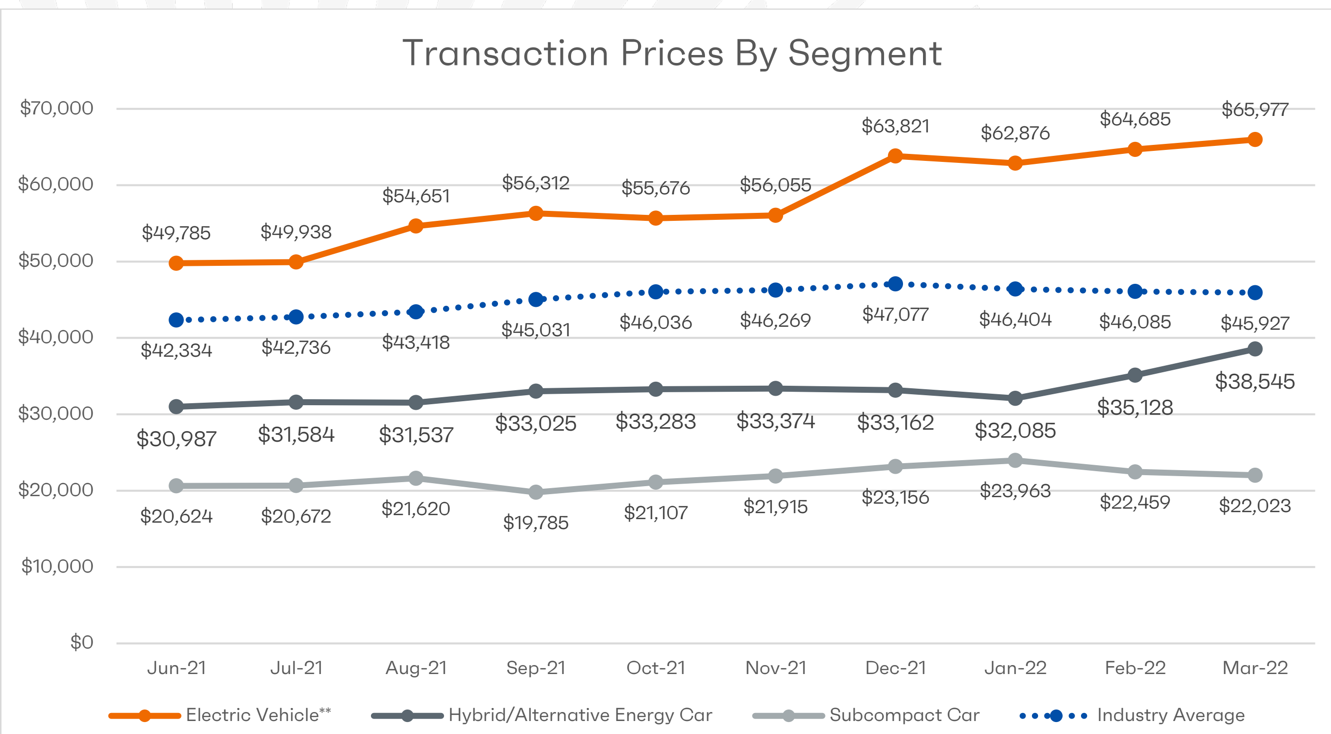

## Average Transaction Price (Updated 4/20)

**Kelley Blue Book (March):** "New-vehicle average transaction prices (ATPs) decreased to $45,927 in March 2022 after reaching a record high in December 2021, according to new data released by Kelley Blue Book, a Cox Automotive company. Prices fell 0.3% ($156) month over month, but remain elevated compared to one year ago, up 12.9% ($5,247) from March 2021." [16]

**J.D. Power (Updated 4/6) [17]:** "For March, incentive spend per vehicle expressed as a percentage of the average vehicle MSRP is trending toward an all-time low of 2.3%, down 5.4 percentage points from March 2021 and the third consecutive month below 3.0%. From an absolute value standpoint, average incentive spend per vehicle is on pace to reach an all-time low of $1,044, a decrease of 68.7% from a year ago. . . . With consumer demand for new vehicles remaining robust, new-vehicle prices continue to maintain their record levels. Average transaction prices are expected to reach a March record of

$43,737, a 17.4% increase from a year ago. For Q1 2022, average transaction prices are expected to reach $44,129, an 18.0% increase from Q1 2021.



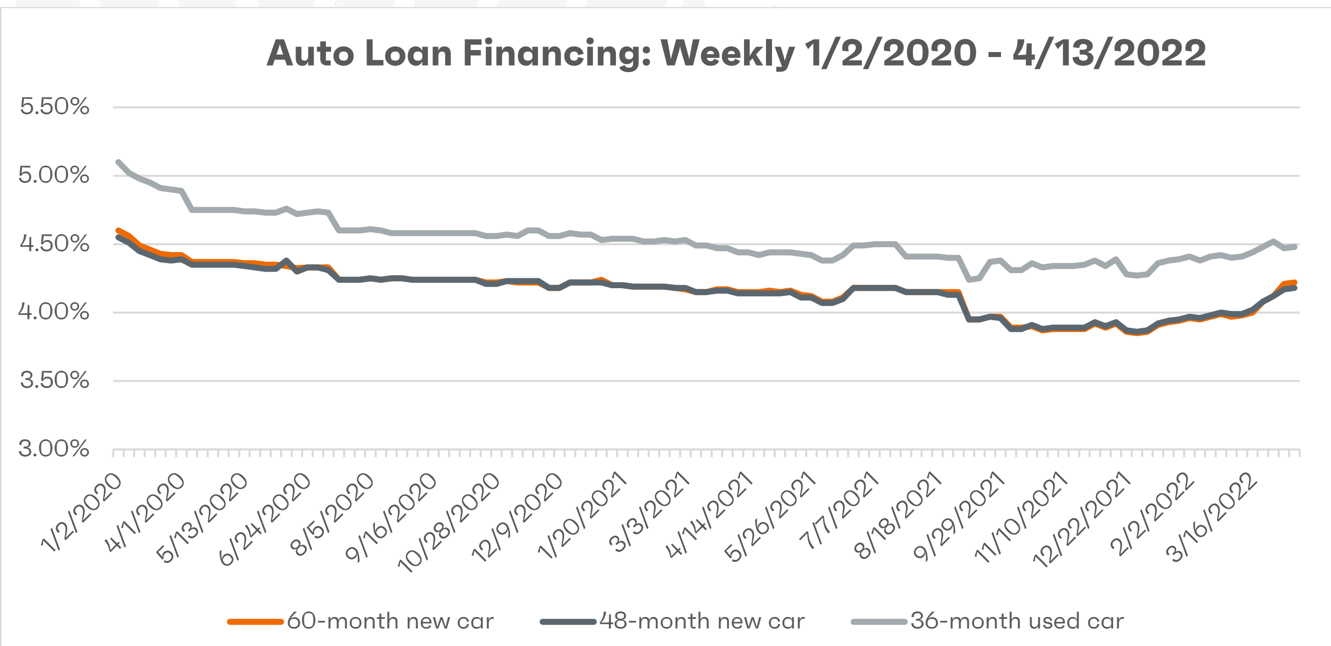




**Due to reporting errors with Tesla Motors, the Electric Vehicle ATP is likely higher than Kelley Blue Book estimates.

## Auto Loan Financing (Updated 4/20)

**Interest Rates Rise:** Interest rates for new cars rose 0.01 pp and now stand at 4.22%. Rates also rose 0.01 pp on the 36-month used car loan and now stand at 4.48%. The 48-month new car loan rose to 4.18. Since the beginning of 2020, 60-month rates are down 0.38 pp, and are up 0.07 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% |
| 4/14/2021 | 4.15% | 4.14% | 4.44% |
| 4/6/2022 | 4.21% | 4.17% | 4.47% |
| 4/13/2022 | 4.22% | 4.18% | 4.48% |
| One Week Change | 0.01% | 0.01% | 0.01% |
| Two Week Change | 0.10% | 0.06% | -0.04% |
| Change since 1/3/20 | -0.38% | -0.37% | -0.62% |
| One Year Change | 0.07% | 0.04% | 0.04% |



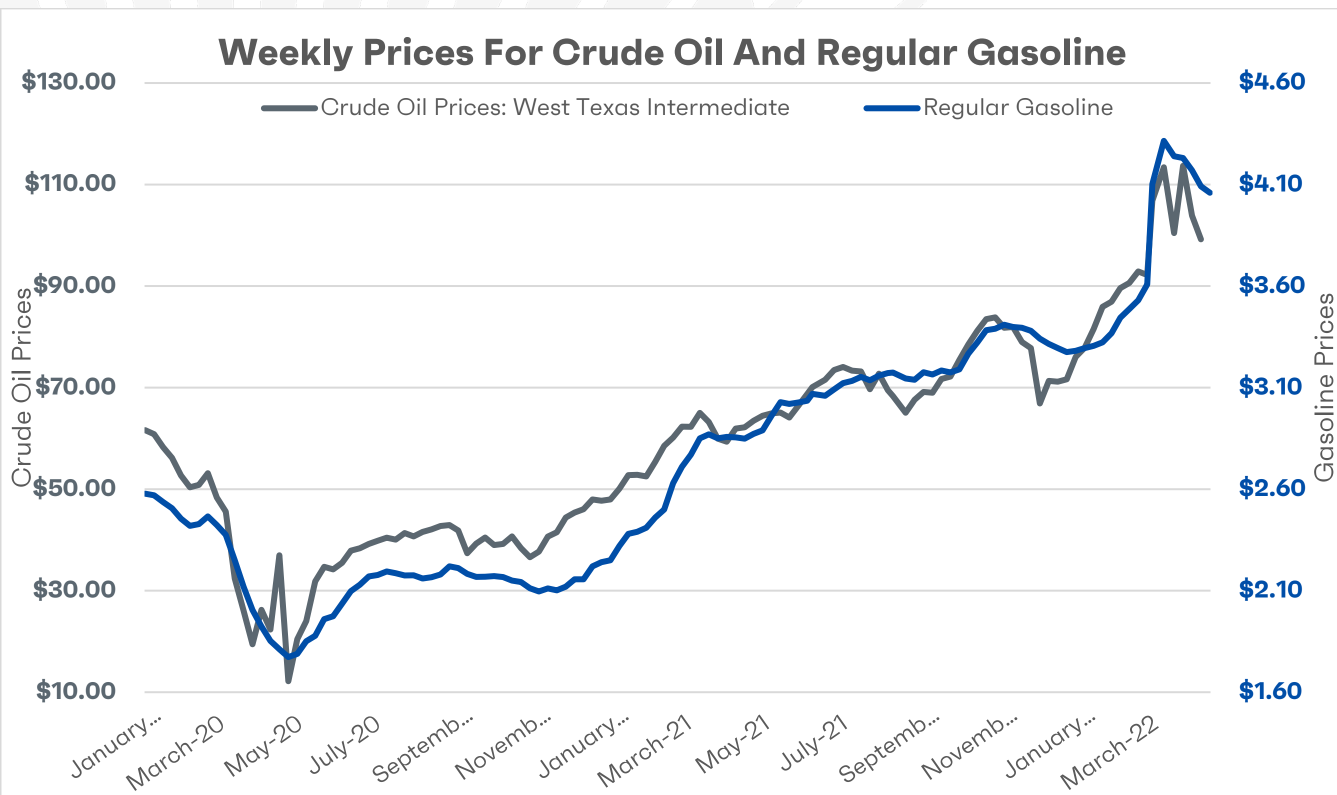

## Crude Oil and Gas Prices (Updated 4/20)

**EIA Outlook For Gasoline (4/20)**[19]**:** "Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $3.04 per gallon (gal) on April 7, down 5 cents/gal from March 1 (Figure 6). The RBOB–Brent crack spread (the difference between the price of

RBOB and the price of Brent crude oil) settled at 65 cents/gal on April 7, up 6 cents/gal during the same period. The average RBOB–Brent crack spread in March was 62 cents/gal, 17 cents/gal higher than February. . . . We estimate U.S. gasoline consumption averaged 8.6 million barrels a day (b/d) in March, which is 0.7 million b/d (7%) lower than the 2015–19 average and slightly higher than in March 2021. We expect vehicle miles traveled to increase by 1 billion miles per day (12%) between March and July as the summer travel season begins. We estimate gasoline inventories decreased by 7.8 million barrels in March and were 2.6% below the five-year (2017–2021) average. However, expected production increases in response to higher crack spreads suggest U.S. inventories will increase above the five-year average by June and remain above average for the rest of 2022.

**EIA Outlook For Oil (4/20)** [20]**:** "Prices: The front-month futures price for Brent crude oil settled at $100.58 per barrel (b) on April 7, 2022, a decrease of $4.39/b from the March 1, 2022, price of $104.97/b. The front- month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $7.38/b during the same period, settling at $96.03/b on April 7.

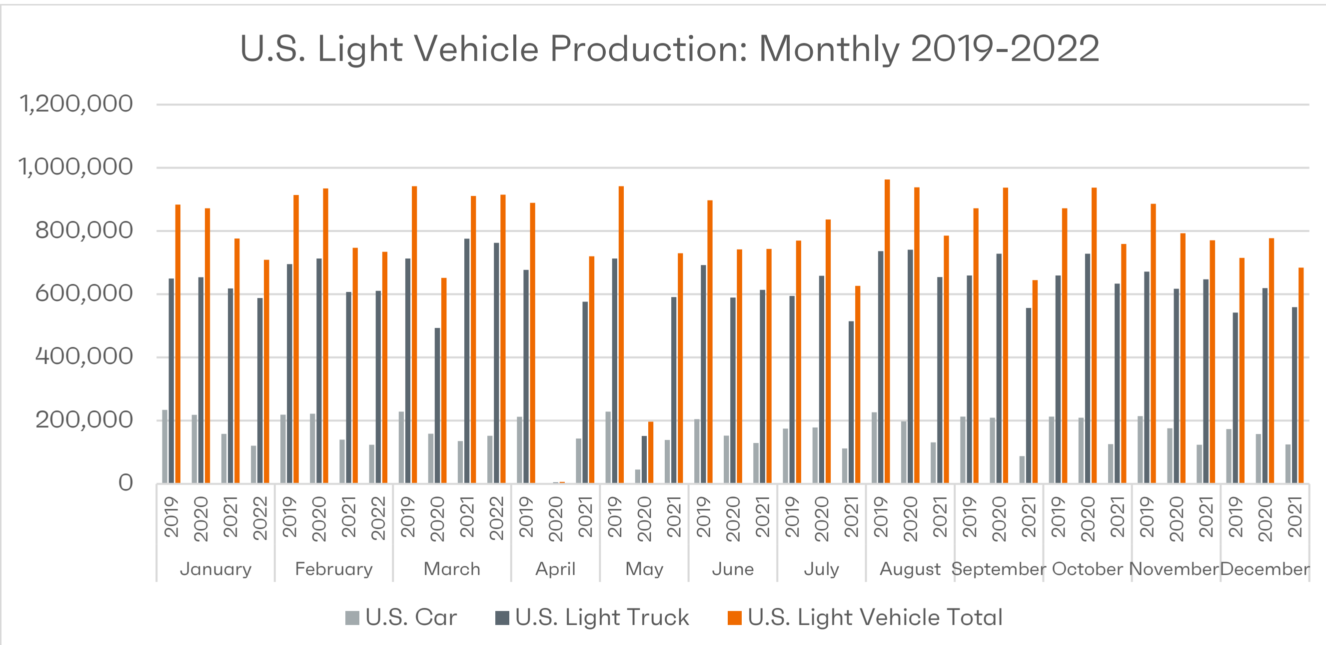
**Gas And Oil Remain High:** Oil prices, as benchmarked at West Texas Intermediate, fell $4 to $99.21 a barrel for the week of April 11, $14 lower than the recent high. Since election day 2020, oil prices have climbed $62 a barrel. Gas prices fell $0.03 to $4.06. Gas is 57% higher than the beginning of 2020. [21]



# Production Meter

## U.S. Light Vehicle Production (Updated 4/20)

U.S. Light vehicle production for March 2022 increased month-over-month by 24.6 percent, totaling 942,111 (152,296 cars, 762,892 light trucks), year-over-year, production is down 1% from 2021. [22]

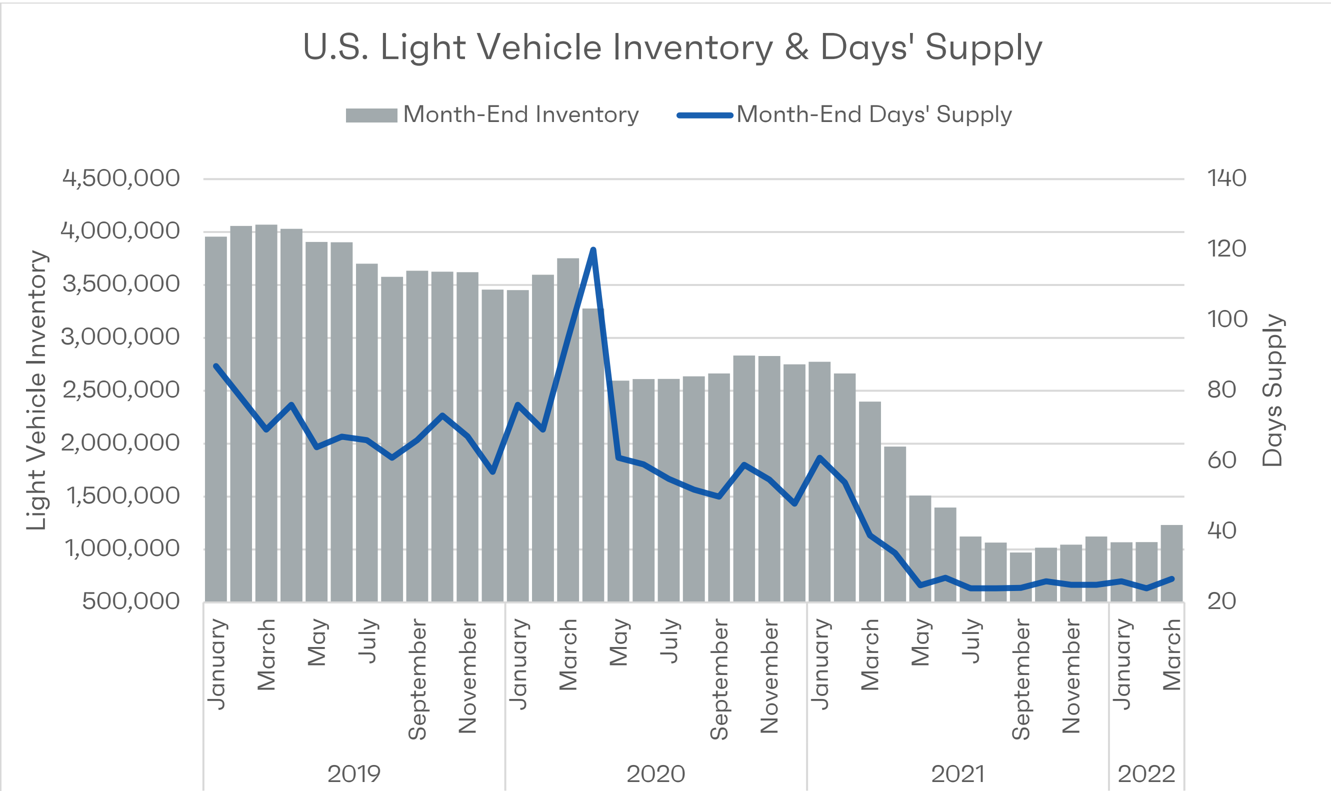



**Wards Intelligence North America Production**[23]**:** "In March, 1.396 million light vehicles and medium-/heavy-duty trucks were built in North America, nearly even with same-month 2021's 1.399 million. The last month to record year-over-year growth was May 2021. March light-vehicle production totaled 1.350 million units, a smidgeon below like-2021's 1.352 million. . . . First-quarter production totaled 3.579 million units, 3.7% below Q1-2021's 3.717 million."

## U.S. Light Vehicle Inventory and Days' Supply (Updated 4/6)

**WardsIntelligence Inventory Update (4/6)**[24]**:** "U.S. light-vehicle inventory in March recorded its strongest month-to-month gain since the pandemic slammed the market in Q1-2020, boding well for continued sales growth over the remainder of the year. . . March inventory rose 15.5% from the prior month to 1.23 million units, but that was 48.7% below like-2021's 2.40 million. Inventory is forecast to remain roughly flat with March in April, then resume modest gains in most months for the remainder of

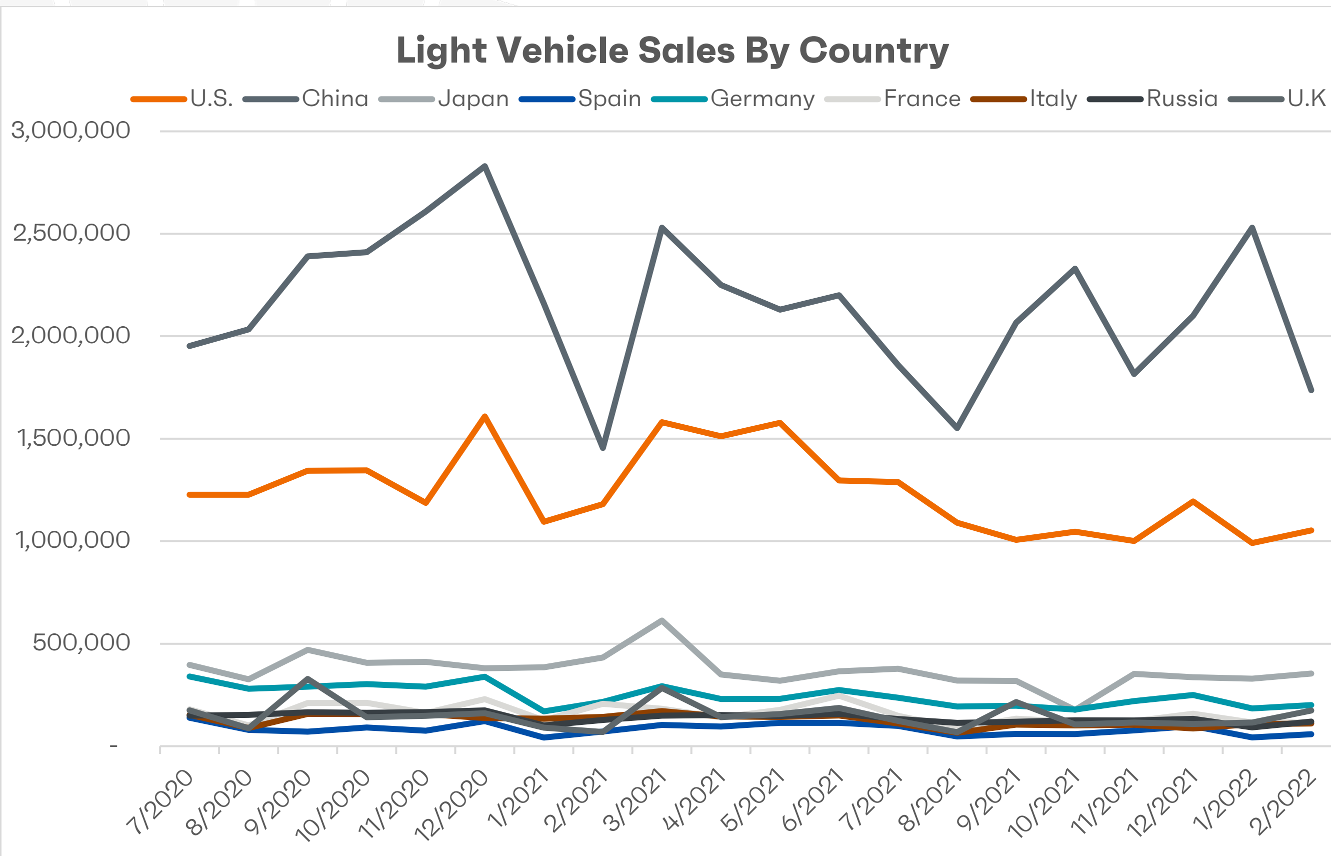
2022. March days' supply totaled 27, compared with 24 in February and March 2021's 39. Prior to the pandemic, a normal March days' supply ranged from 65 to 69."



# Global Meter

## Global Light Vehicle Sales (Updated 4/6)

**Wards Intelligence**[25]**:** "After January's dip, world vehicle sales bounced back in February, though only slightly. With the semiconductor shortage still ongoing, sales have yet to fully recover. Furthermore, Russia's Feb. 24 invasion of Ukraine may cause additional troubles for the automotive industry in the coming months. Global vehicle sales totaled 6.07 million units in February, up 0.3% from year-ago's 6.05 million."




## Global Light Vehicle Production (Updated 4/20)

**Wards Intelligence Outlook (3/17)**[26]**:** "With the impact from the Russia-Ukraine war on global supply chains worsening, and the general economic outlook looking less rosy, Wards Intelligence partner LMC Automotive revised its expectations from two weeks ago and cut forecast 2022 light-vehicle production 1.4 million units to 83.9 million. The global light-vehicle forecast for 2023 was chopped 1.6 million units to 91.1 million. Regionally, Europe is expected to be hit the hardest, with Asia and North America totals also impacted. Production in Europe for 2022 is forecast to total 17.7 million units, Asia is pegged for 46.2 million and North America has been reduced to 14.9 million. In 2023, production in Europe is forecast to rise to 18.7 million units, Asia increases to 49.7 million and North America totals 16.3 million."

**S&P Global Mobility Forecast (4/20)** [27]**:** "While the March 2022 forecast update reflected the impact of Russia's invasion of Ukraine, the April update addresses some additional issues that have arisen, including a rather sluggish recovery in semiconductor supplies, the impact of further COVID lockdowns in China and the longer-term influence of high raw material prices that will put added pressure on new vehicle affordability. The April 2022 forecast update reflects noteworthy reductions for several markets, to varying degrees, with the most significant reductions focused on Europe and Greater China as well as intermediate/longer-term revisions made across various other markets. Given the ongoing uncertainty, a scenarios-based approach to planning is advised to help navigate dynamic market conditions. The more noteworthy regional adjustments with the latest forecast update are detailed below:

**"Europe:** The outlook for Europe light vehicle production was reduced by 498,000 units and by 320,000 units for 2022 and 2023, respectively (and reduced by 422,000 units for 2024). While most markets are influenced in some way by the ongoing Russia/Ukraine conflict, Europe is undeniably the most severely impacted. Last month, we made material revisions to both Russia output directly, as well as broader European production (the latter significantly influenced by the disruption of critical component supplies from Ukraine). With the April update, we see European production remaining challenged as the region continues to navigate the Russia/Ukraine impact as well as ongoing supply chain issues. We have seen actual production results for several countries in Europe coming in considerably weaker for Q1-2022 and early indications are that the weakness is carrying into Q2-2022. As a result, the downward revisions were particularly focused on the first half of 2022 with more limited downgrades for the back half of the year. Looking beyond 2022, the European production outlook was reduced largely commensurate with reductions in the demand outlook for the region as the market is expected to face noteworthy challenges in navigating higher raw material and component prices and more challenging macro conditions which will contribute to additional demand destruction.

**"Greater China:** The outlook for Greater China light vehicle production was reduced by 396,000 units and by 222,000 units for 2022 and 2023, respectively (and reduced by 339,000 units for 2024). Heavily hit by strict COVID containment measures, particularly in Changchun and Shenyang in North China, light vehicle production in March declined by 8% a year-over-year. In April, the high infectious Omicron variant has spread to Shanghai and forced local government officials to implement comprehensive lockdowns. According to the zero-COVID policy, all manufacturing facilities in Shanghai have suspended operations and are expected to remain closed for all of April. Key automakers impacted include Shanghai-GM, Shanghai-Volkswagen and Tesla whose plants remain non-operative since the beginning of the month. As the influence of lockdowns expanded from vehicle production to parts production, component shortages are expected to interrupt auto production outside of Shanghai in the near-term, leading to further vehicle output impact in following months. Given the negative lingering impacts of growing COVID case counts and resultant lockdowns as well as the macro implications of the Russia/Ukraine conflict, further downward forecast adjustments were made, particularly through the intermediate-term.

**"Japan/Korea:** Full-year 2022 Japan production volume was reduced by 17,000 units relative to the March forecast. Domestic operations have been affected by supply chain disruptions associated with the Fukushima earthquake and the zero COVID-19 policy in China, in addition to ongoing semiconductor shortages. While full year 2023 Japan production was only modestly revised, production for 2024 was reduced by 91,000 units. Near-term production remains influenced by efforts to overcome supply chain challenges, yet vehicle production in the intermediate-term is expected to be negatively impacted by stagnant consumer demand due to macroeconomic deterioration as a result of the lingering effects of the Russia/Ukraine conflict. Full-year 2022 South Korea production was reduced by 34,000 units relative to the previous forecast. The Russia/Ukraine conflict and lingering semiconductor availability challenges continue to influence production in the near-term. In addition, recent COVID-19 lockdowns in China have created challenges in securing wire harnesses, among other components, further impacting the production recovery in South Korea. In the long-term, South Korea production was reduced by an average of 1.3% per year. As the macro effects of the crisis between Russia and Ukraine are expected to be prolonged, demand and production have been adjusted accordingly.

**"North America:** The outlook for North America light vehicle production was increased by 9,000 units and reduced by 177,000 units for 2022 and 2023, respectively (and reduced by 242,000 units for 2024). In spite of the backdrop of the Russia/Ukraine conflict and continued supply chain challenges, the outlook for North American light vehicle production in 2022 remains flat at 14.75 million units. Production in Q1-2022 came in a bit higher than forecast with 3.55 million units produced. However, production in Q2- 2022 was revised down approximately 78,000 units on continued supply chain struggles and concerns surrounding additional logistics issues at border crossings between the US and Mexico in Texas that may exacerbate already strained conditions in the near-term. Despite some of the negative sentiment associated with supply chain and logistics challenges, upside exists in the forecast depending on manufacturers ability to produce vehicles as demonstrated with the stronger results in Q1-2022. Production for 2023 was revised down by 1.1% to total 16.49 million units on the growing threat of demand destruction. Further, production in 2024 was reduced by 1.4% to total 17.24 million units. Latent demand is currently stronger than US sales results to date, yet pent-up demand remains under threat from inflationary pressures.

**"South America:** The outlook for South America light vehicle production was reduced by 73,000 units and by 37,000 units for 2022 and 2023, respectively (and reduced by 36,000 units for 2024). The downgrade in production for 2022 was driven primarily by continued weakness in production results for Brazil as well as a downward revision for demand in the near-term. While Argentina continues to exhibit a level of production stability, that is not enough to offset the weakness associated with the

Brazil market. The outlook for 2023 and 2024 was downgraded on rising macro concerns resulting from the Russia/Ukraine conflict impacting demand and continued challenges regarding semiconductor availability. Of note, we continue to expect some restocking to occur throughout 2023; however, we will be closely monitoring demand, particularly in Brazil, for signs of further deterioration that could negatively impact the need for broader restocking.

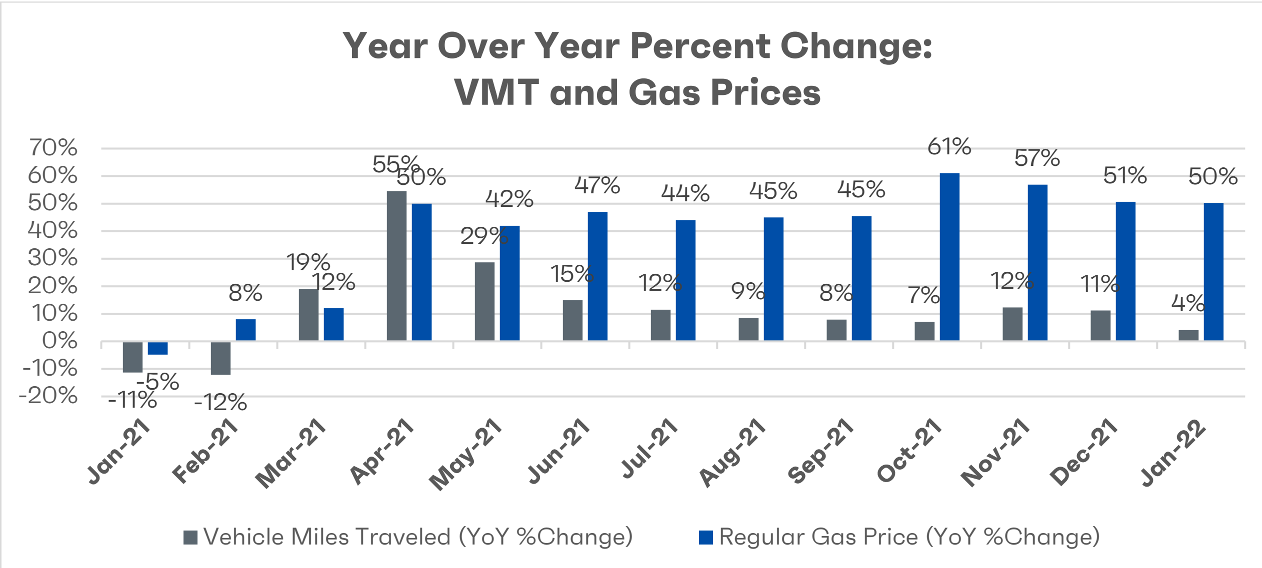
**"South Asia**: The outlook for South Asia light vehicle production was reduced by 27,000 units and by 19,000 units for 2022 and 2023, respectively (and reduced by 107,000 units for 2024). The downgrade in outlook for 2022 was primarily focused on the ASEAN market amid ongoing semiconductor constraints and recent China COVID-19 lockdowns, as well as a fragile economic outlook resulting from the Russia/Ukraine conflict. Looking beyond 2022, the forecast has been negatively impacted by expected longer-term demand destruction (post-COVID pandemic and supply chain crisis) influenced by rising commodity prices and a deteriorating economic outlook. On the commodity front, India is particularly vulnerable given its position as a net oil importer and relative sensitivity to capital outflows."

# Recovery Meter

## Roadway Travel (Updated 4/6)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in January rose 4.7% from the same time a year ago. The cumulative travel estimate for 2022 is 240.6 billion vehicle miles. [28]

- Travel on all roads and streets changed by +4.1% (+9.5 billion vehicle miles) for January 2022 as compared with January 2021. Travel for the month is estimated to be 240.6 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for January 2022 is 274.4 a +4.7% (+12.3 billion vehicle miles) change over January 2021. billion vehicle miles) compared with December 2021.
- Cumulative Travel for 2022 changed by +4.1% (+9.5 billion vehicle miles). The cumulative estimate for the year is 240.6 billion vehicle miles of travel.




## Economic News (Updated 4/6)

**Manufacturing Gained 38,000 Jobs In March; Motor Vehicles And Parts Manufacturing Gained 6,400.** "Manufacturing boosted employment by 38,000 jobs in March, the Bureau of Labor Statistics said today. Both durable and non-durable goods contributed to the monthly gain, according to a breakdown by sector issued by the bureau. Durable goods industries increased by 22,000 jobs and non-durable goods industries by 16,000. On the durable goods side, the increase was paced by transportation equipment, up 10,800 jobs. That included a gain of 6,400 jobs in motor vehicles and parts." [29]

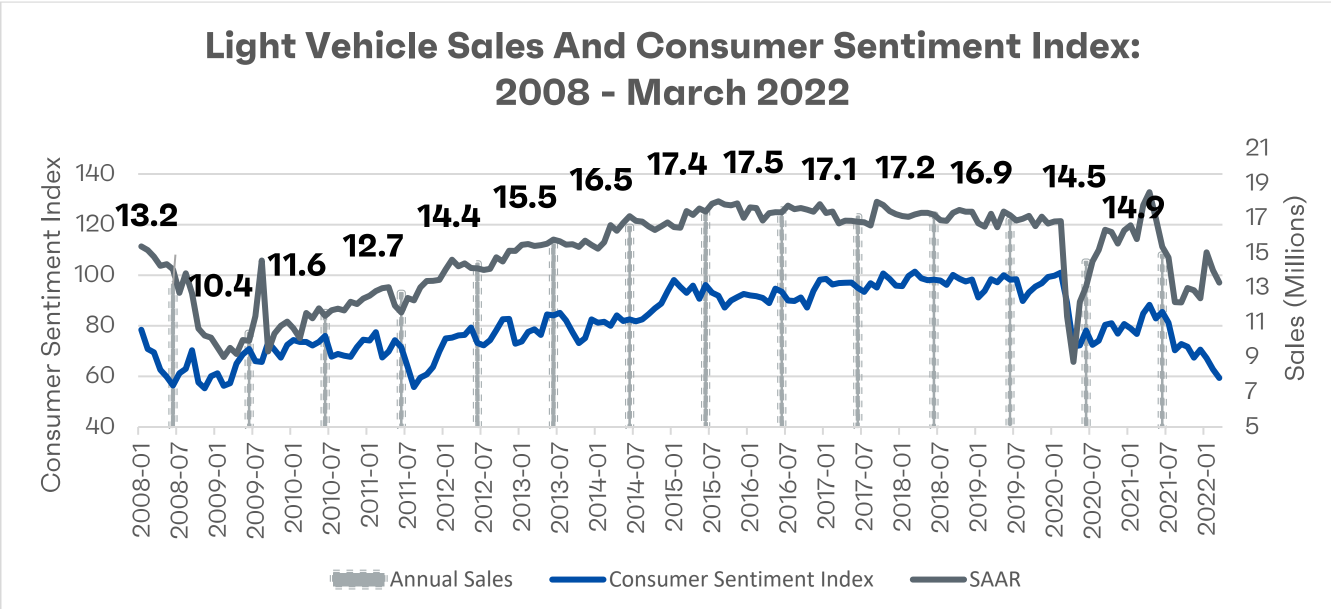
**The ISM Index Fell To 57.1 In March.** "The Institute for Supply Management said its manufacturing index, known as the PMI, slipped to 57.1 percent in March. That was down from 58.6 percent in February. Despite the softening, the index still indicated that manufacturing was running at a strong rate. A PMI level above 50 percent indicates an expanding manufacturing economy. Below 50 percent indicates economic contraction." [30]

**The Consumer Price Index Increased 7.9%, A Forty-Year High; Vehicle Costs Showed Signs Of Easing.** "The consumer price index, which measures a wide-ranging basket of goods and services, increased 7.9% over the past 12 months, a fresh 40-year high for the closely followed gauge, according to the Labor Department's Bureau of Labor Statistics. The February acceleration was the fastest pace since January1982, back when the U.S. economy confronted the twin threat of higher inflation and reduced economic growth. On a month-over-month basis, the CPI gain was 0.8%. Economists surveyed by Dow Jones had expected headline inflation to increase 7.8% for the year and 0.7% for the month. . . . Vehicle costs have been a powerful inflationary force but showed signs of easing in February. Used car and truck prices actually declined 0.2%, their first negative showing since September 2021, but are still up 41.2% over the past year. New car prices rose 0.3% for the month and 12.4% over the 12-month period." [31]

**"Material inflation/headwinds risks from conflict broad in range as to variety and severity:** Although material cost headwinds were expected in 2022, the Russia/Ukraine conflict will likely further exacerbate those headwinds. As of now, we see primary materials/input headwinds related to: aluminum, precious metals palladium/platinum, nickel, resins/oil, steel, and semiconductors. Should spot prices hold, we could see materials adding ~$400-500 of incremental cost per ICE vehicle (vs. year-end levels), and ~$1,100-1,200 of incremental content for EVs. For context, for Ford/GM the typical variable profit per vehicle in NA is currently likely ~$9-10k." [32]

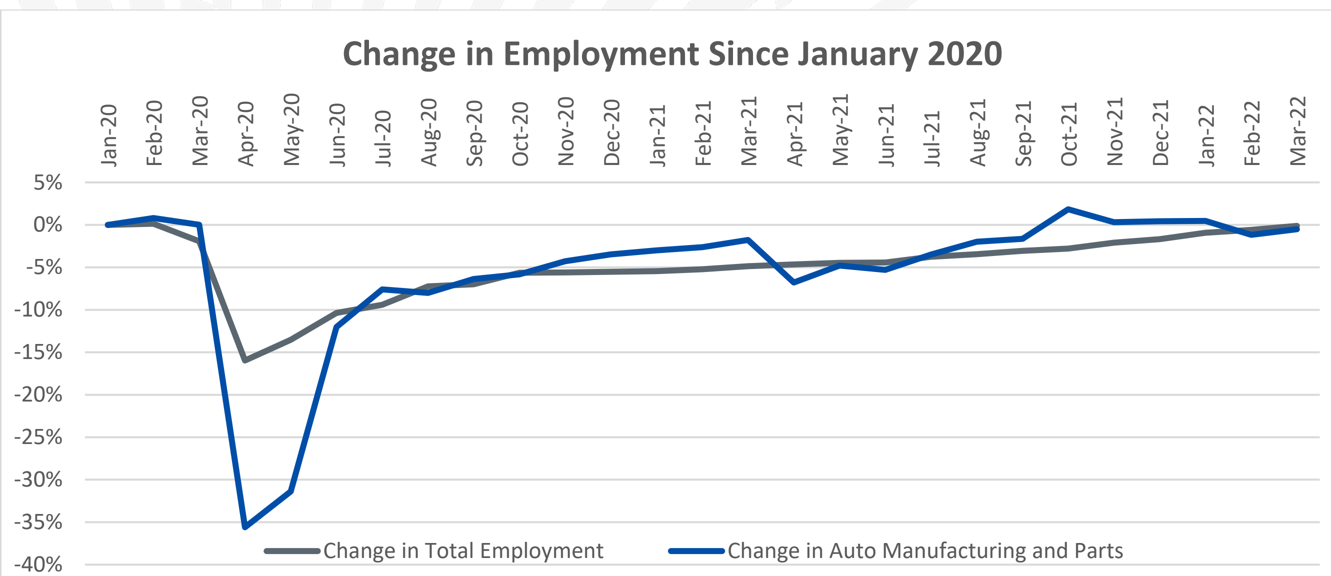
## Consumer Confidence and Sales (Updated 4/20)

**Surveys of Consumers Chief Economist, Richard Curtin [33]:** "Consumer Sentiment jumped by a surprising 10.6% in early April, although it remained below January's reading and lower than in any prior month in the past decade. Nearly the entire gain was in the Expectations Index, which posted a monthly gain of 18.0%, including a leap of 29.4% in the year-ahead outlook for the economy and a 17.2% jump in personal financial expectations. A strong labor market bolstered wage expectations among consumers under age 45 to 5.3%-the largest expected gain in more than three decades, since April 1990. Consumers still anticipate that the national unemployment rate will inch downward, acting to improve consumers' outlook for the national economy. Perhaps the most surprising change was that consumers anticipated a year-ahead increase in gas prices of just 0.4 cents in April, completely reversing March's surge to 49.6 cents. Retail gas prices have fallen since the March peak, and that fact was immediately recognized by consumers. The shift in gas price expectations may be partly due to Biden's announced release of strategic oil reserves and the relaxing of some seasonal EPA rules. Nonetheless, the April survey offers only tentative evidence of small gains in sentiment, which is still too close to recession lows to be reassuring. There are still significant sources of economic uncertainty that could easily reverse the April gains, including the impact on the domestic economy from Putin's war, and the potential impact of new covid variants."



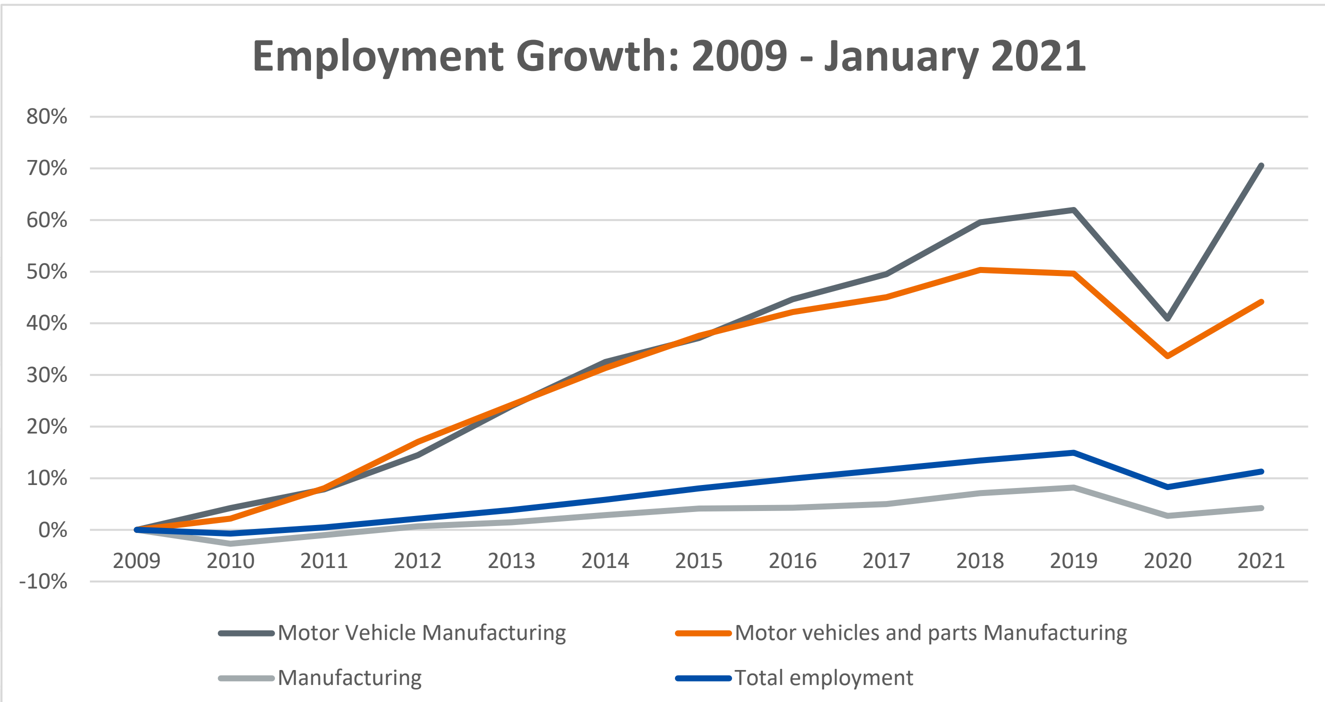

## Employment (Updated 4/6)

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.[34]




- **Motor Vehicle And Parts Manufacturing Gained 6,400 Jobs In January.**[35]

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.[36] 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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