

READING THE METER

September 30, 2020

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Forecast Meter

Forecast Summary (Updated 9/23)

2020 Sales, ⁱ Extended Sales Forecast ⁱⁱ and Production Forecasts ⁱⁱⁱ		
	U.S. Sales & Forecasts	North American Production
March	992,392 (-33% YoY)	1.01 million units (-34% YoY)
April	707,852 (-48.7%YoY)	8,463 (-99.4% YoY)
May	1,114,931 (-29.5% YoY)	248,602 (-83% YoY)
June	1,103,791 (-24% YoY)	743,216 (-17% YoY)
July	1,227,091 (-12.1% YoY)	1,261,884 (+2.2% YoY)
August	1,325,144 (-19.1% YoY)	951,983 (-1.1% YoY)
September (forecast)	1,334,000 (+5% YoY)	1.36 million units (-5% YoY)
1st Quarter	3,476,512 (-12.7% YoY)	3.86M (-11.7% YoY)
2nd Quarter	2,948,410 (-33.3% YoY)	1.4M (-67.6% YoY)
3rd Quarter Estimate	13-14M SAAR (-20%-26% YoY)	4.06 million units (-1.5% YoY)
2020 Full Year Estimate	12.6-14.3M (-15%-26% YoY)	13.4 million units (-20.2% YoY)

U.S. Light Vehicle Sales Outlook (Updated 9/30)

Wards Intelligence September Update^{iv}: “U.S. light-vehicle sales will continue the string of growth started in May after falling off the cliff in April when the pandemic first fully impacted the market. Almost unbelievably, September sales are expected to total a 16.2 million-unit seasonally adjusted annual rate, a significant increase on August’s 15.2 million, and the fifth straight month-to-month increase since April’s 8.7 million. September 2019’s SAAR was 17.1 million units.

“September’s raw volume is forecast to total 1.33 million units, 5.3% above like-2019’s 1.27 million. However, September’s forecast daily selling rate of 53,360 – 25 selling days – is 3.1% below year-ago’s 55,093 over 23 selling days.

“Despite lean inventory, still-high unemployment, less government stimulus, a potentially chaotic presidential election, a rise in new cases of the novel coronavirus and other potential headwinds, consumers continue to flock to dealers for new vehicles. In fact, while fleet deliveries will remain weak, and are why the industry total remains well below 2019 levels, retail demand – basically what consumers buy off dealer lots - is expected to rise above the same year-ago month for the first time since February.

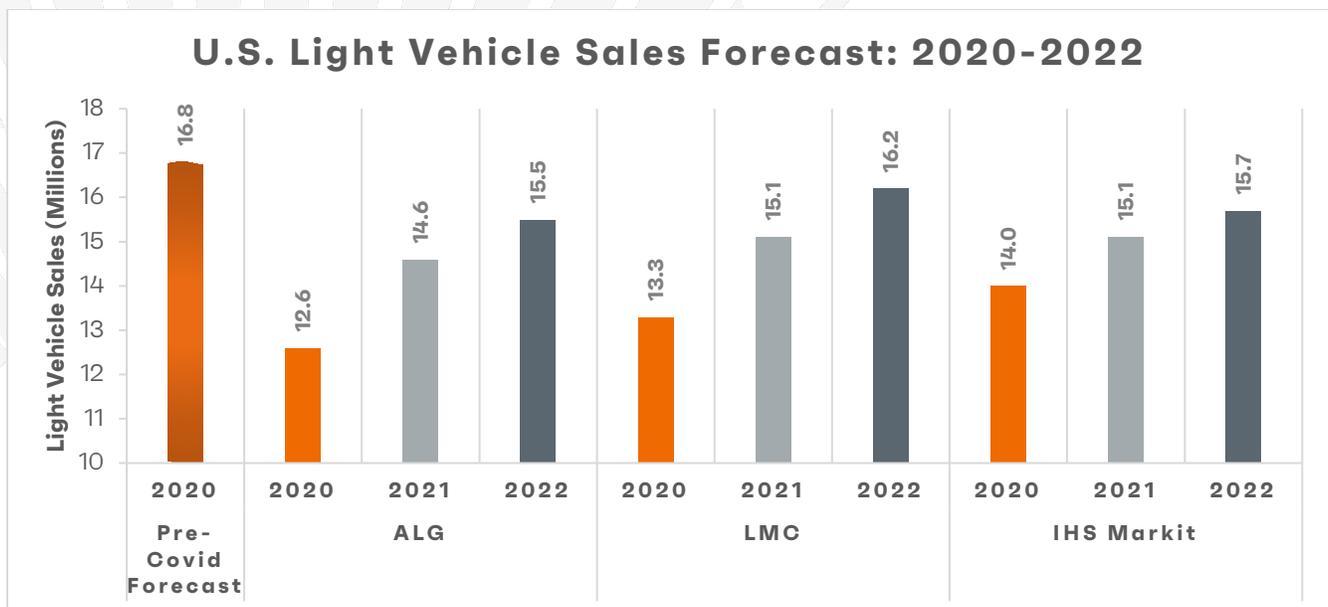
“If the September forecast holds firm, it puts an upward bias on the Q4 sales outlook of a 14.5 million-unit SAAR. In theory, if dealers can continue turning over half their inventory – historically, typical monthly inventory turnover is 35% to 40% - sales could run out the remainder of the year around the 16 million-unit SAAR level. That kind of momentum could raise the odds for a 16-plus million-unit year in 2021, as well as lift the final 2020 total above the 14 million level.

“The third quarter will total an estimated 15.3 million-unit SAAR, well above the 11.4 million in Q2 and Q1’s 14.8 million. Year-ago’s Q3 SAAR was 17.0 million.”

Wards Intelligence Forecast For 2020 and 2021: “The forecast for U.S. light-vehicle sales in 2020 has been adjusted downward 100,000 units to 13.3 million, based on the latest from Wards Intelligence partner LMC Automotive. Related to tweaks to the economic outlook, the 2021 forecast also was downgraded 100,000 units and stands at 15.1 million. The 2020 revision adjusts for anticipated short-term inventory shortages caused by a combination of slower production ramp-ups and better-than-expected sales since the impact of the virus started in mid-March that will further limit product availability through the end of the third quarter. Although projecting demand for the remainder of 2020 remains a fluid exercise, currently, based on seasonally adjusted annual rates, sales are not expected to begin strong sequential growth until the fourth quarter.”

IHS Markit September Update^{vi}: “US light vehicle retail demand has proven more resilient in the near-term in spite of a very challenged US economic outlook. As a result, the US light vehicle sales outlook has been increased to 14.0 million units and 15.1 million units for 2020 and 2021, respectively.”

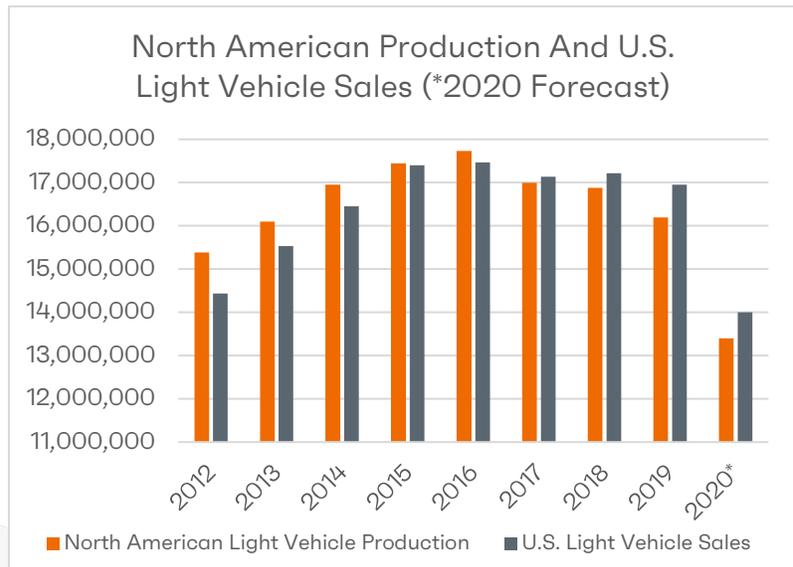
“IHS Markit expects the market’s sales recovery to be over years, with the US not seeing 17 million light-vehicle registrations annually again through 2025.”^{vii}



North American Production Outlook (Updated 9/23)

WardsIntelligence September Update^{viii}:

“After rising for the first time in five months in July, production of light vehicles and medium-/heavy-duty trucks in August declined 6.0% year-over-year to 1.43 million units. The decline was expected. July’s total was up due to the cancellation of most of the typical summer downtime typically scheduled for the month as manufacturers needed to ramp up production fast to get dealers inventory sorely lacking since the spring shutdowns related to the novel coronavirus. . . . However, all things considered, production is relatively strong and expected to remain so for the remainder of the year.



“Production in September is expected to be nearly flat with year-ago totaling 1.36 million units, which puts the estimated Q3 total at 4.06 million units, 1.5% below like-2019. However, the entire fourth quarter is expected to rise 3.8% from like-2019 to 4.04 million units. While the Q4 total is going against a year-ago period weakened by a U.S. labor strike at General Motors that overlapped both the third and fourth quarters, it still is enough to keep most plants running at a high level of capacity utilization. In fact, although the total was down year-over-year, production in August finished 40,700 units higher than was expected for the period a month ago, an example that in general automakers are doing a good job of keeping assembly lines going. However, limiting Q4 production expectations are that demand in North America is projected to flatten out in the final four months of 2020, marking an end to the sequential growth recorded since April. There is potential upside to demand, but economic damage done earlier in the year, less government stimulus and potentially higher pricing as the ’21 models become widely available are expected to catchup with the market. But there will be room to add production if demand surprises on the high side as it mostly has since April.

“North America production for the entire year is on track to total 13.4 million units, 20.2% below 2019’s 16.8 million.”

IHS Markit September Update^{ix}: “The outlook for North America light vehicle production was increased by 143,000 units and 570,000 units for 2020 and 2021, respectively (and increased by 97,000 units for 2022). In the near-term, production was revised higher based on stronger US sales expectations for the year and the continued need to restock depleted inventories. For 2021, improved demand expectations and ongoing inventory requirements further support the upgraded outlook. Even with the increased forecast for 2021, production in North America faces additional upside support on the order of another 100-200,000 units based on inventory conditions with the latest forecast resulting in a still lean inventory forecast for 2021. Production for several high volume in-demand vehicles remains constrained with production solutions providing the potential for an increased outlook in the near future.”

Market Meter

U.S. Light Vehicle Sales (Updated 9/16)

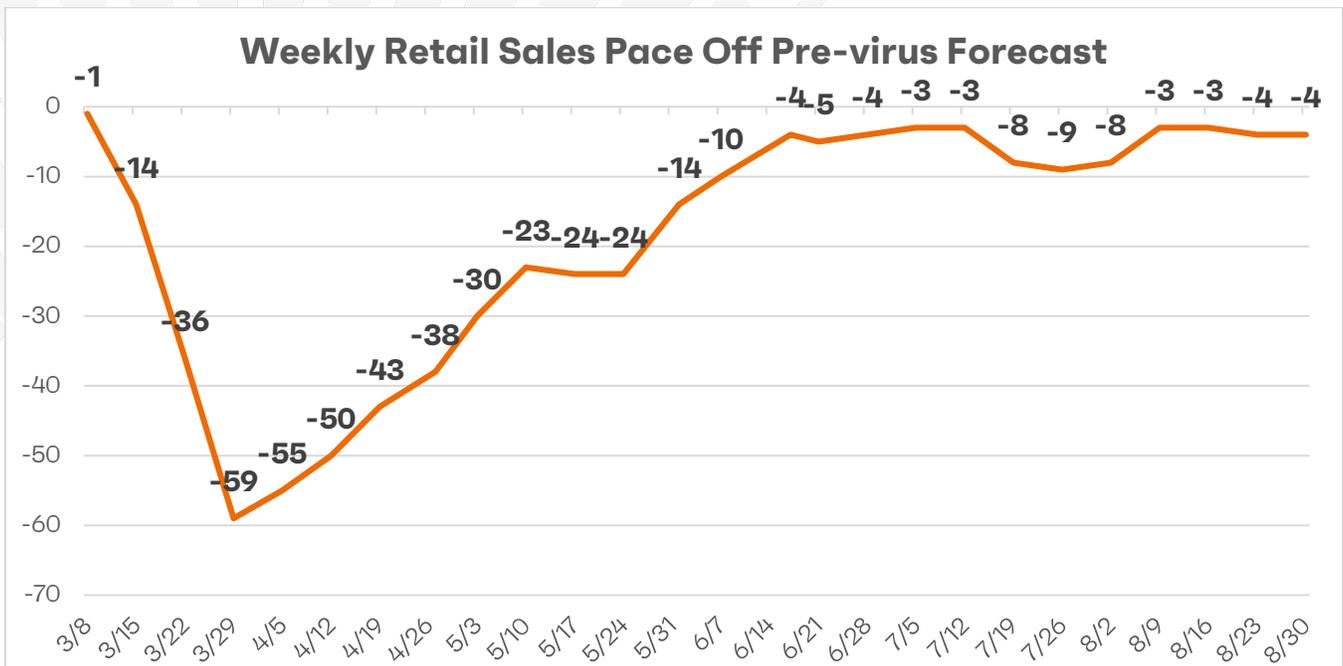
Weekly Sales^x

Discontinued: weekly sales metrics from J.D. Power were discontinued after the August 30th update. This section will remain in the Meter for the month of September and then be removed.

J.D. Power Weekly Update: “For the week ending August 30, retail sales were 4% below the pre-virus forecast. This was in-line with the prior week’s result.

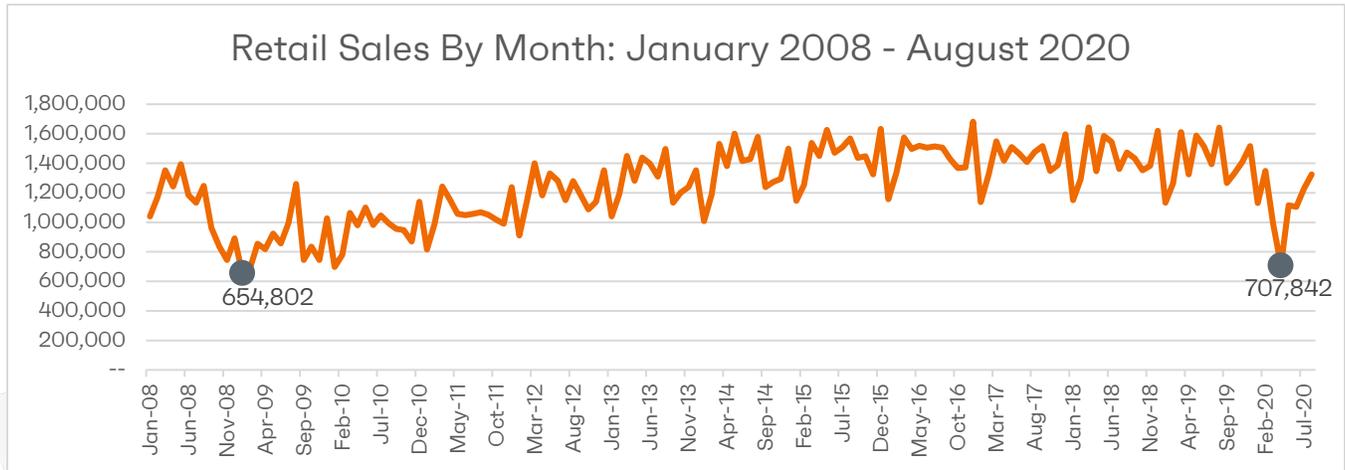
“Customer-facing transaction price rose by \$103 from last week to \$35,486. A decline in premium nameplate transaction price (-\$887) was more than offset by higher premium nameplate share of industry. The average CFTP of the current week ending August 30 was 6.3% above the same week in 2019.

“Incentive spending rose \$18 to \$4,146 per unit last week. The increase was driven by higher premium share of industry, which more than offset a \$27 drop in average mainstream incentives spending. 84-month APR mix of all retail sales decreased 0.5ppts to 8.2%, down 13.6ppts from the COVID-19 peak in late March. Lease mix rose 1.3ppts to 28% but was still 2.9ppts below the same week last year.”



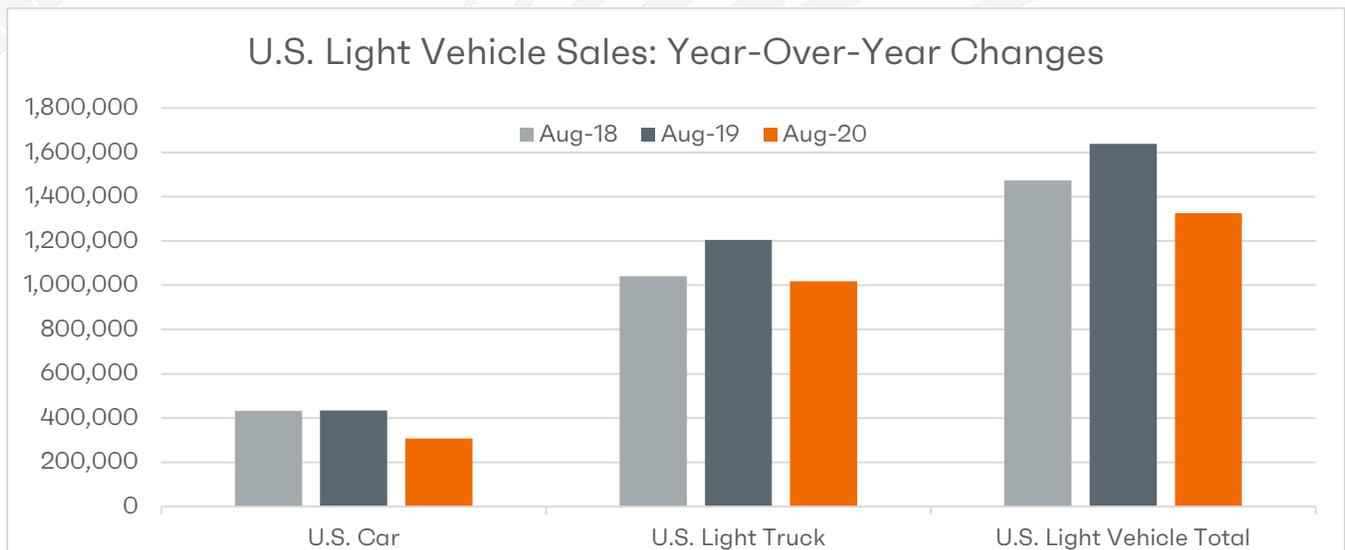
Monthly Sales (New 9/16)^{xi}

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.



Year over year, August light vehicle sales are down 19.1% from 2019. The segment trend continues to favor light trucks over cars, with trucks capturing more three-quarters of the market (76.8%), and gaining 3.3% market share over 2019, however the overall truck volume was down more than 186,000.

“U.S. light-vehicle sales totaled a 15.2 million-unit seasonally adjusted annual rate in August, the highest since February’s pre-pandemic 16.8 million. Sales have risen each month since April’s rock-bottom 8.7 million-unit SAAR. The question now is will demand continue to grow in the face of more headlines of job losses and lower consumer confidence, as well as still-strained dealer inventory. Sales volume in August totaled 1.325 million units, equal to half the inventory the month started with, and the first time since 2011, when the industry was gaining momentum coming out of the last recession, that the sales/inventory ratio was that high – the August ratio over the past three years averaged 38%.”^{xii}



Fleet Sales

Wards Intelligence^{xiii}: “Based on Wards Intelligence and LMC Automotive data, fleet deliveries in August fell an estimated 32% year-over-year but significantly improved on the average 66% downturns during the April-July period.”

IHS Markit^{xiv}: “Automakers have also reported shifting some of the production they had planned for rental car fleets to retail cars, following the canceled order and as production resumed in June. In making that change, automakers may be able to soften the impact of lost rental fleet orders over the course of the year. . . . Two other factors which IHS Markit expects could be impacting compact and mid-size car sales are the disappearance of service jobs in the first half and canceled rental-fleet orders. As compact and mid-size cars are less expensive than utility vehicles, the lack of buying power from this group could be having an impact on passenger car registrations, particularly at the low end. While not all rental-fleet orders were for cars, the loss of orders from major rental-car companies from Hertz to Avis had impact on first half as well. Those canceled orders coincided with production shutdown as well, and as production resumed, automakers in some cases shifted planned production from rental-car fleet vehicles to vehicles configured for retail. Benefits from that change would be seen in the second half, however.”

J.D. Power^{xv}: The baseline forecast from J.D. Power called for 13.4 million in retail sales and 3.4 million in fleet/other sales. With the revised forecast of 12.9-14.2 in total sales, fleet sales fall to a range from 1.6 million to 1.9 million, a decline of 44%-53% from the baseline.

J.D. Power Retail and Fleet Sales Forecast

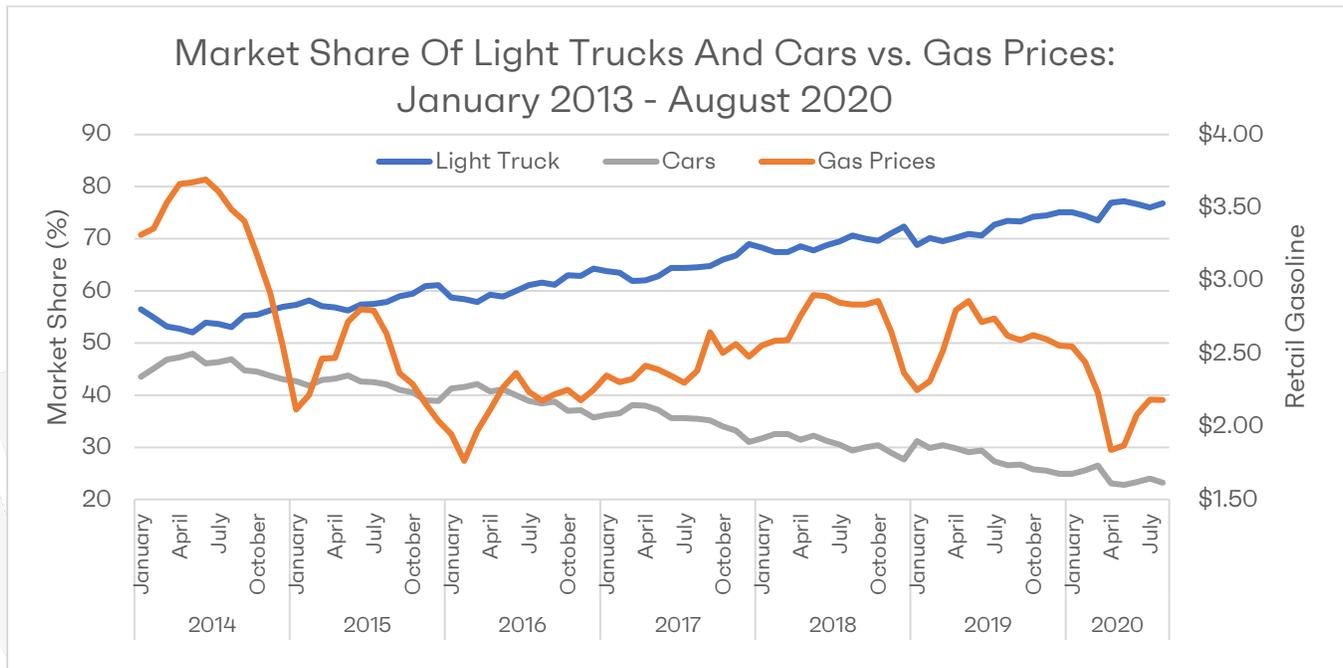
	Pessimistic Forecast	Optimistic Forecast	Pre-COVID Baseline Forecast
Retail Sales Forecast (million)	11.3	12.3	13.4
Fleet/Other Sales Forecast (million)	1.6	1.9	3.4
Total Sales Forecast (million)	12.9	14.2	16.8
Fleet Percent of Total Sales	12%	13%	20%
Retail Percent of Total Sales	88%	87%	80%
Fleet Loss From Baseline of 3.4 (million)	-1.8	-1.5	-
Fleet Loss as % Baseline Fleet Sales	-53%	-44%	-
Fleet Loss as % Total Sales	-14.0%	-10.6%	-

Segments vs. Gas Prices (Updated 9/3)

Monthly Sales For August: Light trucks accounted for 76.8% of sales in August, a 3.3% gain in market share from a year ago. Compared to 2019, sales of cars are down more than 126,000, but up more than 12,000 over July 2020. Likewise, sales are off nearly 187,000 from August 2019, but up more than 76,000 over July 2020.

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^{xvi} and gas was over

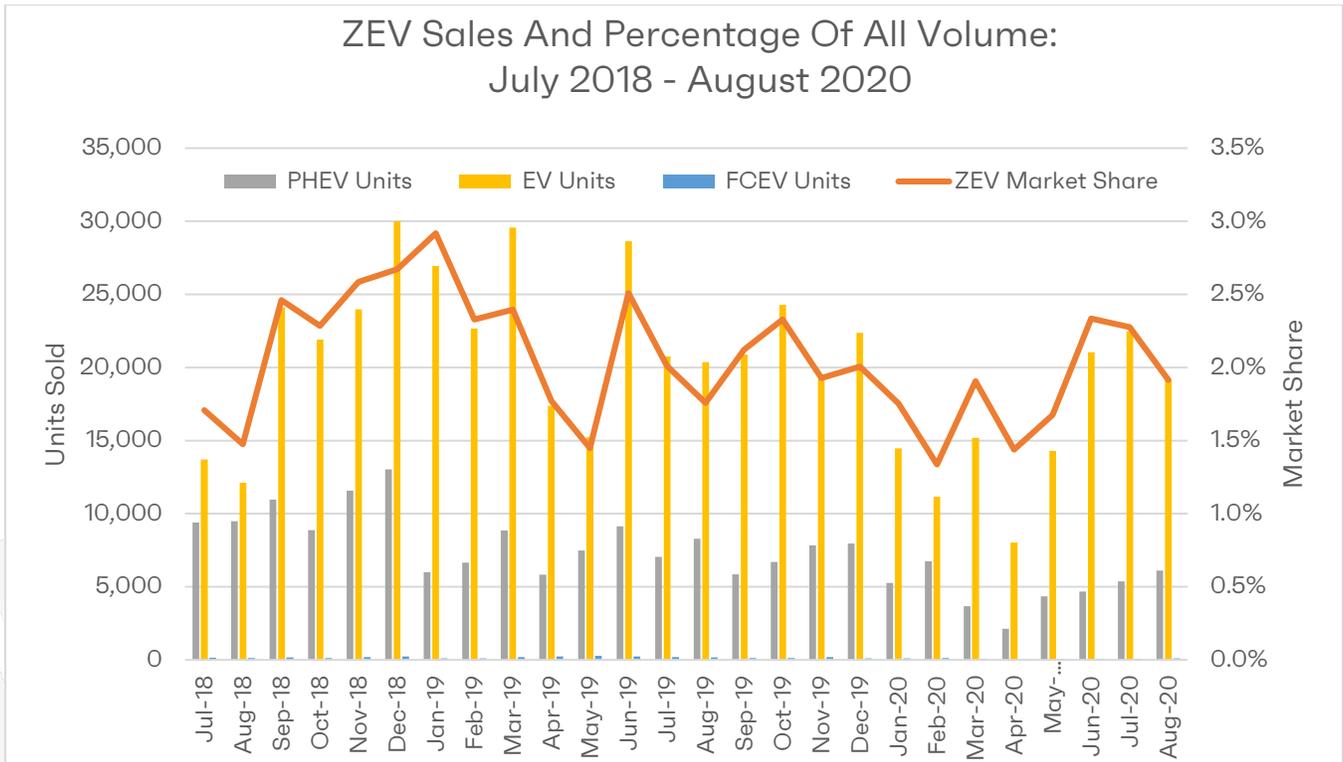
\$3.00^{xvii} a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off – and never looked back. Gas prices since have averaged only \$2.47 a gallon (through August 2020) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013^{xviii}, the perfect conditions existed to continue fueling light truck market growth.



ZEV Powertrain Sales (Updated 9/3)

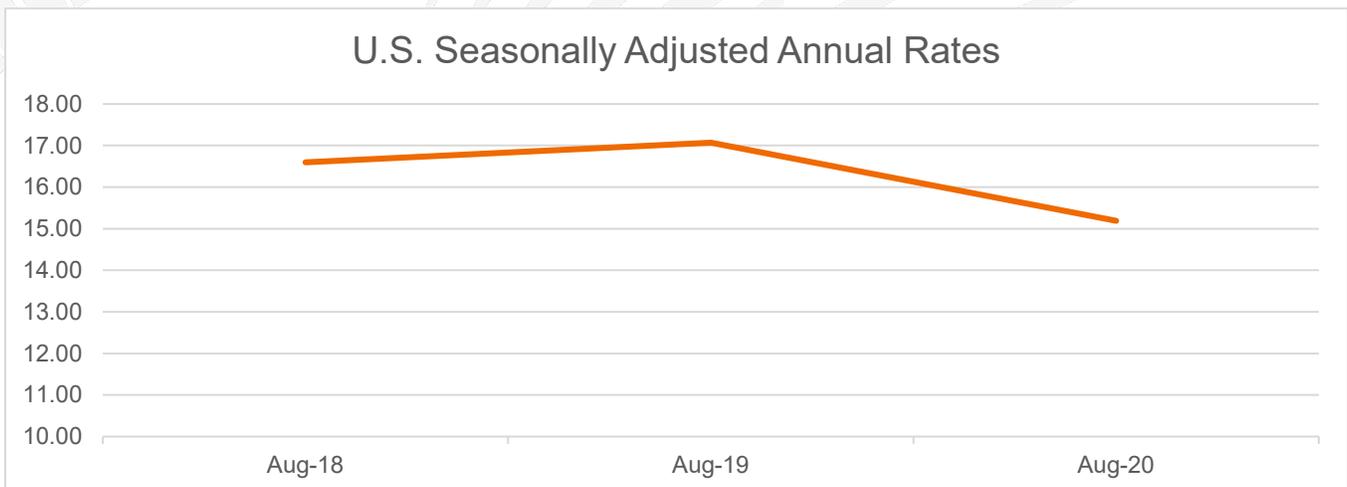
Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for only 1.9% of total vehicle sales in August 2020, up .2% from a year ago and down .4% from July 2020. Sales of battery electric vehicles led the way for ZEVs accounting for 1.45% of the total, up .2% from August 2019. Plug-in hybrids accounted for .46%, mostly unchanged from a year ago.

IHS Markit^{xix}: “In the first half of 2020, electric vehicles (EVs) continued to gain market share in the US, while the share of plug-in hybrid EVs (PHEVs) continued to fall. In the first half, 1.50 percent of US registrations were EVs, up from 1.35 percent a year earlier. Hybrid electric vehicles (HEV) saw their share improve from 2.97 percent in the first half of 2019 to 3.13 percent in the first half of 2020, while PHEVs saw their share drop from 0.53 percent to 0.39 percent over the same period. Non-electrified powertrains continue to both dominate the landscape but see their share slightly eroded. In the first half of 2020, their share fell to 95.0 percent, from 95.2 percent in the year-earlier period.”



Seasonally Adjusted Annual Rates (Updated 9/3)

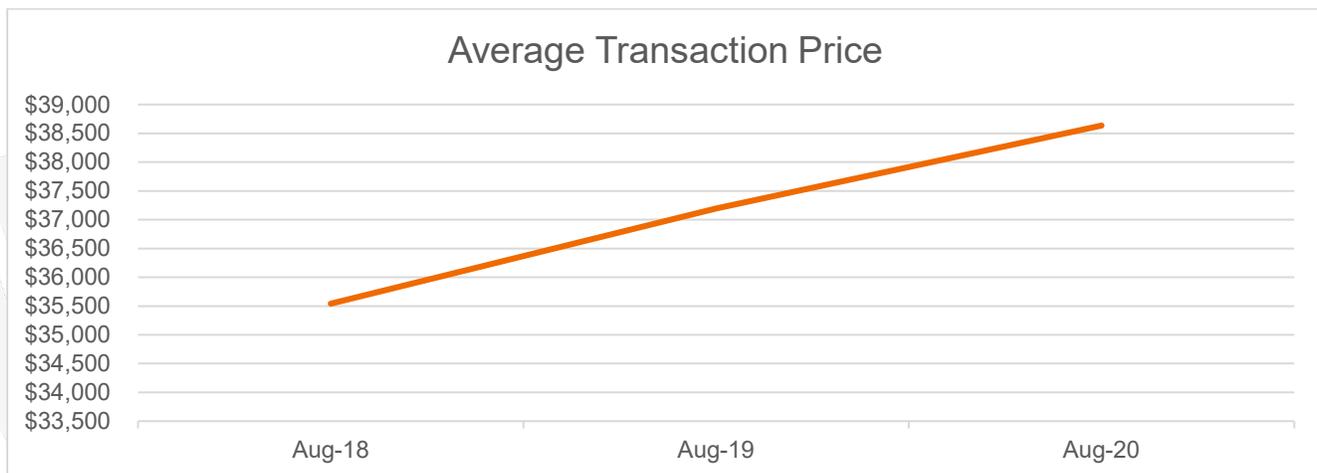
“U.S. light-vehicle sales totaled a 15.2 million-unit seasonally adjusted annual rate in August, the highest since February’s pre-pandemic 16.8 million. Sales have risen each month since April’s rock-bottom 8.7 million-unit SAAR. . . . Currently, sales are forecast to total a 14.5 million-unit SAAR over the final four months of the year, ending 2020 at 13.9 million units.”^{xx}



Average Transaction Price (Updated 9/3)

Kelley Blue Book: “The valuation analysts at Kelley Blue Book today reported the estimated average transaction price for a light vehicle in the United States was \$38,635 in August 2020. New-vehicle prices increased \$1,442 (up 3.9%) from August 2019, while raising \$72 (up 0.2%) from last month.”^{xxi}

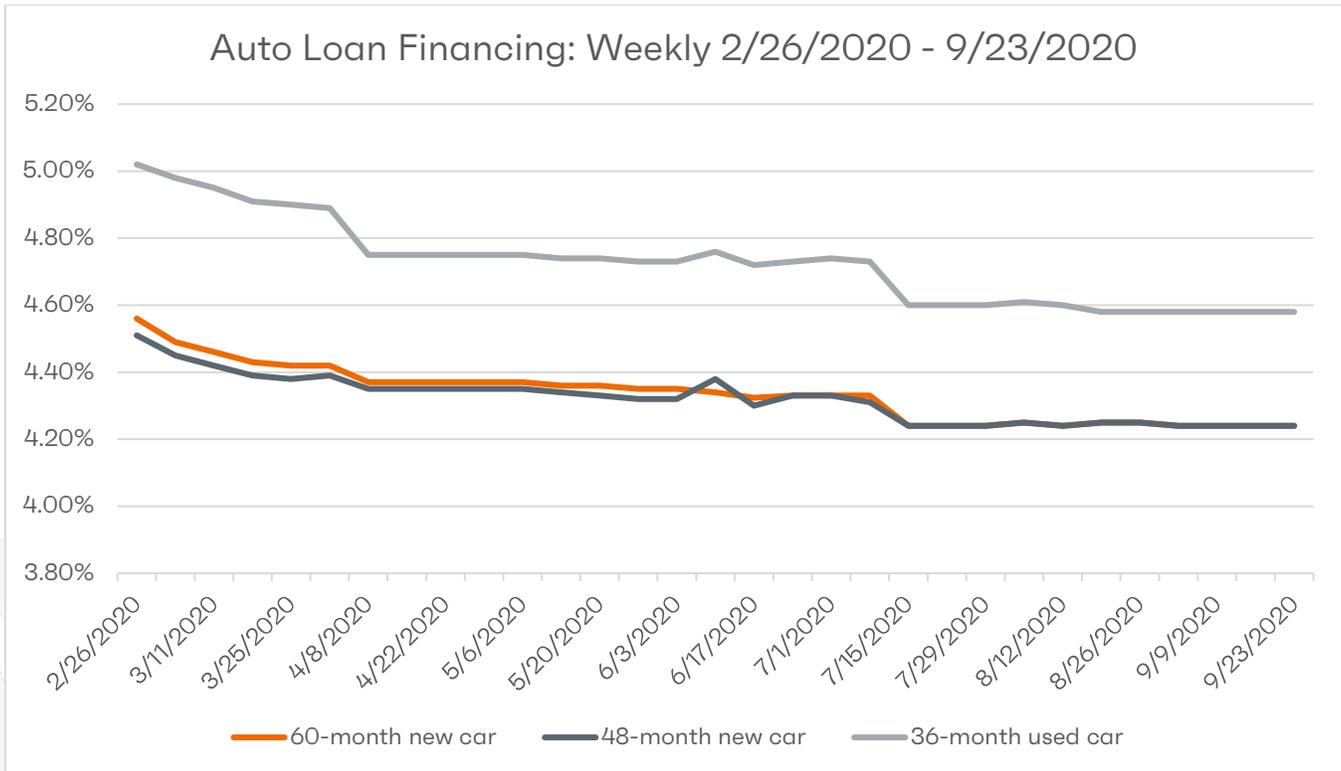
Additional Insight From J.D. Power: “Customer-facing transaction price rose by \$103 from last week to \$35,486. A decline in premium nameplate transaction price (-\$887) was more than offset by higher premium nameplate share of industry. The average CFTP of the current week ending August 30 was 6.3% above the same week in 2019.”^{xxii}



Auto Loan Financing (Updated 9/30)

Financing Remains Largely Unchanged: Rates for the week of September 23rd were unchanged from September 16th, which again matched this year’s lows. Since dropping in mid-July to the lowest rates all year, rates have remained relatively static. Since the beginning of the year, rates are down .36% and down .37% from about a year ago.^{xxiii}

Dates	60-month new car	48-month new car	36-month used car
9/25/2019	4.66%	4.60%	5.17%
1/2/2020	4.60%	4.55%	5.10%
9/16/2020	4.24%	4.24%	4.58%
9/23/2020	4.24%	4.24%	4.58%
One Week Change	0.00%	0.00%	0.00%
Two Week Change	0.00%	0.00%	0.00%
Change since 1/3/20	-0.36%	-0.31%	-0.52%
One Year Change	-0.37%	-0.33%	-0.57%

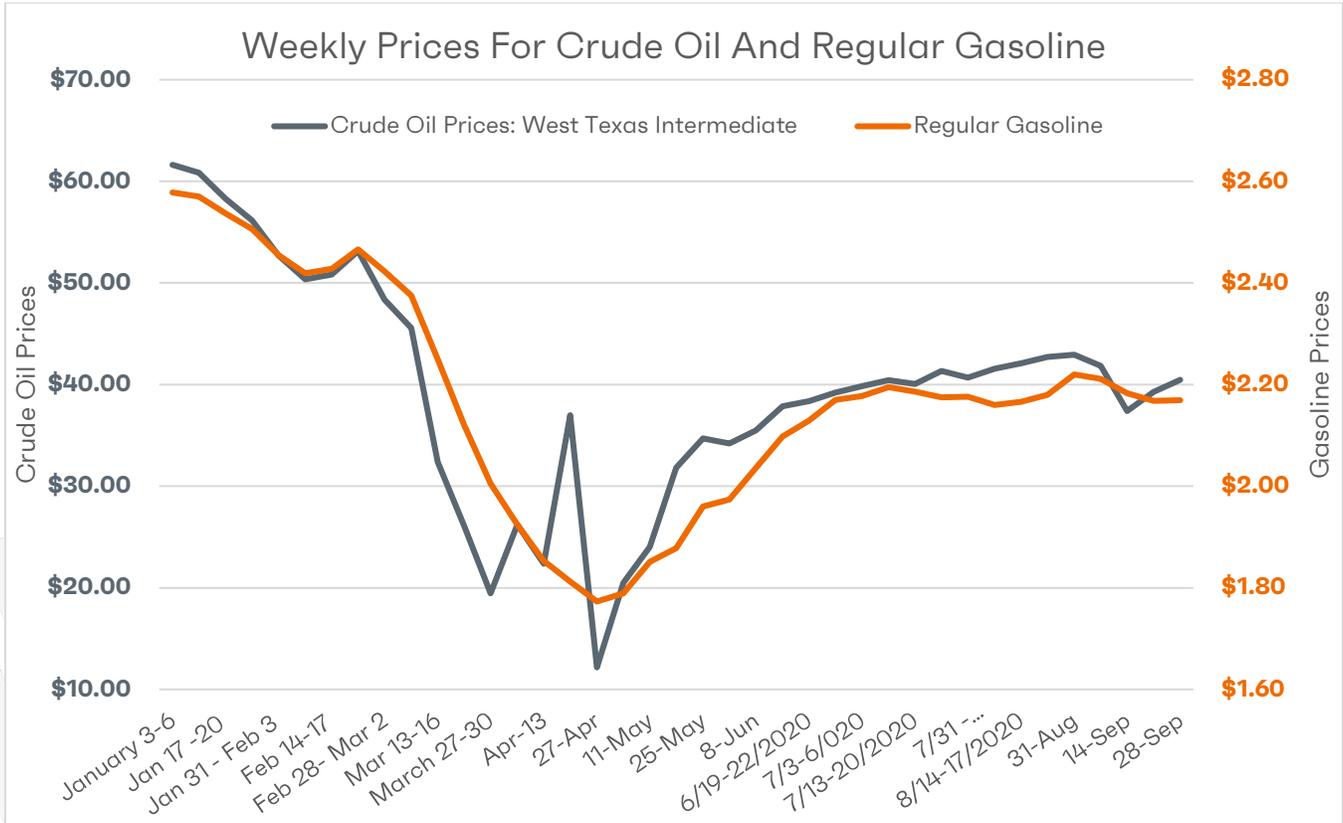


Crude Oil and Gas Prices (Updated 9/30)

EIA Outlook For Gasoline^{xxiv}: “U.S. regular gasoline retail prices averaged \$2.18 per gallon (gal) in August, largely unchanged from the average in July but 44 cents/gal lower than at the same time last year. EIA expects that gasoline prices will decrease through the rest of the year, falling to an average of \$2.03/gal in December. Forecast U.S. regular gasoline retail prices average \$2.16/gal in 2020 and \$2.28/gal in 2021. . . . U.S. gasoline inventories decreased in August by 15 million barrels (6%) from July as finished motor gasoline consumption and net exports grew. EIA estimates that finished motor gasoline consumption increased to 8.9 million b/d for August, up 2% from 8.7 million b/d in July.”

EIA Outlook For Production^{xxv}: “Crude oil production in the United States has risen in recent months after declining from 12.7 million b/d in the first quarter of 2020 to a recent low of 10.0 million b/d in May. EIA estimates U.S. crude oil production increased to 10.8 million b/d in August. Production has risen as tight oil operators have brought wells back online in response to rising prices after curtailing production amid low oil prices in the second quarter. The increase in total U.S. production occurred despite shut-in production in the Gulf of Mexico as a result of Hurricane Laura. EIA expects production to rise to 11.2 million b/d in September as production in the Gulf of Mexico returns.”

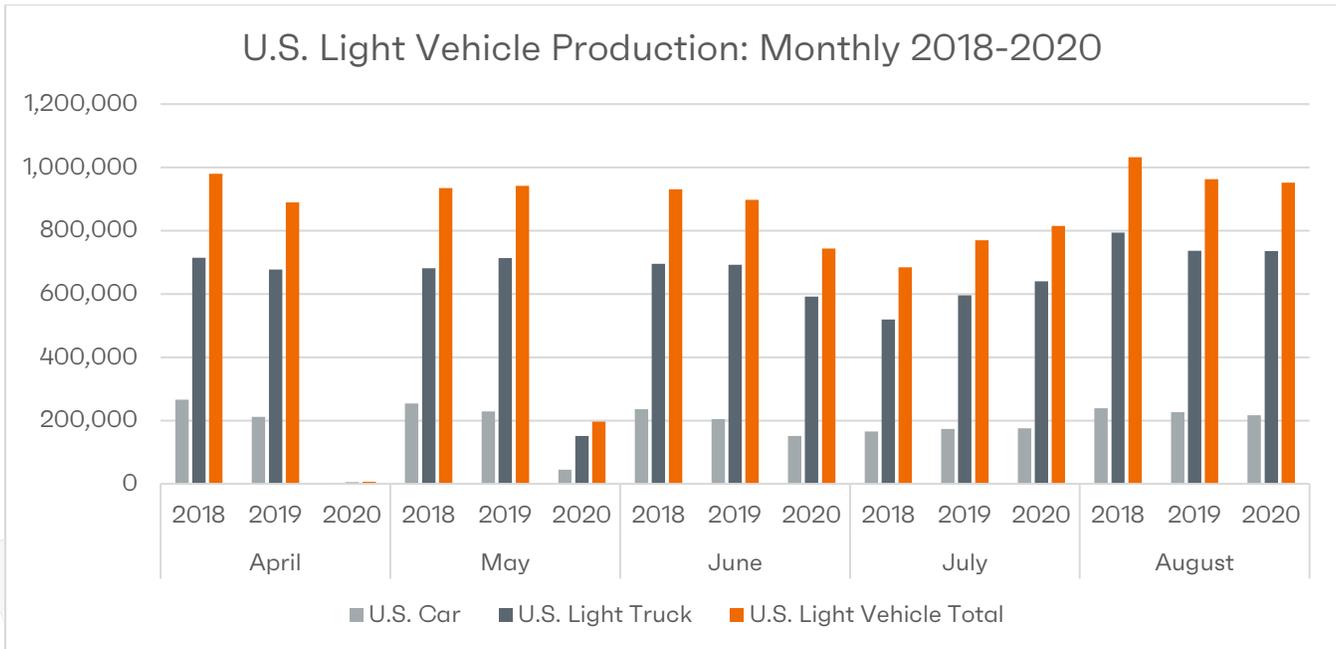
Oil And Gas Remain Low: Oil prices, as benchmarked at West Texas Intermediate, as well as gasoline prices, both continued their rebound that began over the summer and are mostly holding steady, though the beginning of September did bring a slight dip. For the week of September 28th, oil was back to \$40, while gas remained at \$2.17. Compared to the start of the year, crude oil is down 34%, while gas prices are down 16%.^{xxvi}



Production Meter

U.S. Light Vehicle Production (Updated 9/23)

North American automakers built 1,429,253 vehicles in August, a 6% decrease from the same month in 2019. U.S. production decreased 11,028 year-over-year, with the car segment seeing the bulk of the decrease (-9,827). This represents a 1.1% decrease in total vehicles over last August. In total, car production in the U.S. was 216,668 units in August, a 4.3% decrease from August 2019, while light truck production was 735,315 units, a .2% decrease.



xxvii

U.S. Light Vehicle Inventory and Days' Supply (Updated 9/3)

August Inventory Update: “The pandemic-induced inventory shortage improved in August for the second straight month by remaining relatively flat with the prior period and not declining as it typically does during the first two months of the third quarter when manufacturers schedule most of the year’s model changeover and vacation downtime.

“However, inventory remained at a 9-year low, totaling 2.64 million units on Aug. 31, 26.3% below like-2019. Showing how lean inventory is in relation to demand, Aug. 31 days’ supply of 52 also was a 9-year low, falling from July’s (also 9-year low) 55 and like-2019’s 61.

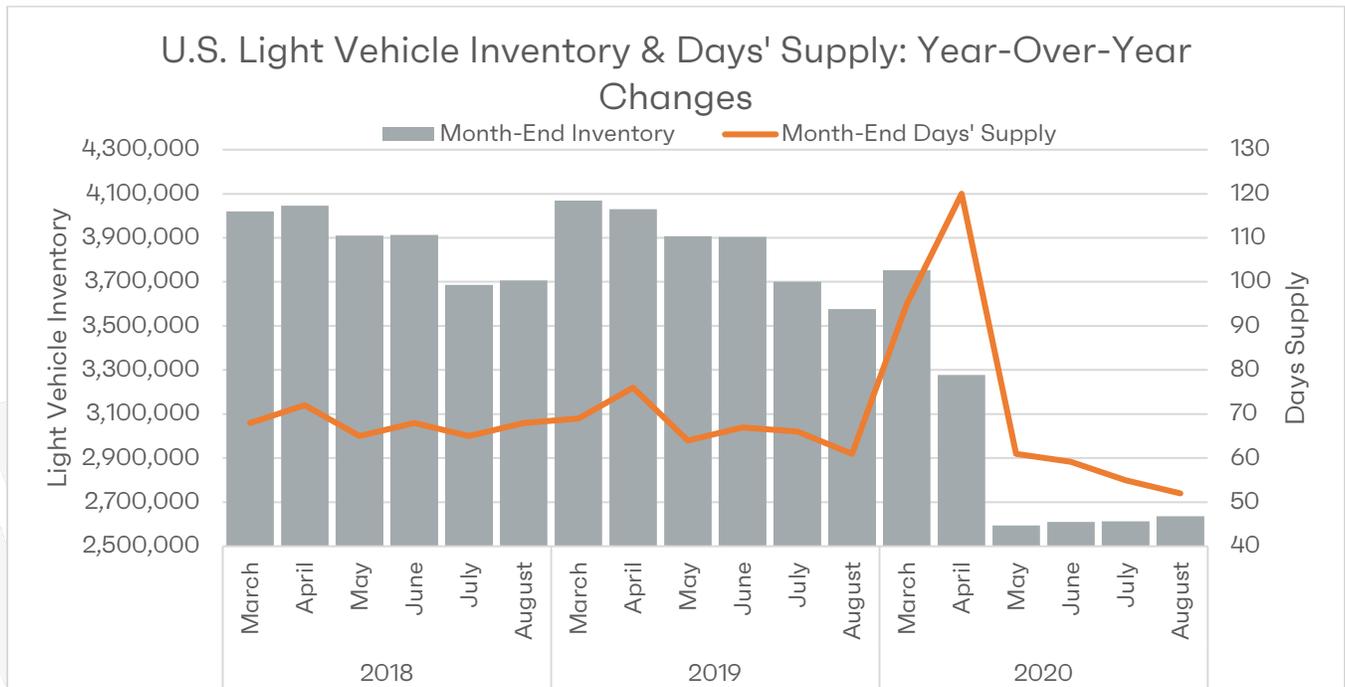
“If the sales outlook for the rest of 2020 holds relatively firm, the inventory picture will start to improve. Wards Intelligence projects inventory will rise to 3.1 million units by the end of the year, only nudging it up to an 8-year low, but well-balanced with LMC’s sales forecast for 2021 of 15.2 million units.”

North America Inventory^{xxviii}:

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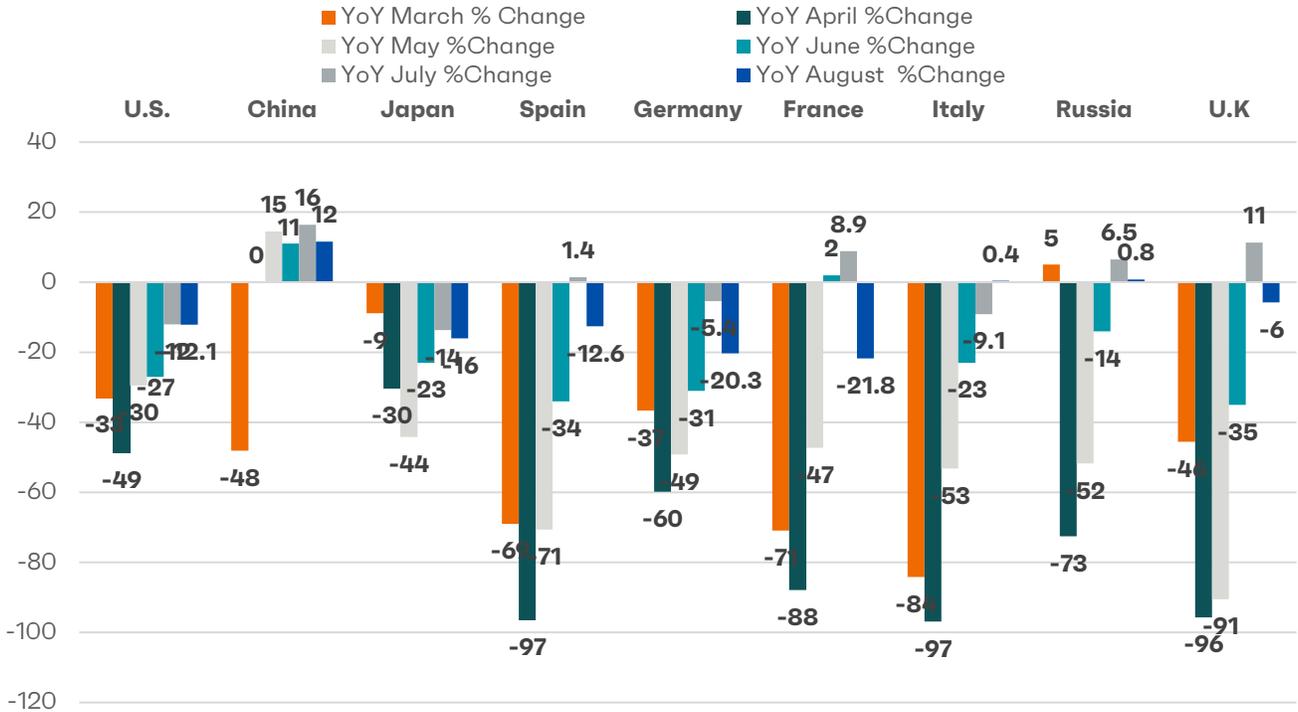


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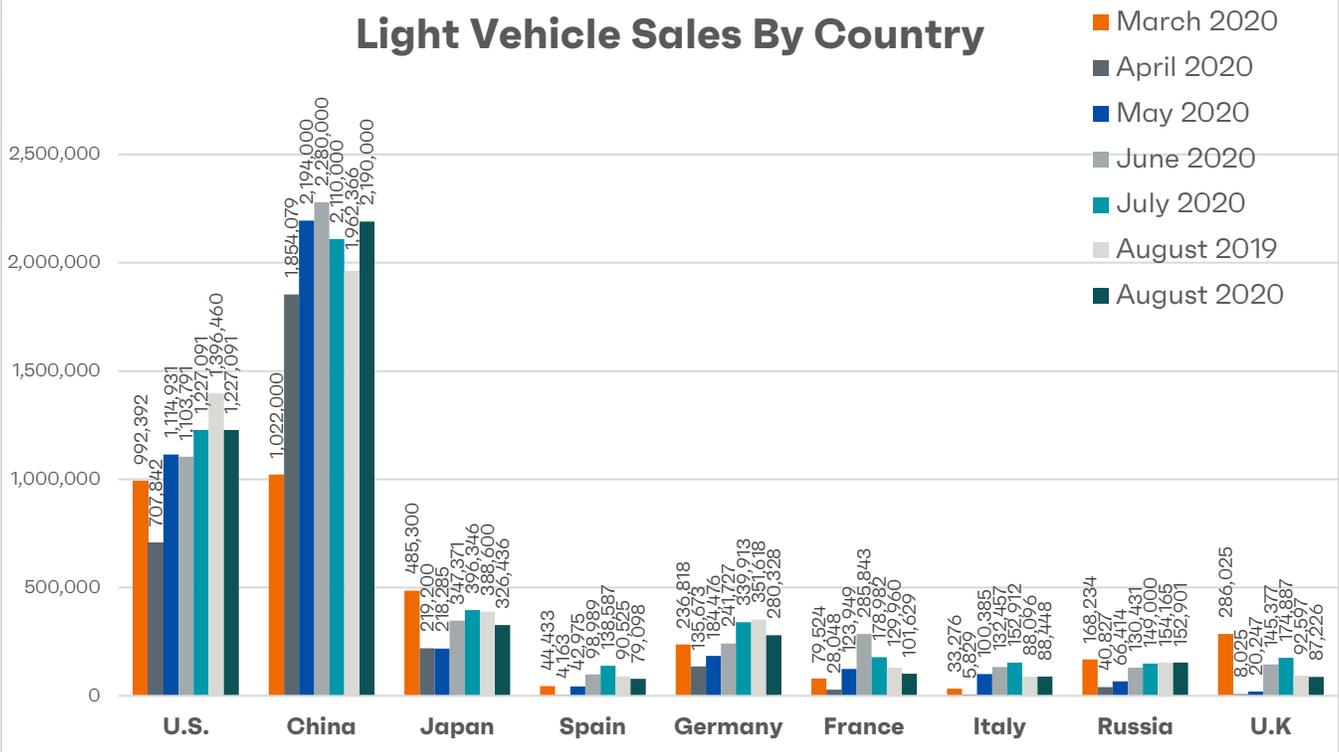
Global Meter (Updated 9/16)

Sales in select countries around the globe, including year-over-year percent change by month as well as raw volume by month:

Light Vehicle Sales By Country: Year-Over-Year Percent Change By Month



Light Vehicle Sales By Country



Recovery Meter

North American Assembly Facility Operating Status (Updated 9/3)

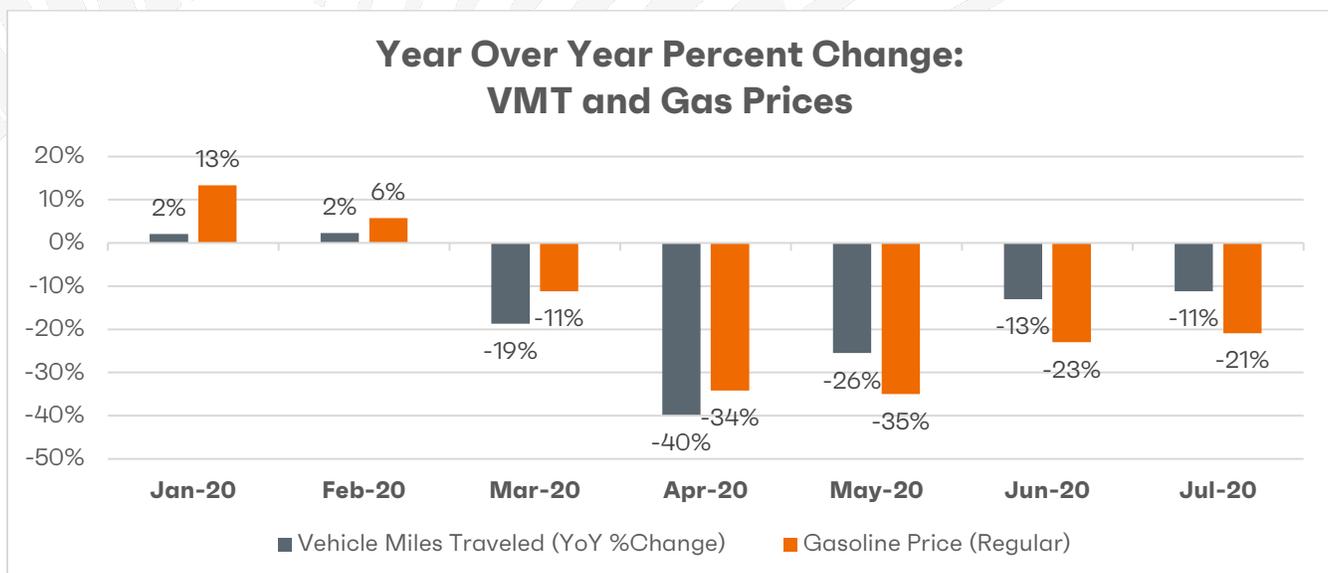
After all automotive manufacturing was shut down for the first time since World War II for roughly eight weeks, automakers have resumed production at all plants across North America. The extent to which production has ramped up or employment has been reinstated continues to fluctuate due to the impacts of COVID-19. We will continue to monitor the operational status of assembly facilities.

To view information on plant operating status during the shutdown, please click [here](#).

Roadway Travel (Updated 9/23)

According to the U.S. Department of Transportation, vehicle miles traveled have increased month-to-month since April, but are still down 11 percent^{xxx}:

- “Travel on all roads and streets changed by -11.2% (-33.2 billion vehicle miles) for July 2020 as compared with July 2019. Travel for the month is estimated to be 262.4 billion vehicle miles
- “The seasonally adjusted vehicle miles traveled for July 2020 is 239.7 billion miles, a -12.5% (-34.4 billion vehicle miles) decline from July 2019. It also represents 4% increase (9.2 billion vehicle miles) compared with June 2020.
- “Cumulative Travel for 2020 changed by -15.7% (-297.2 billion vehicle miles). The cumulative estimate for the year is 1,593.2 billion vehicle miles of travel.”

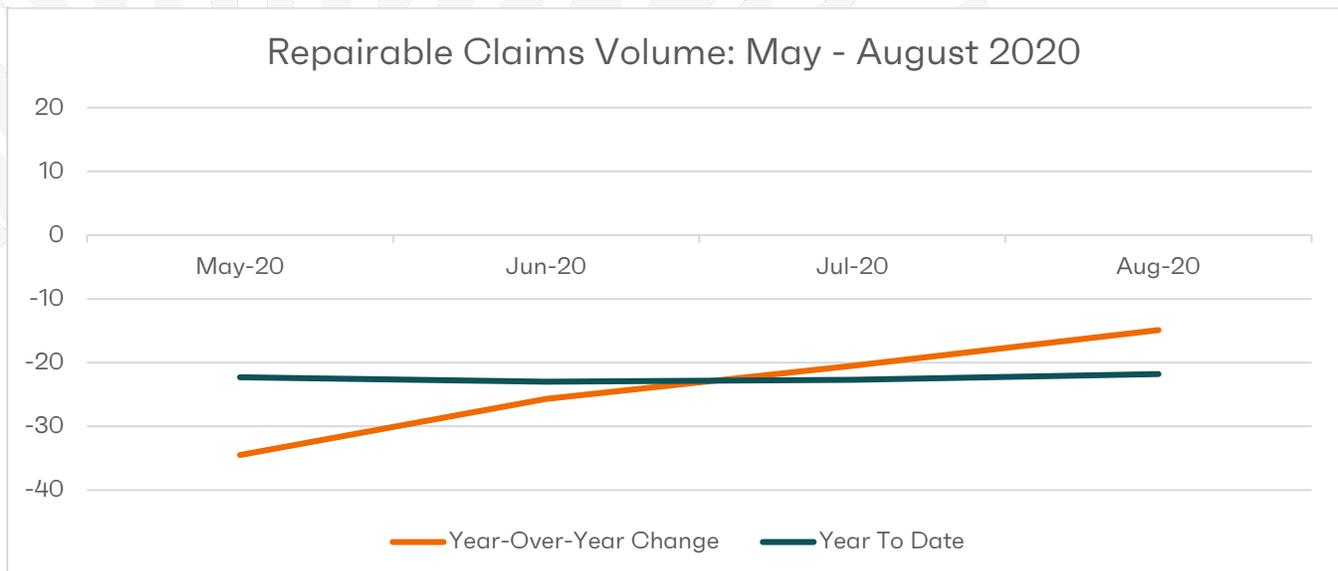


Repairable Claims (New 9/16)

In addition to highlighting key data regarding vehicle production and sales, the number of auto accidents and insurance claims are also useful to understand since the start of the COVID pandemic. The following chart and statistics help to highlight how vehicle repairs and insurance claims have decreased since that start of the year.

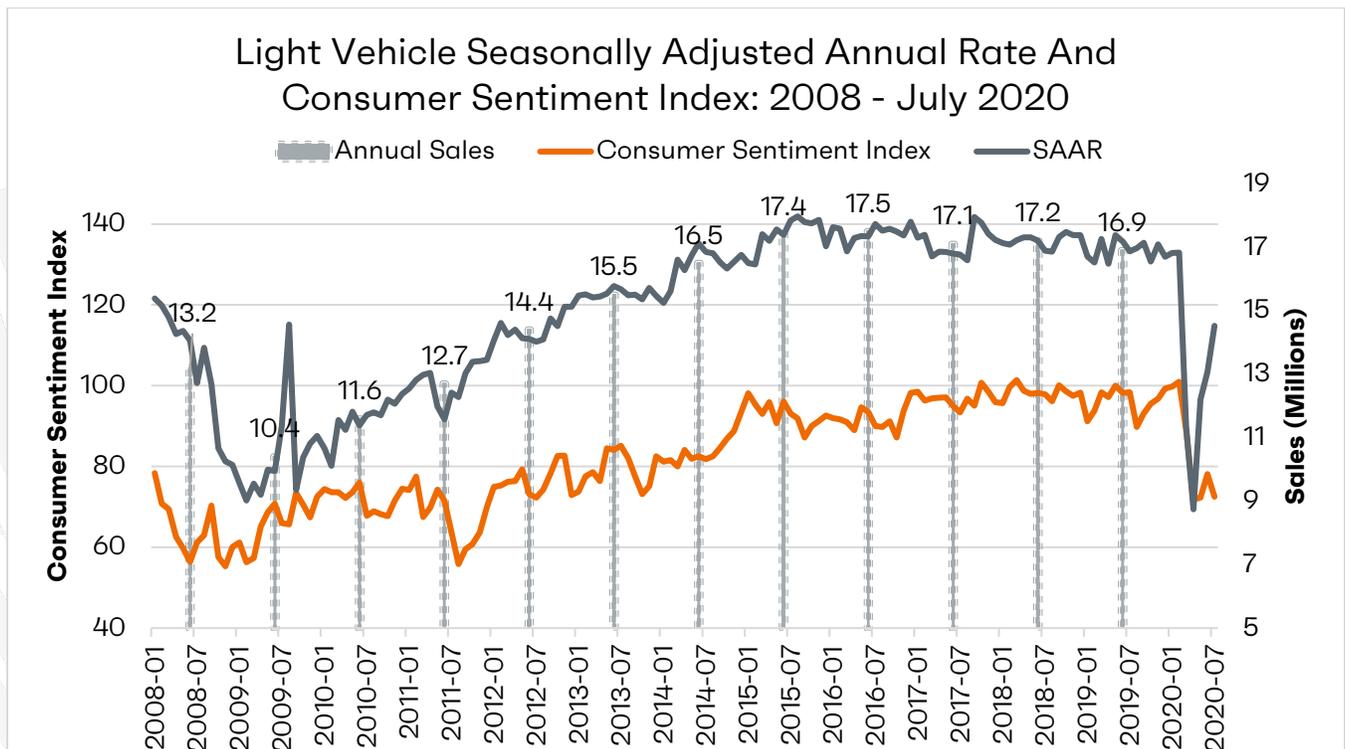
Latest Data From CCC: “The primary factor most highly correlated to accident frequency is vehicles per road mile – i.e. how many vehicles on a given road at any given point. . . . With the number of COVID-19 cases rising again as many return to school, and the approach of normal flu season, many companies plan to keep at least part of their staff remote through the remainder of the year. This will likely mean non-comprehensive may remain down -10 to -15 percent for full year 2020.

- “Overall repairable appraisal counts for the industry were down -14.9 percent in August 2020 versus August 2019.
- “Excluding comprehensive losses, counts also remained down over 25 percent year-to-date, although August 2020 non-comprehensive counts were down only -20.5 percent versus down -24.7 percent in July 2020.
- “With the number of COVID-19 cases rising again as many return to school, and the approach of normal flu season, many companies plan to keep at least part of their staff remote through the remainder of the year. This will likely mean non-comprehensive may remain down -10 to -15 percent for full year 2020.”^{xxxi}



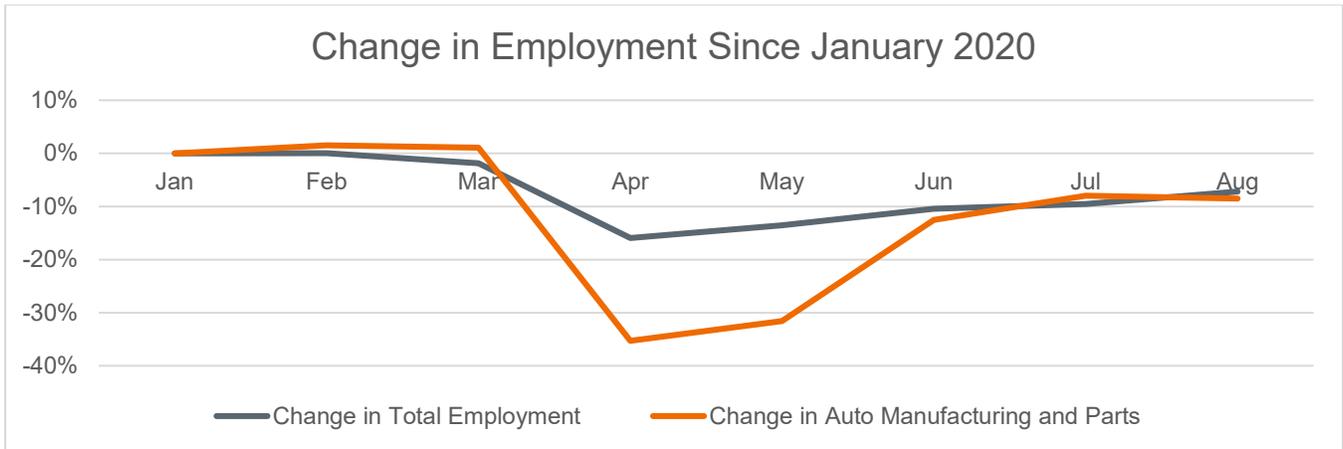
Consumer Confidence and Sales (New 9/3)

At the start of the year, consumer sentiment, as measured by the University of Michigan, was registering a 100 on their index, but since then, confidence has fallen more than a quarter to 72.5^{xxxii}. While the March low of 71 is not far off from where the index sits currently, it is still much higher than it was during the depths of the recession in 2008. While new vehicle sales have recovered despite wavering consumer confidence, the rest of the year could see sales stall against consumer sentiment headwinds.



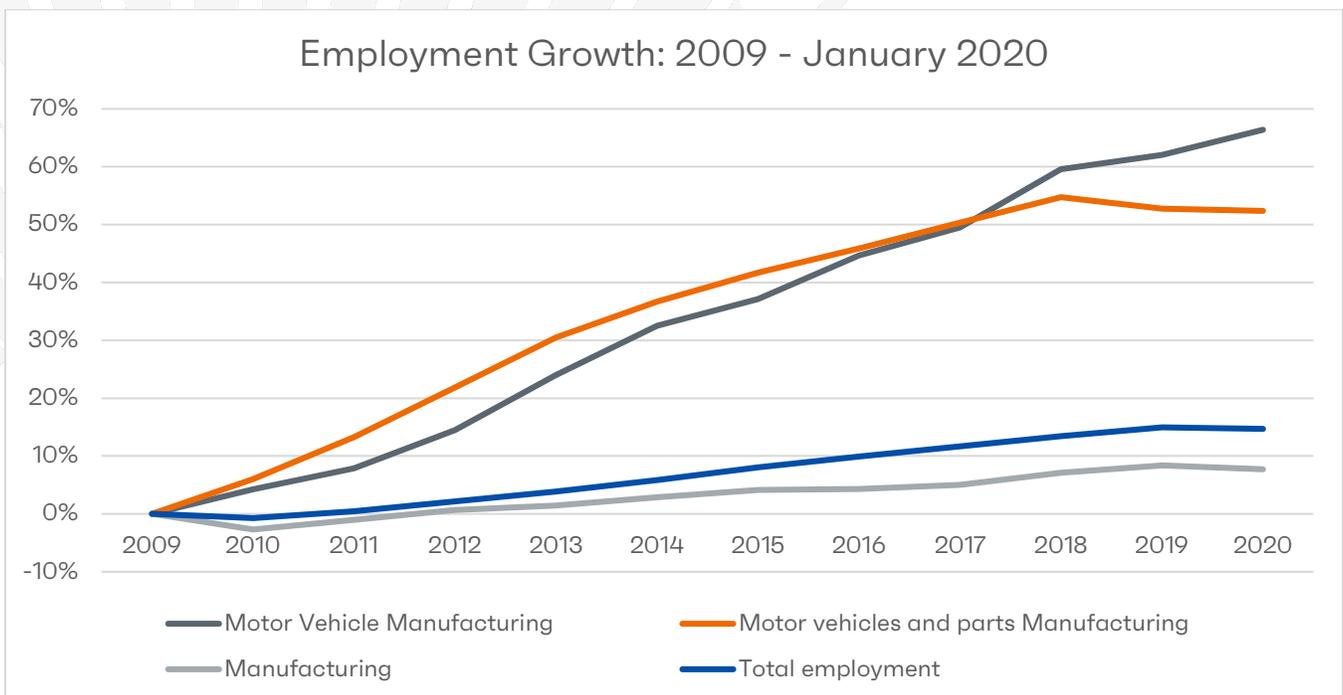
Employment (Updated 9/8)

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 has raced back and is now only down about 84,000 employees, constituting an 8.5 percent loss since January.^{xxxiii}



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^{xxxiv}.

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.



ⁱ WardsIntelligence, "U.S. Light Vehicle Sales, March," 4/1/2020; WardsIntelligence, "U.S. Light vehicle Sales, April," 5/1/2020

ⁱⁱ Haig Stoddard, "COVID-19 Impact Will Tank March, Second-Quarter U.S. Light-Vehicle Sales," *WardsIntelligence*, 3/25/20; Haig Stoddard, "March 25 COVID-19 Update: 2020 North America Production, U.S. Sales Forecasts," *WardsIntelligence*, 3/30/20; Haig Stoddard, "U.S. Light-Vehicle Sales Start on the Road Back in May," *WardsIntelligence*, 5/21/20

- iii Haig Stoddard, "COVID-19's Toll on North America Vehicle Production in March, Q2," *WardsIntelligence*, 3/30/20
- iv Haig Stoddard, "Growth in U.S. Light-Vehicle Sales Refuses to Stall; September to Post 16.2 Million SAAR," *WardsIntelligence* 9/23/20
- v Haig Stoddard, "Covid-19: Revised Outlook for U.S. Light-Vehicle Sales in 2020, 2021," *WardsIntelligence*, 5/27/2020
- vi IHS Markit, email, "IHS Markit Monthly Automotive Update - September 2020," 9/15/2020
- vii IHS Markit, email, "IHS Markit Monthly Automotive Update - August 2020," 8/14/2020
- viii Haig Stoddard, "North America Vehicle Production Expected to Rebound After 6.0% Decline in August," *WardsIntelligence*, 9/21/2020
- ix IHS Markit, email, "IHS Markit Monthly Automotive Update - August 2020," 8/14/2020
- x J.D. Power, "[Auto Industry Impact Report: August 30, 2020](#)," 9/2/2020
- xi WardsIntelligence, "U.S. Light Vehicle Sales, July 2020," 8/3/20; WardsIntelligence, "U.S. Light Vehicle Sales, July 2018," 8/1/18
- xii Haig Stoddard, "U.S. Light-Vehicle Sales Rise to 6-Month High in August," *WardsIntelligence*, 9/1/2020
- xiii Haig Stoddard, "U.S. Light-Vehicle Sales Rise to 6-Month High in August," *WardsIntelligence*, 9/1/2020
- xiv IHS Markit, "[IHS Markit Analysis: US Registration Data Show Market Share Improvement for Pick-up Trucks, Decline for Compact Cars in H1](#)," 8/17/20
- xv J.D. Power, "J.D. Power Auto Industry Impact Report," 6/4/2020
- xvi WardsIntelligence, U.S. Light Vehicle Sales, January 2013 – December 2019
- xvii U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Regular price per gallon, including taxes
- xviii WardsIntelligence, Fuel Economy Index, December 2013 & 2019
- xix IHS Markit, "[IHS Markit Analysis: US Registration Data Show Market Share Improvement for Pick-up Trucks, Decline for Compact Cars in H1](#)," 8/17/20
- xx Haig Stoddard, "U.S. Light-Vehicle Sales Rise to 6-Month High in August," *WardsIntelligence*, 9/1/2020
- xxi Kelley Blue Book, Press Release, "Average New-Vehicle Prices Jump Nearly 4% Year-Over-Year in August 2020, According to Kelley Blue Book," 9/1/2020; Kelley Blue Book, Press Release, "Small SUV Average Transaction Prices Weaken, Despite Year-Over-Year Sales Growth; Expect Further Discounts, According to Kelley Blue Book," 9/4/18
- xxii J.D. Power, "[Auto Industry Impact Report: August 30, 2020](#)," 9/2/2020
- xxiii Bankrate, "[Current Car Loan Interest Rates](#)," Accessed 9/23/20; Internet Archive, Bankrate, "Current Car Loan Interest Rates, cached image from 8/8/19
- xxiv EIA, "[Short-Term Energy Outlook](#)," 9/9/2020
- xxv EIA, "[Short-Term Energy Outlook](#)," 9/9/2020
- xxvi U.S. Energy Information Administration, Regular Gasoline, https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_m.htm, Accessed 9/23/20; U.S. Energy Information Administration, Daily Cushing, OK WTI Spot Price, <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=W>, Accessed 9/23/20; YCharts, https://ycharts.com/indicators/wti_crude_oil_spot_price, Accessed 9/23/20
- xxvii WardsIntelligence, "North America Production, June 2018," 7/20/18; WardsIntelligence, "North America Production, June 2020," 7/21/20; WardsIntelligence, "North America Production, July 2018," 8/20/18; WardsIntelligence, "North America Production, July 2020," 8/20/2020
- xxviii Haig Stoddard, "U.S. Light-Vehicle Inventory in August Still Lean at 9-Year Low," 9/2/20
- xxix WardsIntelligence, "U.S. Light Vehicle Inventory, March 2020," 4/2/2020; WardsIntelligence, "U.S. Light Vehicle Inventory, April 2018," 5/3/18; WardsIntelligence, "U.S. Light Vehicle Inventory, May 2020," 5/21/2020; WardsIntelligence, "U.S. Light Vehicle Inventory, May 2018," 6/5/18; WardsIntelligence, "U.S. Light Vehicle Inventory, June 2020," 7/2/20; WardsIntelligence, "U.S. Light Vehicle Inventory, June 2018," 7/5/18; WardsIntelligence, "U.S. Light Vehicle Inventory, July 2020," 8/4/20; WardsIntelligence, "U.S. Light Vehicle Inventory, July 2018," 8/2/18
- xxx U.S. Department of Transportation, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm, accessed 9/23/2020
- xxxi CCC, "[CCC AutoClaims Snapshot – August 2020](#)," 9/10/2020
- xxxii University of Michigan Consume Sentiment Index, <https://fred.stlouisfed.org/series/UMCSENT>, Accessed 9/2/2020
- xxxiii Bureau of Labor Statistics, Current Employment Statistics, Accessed 9/2/2020
- xxxiv Jerry Hirsch, "[Auto Industry Has Soared Since 2010, Leading Economic Recovery](#)," *Los Angeles Times*, 1/3/14