READING THE METER

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

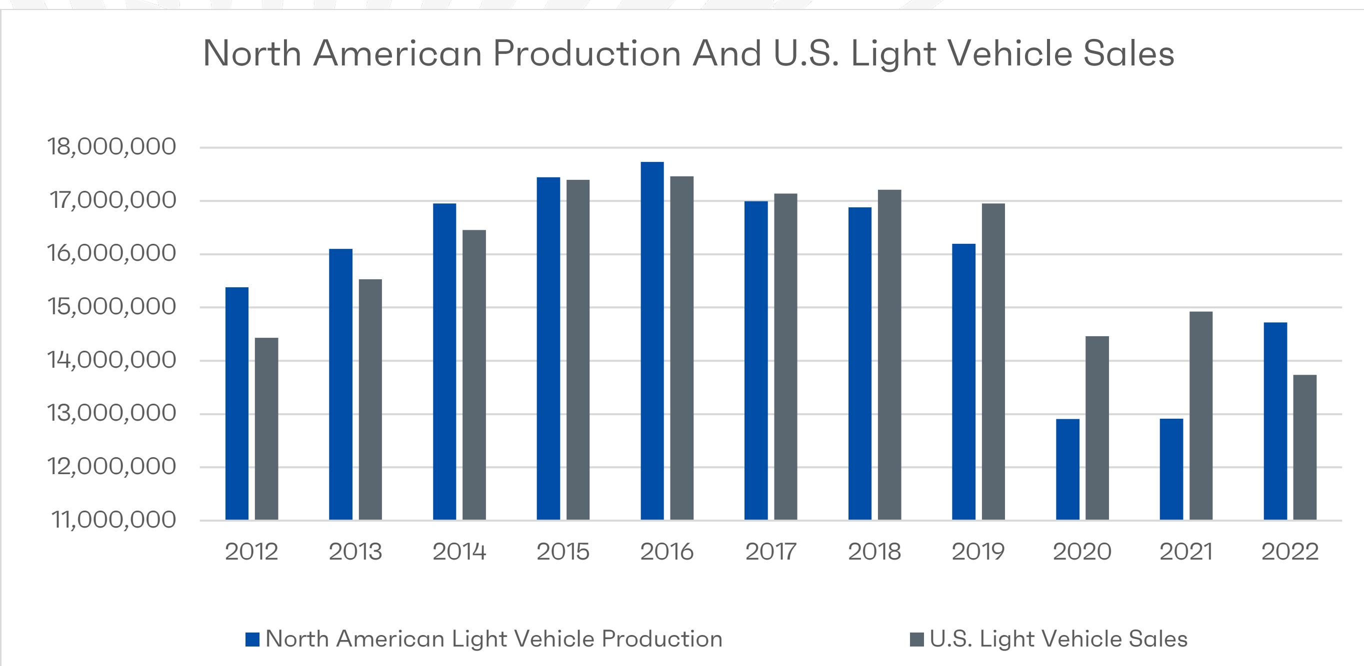
ALLIANCE FOR AUTOMOTIVE INNOVATION

Contents – February 21, 2023

Forecast Meter

Sales & Production Summary and Forecast (Updated 2/21)

2021-2022 Sales, [1] Extended Sales Forecast [2] and Production Forecasts [3]		
	U.S. Sales & Forecasts	**North American Production**
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)
April '22	1,226,950 (-22% YoY)	1,177,851 (+8% YoY)
May '22	1,104,993 (-23.8% YoY)	1,215,000 (+20.4% YoY)
June '22	1,126,724 (-16.8% YoY)	1,259,515 (+13.8% YoY)
July '22	1,129,371 (-8.4% YoY)	977,485 (+7% YoY)
August '22	1,128,200 (-.7% YoY)	1,413,262 (+29 %)
September '22	1,112,245 (+3.9% YoY)	1,258,501 (+38% YoY)
October '22	1,151,774 (+13.8% YoY)	1,299,707 (+12.4% YoY)
November '22	1,120,067 (+6% YoY)	1,200,244 (+5.5% YoY)
December '22	1,263,268 (+4.9% YoY)	1,074,938 (+3.4% YoY)
January '23	1,033,002 (+4.2% YoY)	1,195,548 (+12.9 YoY)
2022 Full Year	13.7 million units (WardsIntelligence)	14,721,053 (+9.8% YoY) (U.S. 10,019,791)



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

Wards Intelligence Outlook (2/3) [4]**:** "Although still lean overall with what is available skewed toward pricier vehicles, rising inventory bodes well for sales. And what could continue as a trend, now that available production is rising as supply-chain issues – especially the semiconductor shortage – continue to improve, is a higher mix of affordable vehicles on dealer lots.

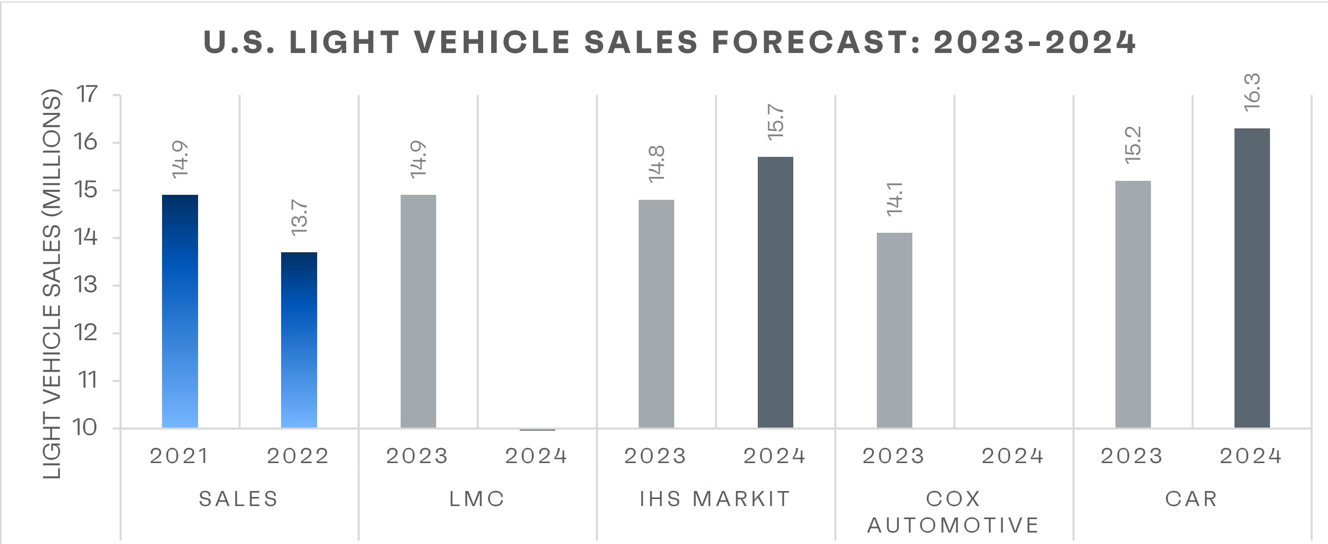
"For the first time since last April, the inventory mix for luxury-priced cars, CUVs and SUVs, plus fullsize trucks – also high-priced, as well as the least fuel efficient among major segment groups – fell below 50%. Although the share fell below the halfway point by just a smidgeon to 49.9%, it was the third straight month-to-month decline since 53.6% in October. The inventory share of that grouping typically ran between 35% and 40% prior to the pandemic.

"Along with indications automakers are increasing incentives, pricing relief in the form of more less-costly vehicles on dealer lots – even if the mix does not increase - could start to pull more buyers into the new-vehicle market. On the flip side, a primary barrier to higher demand, even if affordability of what is available improves, is an economic recession, or consumers' fear of it.

"Initial modeling for February calls for sales of 1.09 million units, 4.2% above the year-ago month. The seasonally adjusted annual rate works out to 14.3 million units, well below January's 15.7 million, but a healthy increase on like-2022's 13.7 million. However, Wards Intelligence puts more upside risk than downside to that outlook.

"The first quarter is tracking to a 14.6 million-unit SAAR, up from the previous quarter's 14.3 million and year-ago's 14.0 million.

"Inventory is expected to increase at the end of February from January and rise again in March."



North American Production & Inventory Outlook (Updated 2/21)

Wards Intelligence Production Outlook (2/21) [5]**:** "The revised outlook for North America production in Q1-2023 remains relatively stable from month-ago's update, a sign that, though supply-chain-related shortages still exist, automakers are shaking lose much of the volatility in production planning of the past two years. Including final data for January, Q1 output of light vehicles and medium-/heavy-duty trucks is tracking to 3.898 million units, 31,100 units below month-ago's outlook, but a 7.4% increase over like-2022's 3.630 million. First-quarter 2023 will mark the fourth consecutive year-over-year quarterly gain and be the highest total for any quarter since 3.94 million units in Q4-2020. Excluding medium/heavy trucks, light-vehicle production is tracking to 3.744 million units in Q1, up 7.3% from January-March 2022's 3.507 million. . . . Although several automakers remain plagued by supply-chain issues, there could be some conservativeness behind the scenes in production planning that also is serving to water down production levels of some vehicles. One reason could be manufacturers want to keep inventory tight and, thus, pricing strong. Also, there could be some tentativeness due to the risk that the economy will significantly weaken, even possibly falling into recession, which could dampen consumers' appetite for new vehicles despite the pent-up demand built since the pandemic first hit the U.S. in March 2020."

S&P Global Mobility Outlook (2/21)[6]**:** "The outlook for North America light vehicle production was increased by 4,000 units and by 5,000 units for 2023 and 2024, respectively (and reduced by 2,000 units for 2025). Despite concerns surrounding the ongoing volatility of the supply chain, most notably for semiconductors, and demand destruction amid recessionary fears, the outlook for 2023 remains largely unchanged, with production revised upwards only modestly to total 15.09 million units. With production in the region projected to increase 5.4% in 2023, 70% of the growth is expected to come from 10 of the 102 plants in the region. Half of those plants are ramping up all-new or redesigned vehicles with the other half expected to experience strong recovery following supply chain reduced levels in 2022. While demand destruction concerns remain pervasive, inventory rebuild is well underway and is projected to improve vehicle availability by mid-2023. Greatly improved availability may in turn stimulate demand as incentive levels are expected to increase. This situation will vary markedly by manufacturer with GM, Ford and Stellantis already facing normalized inventory levels while their Asian counterparts struggle to restock depleted inventories. Global supply chain issues are expected to continually improve with the outlook for 2024 revised nominally upward to total 15.85 million units. Further gains are expected for 2025 while the forecast was revised only slightly lower reaching 16.48 million units."

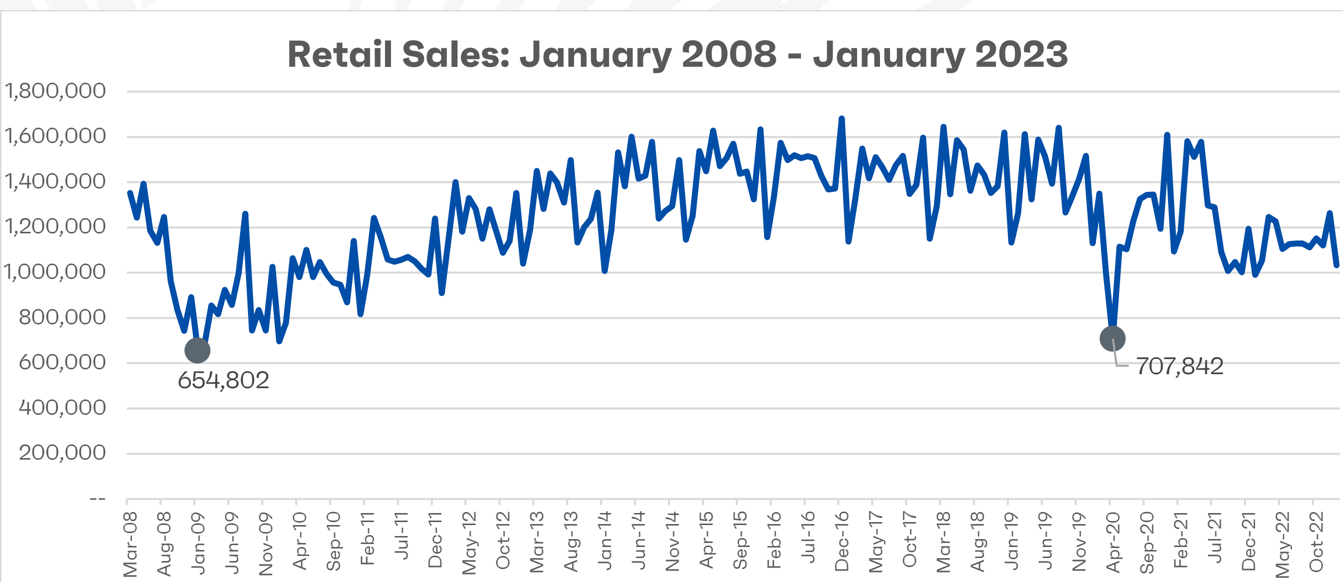
"**Wards Intelligence Inventory Outlook (2/3)[7]:** "And what could continue as a trend, now that available production is rising as supply-chain issues – especially the semiconductor shortage – continue to improve, is a higher mix of affordable vehicles on dealer lots. . . . Inventory is expected to increase at the end of February from January and rise again in March."

Market Meter

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

<u>Monthly Sales (Updated 2/3)</u>

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.



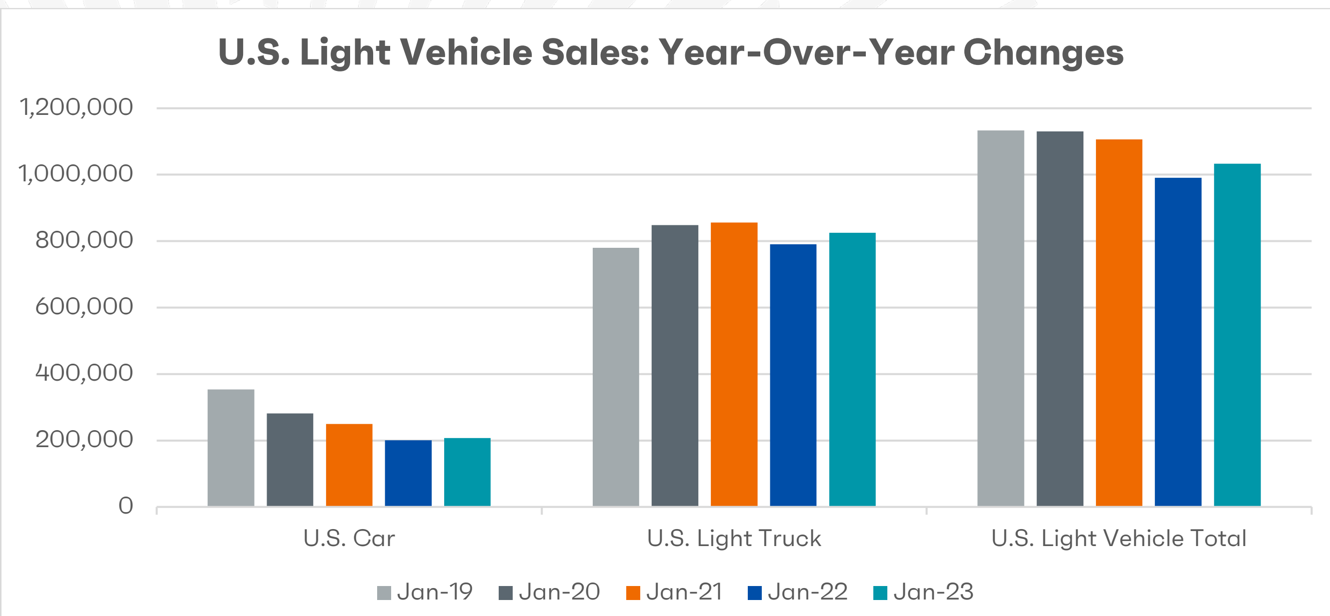
January Sales (Updated 2/3)

WardsIntelligence [8]: "U.S. light-vehicle sales recorded their fifth straight year-over-year increase in January, even finishing the month slightly above expectations. January's seasonally adjusted annual rate surged to a 20-month-high 15.7 million units, well above the prior month's 13.4 million and same-month 2022's 14.2 million.

"Raw volume totaled 1.033 million units, up 4.2% from January 2022's 991,573. With 24 selling days in both periods, January's daily selling rate of 43,042 was a gain from like-2022's 41,316.

"The long-time high SAAR was in part caused by disruptions over the past three years to year-end seasonal trends, which impacted January's calculation. Sales are expected to continue year-over-year gains over the remainder of the first quarter, but with SAAR levels settling in closer to roughly a 14.5-million-unit rate.

"Fleet volume is estimated to have accounted for 14% of January's volume, including a year-over-year increase of 25%. Estimated fleet volume has been surging since June, while retail gains remain mostly in the single digits, including a 1.5% increase last month. Besides continuously rising prices, as well as higher interest rates which increase monthly payments on financed vehicles, part of the reason for the lower growth in retail is that half the mix of inventory is skewed to pricier models and trim levels. Automakers have raised production of more affordable vehicles, but a significant portion of that could be going to fleet customers.



Fleet Sales (Updated 2/3)

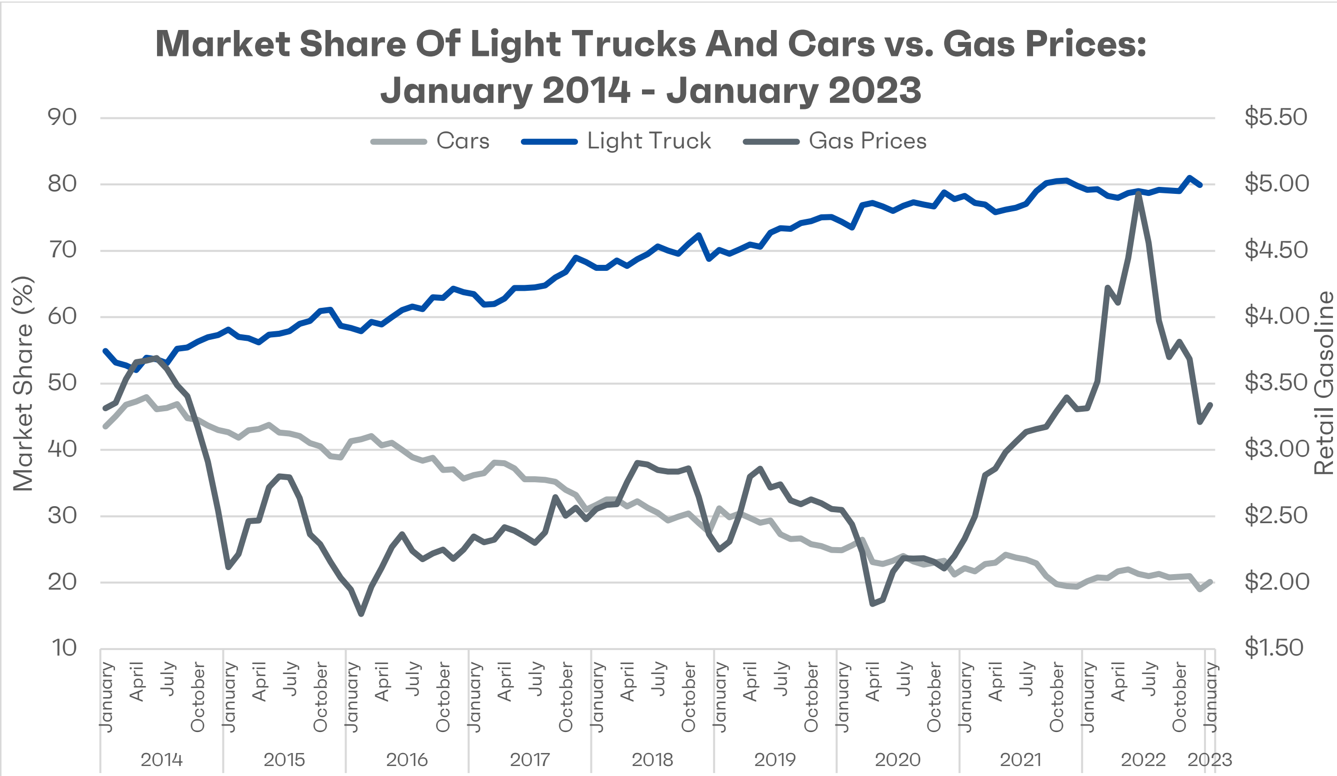
TrueCar [9]: "Fleet sales for January 2023 are expected to be up 74% from a year ago and up 13% from December 2022 when adjusted for the same number of selling days."

J.D. Power [10]: "Fleet sales are expected to total 183,300 units in January, up 59.4% from January 2022 on a selling day adjusted basis. Fleet volume is expected to account for 18% of total light-vehicle sales, up from 12% a year ago."

Segments vs. Gas Prices (Updated 2/3)

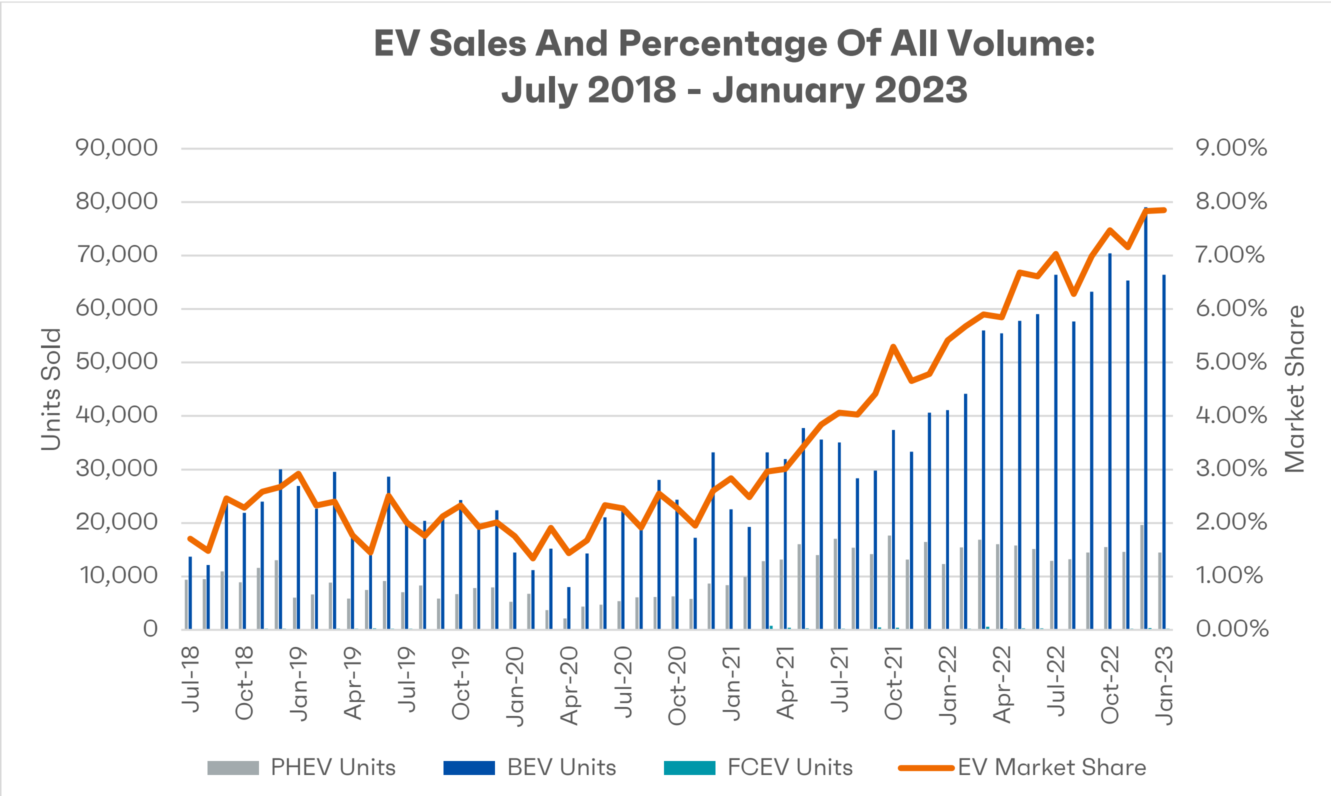
Monthly Sales For January: Light trucks accounted for 80 percent of sales in January, a .1 pp increase in market share from a year ago. Compared to the same period in 2021, sales of cars are up 7,300, and down more than 146,000 from January 2019, when cars comprised 31% of the market as opposed to the 20% 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 $2.83 a gallon (through December 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]



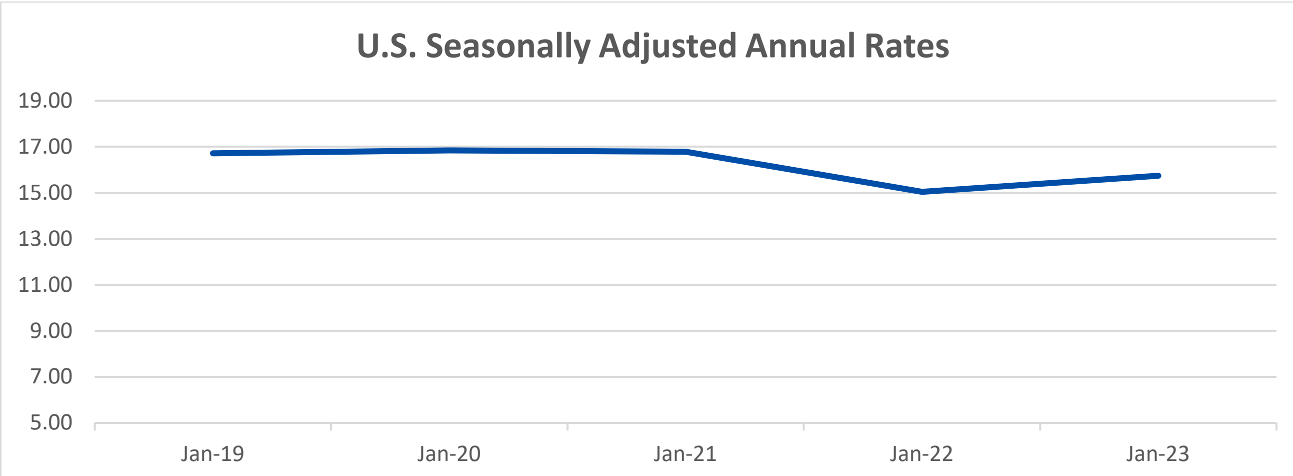
EV Powertrain Sales (Updated 2/3)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 7.85% of total vehicle sales in January 2022 (81,097) – the highest market share to date. January's EV market share is up 2.5 pp from a year ago and up 0.01 pp from December 2022. Sales of battery electric vehicles led the way for ZEVs, accounting for 6.4% of total sales, up 2.3 pp from January 2022. Plug-in hybrids accounted for 1.4%, up 0.15 pp from the same time last year. [14]



Seasonally Adjusted Annual Rates (Updated 2/3)

WardsIntelligence[15]: "January's seasonally adjusted annual rate surged to a 20-month-high 15.7 million units, well above the prior month's 13.4 million and same-month 2022's 14.2 million. . . . The long-time high SAAR was in part caused by disruptions over the past three years to year-end seasonal trends, which impacted January's calculation. Sales are expected to continue year-over-year gains over the remainder of the first quarter, but with SAAR levels settling in closer to roughly a 14.5-million-unit rate."

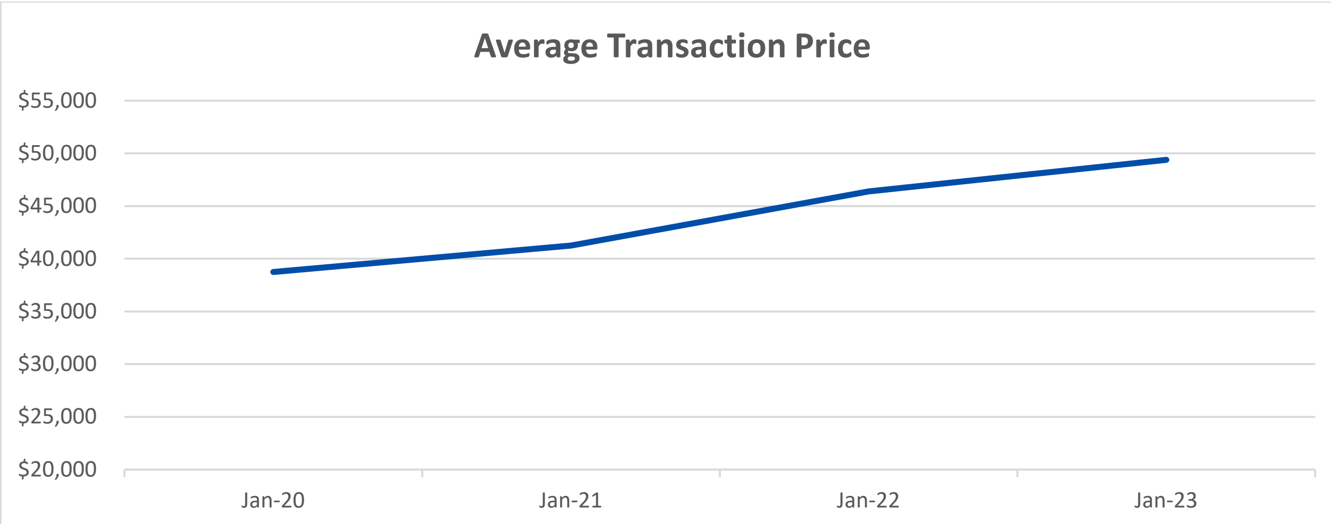


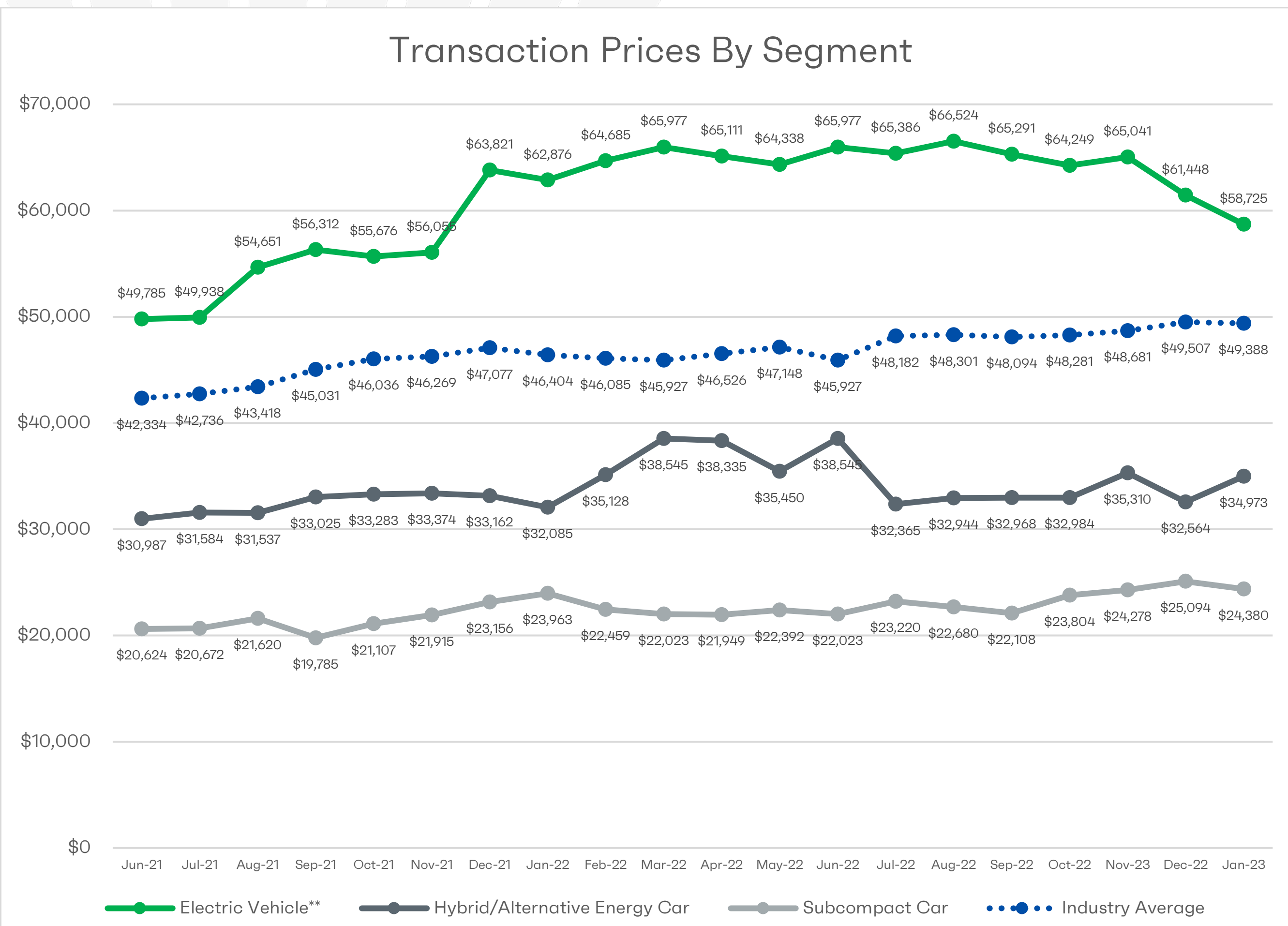
Average Transaction Price (Updated 2/21)

Kelley Blue Book (January) (Updated 2/21) [16]**:** "The average transaction price (ATP) of a new vehicle in the U.S. declined slightly in January 2023 to $49,388, a decrease of 0.6% ($310) from December's record high and up 5.9% ($2,768) from levels one year earlier. New-vehicle inventory levels are increasing from historic lows in early 2022, but prices remain elevated, according to data released today by Kelley Blue Book, a Cox Automotive company. According to Kelley Blue Book calculations, new-vehicle ATPs have been above the average manufacturer's suggested retail price (MSRP), also known as the sticker price, for more than a year. In January 2023, the average price paid was $310 more than the average sticker, as prices continue to trend downward relative to sticker price. A year ago, in January 2022, the average ATP was more than $900 above the average MSRP.

"The average price paid for a new EV decreased in January by $3,363 (down 5.4%) compared to December. The average new EV sold for $58,725, according to Kelley Blue Book estimates, and is still well above the industry average. The drop in pricing was driven by significant price cuts from Tesla, which commands roughly two-thirds of the EV market. Tesla's average transaction prices decreased $5,440, down 8.4% month over month and down 5.5% year over year."

J.D. Power (Updated 2/3) [17]**:** ""New-vehicle transaction prices continue to rise—although the rate of growth continues to slow. The average price will set a January record of $46,437, an increase of 4.2% from a year ago." The record transaction prices means that buyers are on track to spend nearly $39.9 billion on new vehicles this month—the highest level ever for the month of January, an increase of 2.4% from January 2022."


Average Transaction Price
$55,000
$50,000
$45,000
$40,000
$35,000
$30,000
$25,000
$20,000
Jan-20
Jan-21
Jan-22
Jan-23

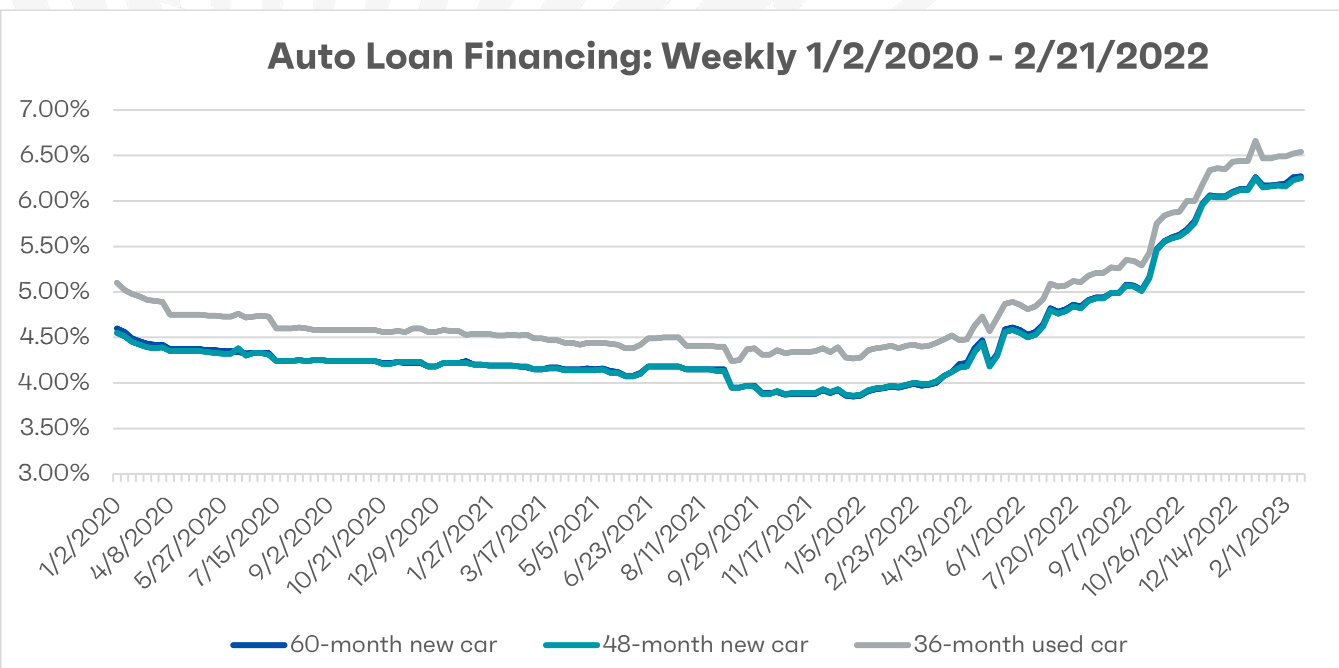

Transaction Prices By Segment
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000
$0
Jun-21 Jul-21 Aug-21 Sep-21 Oct-21 Nov-21 Dec-21 Jan-22 Feb-22 Mar-22 Apr-22 May-22 Jun-22 Jul-22 Aug-22 Sep-22 Oct-22 Nov-23 Dec-22 Jan-23
$49,785 $49,938 $54,651 $56,312 $55,676 $56,055 $63,821 $62,876 $64,685 $65,977 $65,111 $64,338 $65,977 $65,386 $66,524 $65,291 $64,249 $65,041 $61,448 $58,725
$42,334 $42,736 $43,418 $45,031 $46,036 $46,269 $47,077 $46,404 $46,085 $45,927 $46,526 $47,148 $45,927 $48,182 $48,301 $48,094 $48,281 $48,681 $49,507 $49,388
$30,987 $31,584 $31,537 $33,025 $33,283 $33,374 $33,162 $32,085 $35,128 $38,545 $38,335 $35,450 $38,545 $32,365 $32,944 $32,968 $32,984 $35,310 $32,564 $34,973
$20,624 $20,672 $21,620 $19,785 $21,107 $21,915 $23,156 $23,963 $22,459 $22,023 $21,949 $22,392 $22,023 $23,220 $22,680 $22,108 $23,804 $24,278 $25,094 $24,380
Electric Vehicle**
Hybrid/Alternative Energy Car
Subcompact Car
Industry Average

Auto Loan Financing (Updated 2/21)

JD Power (2/3)[18]: "After breaking the $700 level for the first time on record in July, the average monthly finance payment in January is on pace to be $723, up $59 from January 2022. That translates to an 8.8% increase in monthly payments from a year ago. The average interest rate for new-vehicle loans is expected to be 6.8%, an increase of 264 basis points from a year ago."

Interest Rates (updated 2/21): Interest rates continue their upward climb for the 60-month, 48-month and 36-month used car loans. Rates now stand at 6.27%, 6.25%, and 6.54%, respectively. Since the beginning of 2020, 60-month rates are up 1.67 pp, and are up 2.30 pp since the same time a year ago.[19]

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
2/16/2022	3.97%	3.98%	4.41%
2/8/2023	6.26%	6.23%	6.52%
2/15/2023	6.27%	6.25%	6.54%
One Week Change	0.01%	0.02%	0.02%
Two Week Change	0.08%	0.09%	0.05%
Change since 1/3/20	1.67%	1.70%	1.44%
One Year Change	2.30%	2.27%	2.13%

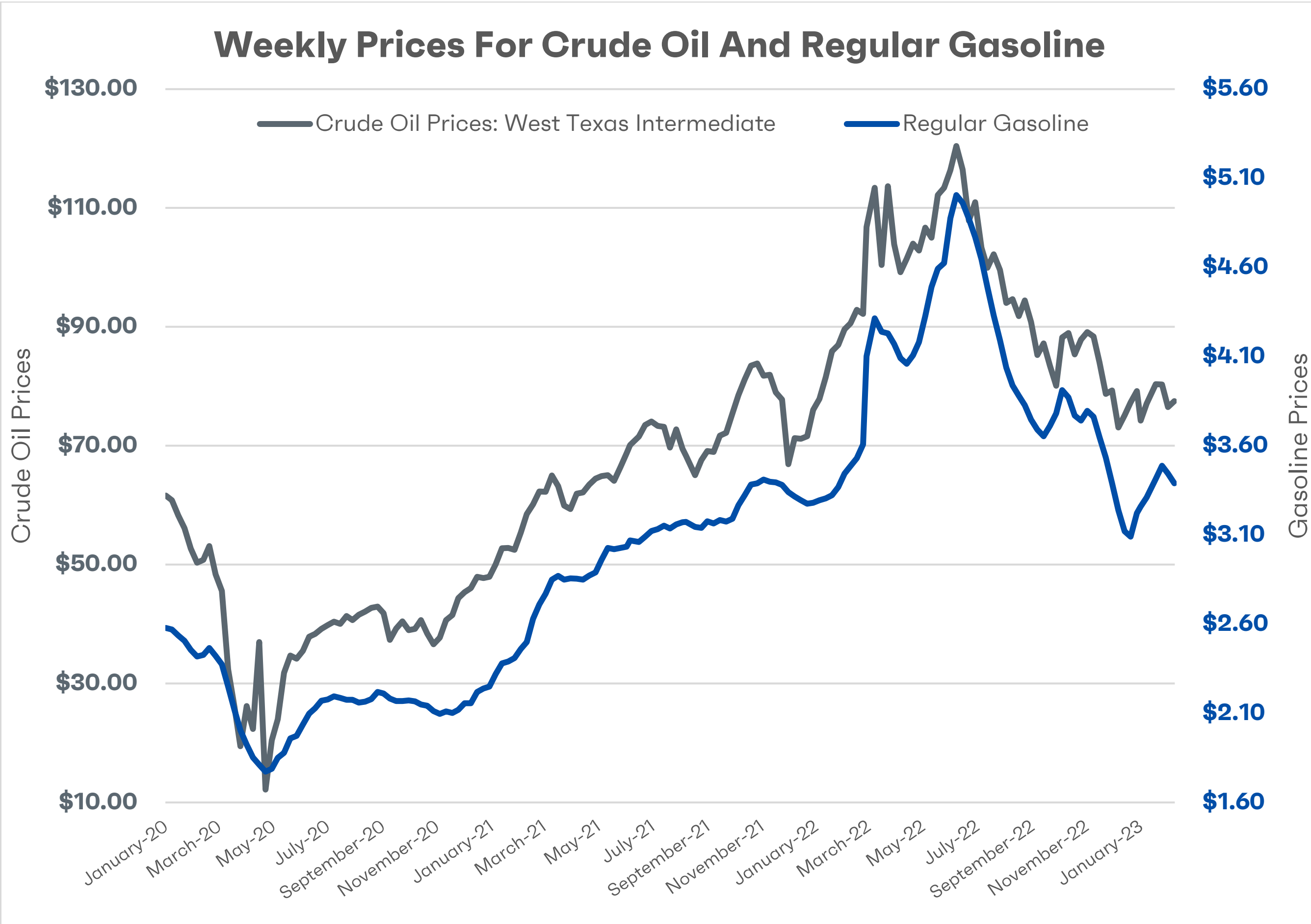


Crude Oil and Gas Prices (Updated 2/21)

EIA Outlook For Gasoline (2/21) [20]**:** "In 2022, many refiners postponed planned maintenance during the spring and fall as low product inventories and high refining margins encouraged refiners to maximize utilization. Although refining margins remain above normal levels, we expect more refiners will undergo deferred maintenance this season. We forecast U.S. distillation inputs will be less than 16 million b/d until April. Utilization remains below 90% until May, which we forecast will keep refining margins for gasoline and diesel above year-ago levels during February and March. However, we expect refinery inputs and utilization to increase after maintenance is completed, and 2023 inputs will likely be similar to 2022 inputs, leading to falling refining margins beginning in the second quarter of 2023.

EIA Outlook For Oil (2/21) [21]**:** "he Brent crude oil spot price averaged $82 per barrel (b) in January, about $2/b higher than the average in December 2022. Oil prices rose during January in part because of the expectation of increasing oil demand as a result of relaxing COVID-19 restrictions and increasing mobility in China. Perceptions of a less severe recession and some improving macroeconomic conditions also likely contributed to rising crude oil prices over the past month. . . . We expect that the Brent spot price will average $85/b in the first half of 2023 (1H23). However, we expect global oil production to continue to outpace demand over the forecast period, leading to persistent global oil inventory builds through 2024 and falling oil prices. After increasing by an average of 0.6 million b/d in 2022, we expect global oil inventories to also build by an average of 0.6 million b/d in 2023, with builds moderating to 0.4 million b/d in 2024. Correspondingly, our forecast spot price of Brent crude oil falls to an average of $82/b in 2H23 and $78/b in 2024.

Gas And Oil Holding Mostly Steady: Oil prices, as benchmarked at West Texas Intermediate, were mostly unchanged at $77.50 in Mid-February. Since election day 2020, oil prices are $41 a barrel higher. Gas prices increased $0.05 to $3.39. Gas is 31% higher than the beginning of 2020. [22]

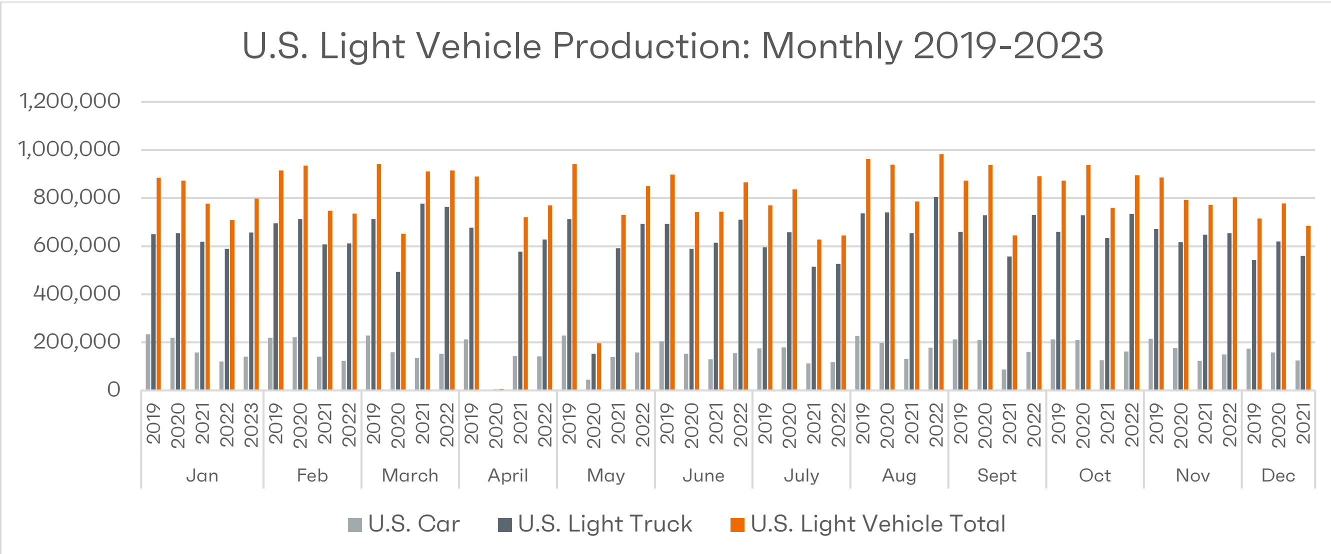


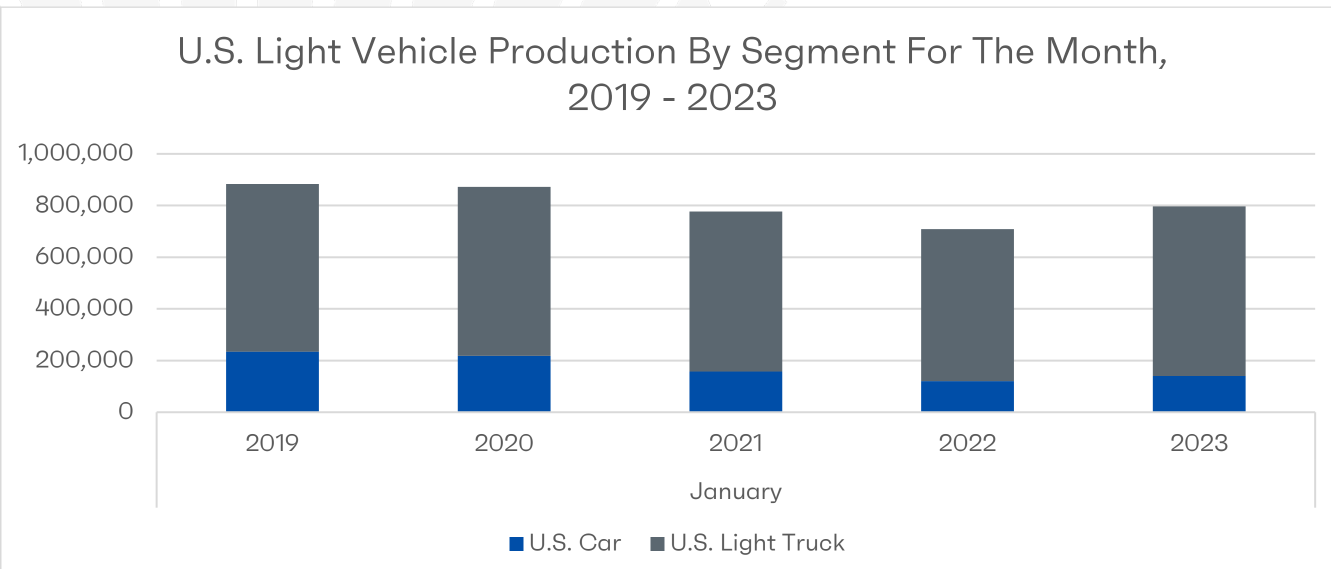
Production Meter

U.S. Light Vehicle Production (Updated 2/21)

Monthly Production (Upodated 2/21)

U.S. Light vehicle production for January 2023 increased month-over-month by 8 percent, totaling 797,110 vehicles (140,233 cars, 656,877 light trucks), year-over-year, production is up 12 percent from 2022. [23]





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

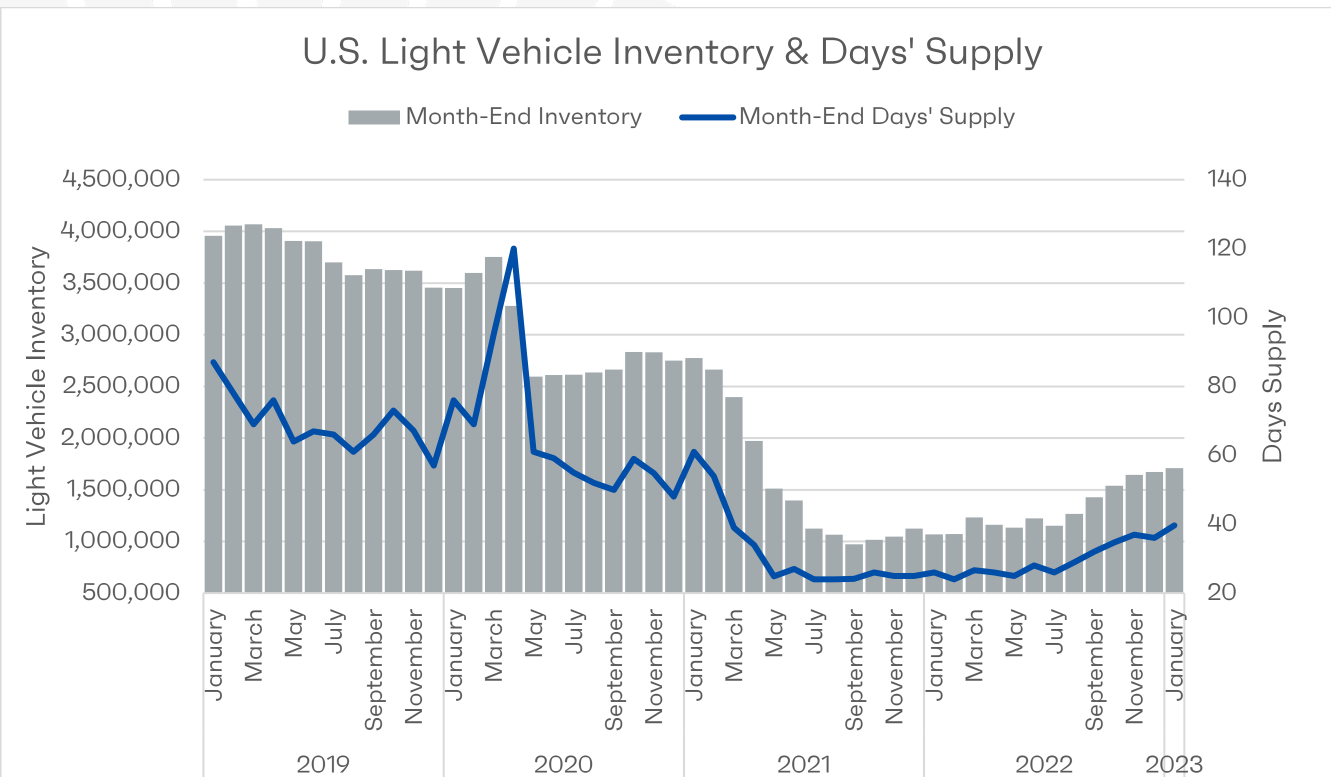
WardsIntelligence Inventory Update (2/3) [24]: "U.S. light-vehicle inventory continued its gradual climb upward in January, rising on a sequential basis for the sixth straight month to 1.71 million units.

"The increase was 2.1% above December and 59.8% higher than the same year-ago month. Days' supply increased to 40 from the prior month's 36 and January 2022's 26, but still well below the pre-pandemic norm of 80 to 85 for the month.

“Although still lean overall with what is available skewed toward pricier vehicles, rising inventory bodes well for sales. And what could continue as a trend, now that available production is rising as supply-chain issues – especially the semiconductor shortage – continue to improve, is a higher mix of affordable vehicles on dealer lots.

“For the first time since last April, the inventory mix for luxury-priced cars, CUVs and SUVs, plus fullsize trucks – also high-priced, as well as the least fuel efficient among major segment groups – fell below 50%. Although the share fell below the halfway point by just a smidgeon to 49.9%, it was the third straight month-to-month decline since 53.6% in October. The inventory share of that grouping typically ran between 35% and 40% prior to the pandemic.

“Jan. 31 inventory of domestically made vehicles totaled 1.43 million units, up 1.5% from the prior month and up 64.7% from like-2022. Days’ supply rise to 42 from December’s 38, and was up from January 2022’s 26.”



Global Meter

Global Light Vehicle Sales (Updated 2/3)

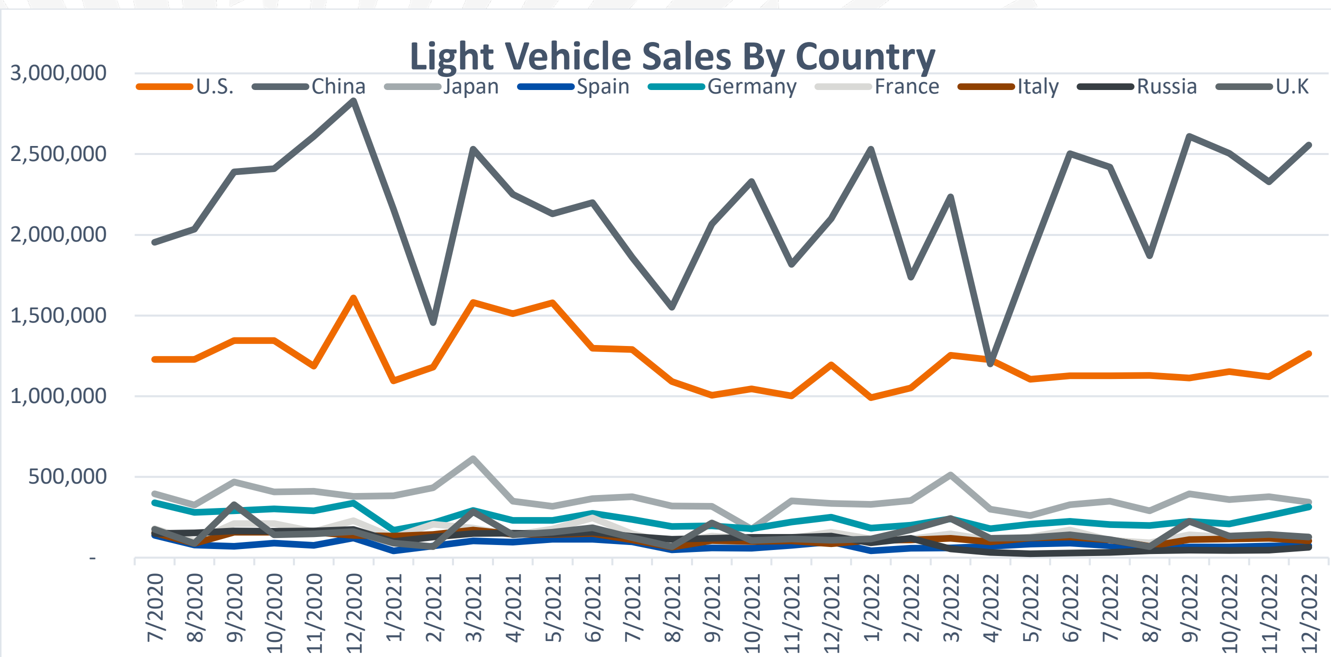
Wards Intelligence [25]**:** "Global sales volume in 2022 fell slightly from the prior year, with the downturn exacerbated by a slowdown in growth toward the end of the year, including a shortfall in December which broke a string of five year-over-year increases.

"The December slide mainly was due to a second straight decline in China, which was battling a rise in Covid-19 cases, considered to have been goosed by the government's sudden decision to end its Zero Covid policy of mandated restrictions.

"Based on the countries in Wards Intelligence's survey, and including some estimates for December, global sales of light vehicles and medium-/heavy-duty trucks fell 1.5% in 2022 to 83.14 million units from the prior year's 84.37 million. Except for 2020, when the Covid-19 pandemic first hit in full force and sales bottomed out at 77.18 million units, it was the lowest total since 82.96 million in 2014."

"Global volume in December totaled an estimated 7.53 million units, down 0.6% from like-2021's 7.58 million. It was the first decline since a 0.1% drop in June, which was the end of 12 straight downturns.

"Excluding medium-/heavy-duty trucks, light-vehicle deliveries fell 3.6% to 7.05 million units in December. For the year, LV sales fell 1.0% to 79.95 million. In 2023, Wards Intelligence partner LMC Automotive forecasts a 6% year-over-year increase in global light-vehicle sales."



Global Light Vehicle Production (Updated 2/21)

S&P Global Mobility Forecast (2/21) [26]**:** "The global auto industry continues to transition from supply constraints to a focus on more traditional demand dynamics. To be sure, supply chain conditions remain consequential, yet semiconductor availability continues to gradually improve. Demand destruction remains a concern with macroeconomic conditions and lofty vehicle pricing in some markets being critical factors. Vehicle electrification remains a key theme for major markets with new model launches forthcoming and government intervention playing an increasingly consequential role to support deployment and consumer adoption. The February 2023 forecast update reflects a mix of upgrades and downgrades, albeit mostly modest in nature, as the industry continues to navigate lingering supply chain challenges as well nascent demand recovery in select markets. The latest forecast update reflects near-term upgrades for South Asia and Europe on demand recovery and inventory restocking and other marginal upgrades elsewhere. The upward revisions are partially offset by fairly limited downward adjustments for Japan/Korea, Middle East/Africa and South America on lingering supply chain impacts and vehicle launch timing shifts, among other factors. The more noteworthy regional adjustments with the latest forecast update are detailed below:

"Europe: The outlook for Europe light vehicle production was increased by 48,000 units and reduced by 59,000 units for 2023 and 2024, respectively (and reduced by 73,000 units for 2025). While fears of production disruption related to energy inputs have abated somewhat, the flow of chips remains a challenge and there remains concern regarding the state of demand on the level of output for 2023. Nevertheless, the market has experienced an increase in activity supporting production outperformance in Q4-2022 which is expected to extend into Q1-2023. As inventories reach equilibrium in the near-term, more traditional demand fundamentals will take over and govern production activity through the near-to-intermediate term. With regard specifically to the overall volume increase for 2023, it is primarily related to an improved production outlook for Uzbekistan as we expect it to benefit further from ongoing production weakness in Russia. In the absence of significant changes in the underlying forecast assumptions and drivers, the overall forecast revisions in the near-term for Europe were fairly modest with the February 2023 update. The general theme of supply chain disruption transitioning to demand influences remains intact.

"Greater China: The outlook for Greater China light vehicle production was increased by 18,000 units for 2023 and by 57,000 for 2024 (and was increased by 66,000 units for 2025). The Chinese auto market has been significantly impacted by the nationwide COVID outbreak after the relaxation of a strict Zero-COVID policy since early December 2022. Further, combining the seasonal effect of the Chinese New Year holidays and the auto industry shutdown, January vehicle production was down nearly 40% year-over-year. Despite the reduced production, passenger vehicle inventory rebounded to an above average level with an index of 1.8 for January, reflecting the aforementioned COVID disruption as well as a demand hangover from the termination of purchase tax cuts at the end of 2022. With the near-term disruption presented by COVID spread and the Lunar New Year holiday, Q1-2023 production was reduced by 86,000 units relative to the January forecast, yet the relaxing of COVID restrictions and other consumption incentives are expected to accelerate economic recovery supporting vehicle demand and industrial output starting in H2-2023, with benefits extending into 2024. As a result, the outlook for 2024 has been upgraded and now reflects 5.6% growth for the region.

“Japan/Korea: Full-year 2023 Japan production was reduced by 4,000 units relative to last month. The first quarter of 2023 was downgraded by 3.1% relative to the prior forecast, yet much of that volume is expected to be recovered later in the year. Some automakers have been forced to reduce line rates due to a combination of factors including the ongoing semiconductor situation and supply chain and logistic disruptions associated with the easing of the Chinese government’s Zero-COVID policy. The longer-term forecast was largely unchanged with the February forecast update. Full-year 2023 South Korea production was reduced by 14,000 units relative to the previous forecast primarily due to the delayed launch of the Buick Envista from December 2022 to April 2023. The longer-term forecast was largely unchanged with the February forecast update.

“North America: The outlook for North America light vehicle production was increased by 4,000 units and by 5,000 units for 2023 and 2024, respectively (and reduced by 2,000 units for 2025). Despite concerns surrounding the ongoing volatility of the supply chain, most notably for semiconductors, and demand destruction amid recessionary fears, the outlook for 2023 remains largely unchanged, with production revised upwards only modestly to total 15.09 million units. With production in the region projected to increase 5.4% in 2023, 70% of the growth is expected to come from 10 of the 102 plants in the region. Half of those plants are ramping up all-new or redesigned vehicles with the other half expected to experience strong recovery following supply chain reduced levels in 2022. While demand destruction concerns remain pervasive, inventory rebuild is well underway and is projected to improve vehicle availability by mid-2023. Greatly improved availability may in turn stimulate demand as incentive levels are expected to increase. This situation will vary markedly by manufacturer with GM, Ford and Stellantis already facing normalized inventory levels while their Asian counterparts struggle to restock depleted inventories. Global supply chain issues are expected to continually improve with the outlook for 2024 revised nominally upward to total 15.85 million units. Further gains are expected for 2025 while the forecast was revised only slightly lower reaching 16.48 million units.

“South America: The outlook for South America light vehicle production was reduced by 4,000 units for 2023 and only marginally adjusted for 2024 (and increased by 5,000 units for 2025). The near-term outlook was reduced modestly on country mix adjustments in favor of Argentina at the expense of Brazil and the expectation that demand for the broader region will continue to face headwinds through the year. The production adjustments for 2024 and 2025 were similarly modest in nature yet continue to reflect a country mix shift benefiting Argentina notwithstanding a dynamic market environment and macroeconomic challenges.

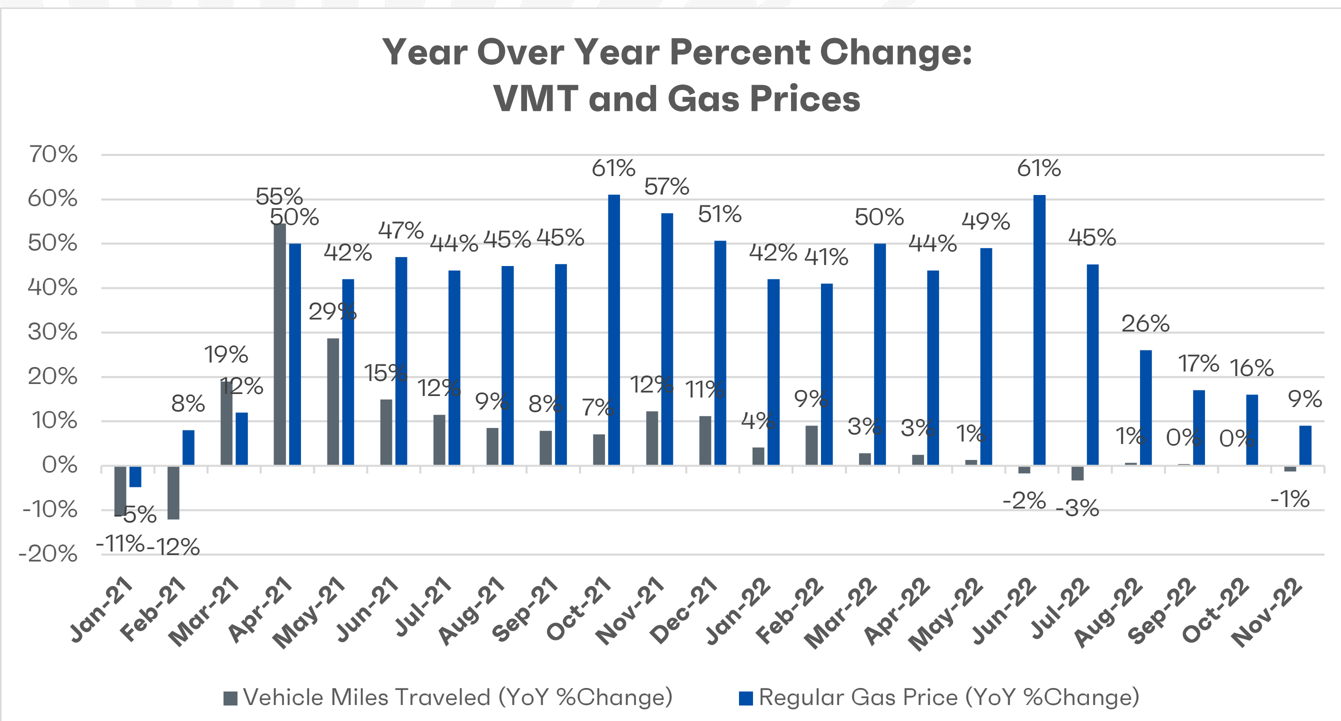
“South Asia: The outlook for South Asia light vehicle production was increased by 53,000 units and by 61,000 units for 2023 and 2024, respectively (and was increased by 29,000 units for 2025). The upgraded outlook for 2023 was largely driven by continued efforts by automakers to fulfill robust backorders during H1-2023 across the ASEAN market. On the other hand, continued strength in production for India was offset by a near-term downgrade for Pakistan as political instability and the removal of Prime Minister Imran Khan from office bring fresh challenges for the country. With regard to the ASEAN market, production in the second half of 2023 could face pressure in the form of demand headwinds presented by high inflation and interest rate hikes. The forecast for 2024 was upgraded primarily on a somewhat stronger outlook for the India and Philippines markets. The intermediate-to-long term forecast has been revised only modestly across the South Asia region.

Recovery Meter

Roadway Travel (Updated 2/3)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in November decreased 1.4% from the same time a year ago. The cumulative travel estimate for 2022 is 2,994.8 billion vehicle miles. [27]

- Travel on all roads and streets changed by -1.3% (-3.5 billion vehicle miles) for November 2022 as compared with November 2021. Travel for the month is estimated to be 264.2 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for November 2022 is 272.1 billion miles, a -1.4% (-3.8 billion vehicle miles) change over November 2021. It also represents a -1.1% change (-3.0 billion vehicle miles) compared with October 2022.
- Cumulative Travel for 2022 changed by +1.2% (+35.8 billion vehicle miles). The cumulative estimate for the year is 2,994.8 billion vehicle miles of travel.



Economic News (Updated 2/3)

Manufacturing Gained 19,000 Jobs In January, While Motor Vehicles And Parts Lost 6,500.[28] "Manufacturing boosted employment by 19,000 jobs in January, with non-durable goods doing the heavy lifting. . .. Jobs losers among durable goods included transportation equipment, down 8,400 jobs. That included a job loss of 6,500 in motor vehicles and parts.

The ISM Index Remains Below 50, The Third Straight Month Of Manufacturing Contraction. "The contraction in the manufacturing economy deepened last month, the Institute for Supply Management said today. The Tempe, Ariz.-based group's manufacturing index, known as the PMI, slipped to 47.4 percent in January. That was down from 48.4 percent the month before. An index reading above 50 percent indicates economic expansion, while below 50 percent shows contraction. The index has been in negative territory for three consecutive months. The PMI has averaged 52.7 percent the past 12 months."[29]

Consumer Confidence and Sales (Updated 2/3)

Surveys of Consumers Director Joanne Hsu[30]: "Consumer sentiment confirmed the preliminary January reading, remaining low from a historical perspective but continuing to lift for the second consecutive month, rising 9% above December and reaching about 3% below a year ago. While the short-run economic outlook was relatively unchanged from last month, all other components of the index increased in January. The current conditions index soared 15% above December, with improving assessments of both personal finances and buying conditions for durables, supported by strong incomes and easing price pressures. That said, there are considerable downside risks to sentiment, with two-thirds of consumers expecting an economic downturn during the next year. Notably, the debt ceiling debate looms ahead and could reverse the gains seen over the last several months; past debt ceiling crises in 2011 and 2013 prompted steep declines in consumer confidence.

"Year-ahead inflation expectations receded for the fourth straight month, falling to 3.9% in January from 4.4% in December. The current reading is the lowest since April 2021 but remains well above the 2.3-3.0% range seen in the two years prior to the pandemic. Long-run inflation expectations remained at 2.9%, yet again staying within the narrow 2.9-3.1% range for 17 of the last 18 months and remaining elevated relative to the 2.2-2.6% range seen in the two years pre-pandemic. Consumers continued to exhibit considerable uncertainty over both long and short-term inflation expectations, indicating the tentative nature of any declines."

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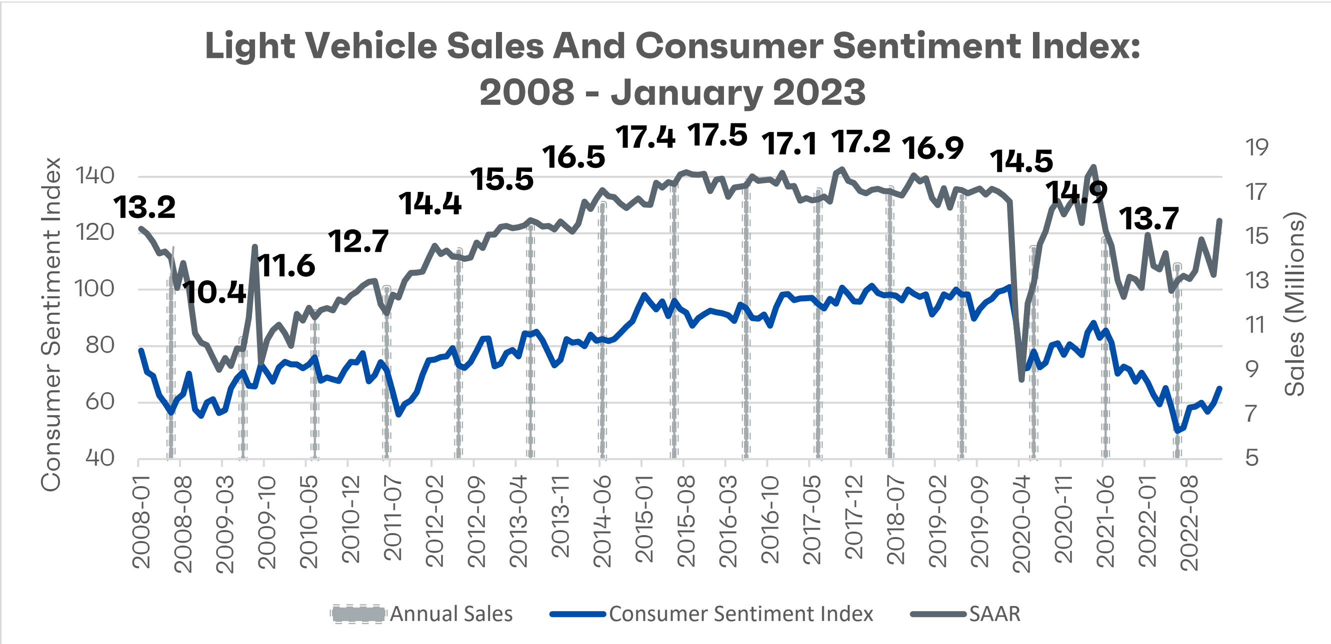

Employment (Updated 2/3)

Motor Vehicle And Parts Manufacturing Lost 6,500 Jobs In January.[31]

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. [32]

ALLIANCE FOR AUTOMOTIVE INNOVATION

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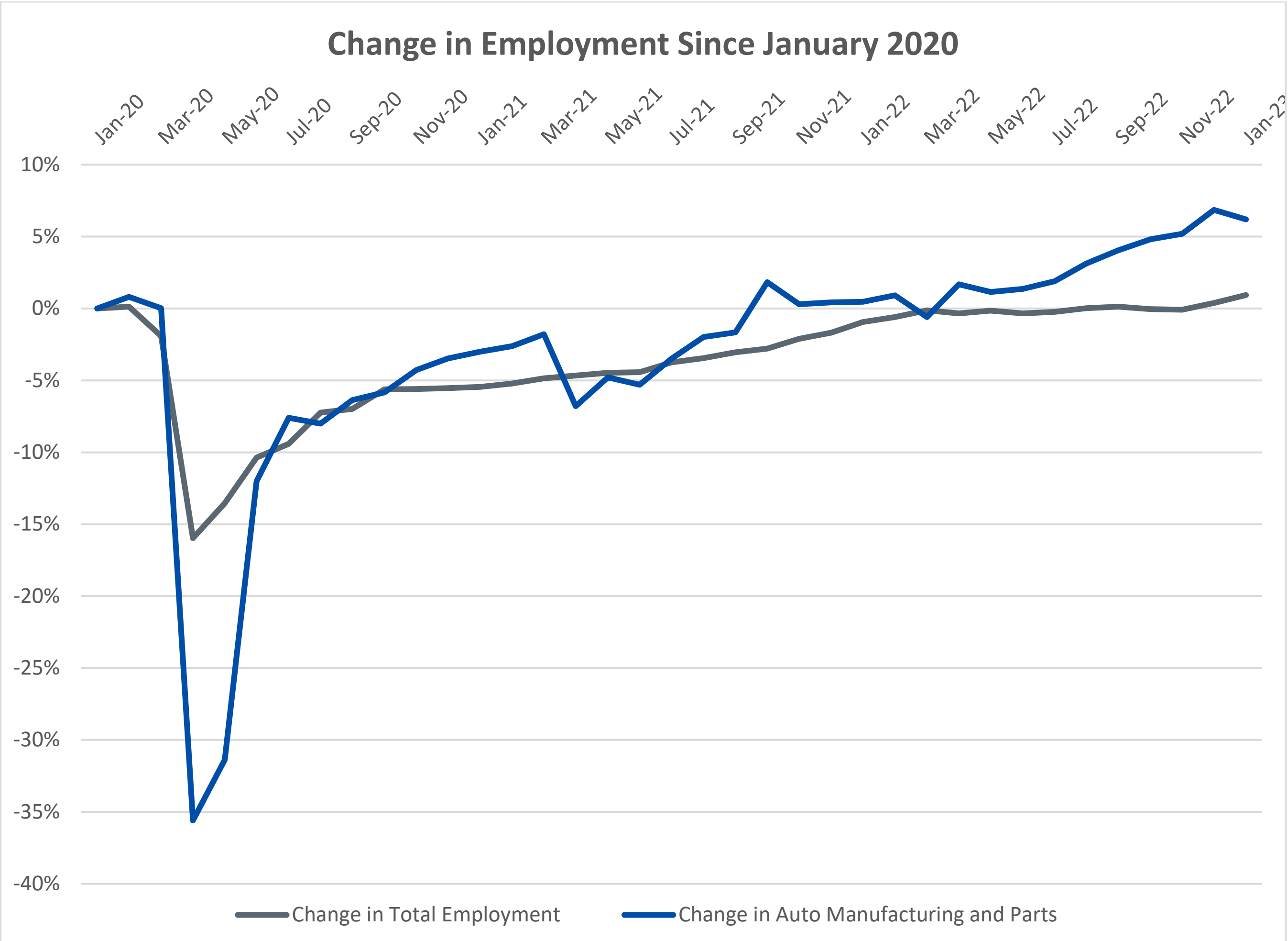
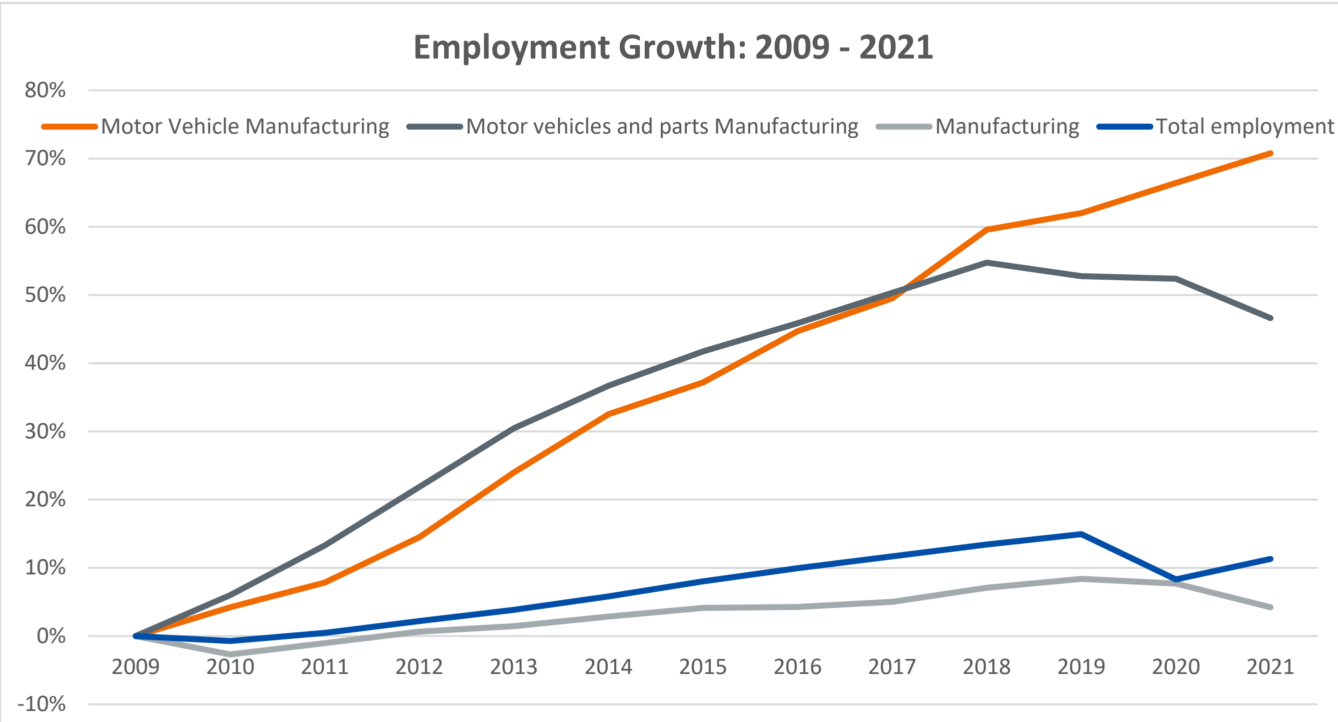


After the recession in 2009, the auto industry was credited with being on the leading edge of the recovery, which began a ripple effect through other parts of the country.[33] Additionally, the chart below shows how the recovery of jobs in motor vehicle manufacturing alone and motor vehicle and parts manufacturing far outpaced the recovery of manufacturing and total jobs.



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