

READING THE METER

A Look Inside A Cleaner, Safer, Smarter Auto Industry. November 25, 2020

Contents

Forecast Meter	2
Forecast Summary (Updated 11/25) U.S. Light Vehicle Sales Outlook (Updated 11/25) North American Production Outlook (Updated 11/25)	
Market Meter	5
U.S. Light Vehicle Sales (Updated 11/4) Segments vs. Gas Prices (Updated 11/4) ZEV Powertrain Sales (Updated 11/4) Seasonally Adjusted Annual Rates (Updated 11/4)	
Average Transaction Price (Updated 11/4) Auto Loan Financing (Updated 11/25) Crude Oil and Gas Prices (Updated 11/25)	
Production Meter	12
U.S. Light Vehicle Production (Updated 11/25) U.S. Light Vehicle Inventory and Days' Supply (Updated 11/4)	
Global Meter (Updated 11/25)	
Recovery Meter	16
North American Assembly Facility Operating Status (Updated 9/3) Roadway Travel (Updated 11/18) Repairable Claims (Updated 11/11) Economic News (New 11/4) Consumer Confidence and Sales (Updated 11/4) Employment (Updated 11/11).	



Forecast Meter

Forecast Summary (Updated 11/25)

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)			
Мау	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	1,344,310 (6.4% YoY)	1,395,830 (2.1% YoY)			
October	1,345,401 (.9% YoY)	1.46 million units (4.1% YoY)			
1 st Quarter	3,476,512 (-12.7% YoY)	3.86M (-11.7% YoY)			
2 nd Quarter	2,948,410 (-33.3% YoY)	1.4M (-67.6% YoY)			
3 rd Quarter	3,904,539 (-9.2 YoY)	4.10 million units (5% YoY)			
Calendar YTD	11,646,788 (-17% YoY)	10.86 million units (-24% YoY)			
2020 Full Year Estimate	12.6-14.4M (-15%-26% YoY)	13.4 million units (-20.2% YoY)			

U.S. Light Vehicle Sales Outlook (Updated 11/25)

J.D. Power November Forecast^{iv}: "New-vehicle retail sales for the month of November are expected to decline marginally from November 2019, according to a joint forecast from J.D. Power and LMC Automotive. Retail sales for new vehicles are projected to reach 1,040,000 units, a 0.7% decrease compared with November 2019 when adjusted for selling days. November 2020 contains three fewer selling days and one less selling weekend when compared November 2019. Comparing the same sales volume without adjusting for the number of selling days translates to a decrease of 12.2% year over year.

"Total new-vehicle sales for the month of November, including retail and non-retail transactions, are projected to reach 1,208,100 units, a 3.5% decrease from November 2019 when adjusted for selling days. Reporting the same numbers without controlling for the number of selling days translates to a decrease of 14.6% from November 2019. The seasonally adjusted annualized rate (SAAR) for total new-vehicle sales is expected to be 15.8 million units, down 1.3 million units from 2019."

Wards Intelligence Outlook': "October's decline from September's SAAR could indicate growth has hit a ceiling that could last into next year. There still are potential economic headwinds – particularly permanent job losses – as well as the chance uncertainty in the economy increases due to rising Covid-19 cases, which could lead to sales stalling. A major hindrance to results is fleet demand."



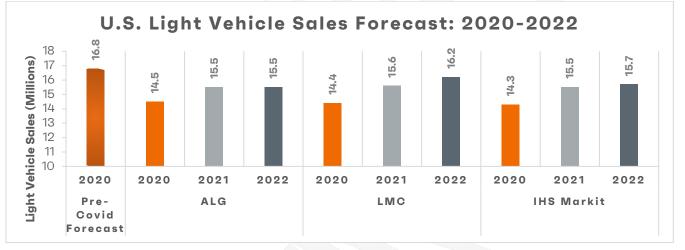
"Initial modeling shows November-December sales posting a combined 15.9 million-unit seasonally adjusted annual rate, which would put the entire quarter at 16.0 million. Sales for entire-2020 are expected to total 14.4 million units, 15.0% below 2019's 17.0 million. Wards Intelligence partner LMC Automotive is forecasting 15.6 million units in 2021, a 6.0% year-over-year increase."^{vi}

Credit Suisse Outlook^{vii}: "Three reasons to expect a return to more normalized SAAR in 2021: We forecast 2021 US auto sales of 15.4mn, representing a 7% increase off our 2020 estimate, and an uptick vs. our prior '21 estimate of 15.0mn. We recognize that the obvious unknown and the most important factor in forecasting 2021 SAAR is the status of the US consumer – if coronavirus reemergence limits consumer recovery, that would clearly limit auto sales. That said, the Sep/Oct SAAR prints provide reason to believe that 2021 could bring sales near normalized levels. Specifically, we'd flag several key reasons indicating potential return to more normalized SAAR in 2021, with potential upside:

- **"Solid retail driven by health of new car buyer, financing intact:** New car buyers have seen less labor shock than the national avg. with median household income of ~\$100k, the avg. US new vehicle buyer has higher household income than the national avg., and never saw the same labor shock as lower income cohorts. Moreover financing availability has remained intact (~85% new car sales financed). Lastly, the case remains for increased personal vehicle ownership (see our report: "Post coronavirus auto trends"). Accordingly, we may see retail sales return to normalized levels.
- *"Fleet recovery:* While fleet is on track to be down ~35% for 2020, we see potential for some recovery in 2021, as commercial remains healthy, and as daily rental likely sees some form of recovery."

IHS Markit Update: "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 14.3 million units and 15.5 million units for 2020 and 2021, respectively." **viii**

"IHS Markit expects the market's sales recovery to be over years, with the US not seeing 17 million lightvehicle registrations annually again through 2025." ^{ix}



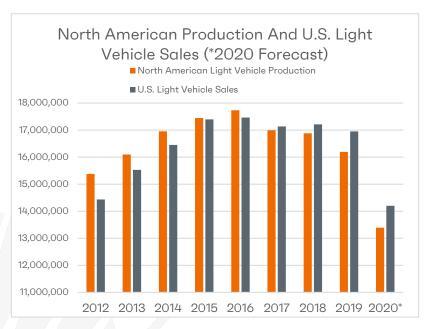


North American Production Outlook (Updated 11/25)

WardsIntelligence Update x:

"Although the overall impact has been small, October's underbuild is the main reason the fourth-quarter outlook has been reduced 38,100 units from month-ago's projections to 4.00 million. Small increases were made to November and December under the assumption there are no major slowdowns related to the pandemic.

"Production for entire 2020 is projected to total 13.39 million units, 20.2% below 2019. Separated, lightvehicle output is pegged at 13.00 million units, 19.7% below 2020, while medium-/heavy-duty trucks are expected to decline 33.5% to 387,000."



IHS Markit November Update ^{xi}: "The production outlook for North America remains stable for the November 2020 release with 2020 revised up 0.2% or 23,000 units to total 13.0 million units. Production in 2021 was revised up a marginal 9,000 units or less than 0.1% totaling 15.9 million units with 2022 revised down 18,000 unit or 0.1% at 16.3 million units. With the month-over-month trend showing a slow restocking on inventory is underway, the restocking phase for North American production is forecast to continue through second quarter 2021 before moving towards the alignment phase that more closely aligns to demand. During this extended restocking phase, production in the region will outpace demand and is projected to add over 400,000 units to US inventory by the end of second quarter 2021. GM's announcement to add production of T1XX pickups at Oshawa surprised many, coming about through a deal with the Unifor union that represents Canadian auto workers. Production is expected to start at the retooled facility in January 2022. Production of both the light-and heavy-duty pickups will be added for the December forecast round with volume being mostly incremental for the first 12 to 18 months and totaling upwards of 150,000 units. With Oshawa serving as a relief valve, GM is also expected to garner additional cost savings with reduction in overtime at the already stressed Flint Truck, Fort Wayne and Silao plants."

Credit Suisse Outlook^{xii}: "Inventory remains tight; expect further positive revisions to IHS estimates: While we ultimately expect industry volumes to be dictated by demand trends, supply remains tight, and may remain tight through 1H'21 – especially in Ig. pickups. October-end US industry gross stock was 2.7mn units (up ~90k units m/m), an improvement, albeit still quite low vs. the 3.5-4mn level we've seen in recent years. Similarly, with October ending at 56 days supply, inventory is still light of the typical ~70 DSO for the industry. We think this is manageable, but tight. Given tight inventory and return of SAAR to pre-virus levels, we expect upside to IHS NA production estimates for 4Q20 and especially 2021."

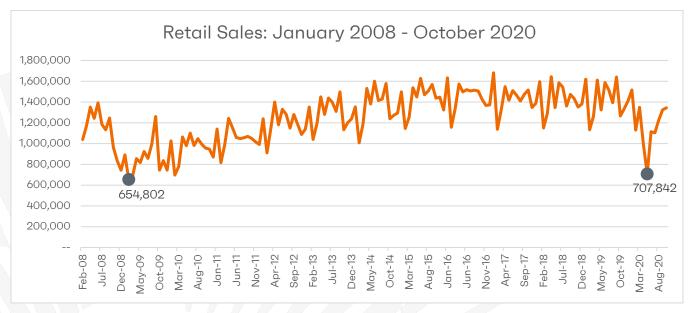


Market Meter

U.S. Light Vehicle Sales (Updated 11/4)

Monthly Sales (Updated 11/4)

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.



October Sales (Updated 11/4)

WardsIntelligence^{xiii}: "U.S. light-vehicle sales finished October significantly below forecast and failed to improve sequentially for the first time in six months, based on seasonally adjusted annual rates. October's sales volume of 1.345 million units equated to a 16.2 million-unit SAAR, which was below the same-month year-ago total of 16.8 million and September's 16.5 million.

"With an additional weekend in its sales period compared with last year, October's raw volume rose about 1% year-over-year. The daily selling rate over the month's 28 selling days was 48,050, 2.7% below like-2019's 49,407 – 27 selling days. It also was the ninth straight month the DSR fell from the same year-ago period.

"October's decline from September's SAAR could indicate growth has hit a ceiling that could last into next year. There still are potential economic headwinds – particularly permanent job losses – as well as the chance uncertainty in the economy increases due to rising Covid-19 cases, which could lead to sales stalling.

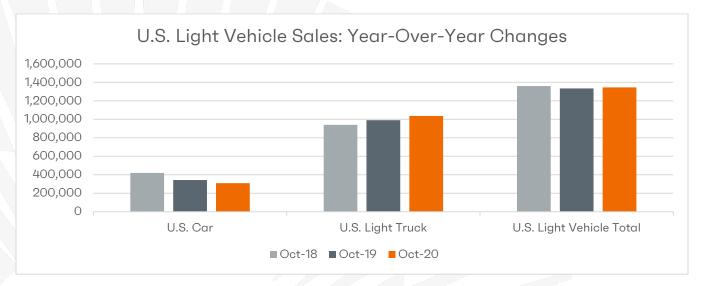


"A major hindrance to results is fleet demand.

"Estimated retail volume in October was up year-over-year a second straight month, but fleet deliveries remain well below 2019 levels – including an estimated 41% downturn in October - and might not record a significant upward movement toward pre-COVID-19 levels until next year.

"Also hindering demand in October was incentive activity, which was at its weakest since February, the last full month before the pandemic began impacting the market in mid-March. It is not unusual for automakers to pull back on incentives in October, which is the month dealers begin selling most new model-year vehicles.

"Based on DSRs, except for a 21.2% year-over-year decline in vans, strength in October was in trucks. Sales of CUVs and pickups, increased 1.6% and 1.0%, respectively. . .. Overall, trucks increased 0.9% in October from like-2019, while cars declined 12.9%. Year-to-date through October, truck deliveries are down 11.9% and cars are 30.0% below last year."



Fleet Sales (Updated 11/4)

Credit Suisse^{xiv}: "Fleet still weak but showing continued recovery, especially in daily rental: Fleet sales saw another challenged month, down ~25% in October – an improvement from down ~40% in Aug/Sep, and certainly much better than down ~70% in April-June, but nevertheless still weak. Fleet remains a tale of three channels, with sharp weakness in daily rental somewhat offset by government and commercial, albeit the incremental datapoint in October was significant recovery in daily rental. Indeed, daily rental sales were down ~40% in October, still quite weak, albeit a sharp improvement from ~-60% in September, and vs. the ~80-90% declines we saw in May-Aug (daily rental typically accounts for ~10% of US auto sales). Conversely, commercial and government have mostly held in, with commercial down low teens % in October and government up high single digit %. We see potential for continued fleet recovery into 2021, even if not at normalized levels."



Wards Intelligence^{xv}: "Estimated retail volume in October was up year-over-year a second straight month, but fleet deliveries remain well below 2019 levels – including an estimated 41% downturn in October - and might not record a significant upward movement toward pre-COVID-19 levels until next year. Less the market getting the screws put to it again by the pandemic, a wave of commercial-vehicle orders is expected by Q2-2021, and spring is the likeliest period for a significant resurgence in travel, which should boost rental demand."

IHS Markit^{xvi}: "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^{xvii}: 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%	-			

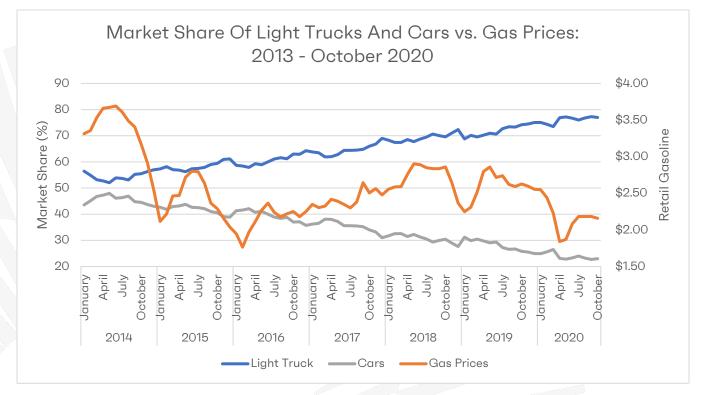
Segments vs. Gas Prices (Updated 11/4)

WardsIntelligence^{xviii}: "Based on DSRs, except for a 21.2% year-over-year decline in vans, strength in October was in trucks. Sales of CUVs and pickups, increased 1.6% and 1.0%, respectively. Thanks in part to the roll out at General Motors of its redesigned '21 model Chevrolet and GMC fullsize SUVs, the SUV segment group recorded a 12.7% increase from October 2019."



Segment Sales For October: Light trucks accounted for 77% of sales in October, a 3% gain in market share from a year ago. Compared to 2019, sales of cars are down more than 34,000, but negligibly different from September 2020. Total sales are up slightly (4,850) from September 2020, and up about 11,000 from October 2019.^{xix}

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.^{xx} and gas was over \$3.00.^{xxi} 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 \$2.68 a gallon (through October 2020) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013.^{xxii}, the perfect conditions existed to continue fueling light truck market growth.

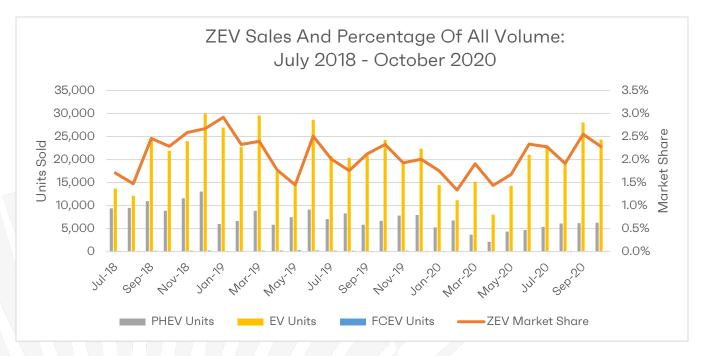


ZEV Powertrain Sales (Updated 11/4)

Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for only 2.3% of total vehicle sales in October 2020, up .1% from a year ago and down .2% from September 2020. Sales of battery electric vehicles led the way for ZEVs accounting for 1.8% of the total, though down .1% from October 2019. Plug-in hybrids accounted for .5%, unchanged from a year ago.

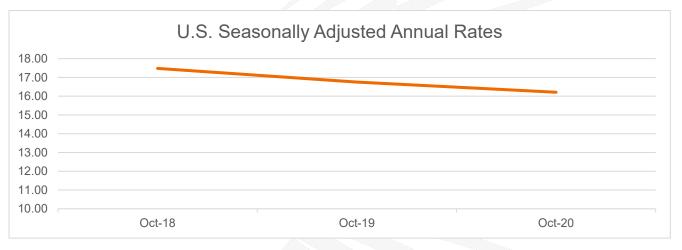


Credit Suisse^{xxiii}: "For all the hype around EV euphoria, we still haven't seen the inflection in the US. YTD BEV+PHEV sales in the US are down ~17% y/y, in-line with the industry decline; BEV+PHEV have accounted for 2.0% of vehicle sales YTD."



Seasonally Adjusted Annual Rates (Updated 11/4)

"October's sales volume of 1.345 million units equated to a 16.2 million-unit SAAR, which was below the same-month year-ago total of 16.8 million and September's 16.5 million. With an additional weekend in its sales period compared with last year, October's raw volume rose about 1% year-over-year. The daily selling rate over the month's 28 selling days was 48,050, 2.7% below like-2019's 49,407 – 27 selling days. It also was the ninth straight month the DSR fell from the same year-ago period.^{xxiv}"





Average Transaction Price (Updated 11/4)

Incentive Spending^{xxv}: "[A]ccording to an initial estimate by ALG, average incentive spending in October was \$3,869, which was 2.6% above like-2019, but the lowest year-over-year increase in eight months. ALG estimated average transaction prices rose 3.1% from the year-ago period, which was a bigger increase than incentives - also a first since February."

Kelley Blue Book (Note: as of time of publication, October data was not yet available): "The valuation analysts at Kelley Blue Book today reported the estimated average transaction price for a light vehicle in the United States was \$38,723 in September 2020. New-vehicle prices increased \$940 (up 2.5%) from September 2019, while raising \$23 (up 0.1%) from last month." ^{xxvi}

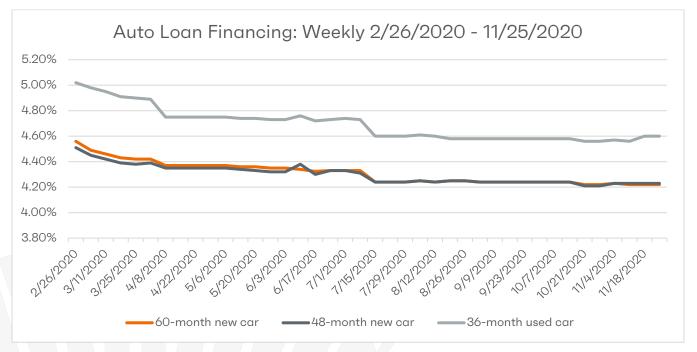


Auto Loan Financing (Updated 11/25)

Financing Rates Remain At Lowest Level Of The Year: Rates for the week of November 25th remained at the lowest level seen all year, at 4.22% for a 60-month new vehicle loan. Rates had remained relatively static since mid-July. Since the beginning of the year, rates are down .38% and down .39% from about a year ago.^{xxvii}

Dates	60-month new car	48-month new car	36-month used car
10/23/2019	4.61%	4.57%	5.11%
1/2/2020	4.60%	4.55%	5.10%
11/18/2020	4.22%	4.23%	4.60%
11/25/2020	4.22%	4.23%	4.60%
One Week Change	0.00%	0.00%	0.00%
Two Week Change	0.00%	0.00%	0.04%
Change since 1/3/20	-0.38%	-0.32%	-0.50%
One Year Change	-0.39%	-0.34%	-0.51%





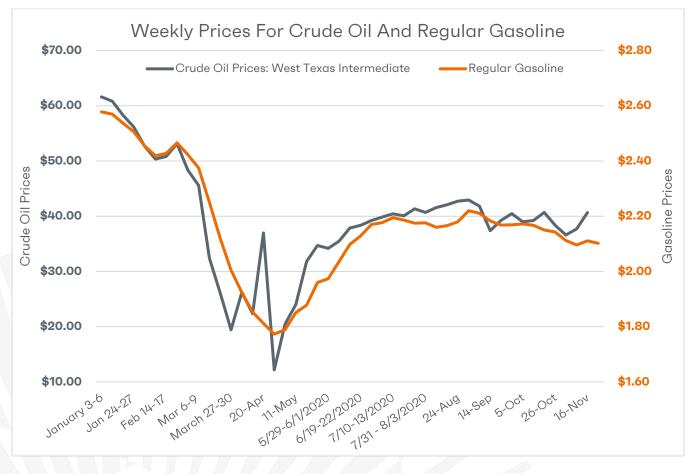
Crude Oil and Gas Prices (Updated 11/25)

EIA Outlook For Gasoline ***** "EIA forecasts U.S. gasoline consumption will average 8.4 million barrels per day (b/d) in the fourth quarter of 2020 and 8.7 million b/d in the first half of 2021. Those forecasts are 0.3 and 0.2 million b/d less, respectively, than forecast in the October STEO."

EIA Outlook For Production *:** "EIA reported that 10.6 million b/d of crude oil was produced in the United States in August (the most recent month for which historical data are available), down 0.4 million b/d from July. Production fell in August mainly because hurricanes disrupted production from the U.S. Gulf of Mexico. EIA reported that U.S. crude oil production in the Gulf of Mexico averaged 1.2 million b/d in August, down 0.5 million b/d from July. Since reaching a two-and-a-half year low of 10.0 million b/d in May, when producers curtailed wells, U.S. crude oil production has increased mainly because tight oil operators have brought wells back online in response to rising prices. EIA estimates that production will rise to 11.2 million b/d in November. However, EIA expects U.S. crude oil production to generally decline to an average of 11.0 million b/d in the second quarter of 2021 because new drilling activity will not generate enough production to offset declines from existing wells. EIA expects drilling activity to rise later in 2021, contributing to U.S. crude oil production reaching 11.3 million b/d in the fourth quarter of 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from 12.2 million b/d in 2019 to 11.4 million b/d in 2020 and 11.1 million b/d in 2021."

Oil Rises Slightly While Gas Remain Near Lowest Levels Since June: Oil prices, as benchmarked at West Texas Intermediate, as well as gasoline prices, remain about mid-way between the high and low for 2020, with gas prices moving slightly downward to \$2.10 and oil moving up to \$40.66 (week of 11/13). Compared to the start of the year, crude oil is down 34%, while gas prices are down 18%.^{xxx}



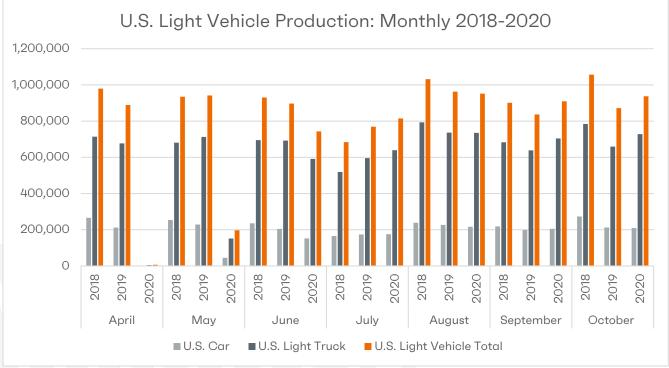


Production Meter

U.S. Light Vehicle Production (Updated 11/25)

WardsIntelligence^{xxxi}: "North American production in October finished below expectations, which also lowering the total fourth quarter outlook. Including light-vehicles and medium-/heavy-duty trucks, October's production totaled 1.46 million units. The total was 4.1% above like-2019, but 52,900 units below October's outlook coming into the month. . . . Although the overall impact has been small, October's underbuild is the main reason the fourth-quarter outlook has been reduced 38,100 units from month-ago's projections to 4.00 million. Small increases were made to November and December under the assumption there are no major slowdowns related to the pandemic. . . . Production for entire 2020 is projected to total 13.39 million units, 20.2% below 2019. Separated, light-vehicle output is pegged at 13.00 million units, 19.7% below 2020, while medium-/heavy-duty trucks are expected to decline 33.5% to 387,000."





xxxii

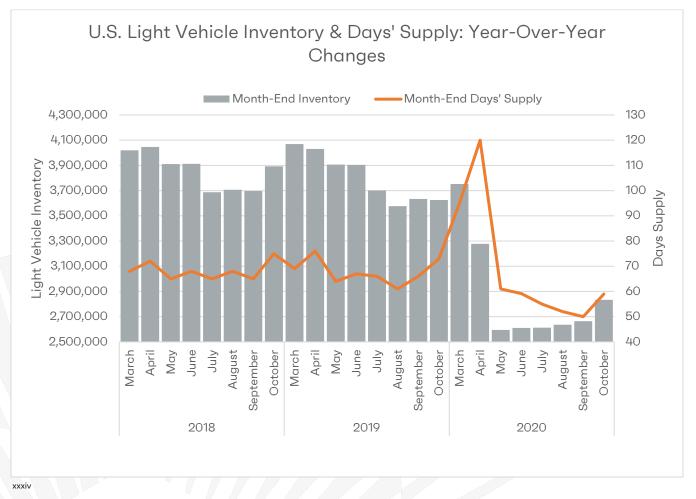
U.S. Light Vehicle Inventory and Days' Supply (Updated 11/4)

WardsIntelligence October Inventory Update^{xxxiii}: "The U.S. light-vehicle inventory picture improved again in October, albeit remaining at a 9-year low while sales volume over the past two months outdid the same year-ago periods. Inventory ended October at 2.83 million units, a 6.3% increase from September, but 21.8% below like-2019's 3.63 million.

"Reflecting high levels of turnover, and that dealers could use some more stock – at least of the stronger selling trucks – October's 59 days' supply was well below like-2019's 73, which also mirrors a typical days' supply for the month in relatively normal years for the market.

"After dealers turned over more than half their start-of-the-month inventory in both August and September, the ratio slid to 47% in October - though that was well above the 37% averaged for the month over the past five years. However, the ratio is expected to remain close to 50% over the last two months of 2020, with inventory still stuck at a 9-year low heading into 2021."

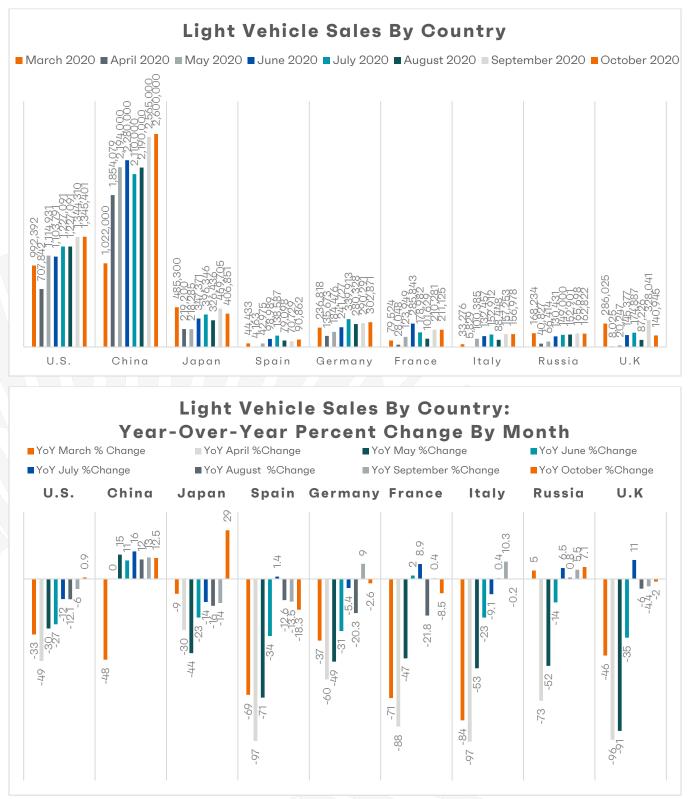




Global Meter (Updated 11/25)

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







Recovery Meter

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

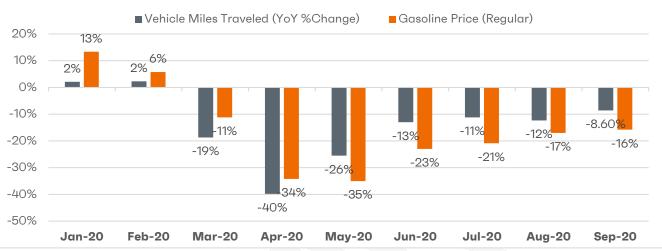
After all automotive manufacturing was shut down for the first time since World War II for roughly eight weeks, automakers have resumed production at all plants across North America. The extent to which production has ramped up or employment has been reinstated continues to fluctuate due to the impacts 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 11/18)

According to the U.S. Department of Transportation, vehicle miles traveled in September were the strongest since the start of the pandemic, with VMT down 8.6% year-over-year, the smallest decline witnessed since March:xxxv

- "Travel on all roads and streets changed by -8.6% (-23.4 billion vehicle miles) for September 2020 as compared with September 2019. Travel for the month is estimated to be 248.3 billion vehicle miles.
- "The seasonally adjusted vehicle miles traveled for September 2020 is 247.2 billion miles, a -9.7% (-26.7 billion vehicle miles) decline from September 2019. It also represents 2.8% increase (6.7 billion vehicle miles) compared with August 2020.
- "Cumulative Travel for 2020 changed by -14.5% (-355.5 billion vehicle miles). The cumulative estimate for the year is 2,093.1 billion vehicle miles of travel."



Year Over Year Percent Change: VMT and Gas Prices

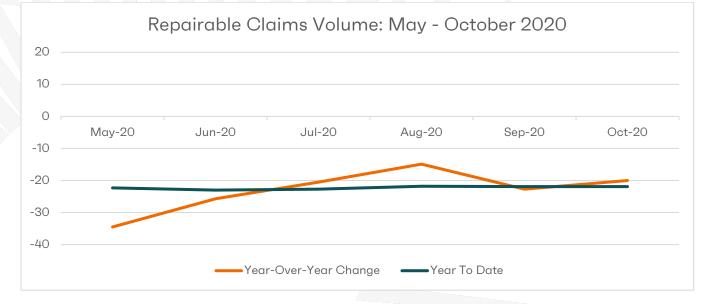


Repairable Claims (Updated 11/11)

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: "Repairable appraisal counts in October 2020 were nearly 20 percent lower than in October 2019. This was an improvement from September 2020, when repairable appraisal counts were down -22.7 percent. Year-to-date repairable appraisal counts are still down nearly -22 percent versus the first 10 months of CY 2019.

- "Excluding comprehensive losses, overall claim counts (repairable appraisals plus total loss vehicle valuations) remain down -24 percent year-to-date through October.
- "With the U.S. reporting more than 100,000 new COVID-19 cases in a single day, predictions of a winter wave of the virus appear to be coming true; plans to bring more students back to school full-time or employees back to office will likely be stalled further. Additionally, U.S. unemployment claims have not improved significantly in the last several weeks. With many fewer drivers on the road each day driving to work, driving kids to school, or because they are unemployed, the likelihood of significant increases in accident and claims counts in Q4 are looking even more unlikely.^{xxxvi}



17



Economic News (New 11/4)

Manufacturing Accelerated In October Amid Shift In Consumer Spending Towards Motor

Vehicles. "U.S. manufacturing activity accelerated in October, with new orders jumping to their highest level in nearly 17 years amid a shift in spending toward goods like motor vehicles as the Covid-19 pandemic drags on. The Institute for Supply Management (ISM) said on Monday its index of national factory activity increased to a reading of 59.3 last month. That was the highest since November 2018 and followed a reading of 55.4 in September. . . . A reading above 50 indicates expansion in manufacturing, which accounts for 11.3% of the U.S. economy."^{xxxvii}

U.S. Car And Truck Production Credited With Giving The Economy Its Biggest Boost In 50 Years.

"U.S. car and truck production in the third quarter gave the economy its biggest boost in almost a half century. A surge in motor-vehicle output contributed just over 6 percentage points to the annualized 33.1% increase in gross domestic product, according to government data. That was the largest share since the first quarter of 1971, when United Auto Workers union members were returning to assembly lines after a months-long strike." xxxviii

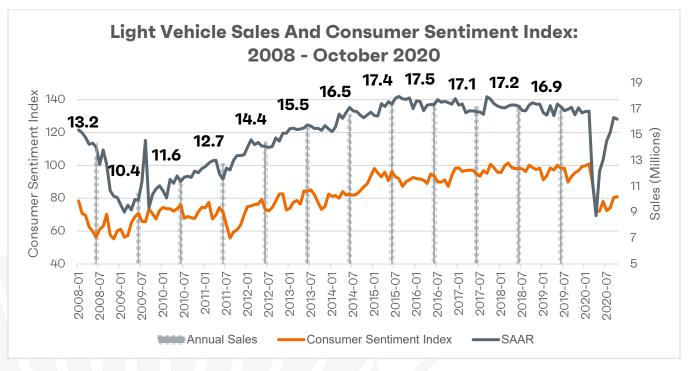
As Automakers Ramped Up Output To Make Up For Lost Production In The Spring, Production Ran At An 11.4 Million Annualized Rate. "U.S. vehicle production ran at an 11.4 million annualized pace in the third quarter, compared with 3.6 million in the previous three months, Federal Reserve data show. Plants across the U.S. were shuttered for several weeks during the spring to prevent the spread of the coronavirus, but automakers have ramped up output in recent months, trying to replenish thinning inventories." ***

• "Household Spending On Motor Vehicles And Parts Surged At An 87% Annualized Rate, Also The Most Since 1971, The GDP Report Showed."

Consumer Confidence and Sales (Updated 11/4)

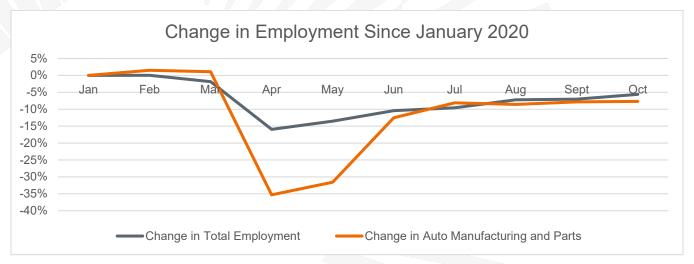
At the start of the year, consumer sentiment, as measured by the University of Michigan, was registering a 100 on their index, but as Covid-19 took hold, the index dropped at its worst by more than a quarter. The index made slight gains in October (81.8) over September, when it first climbed over 80 for the first time since March. While the April low of 71 is only 10 points 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 continue to recover despite wavering consumer confidence, the rest of the year could see sales stall against consumer sentiment headwinds. The current index of 81.8 in October is 14.3 points lower than the same month last year.





Employment (Updated 11/11)

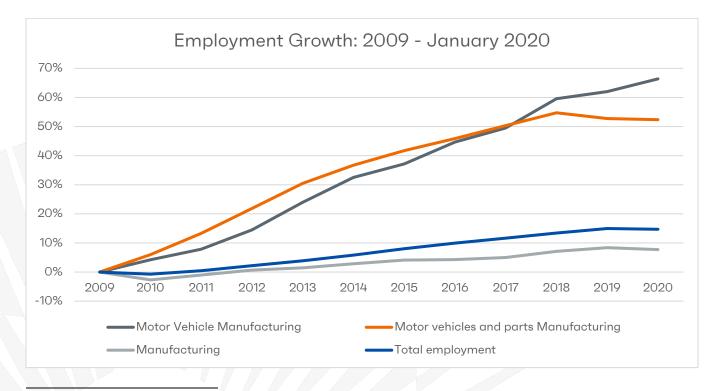
After a loss of nearly 350,000 employees (about 35% of the workforce) in the height of the pandemic, employment in the Automobile Manufacturing and Parts sectors has raced back and is now only down about 75,000 employees, constituting a 7.6 percent loss since January. October's employment is an improvement of over 1,400 jobs since September.^{xli}





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^{xlii}.

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.



¹ WardsIntelligence, "U.S. Light Vehicle Sales, January 2020," 2/3/20; WardsIntelligence, "U.S. Light Vehicle Sales, February 2020," 3/3/20; WardsIntelligence, "U.S. Light Vehicle Sales, April," 5/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, June 2020," 6/2/20; WardsIntelligence, "U.S. Light Vehicle Sales, June 2020," 7/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, June 2020," 8/3/20; WardsIntelligence, "U.S. Light Vehicle Sales, August 2020," 9/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, August 2020," 9/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, August 2020," 9/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, October 2020," 10/1/20; WardsIntelligence, "U.S. Light Vehicle Sales, October 2020," 11/3/2020

- 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} J.D. Power, email, "Automotive Forecast: Vehicle Retail Sales Decline due to Quirky Sales Calendar," 11/25/2020
- ^v Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," *WardsIntelligence*, 11/3/2020
- ^{vi} Haig Stoddard, "U.S. Light-Vehicle Inventory Continues to Improve in October," WardsIntelligence, 11/4/2020
- ^{vii} Credit Suisse, Email, "US Autos & Auto Parts: October US Sales Report Card: SAAR at pre-virus level provides solid set-up into '21," 11/4/2020
- ^{viii} IHS Markit, email, "IHS Markit Monthly Automotive Update October 2020," 10/16/2020
- ^{ix} IHS Markit, email, "IHS Markit Monthly Automotive Update August 2020," 8/14/2020
- ^x Haig Stoddard, "North American Production Rises in September; Gains to Continue in Q4," WardsIntelligence 10/20/20
- ^{xi} IHS Markit, email, "IHS Markit Monthly Automotive Update –November 2020," 11/13/2020
- xⁱⁱ Credit Suisse, Email, "US Autos & Auto Parts: October US Sales Report Card: SAAR at pre-virus level provides solid set-up into '21," 11/4/2020



xⁱⁱⁱ Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," WardsIntelligence, 11/3/20

^{xiv} Credit Suisse, Email, "US Autos & Auto Parts: October US Sales Report Card: SAAR at pre-virus level provides solid set-up into '21," 11/4/2020

^{xv} Haig Stoddard, "U.S. Light-Vehicle Sales Growth Will Continue in October," *WardsIntelligence* 10/23/20

xvi IHS Markit, "<u>IHS Markit Analysis: US Registration Data Show Market Share Improvement for Pick-up Trucks, Decline for Compact</u> Cars in H1," 8/17/20

^{xvii} J.D. Power, "J.D. Power Auto Industry Impact Report," 6/4/2020

^{xviii} Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," WardsIntelligence, 11/3/20

^{xix} WardsIntelligence, "U.S. Light Vehicle Sales, October 2020," 11/3/2020

^{xx} WardsIntelligence, U.S. Light Vehicle Sales, January 2013 – December 2019

xxi U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Regular price per gallon, including taxes

^{xxii} WardsIntelligence, Fuel Economy Index, December 2013 & 2019

^{xxiii} Credit Suisse, Email, "US Autos & Auto Parts: October US Sales Report Card: SAAR at pre-virus level provides solid set-up into '21," 11/4/2020

xxiv Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," WardsIntelligence, 11/3/20

^{xxv} Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," WardsIntelligence, 11/3/20

^{xxvi} Kelley Blue Book, Press Release, "Average New-Vehicle Prices Rise 2.5% Year-Over-Year in September 2020, According to Kelley Blue Book," 10/1/2020; Kelley Blue Book, Press Release, "Average New-Car Prices Up Less Than 1% Year Over Year for September 2019 as Retail Demand Weakens, According to Kelley Blue Book," 10/1/2019

xvvii Bankrate, "<u>Current Car Loan Interest Rates</u>," Accessed 11/18/20; Internet Archive, Bankrate, "Current Car Loan Interest Rates, cached image from 10/26/19

xxviii EIA, "<u>Short-Term Energy Outlook</u>," 11/10/2020

^{xxix} EIA, "<u>Short-Term Energy Outlook</u>," 11/10/2020

xxx U.S. Energy Information Administration, Regular Gasoline, <u>https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_m.htm</u>, Accessed 11/18/20; 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 11/18/20; YCharts,

https://ycharts.com/indicators/wti crude oil spot price, Accessed 11/4/20

^{xxxi} Haig Stoddard, "North America Production Misses October Expectations," *WardsIntelligence* 11/18/20

xxxii WardsIntelligence, "North America Production, October 2019," 11/18/19; WardsIntelligence, "North America Production, October 2020," 11/18/20

xxxiii Haig Stoddard, "U.S. Light-Vehicle Inventory Continues to Improve in October," WardsIntelligence, 11/4/2020

^{xxxiv} 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, June 2020," 8/4/20; WardsIntelligence, "U.S. Light Vehicle Inventory, July 2020," 10/1/2020
^{xxxx} U.S Department of Transportation, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tyt.cfm, accessed 11/18/2020

xxxvi CCC, "CCC AutoClaims Snapshot - October 2020," 11/11/2020

xxxvii "U.S. Manufacturing Near Two-Year High In October," Reuters, 11/2/20

xxxviii Melinda Grenier, "Auto Output Adds Historic GDP Flourish on Best-Since-1971 Boost," Bloomberg News, 10/30/20

xxxix Melinda Grenier, "Auto Output Adds Historic GDP Flourish on Best-Since-1971 Boost," Bloomberg News, 10/30/20

^{xl} Melinda Grenier, "Auto Output Adds Historic GDP Flourish on Best-Since-1971 Boost," *Bloomberg News*, 10/30/20

^{xli} Bureau of Labor Statistics, Current Employment Statistics, Accessed 11/11/2020

x^{III} Jerry Hirsch, <u>"Auto Industry Has Soared Since 2010, Leading Economic Recovery</u>," Los Angeles Times, 1/3/14