

READING THE METER

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



ALLIANCE FOR AUTOMOTIVE INNOVATION

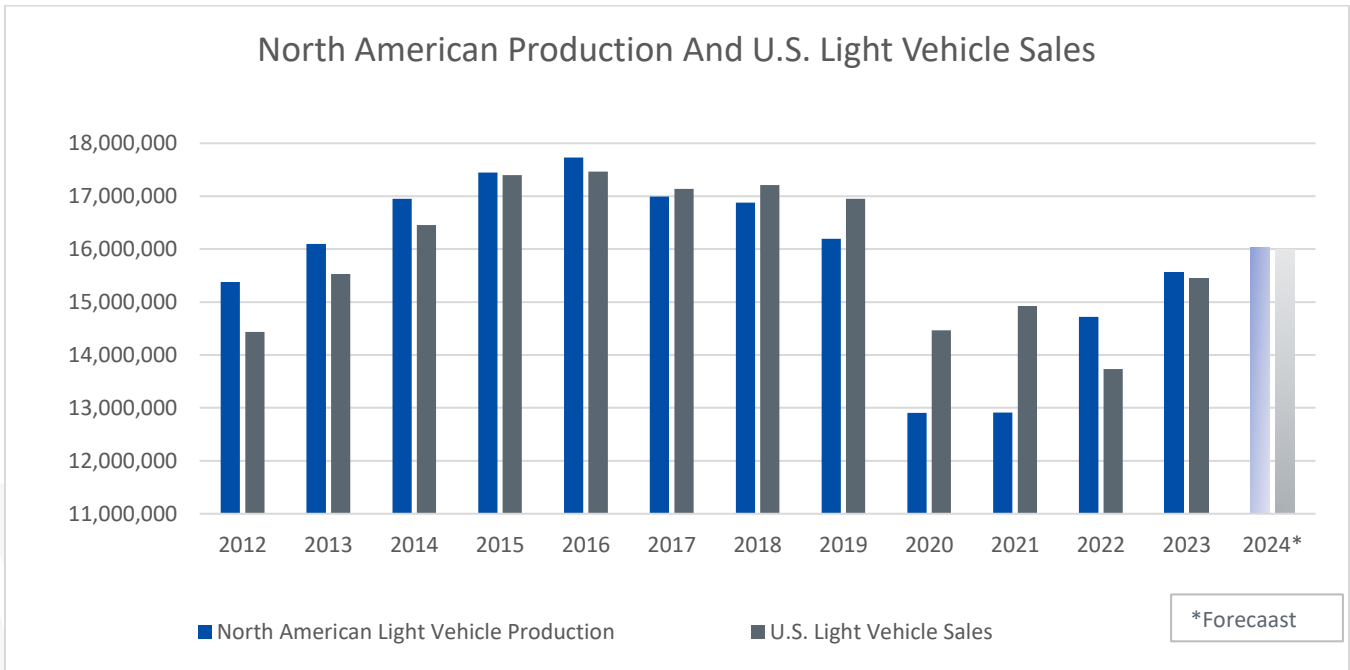
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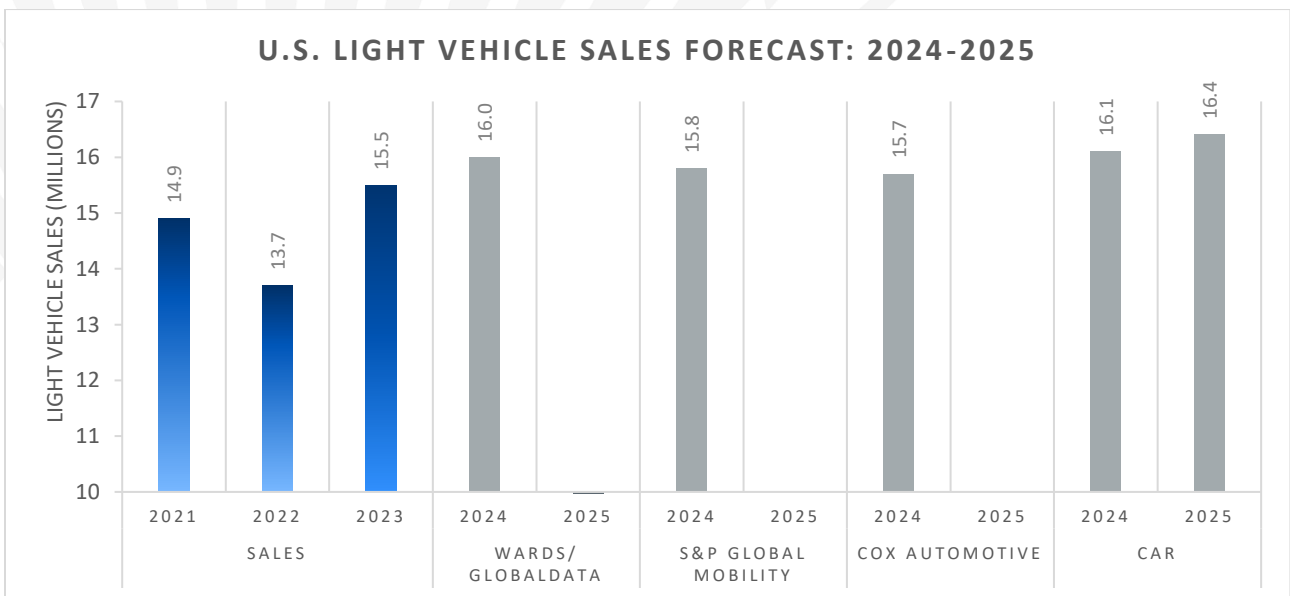
Forecast Meter

Sales & Production Summary and Forecast (Updated 8/7)

2023-2024 Sales, ¹ Extended Sales Forecast, ² and Production Forecasts. ³		
	U.S. Sales & Forecasts	North American Production
January '23	1,033,002 (+4.2% YoY)	1,195,548 (+12.9% YoY)
February '23	1,136,332 (+8.7% YoY)	1,257,482 (+15% YoY)
March '23	1,365,966 (+8.6% YoY)	1,442,991 (+6.7% YoY)
April '23	1,347,159 (+13.1% YoY)	1,281,626 (+8.6% YoY)
May '23	1,362,019 (+18.0% YoY)	1,462,273 (+25.5% YoY)
June '23	1,370,976 (+19.9% YoY)	1,387,090 (+13.8% YoY)
July '23	1,299,199 (+19.9% YoY)	1,173,342 (+15.6 YoY)
August '23	1,328,526 (+12.8% YoY)	1,467,284 (+4.5% YoY)
September '23	1,331,952 (+13.9% YoY)	1,353,072 (+7.6% YoY)
October '23	1,200,286 (+5.7% YoY)	1,388,720 (+4.5% YoY)
November '23	1,218,647 (+7.3% YoY)	1,372,253 (+8.1 YoY)
December '23	1,433,266 (+17.3 YoY)	1,082,176 (-2.3% YoY)
January '24	1,076,047 (-1.3% YoY)	1,327,765 (+7.8% YoY)
February '24	1,247,516 (+5.2% YoY)	1,358,836 (+10% YoY)
March '24	1,438,012 (+4.6% YoY)	1,414,502 (-5.7% YoY)
April '24	1,313,512 (+0.6% YoY)	1,473,567 (+15.9% YoY)
May '24	1,429,028 (+0.8% YoY)	1,485,373 (-1.7% YoY)
June '24	1,321,932 (-3.4% YoY)	1,346,584 (-6.1% YoY)
July '24	1,273,115 (-2.0% YoY)	
2023 Full Year	15,457,447 (+12.4% YoY)	16,144,461 (+9.3% YoY) (U.S. 10,611,580)
2024 Estimate	16.1 M	16.0 M (U.S. 10.8M)



U.S. Light Vehicle Sales Outlook (Updated 7/9)



Wards Intelligence Outlook (6/5): “Third-quarter U.S. light-vehicle sales should get a jumpstart of sorts because of delayed sales created in June from a cyberattack on software used by dealers to finalize transactions and service orders.

“The estimated reduction in June sales of 50,000 units meant that inventory entering July was artificially higher because of vehicles still on dealer lots that otherwise would have been sold.

“Sales in the entire third quarter are forecast for volume of 4.04 million units, 2.1% above the year-ago period. The volume equates to a SAAR of 16.3 million units, up from 15.7 million in both Q2-2024 and like-2023.”

Cox Automotive Forecast (6/26):⁵ “Cox Automotive forecasts U.S. new-vehicle sales in June to show mild improvement over last year, but high prices and interest rates continue to hinder a stronger market. In June, the seasonally adjusted annual rate (SAAR), or sales pace, is expected to finish near 16.0 million. This is down slightly from last June’s 16.1 million level and a modest uptick from last month’s 15.9 million pace.

“According to Cox Automotive’s Kelley Blue Book estimates, new-vehicle sales volume through the first half of 2024 is forecast to increase by nearly 225,000 units compared to the first half of 2023 – an increase of 2.9%. The sales pace through the first half is expected to be 15.6 million, up from 15.4 million in the first half of 2023.

“With expectations of uncertainty in the second half of 2024, Cox Automotive is holding its full-year new-vehicle sales forecast steady at 15.7 million, a gain of 1.3% from 2023, when sales finished at 15.5 million. This increase is aligned with the slow growth expected in 2024. Fleet sales are forecast to finish the year at 2.9 million, up from 2.8 million in 2023. Full-year retail sales are forecast to increase from 12.8 million in 2024 to 12.7 million in 2023.”

J.D. Power (6/26):⁶ “New-vehicle retail sales for June 2024 are expected to decrease when compared with June 2023. Retail sales of new vehicles are expected to reach between 1,009,845 and 1,073,000 units, a 2.5% to 8.2% decrease. New-vehicle retail sales for the first six months 2024 are projected to reach between 6,273,900 and 6,337,000 units, a 0.6% to 1.6% increase from the first six months of 2023 on a selling day adjusted basis. Comparing the same sales volume without adjusting for the number of selling days translates to an increase of 1.9% to 2.9% from a year ago.”

North American Production & Inventory Outlook (Updated 8/7)

Wards Intelligence Production Outlook (8/7):⁷ “Sluggish growth in demand for new vehicles in the U.S. is playing out in the form of production slowdowns aimed at managing rising inventory levels. . . . In fact, production has been in decline since the spring. After a 2.4% year-over-year increase in Q1, and a hefty 16% gain in April, North America light-vehicle output declined year-over-year in both May and June and is expected to decline again in July.

“Wards Intelligence/GlobalData cut 103,900 units from the Q3 North America light-vehicle forecast, as well as 22,500 from Q4. Year-over-year growth is forecast to resume in August but start to weaken again by the end of the year. If demand in the U.S. fails to soon elevate above the 15.6-million-unit seasonally adjusted annual rate they generally have flattened at since Q2-2023, more severe production slowdowns might be on tap.”

S&P Global Mobility Outlook (7/22):⁸ “North America: The outlook for North America light vehicle production was reduced by 125,000 units and by 256,000 units for 2024 and 2025, respectively (and reduced by 90,000 units for 2026). The outlook for North American light vehicle production has been revised down over the short-term horizon on the need for a greater inventory correction that is predominantly centered around the Detroit 3 manufacturers of GM, Ford and Stellantis where inventory for many vehicles is at excessive levels. Production in 2024 was revised down 0.8% as more proactive plant level actions, such as line rate and shift reductions and downtime are incorporated into the forecast that cascade into 2025. Manufacturers are for the first time in over four years grappling with market realities compared to years of struggling to produce

vehicles. Several manufacturers, particularly GM, Ford and Stellantis, are struggling to balance their sales, production, inventory and incentives targets as the market returns to more normal dynamics. Production in North America for 2025 was revised down a fairly significant 1.6% as part of the larger inventory correction process, particularly for the Detroit 3 automakers. The outlook for 2026 was revised down 0.5% on vehicle program re-timings and revised launch curves for several new vehicles, most notably for the launch of the Ram 1500 in Mexico.”

Wards Intelligence Inventory Outlook (7/9)⁹: “Inventory will decline at the end of July from June, mainly because several North America plants close for one to two weeks for vacation or tooling changes for model-year changeovers.

“Inventory is expected to remain relatively flat in August before posting steady month-to-month increases through November – inventory typically declines in December because of widespread production slowdowns due to the holiday season.

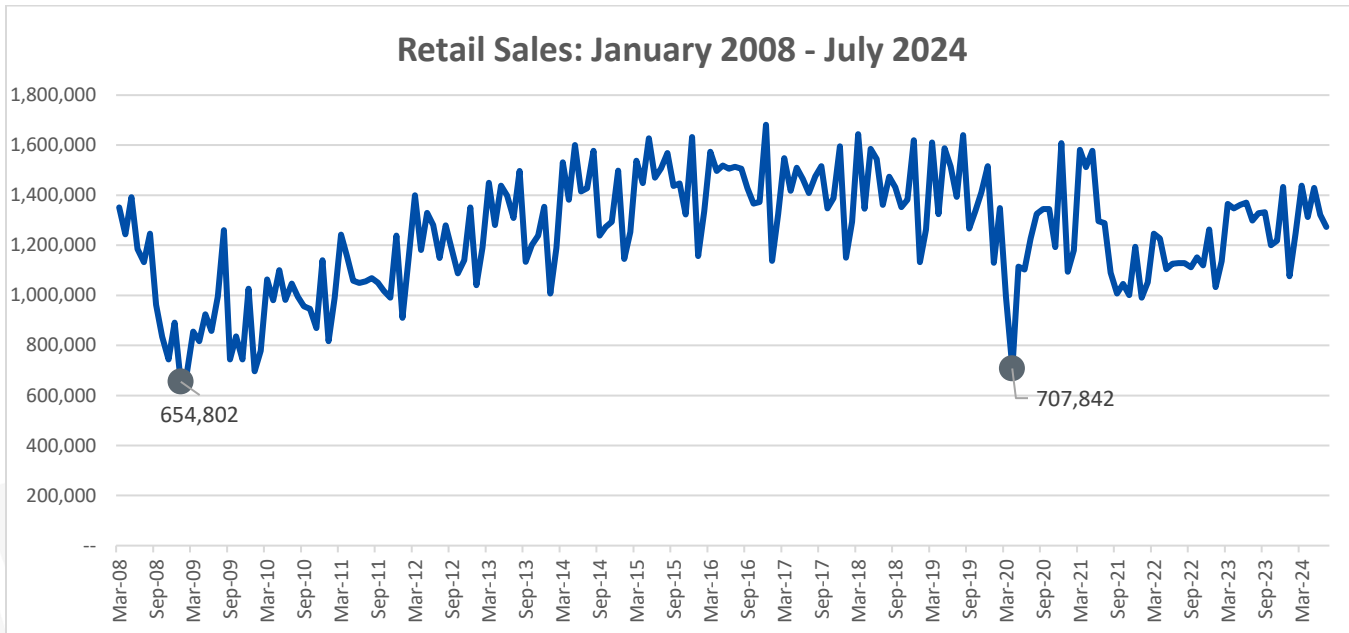
“Inventory is forecast to end the third quarter at 2.87 million units, up 39.0% year-over-year, and end the year at 2.80 million, up 21.5%.

Market Meter

U.S. Light Vehicle Sales (Updated 8/7)

Monthly Sales (Updated 8/7)

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.



July Sales (Updated 8/7)

WardsIntelligence¹⁰: “U.S. light-vehicle sales disappointed in July, falling below expectations by totaling a 15.8 million-unit seasonally adjusted annual rate, an improvement on June’s five-month-low 15.3 million but below like-2023’s 15.9 million.

“The kicker is that the month did not see the rebound expected after June’s SAAR fell to a 5-month-low 15.3 million units, in part due to some sales not consummated because of a cyberattack on software some dealers use to complete transactions, among other functions.

“After posting a 14.9 million-unit SAAR in January, sales over the next four months averaged a total of 15.7 million. Instead of rebounding even higher above June’s total to at least even out the past two months with the February-May average, July’s results were nearly flat with that 4-month period. July’s total also is further indication that the cyberattack did not have as much of a negative impact on June’s results as initially thought.

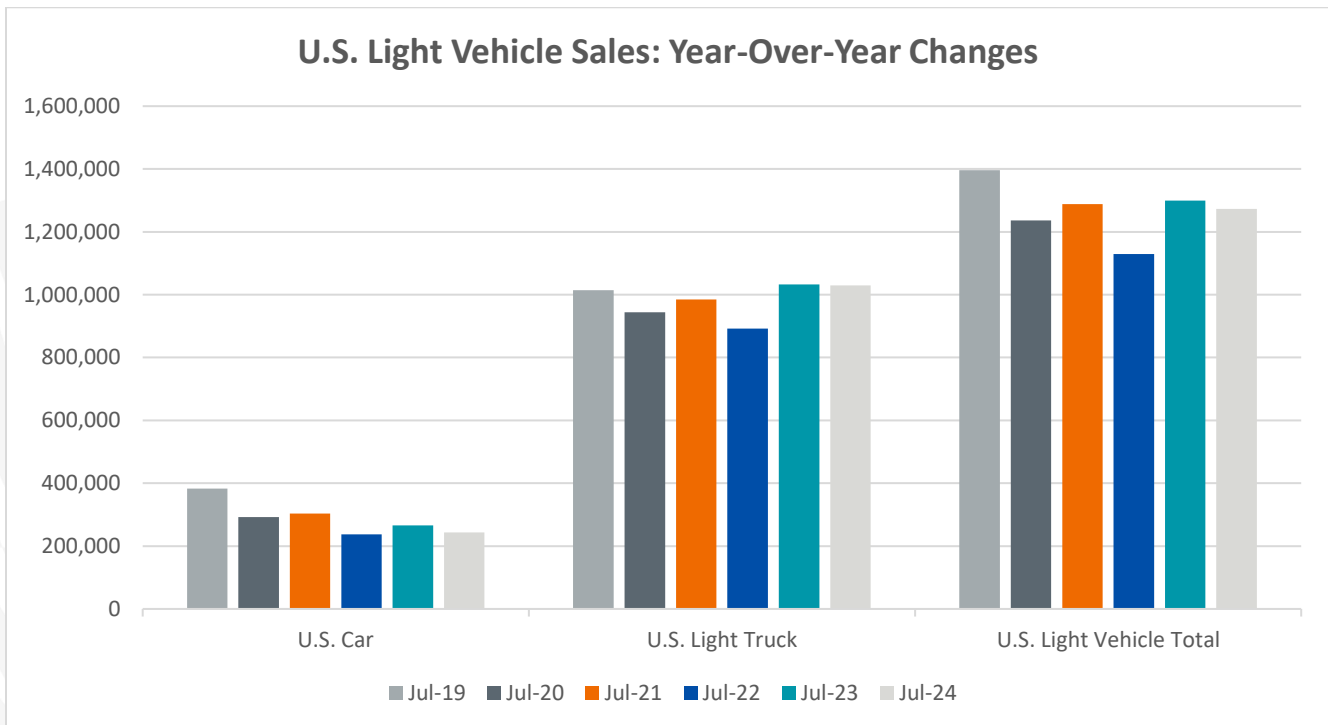
“With inventory rising steadily, a lack of affordable vehicles and fresh mainstream products on dealer lots appear to be what’s keeping sales from elevating to a new level. July’s SAAR was not much better than the 15.7 million units averaged over the prior 12 months through June. Also, 12-month trailing sales volume has been stuck at 15.7 million units since March – including through July.

“Furthermore, as it relates to the mix of affordable vs. pricier vehicles, most of the pent-up demand built up since 2020 with the start of the pandemic/supply-chain disruptions is in lower-priced segments. Not only has there been a decline in the number of entry-priced vehicles offered in the market over the past four years, but because automakers skewed limited production capacity in the 2021-2022 timeframe of the semiconductor shortage toward profitable, higher priced vehicles, more demand was satiated for those vehicles relative to lower cost models.

“Raw volume in July totaled 1.273 million units, 2.0% below like-2023’s 1.300 million. The daily selling rate was 50,925, down from the year-ago total of 51,971 – 25 selling days both periods.

“July was the second straight month volume fell from the same year-ago period. Prior to June, raw volume had increased each month in 2024, while the DSR last declined in January.

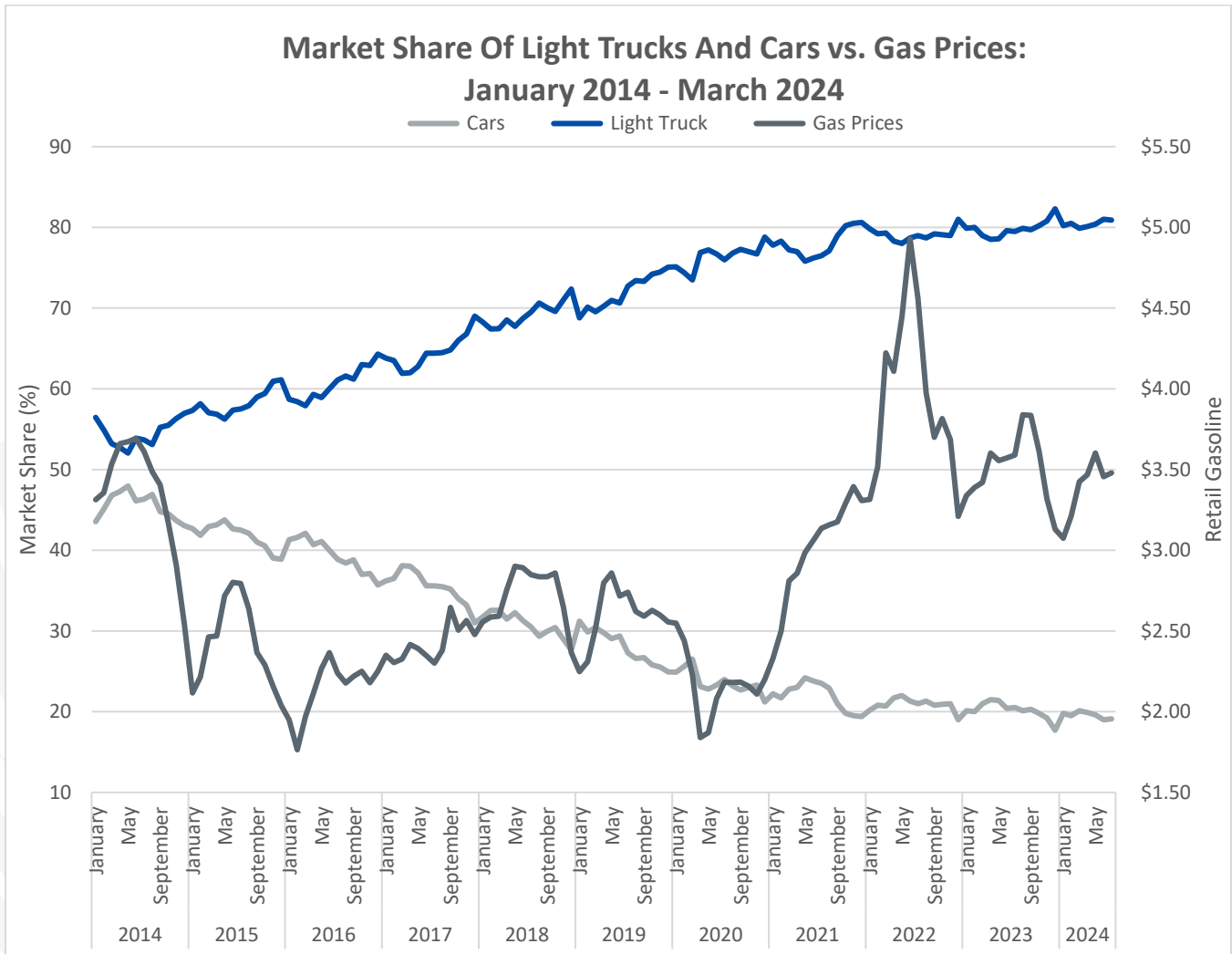
“Calendar year-to-date sales through July totaled 9.08 million units, 1.4% above like-2023’s 8.95 million. The year-to-date SAAR through July totaled 15.6 million units, slightly above like-2023’s 15.5 million.”



Segments vs. Gas Prices (Updated 8/7)

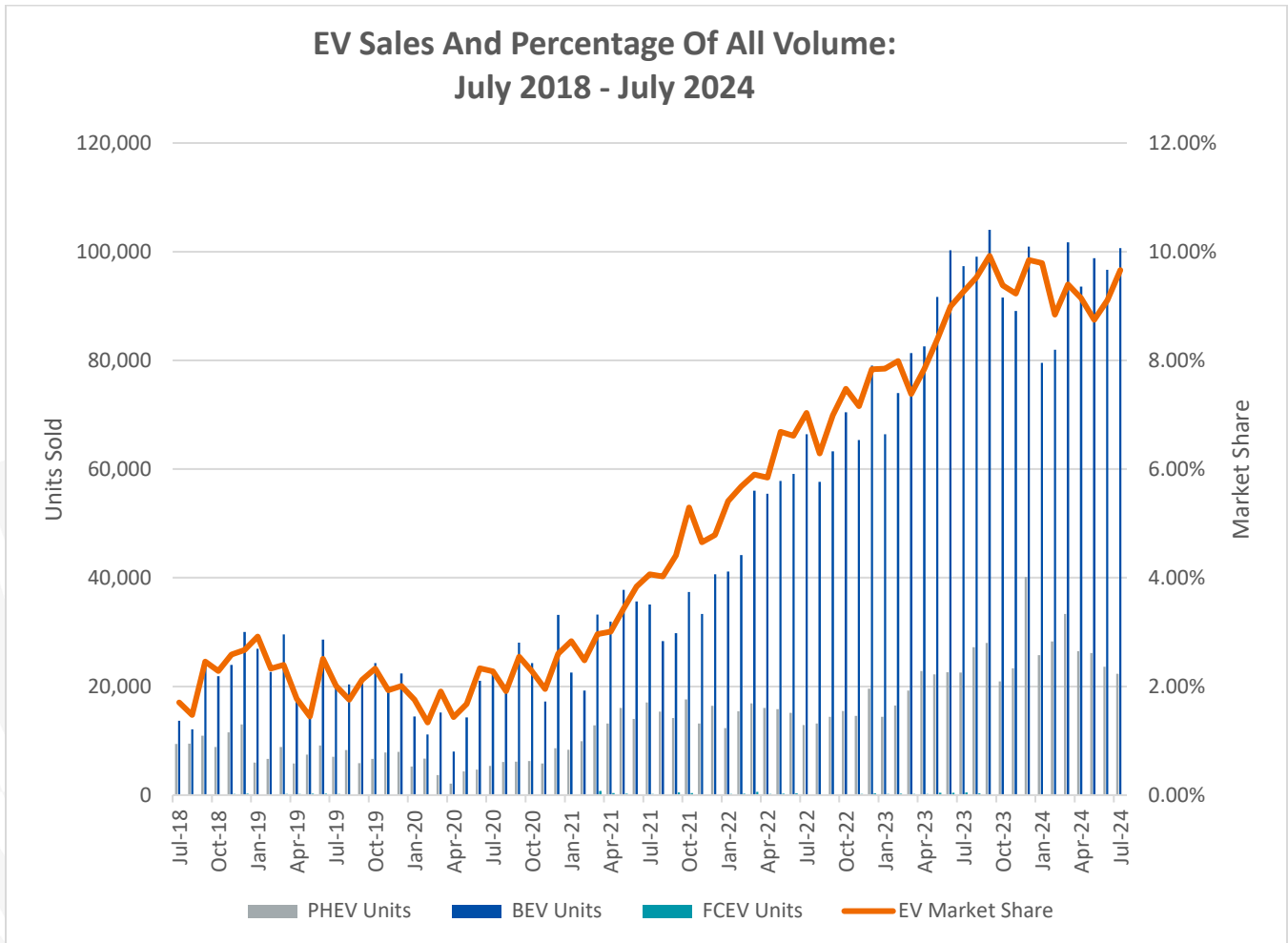
Monthly Sales For July: Light trucks accounted for 81 percent of sales in July, up slightly from the market share a year ago. Compared to the same period in 2023, sales of cars are down by 22,706 units, and down more than 139,000 from July 2019, when cars comprised 27% of the market as opposed to the 19 percent 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 \$2.92 a gallon (through July 2024) 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



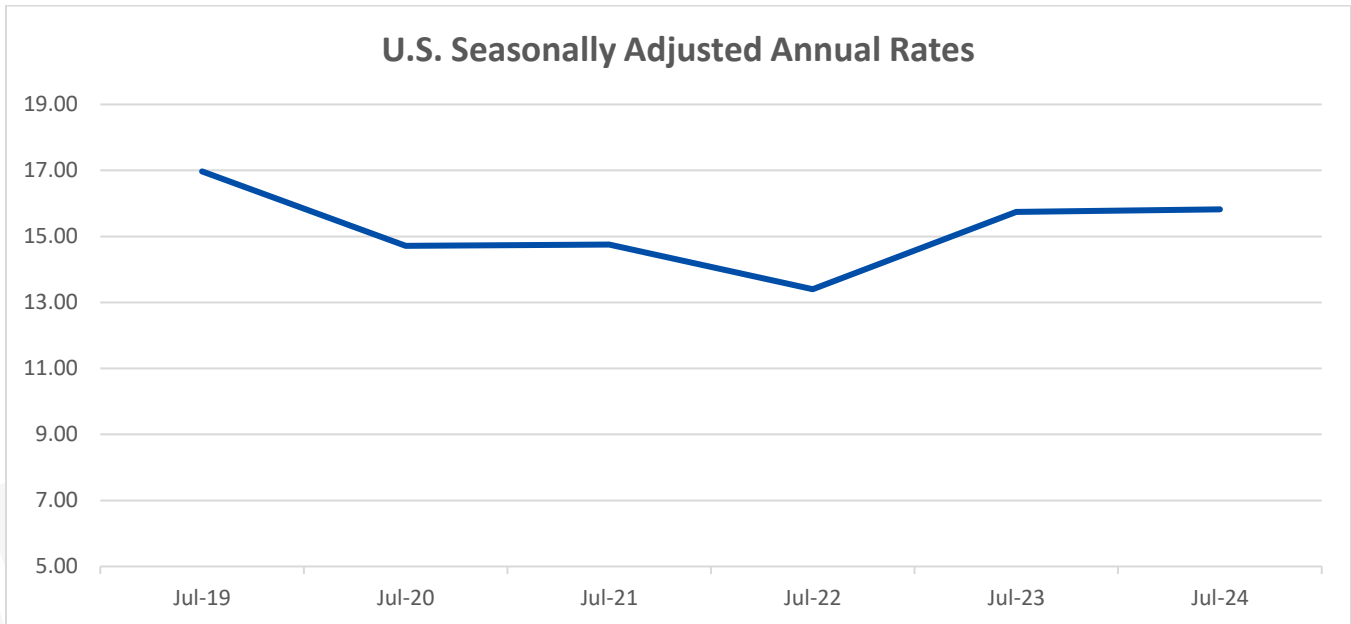
EV Powertrain Sales (Updated 8/7)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 9.7 percent of total vehicle sales in July 2024 (123,025), per Wards estimates. Market share increased 0.56 percentage points (pp) from June 2024. July's EV market share is up 0.4 pp from a year ago. Sales of battery electric vehicles led the way for EVs, accounting for 7.9 percent of total sales, up 4.2 pp from July 2023. Plug-in hybrids accounted for 1.75 percent, up 0.02 pp from the same time last year.¹⁴



Seasonally Adjusted Annual Rates (Updated 8/7)

WardsIntelligence¹⁵: “U.S. light-vehicle sales disappointed in July, falling below expectations by totaling a 15.8 million-unit seasonally adjusted annual rate, an improvement on June’s five-month-low 15.3 million but below like-2023’s 15.9 million.”



Average Transaction Price (Updated 8/7)

J.D. Power (Updated 8/7)¹⁶: “The average new-vehicle retail transaction price is declining compared with a year ago due to higher manufacturer incentives, larger retailer discounts and rising availability of lower-priced vehicles increases. Transaction prices are trending towards \$44,271—down \$1,166 or 2.6%—from July 2023.”

Note: JKBB’s June ATP update unavailable as of 8/7

Kelley Blue Book (May) (Updated 6/26)¹⁷: “New-vehicle prices in May remained lower year over year for the eighth consecutive month, as higher inventory levels continued to hold downward pressure on transaction prices. Last month, according to estimates by Kelley Blue Book, the average transaction price (ATP) for a new vehicle in the U.S. was \$48,389, statistically unchanged from the downwardly revised price of \$48,368 in April. The new-vehicle ATP in May was lower year over year by 0.9%, approximately \$442.

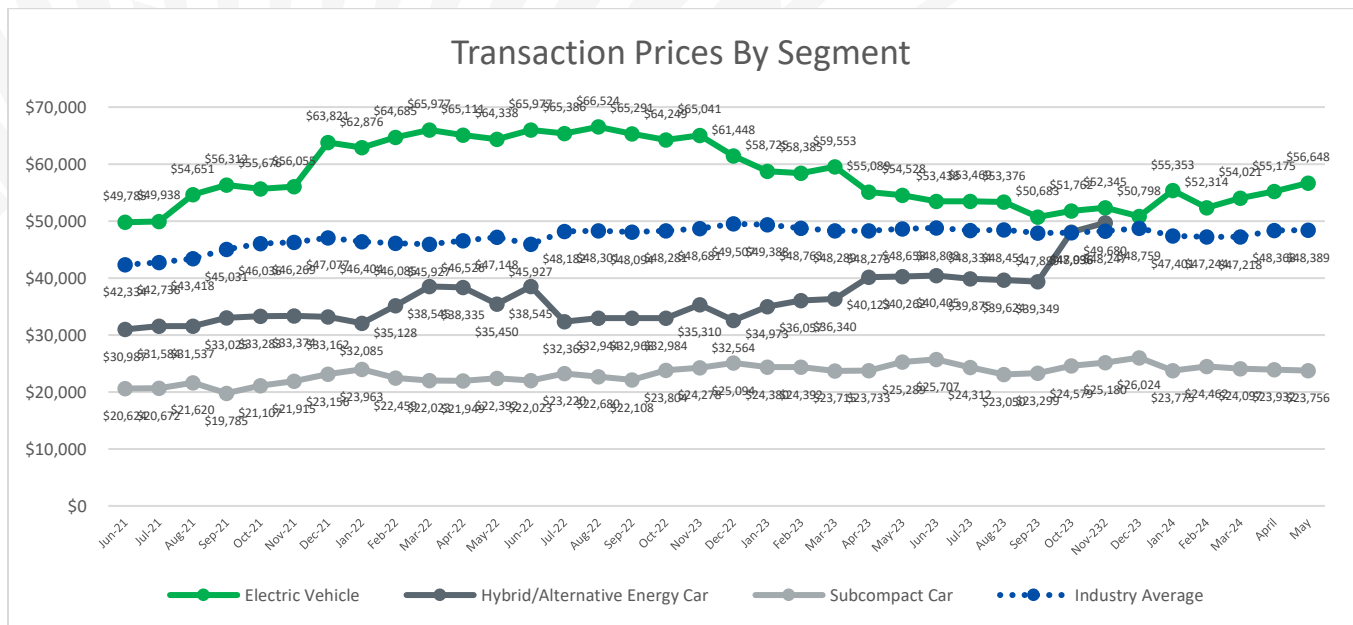
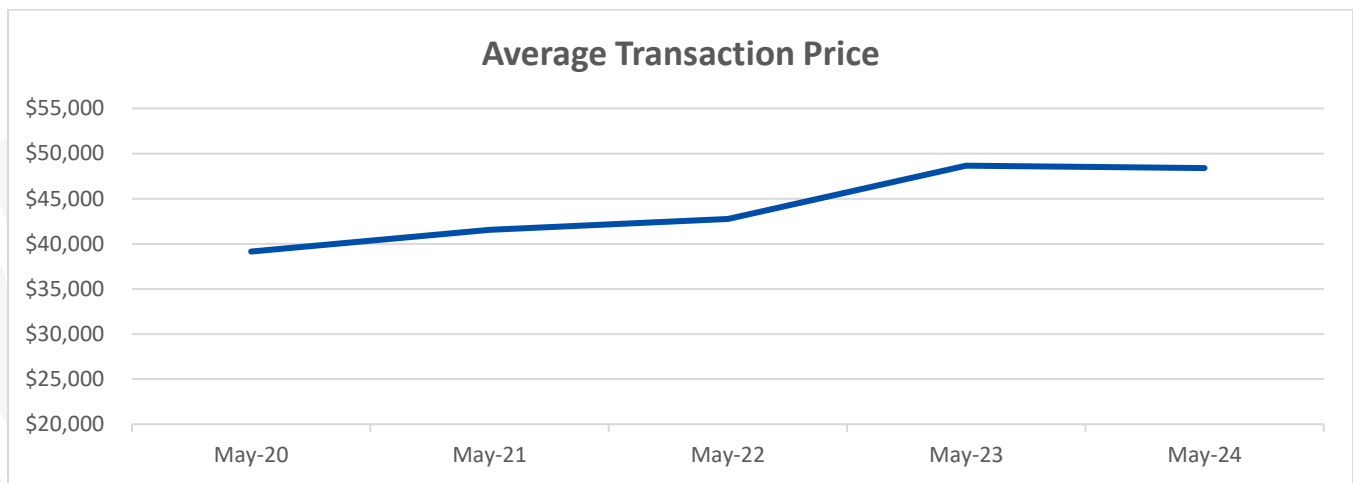
“Higher incentives helped make new vehicles more affordable in May. The average new-vehicle incentive package – discounts and rebates included – last month was 6.7% of the average transaction price, according to Kelley Blue Book estimates, an increase from April and the highest level since May 2021. Incentives in May were approximately \$3,200, notably higher than one year ago when discounts were measured at 4.0% of ATP.

“Tesla prices, which bottomed out in late 2023, are estimated to have increased by 3.1% month over month to \$57,369 in May. Prices were higher year over year by 1.5%. Since January, when Tesla ATPs stood at \$51,892, the EV maker’s average transaction price has increased by more than 10%, lifted in some part by growing Cybertruck sales – an estimated 3,000 were sold in May. Average transaction price: \$108,667.

“As Tesla is a bellwether for the overall EV market – with a nearly 50% share of total EV sales – overall EV transaction prices also increased in May. The average price paid for an electric vehicle in May was \$56,648, which is 2.6% higher than in April. Unlike Tesla, though, industry-wide EV prices in May were lower year over

year by 4.1%. EV incentives continue to run much higher than the overall market. In May, the average incentive package for an electric vehicle was 12.4% of the ATP, up from April and 5.7 percentage points higher than the industry average.

“Overall, new EV prices peaked in the summer of 2022, during the last gas price surge, and have since generally been on the decline. This year, EV prices have been volatile on a month-to-month basis and fell to a low in March before increasing again in April and May. EV ATPs in May were approximately 17% higher than the industry average ATPs. One year ago, the EV premium was 21%.”

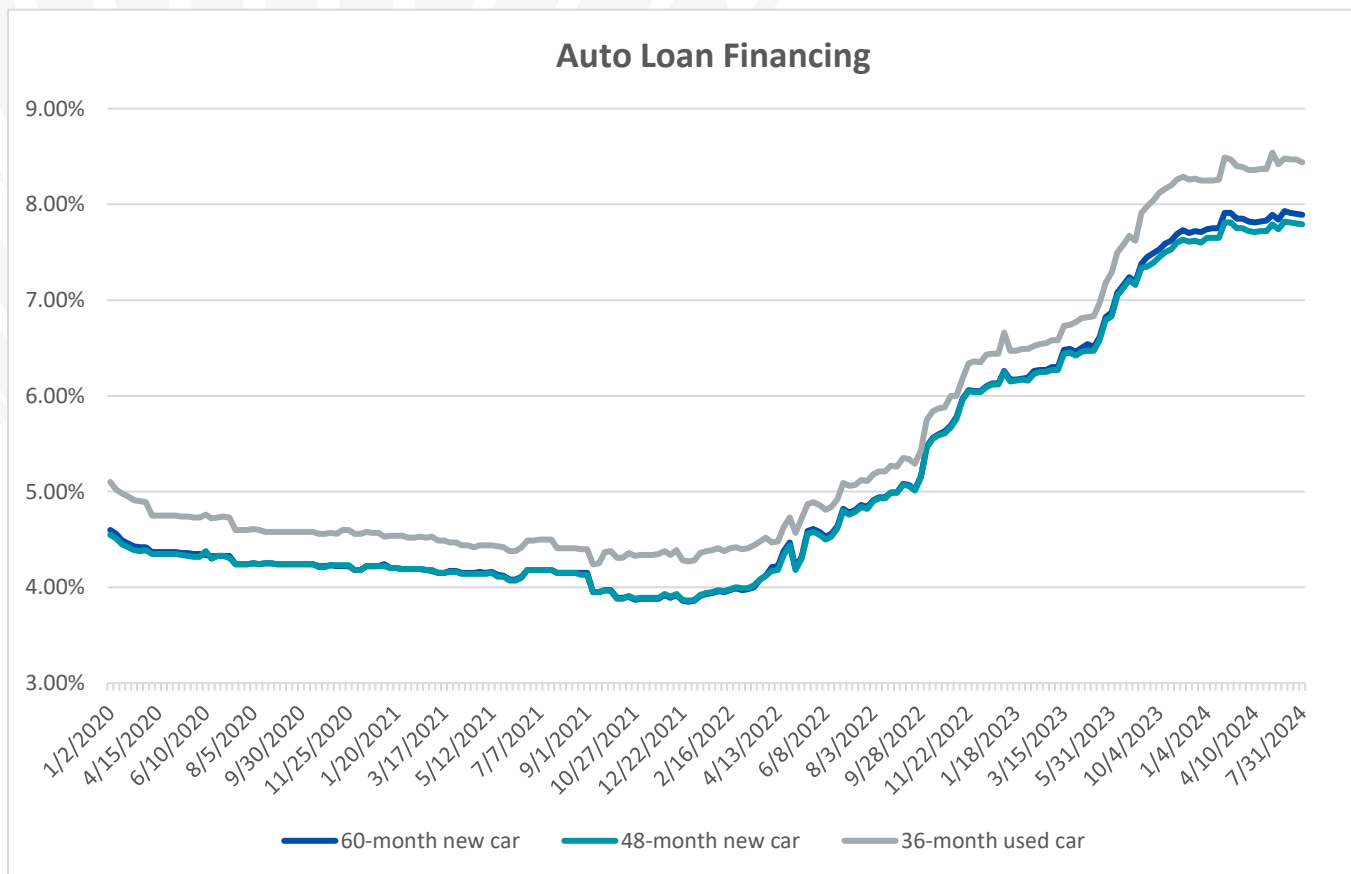


Auto Loan Financing (Updated 8/7)

Interest Rates (updated 8/7): Interest rates dipped slightly on the 60-month, 48-month and the 36-month used car loans over the past two weeks. Rates now stand at 7.89%, 7.79%, and 8.44%, respectively. Since the beginning of 2020, 60-month rates are up 3.29 pp, and are up 0.70 pp since the same time a year ago.¹⁸

JD Power (8/7)¹⁹: “Average monthly finance payments this month are on pace to be \$727, up \$5 from July 2023. The average interest rate for new-vehicle loans is expected to be 6.90%, flat from a year ago.”

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
8/3/2023	7.19%	7.16%	7.62%
7/17/2024	7.90%	7.80%	8.47%
7/31/2024	7.89%	7.79%	8.44%
Two Week Change	-0.01%	-0.01%	-0.03%
Change since 1/3/20	3.29%	3.24%	3.34%
One Year Change	0.70%	0.63%	0.82%

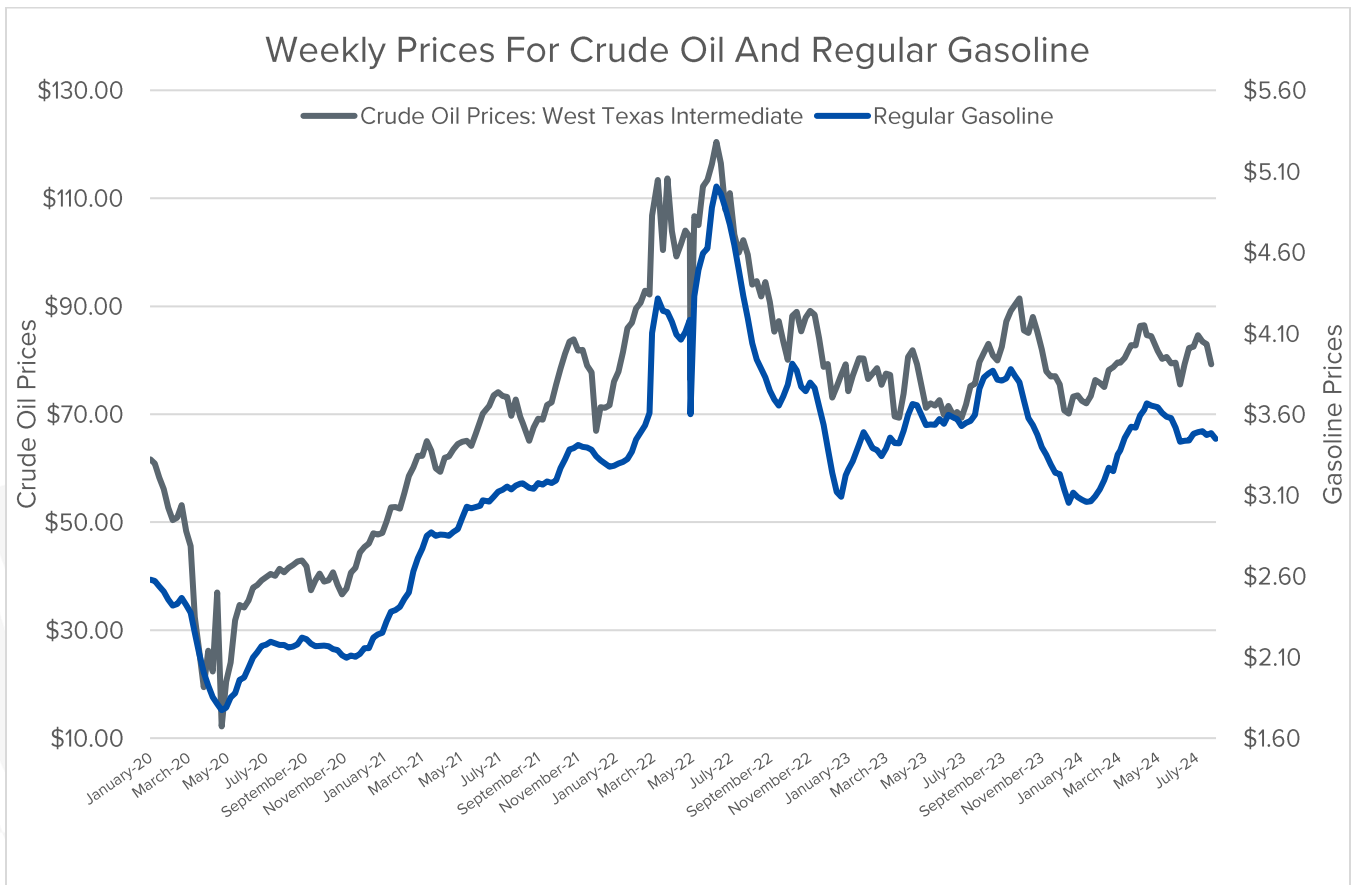


Crude Oil and Gas Prices (Updated 8/7)

Gas And Oil Remain Elevated (8/7): Oil prices, as benchmarked at West Texas Intermediate were \$79.26, down \$3.72 since the middle of July. Since election day 2020, oil prices are \$47 a barrel higher. Gas is down slightly from a week ago at \$3.45. Gas is 34% higher than the beginning of 2020 and has not been below \$3 a gallon since May 2021.²⁰

EIA Outlook For Oil (8/7):²¹ “Crude oil prices. Although crude oil prices have fallen recently, we continue to expect crude oil prices will rise in the second half of 2024 (2H24). The Brent crude oil spot price ended July at \$81 per barrel (b), compared with an average for the month of \$85/b. We expect the Brent price will return to between \$85/b and \$90/b by the end of the year. Rising crude oil prices in our forecast are the result of falling global oil inventories. We estimate global oil inventories decreased by 0.4 million barrels per day (b/d) in 1H24 and will fall by 0.8 million b/d in 2H24. Inventory withdrawals stem in part from ongoing OPEC+ production cuts. Although we expect crude oil prices to rise in the coming months, our forecast for the annual average Brent crude oil price in 2025 is down from a forecast of \$88/b in our July STEO, owing mostly to reduced oil consumption.”

EIA Outlook For Gasoline (7/9):²² “We forecast regular-grade gasoline prices will average around \$3.50 per gallon in 2025 and gasoline consumption will average 8.9 million b/d. Continued increases in vehicle efficiency mean U.S. drivers will drive more miles in 2025 than before, but we expect 1% less U.S. gasoline consumption than in 2023 and 5% less than the record set in 2018.”



Production Meter

U.S. Light Vehicle Inventory and Days' Supply (Updated 8/7)

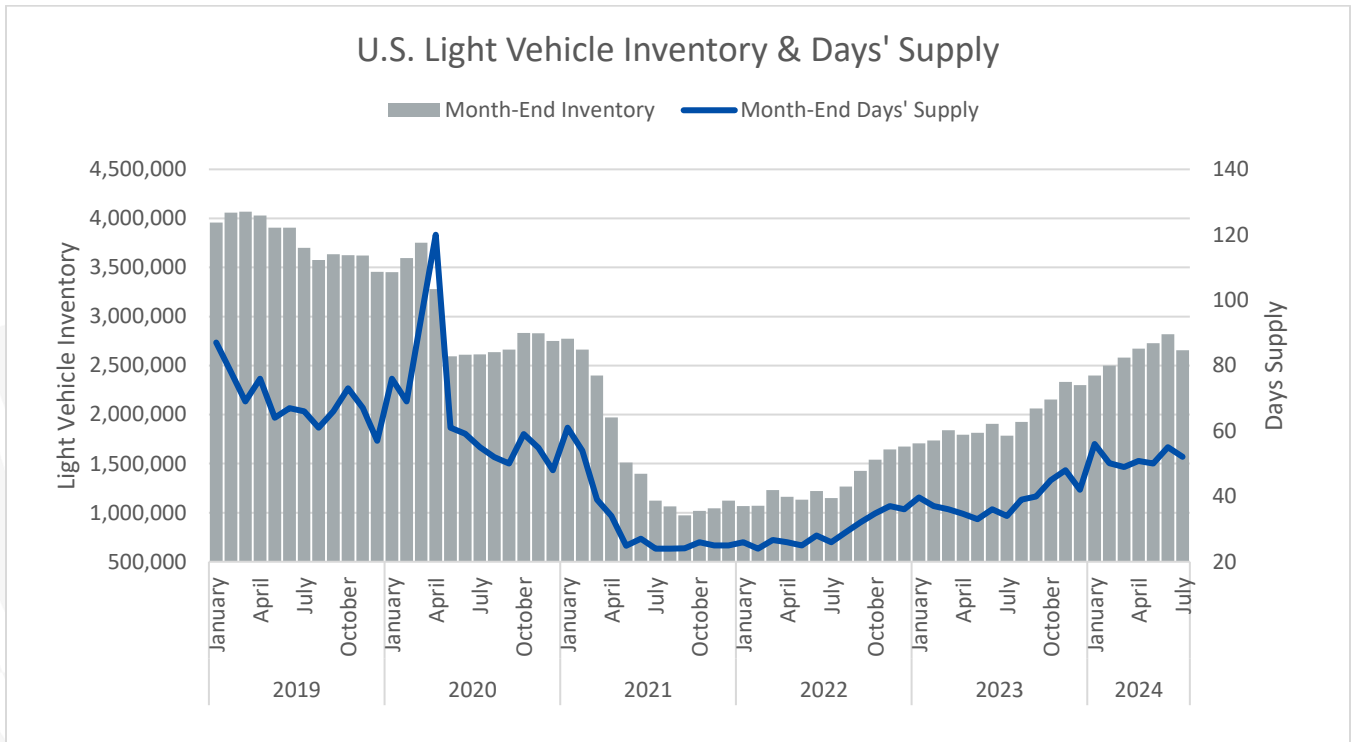
WardsIntelligence Inventory Update (8/7)²³: “Sluggish growth in demand for new vehicles in the U.S. is playing out in the form of production slowdowns aimed at managing rising inventory levels.

“U.S. light-vehicle inventory ended July totaling 2.65 million units, 48.4% above like-2023 but roughly 40,000 below expectations. The subpar outcome was despite sales falling short of projections in July, meaning deliveries drained fewer vehicles from dealer lots, which ostensibly should have left end-of-July inventory above WI’s forecast.

“That inventory fell further than anticipated from June’s 2.80 million units – July inventory typically falls from June due to summer-related shutdowns at most plants – indicates North America production, the source for over three-fourths of U.S. sales volume, weakened significantly last month.

“In fact, production has been in decline since the spring. After a 2.4% year-over-year increase in Q1, and a hefty 16% gain in April, North America light-vehicle output declined year-over-year in both May and June and is expected to decline again in July.

“July 31 days’ supply totaled 52, down from June’s 56 but above like-2023’s 34. It was the highest days’ supply for July since 54 in 2020. In 2019, the year prior to the onset of the pandemic and subsequent supply-chain disruptions that decimated inventory levels, July posted a 66 days’ supply.”



North American Production (Updated 7/22)

Wards Intelligence²⁴: “North America production of light vehicles and heavy-/medium-duty trucks combined increased year-over-year for the ninth consecutive quarter in Q2-2024, while Q3 is tracking to become the first quarterly period to outperform pre-Covid 2019 in nearly four years.

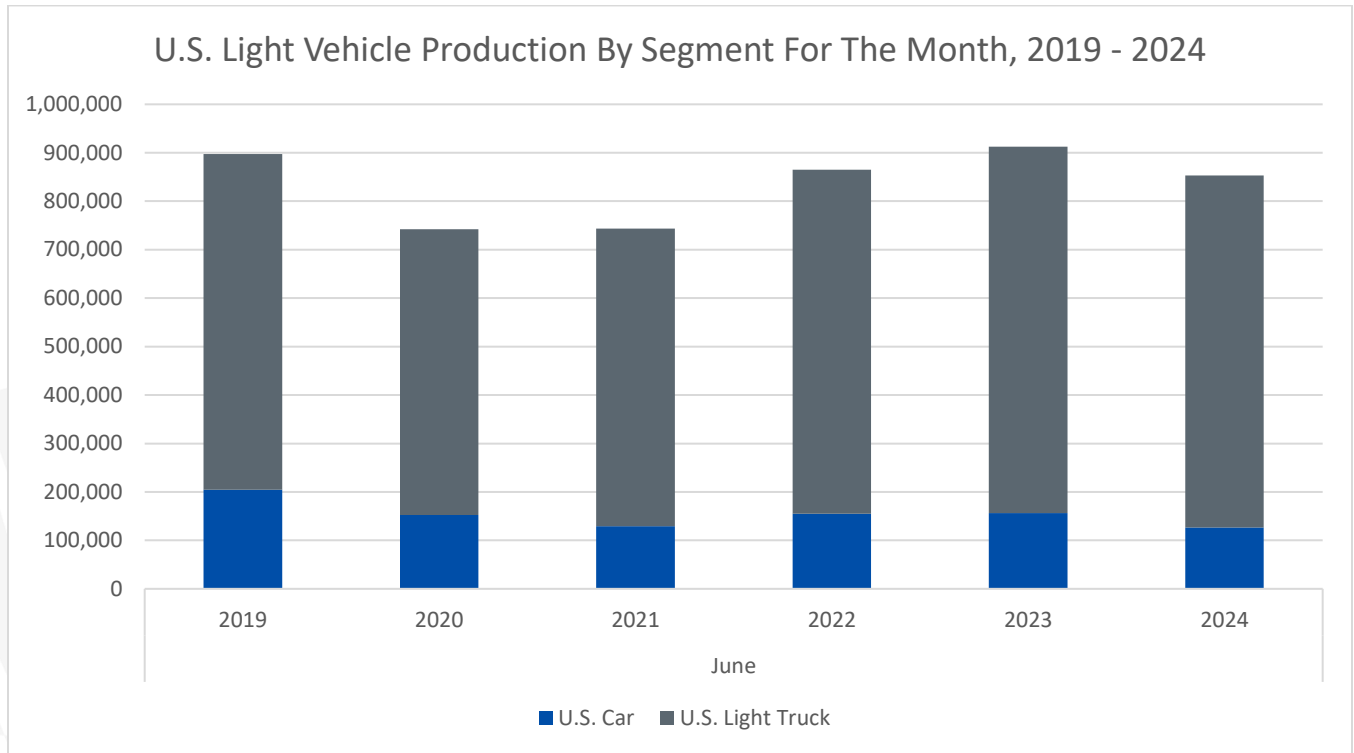
“Production during April-June totaled 4.304 million units, up 2.1% from like-2023. Production in June, which includes some estimates, totaled 1.347 million units, 6.1% below same-month 2023. June’s comparison followed a 2.0% decline in May. Both were more than offset by March’s robust gain of 16.2%.

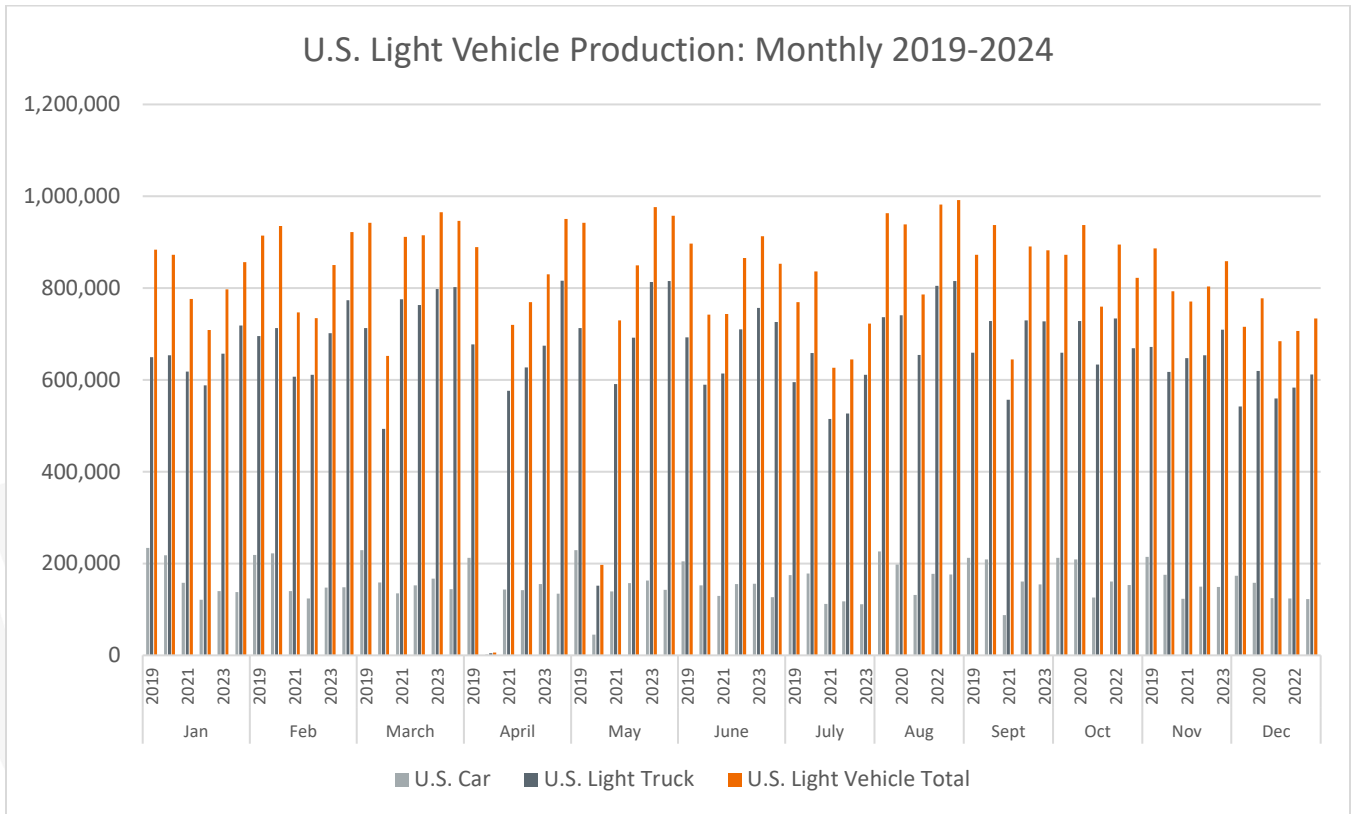
“Production in first-half 2024 totaled 8.412 million units, a 2.3% increase in like-2023’s 8.226 million. Including the third-quarter projection, 9-month 2024’s total of 12.587 million also is 2.3% above the year-ago total - 12.300 million.”

U.S. Light Vehicle Production (Updated 7/22)

U.S. Monthly Production (Updated 7/22)

U.S. Light vehicle production for June 2024 was down 11 percent month-over-month, totaling 852,913 vehicles (126,626 cars, 726,287 light trucks), year-over-year, production is down 6 percent from 2023.²⁵





Global Meter

Global Light Vehicle Sales (Updated 8/7)

Wards Intelligence²⁶: “Global sales in the first half of 2024 ended with pervasive weakness in all major regions, based on Wards Intelligence’s survey of world markets.

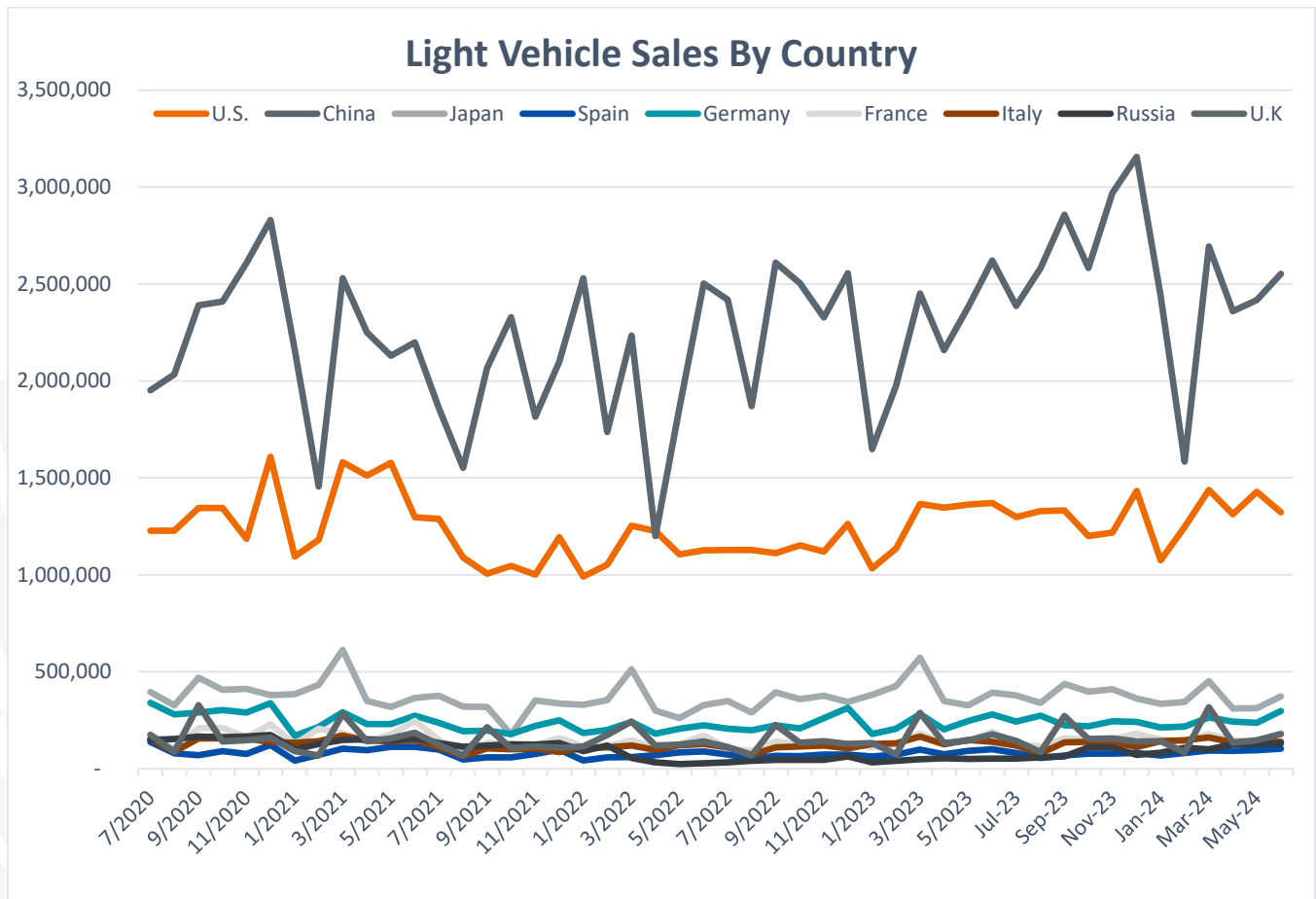
“Combined sales of light vehicles and medium-/heavy-duty trucks totaled 8.06 million units in June, down 1.3% from like-2023. It was the first year-over-year decline since February.

“However, sales in first-half 2024 still rose, growing 2.8% from like-2023 to 45.43 million units.

“All major regions recorded growth in the first half, with Europe leading the pack with a 7.9% year-over-year gain, followed by South America (4.8%), North America (3.1%) and Asia-Pacific (1.8%). Less China, which recorded a 5.8% gain in the first half, the rest of AP fell 4.4%.

“Excluding medium- and heavy-duty trucks, Wards Intelligence partner GlobalData estimates June’s global light-vehicle seasonally adjusted annual rate at 89.7 million units, 2 million above May but below same-month 2023 by that same total. However, GlobalData expects light-vehicle sales in July to rise from June to a level

above 92 million, which would be the highest of the year. GlobalData cut 200,000 units from its global light-vehicle sales forecast for 2024, which now stands at 88.7 million units, up 2.2% from 2023.”



Global Light Vehicle Production (Updated 7/22)

S&P Global Mobility Forecast (4/24)²⁷: “As we enter the second half of 2024, the outlook for the global auto industry remains under pressure. After rather robust production growth in 2023 supporting sales as well as inventory rebuilding, this year continues to be more transitional in nature as automakers balance regional demand dynamics and inventory conditions. The production update for this month reflects those lingering challenges with notable regional downgrades with a focus on inventory management and factoring in region-specific influences, particularly amid recent sales weakness in China, persistent headwinds in Europe and growing vehicle inventories in North America. Elevated vehicle prices and “higher for longer” interest rates continue to be key considerations influencing demand in the near-term. Propulsion mix developments continue to vary by region as some markets face slower EV adoption growth rates while other areas continue to see rather encouraging results. The July forecast update reflects some noteworthy downgrades in the near-term, with reductions spread amongst several regions. Downward revisions are reflected through the near-term forecast horizon on regional dynamics for areas such as Greater China, Europe, North America and South Asia as those markets navigate dynamic demand fundamentals, inventory management, changing

vehicle launch activity and varied states of BEV adoption depending on the market in question. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was reduced by 148,000 units and by 72,000 units for 2024 and 2025, respectively (and reduced by 35,000 units for 2026). European output for H1-2024 is estimated to have reached 9.0 million units, roughly in line with our expectations. Yet, given the current level of confidence at various industry stakeholders and the rather pessimistic order books in the supply chain, among other factors, there are rising concerns on the near-term production outlook. Stellantis takes a significant share of the downgrade as the OEM continues to lose market share in Europe and appears in the process of clearing inventories ahead of next year. Of note, overall regional production is expected to decline by 835,000 units relative to 2023, a number that corresponds closely with our estimates for inventory rebuild during 2023, suggesting that underlying demand is fairly stable while production suffer mainly from a realignment of supply to sales. Looking to 2025 and 2026, total regional volume saw more modest changes. We continue to forecast rather flat developments despite the challenging regulatory gate coming up. The impact of the new EU tariff on electric cars coming from China has also been incorporated in our forecast assumptions, with little positive impact on volumes overall, as the tariffs are expected to be at least partially absorbed by the Chinese OEMs and given the potential to redirect consumers to their ICE-based vehicles.

“Greater China: The outlook for Greater China light vehicle production was reduced by 398,000 units and by 203,000 for 2024 and 2025, respectively (and increased by 9,000 units for 2026). Domestic consumption and vehicle demand remains fairly stagnate in spite of incentive programs such as subsidies for ICE vehicle replacement and vehicle financing programs implemented to support the domestic market. According to the CPCA, passenger vehicle sales for May totaled 1.72 million units, a reduction of 2%. The situation has not improved materially in June. Passenger vehicle sales improved to 1.78 million units but still dropped by 7% year-on-year owing to a higher base last year. Amid an aggressive price war, many consumers have become more hesitant to buy and expect further promotions in coming months. The subdued demand environment negatively impacts the profitability of most OEMs in mainland China. As a result, the intense competition continues to push Chinese OEMs from the local market to compete in the overseas market. Considering the domestic sluggishness and an escalation of trade conflicts in the global NEV market, the outlook for 2024 has been reduced by 1.4% to 29.1 million units, resulting in flat performance versus 2023. Further, the outlook for 2025 was reduced on the likelihood of a weaker market recovery than previously expected. In the longer term, our outlook remains consistent with last month’s forecast with no significant changes from a macro perspective.

“Japan/Korea: Full-year 2024 Japan production was downgraded by 36,000 units relative to last month’s forecast. Toyota and Daihatsu have struggled to recover their production speed in the second quarter after the certification irregularities, due to careful operations to prioritize quality amid stagnant domestic demand. The short-term forecast in 2025/2026 was upgraded by an average of around 100,000 units per year. As the BEV adoption speed has been slowing relative to expectations, ICE models such as the Lexus NX and ES and the 4Runner and Corolla for Toyota and the Rogue and the X-Trail for Nissan continue to gain momentum in export markets, particularly North America. As June production in South Korea was better than expected due to solid exports and in spite of somewhat sluggish domestic demand, full-year 2024 production was increased by 43,000 units, reaching 4.18 million units. Although battery electric vehicle production is slowing down, demand for hybrid vehicles is taking its place as a viable alternative. Considering the production trend in the first half of 2024, the forecasts for 2025 and 2026 were revised to 4.08 million units, up 0.9% and 3.88 million units, up 0.8%, respectively. In the longer-term, there were no major changes relative to last month’s forecast other than some fluctuations mainly due to changes in global demand.

“North America: The outlook for North America light vehicle production was reduced by 125,000 units and by 256,000 units for 2024 and 2025, respectively (and reduced by 90,000 units for 2026). The outlook for

North American light vehicle production has been revised down over the short-term horizon on the need for a greater inventory correction that is predominantly centered around the Detroit 3 manufacturers of GM, Ford and Stellantis where inventory for many vehicles is at excessive levels. Production in 2024 was revised down 0.8% as more proactive plant level actions, such as line rate and shift reductions and downtime are incorporated into the forecast that cascade into 2025. Manufacturers are for the first time in over four years grappling with market realities compared to years of struggling to produce vehicles. Several manufacturers, particularly GM, Ford and Stellantis, are struggling to balance their sales, production, inventory and incentives targets as the market returns to more normal dynamics. Production in North America for 2025 was revised down a fairly significant 1.6% as part of the larger inventory correction process, particularly for the Detroit 3 automakers. The outlook for 2026 was revised down 0.5% on vehicle program re-timings and revised launch curves for several new vehicles, most notably for the launch of the Ram 1500 in Mexico.

“South America: The outlook for South America light vehicle production was largely unchanged for 2024 and was reduced by 40,000 units and by 51,000 units for 2025 and 2026, respectively. In the extreme near-term, the outlook for the region remains generally on track with expectations as stronger production actuals for Brazil are offset by lingering weakness in Argentina and residual impacts from recent flooding in Brazil. For 2025 and 2026, production volumes were revised down due, in part, to a more cautious outlook for exports from Argentina over the period. In the longer term, volumes have been left mostly unchanged and generally align with the demand forecast.

“South Asia: The outlook for South Asia light vehicle production was reduced by 147,000 units and by 83,000 units for 2024 and 2025, respectively (and reduced by 70,000 units for 2026). In the near-term, output for the region was downgraded for 2024 primarily due to more subdued auto markets in Indonesia and Thailand. Thailand’s auto market has been significantly impacted by stricter auto loan policies, exacerbating the challenges posed by ongoing economic headwinds. Meanwhile, Indonesia’s auto production sector has been adversely affected by weaker household spending, elevated interest rates and a slowdown in exports. Amid a slower economic expansion and growing concerns over the pace of recovery in the short-to-mid-term, the regional auto industry is currently undergoing inventory adjustments to align with somewhat deteriorating market conditions. Regarding the India market, production was revised down by 42,000 units for 2024 and by 51,000 units and 58,000 units for 2025 and 2026, respectively. The extreme near-term is influenced by rather elevated inventory levels and the likelihood that production schedules will remain weak in Q3-2024. Further, we expect the weaker rupee and elevated interest rates coupled with uncertainties associated with a possible alliance government to impact the Indian market through the near-to-intermediate term.”

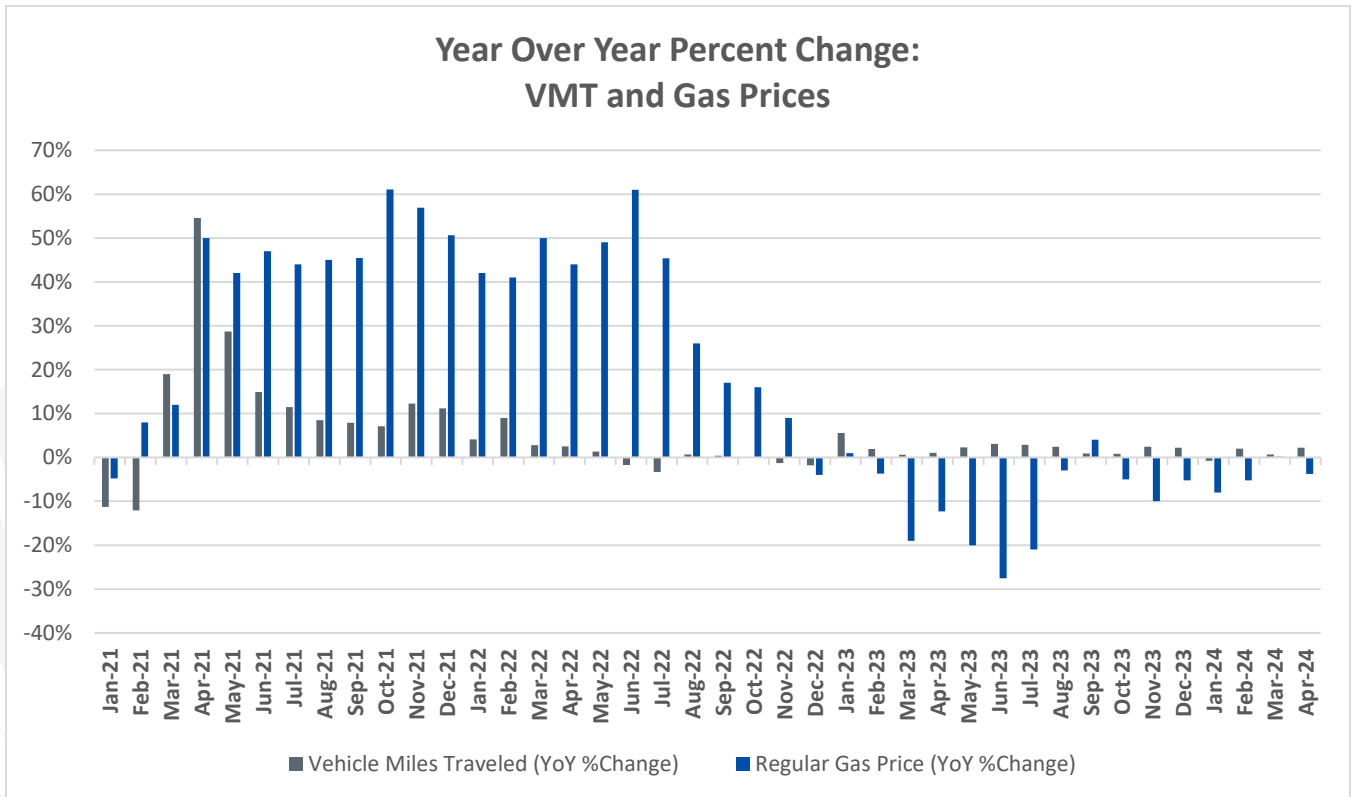
Recovery Meter

Roadway Travel (Updated 7/9)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in May increased 0.3 percent from the same time a year ago. The cumulative travel estimate for 2024 is 1,320 billion vehicle miles.²⁸

- Travel on all roads and streets changed by +1.3% (+3.8 billion vehicle miles) for May 2024 as compared with May 2023. Travel for the month is estimated to be 293.4 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for May 2024 is 274.2 billion miles, a (+2.6 billion vehicle miles) change over May 2023. It also represents a 0.3% change (0.8 billion vehicle miles) compared with April 2024.

- Cumulative Travel for 2024 changed by +1.1% (+14.1 billion vehicle miles). The cumulative estimate for the year is 1,320.0 billion vehicle miles of travel.

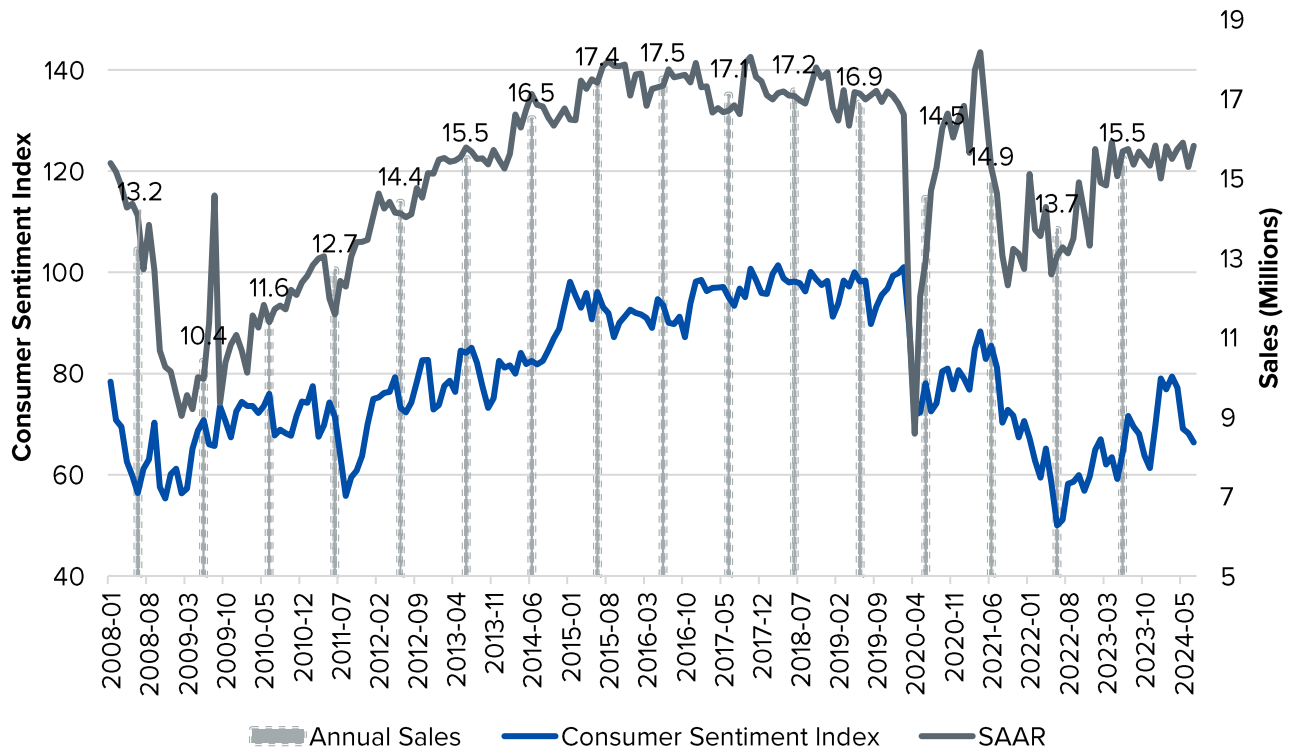


Consumer Confidence and Sales (Updated 8/7)

Surveys of Consumers Director Joanne Hsu²⁹: “Consumer sentiment has remained virtually unchanged in the last three months. July’s reading was a statistically insignificant 1.8 index points below June, well under the margin of error. Sentiment has lifted 33% above the June 2022 historic low, but it remains guarded as high prices continue to drag down attitudes, particularly for those with lower incomes. Labor market expectations remain relatively stable, providing continued support to consumer spending. However, continued election uncertainty is likely to generate volatility in economic attitudes in the months ahead.

“Year-ahead inflation expectations fell for the second straight month, reaching 2.9%. In comparison, these expectations ranged between 2.3 to 3.0% in the two years prior to the pandemic. Long-run inflation expectations came in at 3.0%, unchanged from last month and remaining remarkably stable over the last three years. These expectations remain somewhat elevated relative to the 2.2-2.6% range seen in the two years pre-pandemic.

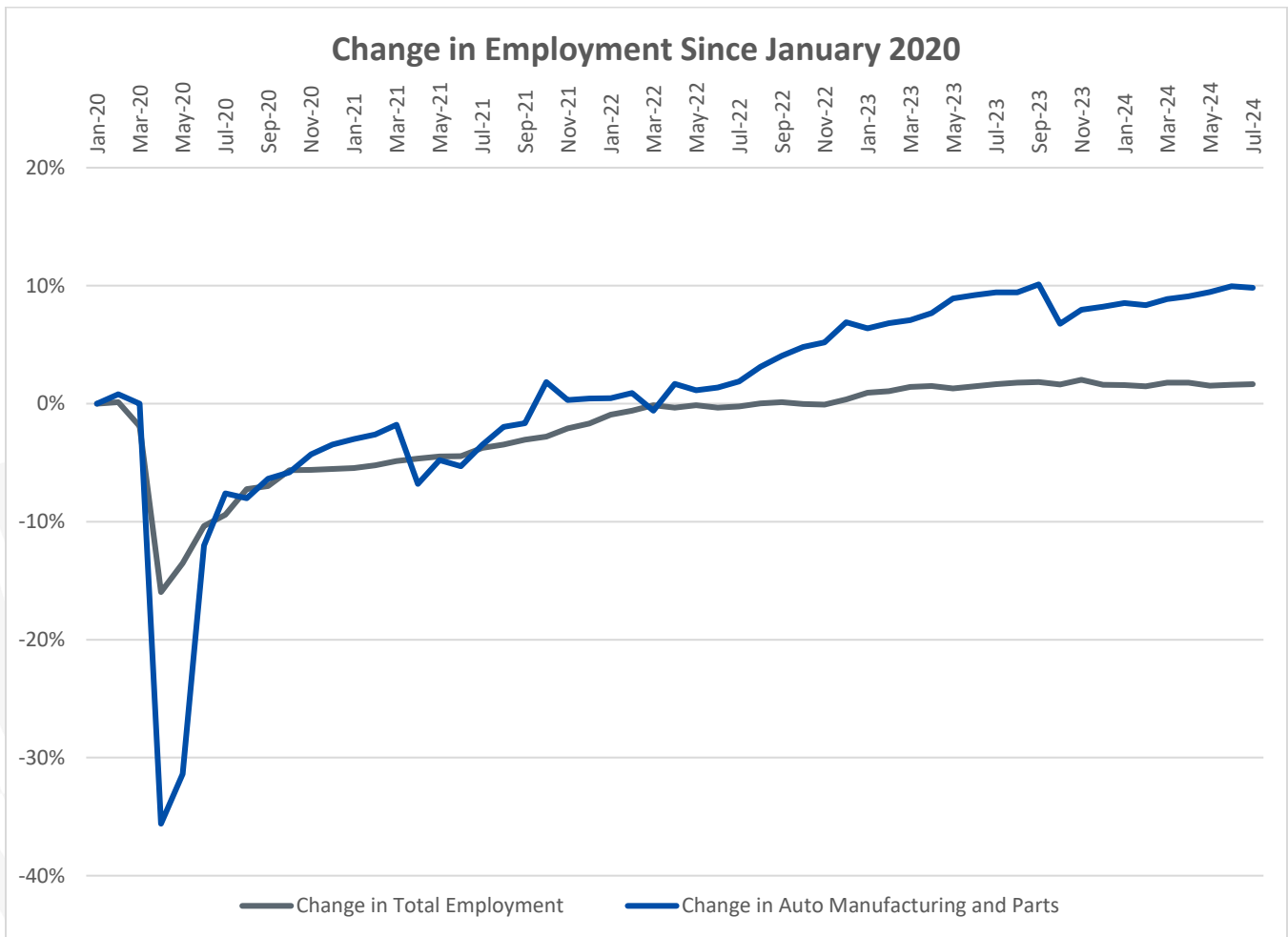
Light Vehicle Sales And Consumer Sentiment Index: 2008 - July 2024



Employment (Updated 8/7)

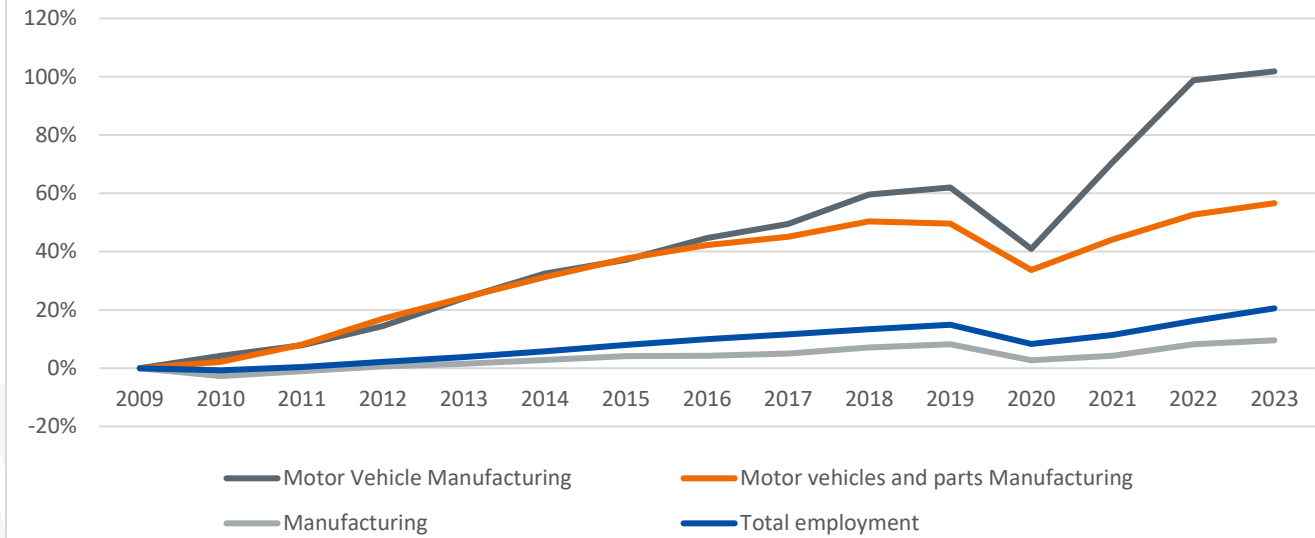
Motor Vehicle And Parts Manufacturing Lost 1,300 Jobs in July.

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...³⁰



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.³¹ 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.

Employment Growth: 2009 - 2023



Sources

- ¹ WardsIntelligence, U.S. Light Vehicle Sales, January 2021 – June 2023
- ² WardsIntelligence, North America Production, January 2021 – June 2023
- ³ WardsIntelligence, North America Platform by Plant Production Forecast, Q1
- ⁴ Haig Stoddard, "U.S. Light-Vehicle Inventory Ends June at Highest Level Since November 2020," WardsIntelligence, 7/3/2024
- ⁵ Cox Automotive, Press Release, "Cox Automotive Forecast: US Auto Sales Expected to Finish First Half Higher by 2.9%, in Line With Expectations for Slow Growth," 6/25/2024
- ⁶ JD Power, Press Release, "Dealer Software System Outages Disrupt June Sales," 6/26/2024
- ⁷ Haig Stoddard, "Production Slowdowns Impacting U.S. Light-Vehicle Inventory," WardsIntelligence, 8/2/2024
- ⁸ WardsIntelligence, "North America Production, December," 2019, 2020, 2021, 2022
- ⁹ S&P Global Mobility, email, "S&P Global Mobility Monthly Automotive Update – June 2024," 6/14/2024
- ¹⁰ Haig Stoddard, "U.S. Light-Vehicle Inventory Ends June at Highest Level Since November 2020," WardsIntelligence, 7/3/2024
- ¹¹ Haig Stoddard, "U.S. Light-Vehicle Sales in July Remain Stuck in a Rut," WardsIntelligence, 8/1/2024
- ¹² WardsIntelligence, U.S. Light Vehicle Sales, January 2013 – June 2024
- ¹³ U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Regular price per gallon, including taxes
- ¹⁴ WardsIntelligence, Fuel Economy Index, December 2013 & 2019
- ¹⁵ WardsIntelligence, U.S. Light Vehicle Sales, April 2022 - 2024
- ¹⁶ Haig Stoddard, "U.S. Light-Vehicle Sales in July Remain Stuck in a Rut," WardsIntelligence, 8/1/2024
- ¹⁷ J.D. Power, Press Release, "July SAAR reaches 16.7 Million—Highest in More Than Three Years," 7/26/2024
- ¹⁸ Kelley Blue Book, Press Release, "Inflation Buster: New-Vehicle Prices Continue to Trend Lower, Are Down Nearly 1% Year Over Year in May, According to Kelley Blue Book Estimates," 6/11/2024
- ¹⁹ Bankrate, "Current Car Loan Interest Rates," Accessed 7/22/2024
- ²⁰ J.D. Power, Press Release, "Dealer Software System Outages Disrupt June Sales," 6/26/2024
- ²¹ U.S. Energy Information Administration, Regular Gasoline, www.eia.gov, Accessed 7/22/2024; U.S. Energy Information Administration, Weekly Cushing, OK WTI Spot Price, www.eia.gov, Accessed 7/22/2024
- ²² EIA, "Short-Term Energy Outlook," 7/9/2024
- ²³ EIA, "Short-Term Energy Outlook," 7/9/2024
- ²⁴ Haig Stoddard, "Production Slowdowns Impacting U.S. Light-Vehicle Inventory," WardsIntelligence, 8/2/2024
- ²⁵ Haig Stoddard, "Third-Quarter North America Production Tracking Above Pre-Pandemic 2019," WardsIntelligence, 7/19/2024
- ²⁶ WardsIntelligence, "North America Production, June," 2019, 2020, 2021, 2022, 2023, 2024
- ²⁷ Haig Stoddard, "Global Vehicle Sales Rise Third Straight Month in May," WardsIntelligence, 6/27/2024
- ²⁸ S&P Global Mobility, email, "S&P Global Mobility Monthly Automotive Update – July 2024," 7/17/2024
- ²⁹ U.S. Department of Transportation, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/21septvt/, Accessed 5/3/2024

²⁹ University of Michigan, Survey of Consumers, <http://www.sca.isr.umich.edu/>, Accessed 7/9/2024

³⁰ Bureau of Labor Statistics, Current Employment Statistics, Accessed 7/9/2024

³¹ Jerry Hirsch, "[Auto Industry Has Soared Since 2010, Leading Economic Recovery](#)," *Los Angeles Times*, 1/3/14