ALLIANCE FOR AUTOMOTIVE INNOVATION

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READING THE METER

A Look Inside A Cleaner, Safer, Smarter Auto Industry.

May 26, 2021

Contents

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Forecast Meter

Forecast Summary (Updated 5/26)

2020-2021 Sales,[1] Extended Sales Forecast[2] and Production Forecasts[3]		
	U.S. Sales & Forecasts	**North American Production**
June '20	1,103,791 (-24% YoY)	743,216 (-17% YoY)
July '20	1,227,091 (-12.1% YoY)	1,261,884 (+2.2% YoY)
August '20	1,325,144 (-19.1% YoY)	951,983 (-1.1% YoY)
September '20	1,344,310 (6.4% YoY)	1,395,830 (+2.1% YoY)
October '20	1,345,401 (0.9% YoY)	1.413.207 (+3.7% YoY)
November '20	1,193,180 (-15.4% YoY)	1,260,763 (-6.4% YoY)
December '20	1.608.875 (5.9% YoY)	1,115,542 (+2.8% YoY)
January '21	1,094,689 (-3.6% YoY)	1,175,940 (-14.0% YoY)
February '21	1,180,506 (-5.3% YoY)	1,120,200 (-22.9% YoY)
March '21	1,581,067 (+59.7% YoY)	1,376,904 (31% YoY)
April '21	1,512,186 (+111.4 YoY)	1,094,891 (-21% YoY)
1st Quarter '20	3,476,512 (-12.7% YoY)	3,754,533 (-11.7% YoY)
2nd Quarter '20	2,948,410 (-33.3% YoY)	1,371,420 (-67.6% YoY)
3rd Quarter'20	3,904,539 (-9.2% YoY)	3,989,982 (-.5% YoY)
4th Quarter'20	4,159,622 (-2.1% YoY)	3,789,512 (-2.5% YoY)
1st Quarter '21	3,869,872 (+11.3 YoY)	3,688,512 (-4.7% YoY)
2020 Calendar Year	14,463,935 (-14.7% YoY)	12,905,447 (-23.1%)
2021 Full Year Estimate	17 million units (17.5% YoY)	15.8 million units (22.7% YoY)

U.S. Light Vehicle Sales Outlook (Updated 5/26)

Wards Intelligence May Outlook[4]: "May is forecast to be the first month the extreme lack of inventory the industry has been working with this year finally draws down U.S. light-vehicle sales significantly from current demand. May sales are forecast to total a 16.5 million-unit seasonally adjusted annal rate, well below the year-to-date total through April of 17.3 million and a significant decline from the prior two months combined 18.2 million SAAR.

"If inventory were not an issue, sales could reach the 18 million-unit SAAR plateau for a third consecutive month in May – in fact, the past two months could have been stronger if manufacturers had the production capacity to meet demand for fleet vehicles.

"Even though dealers have done an amazing job of meeting retail demand while severely stretched thin for stock on their lots, a breaking point where the SAAR starts to weaken from year-to-date results still seems inevitable with inventory and sales close to a 1-to-1 ratio.

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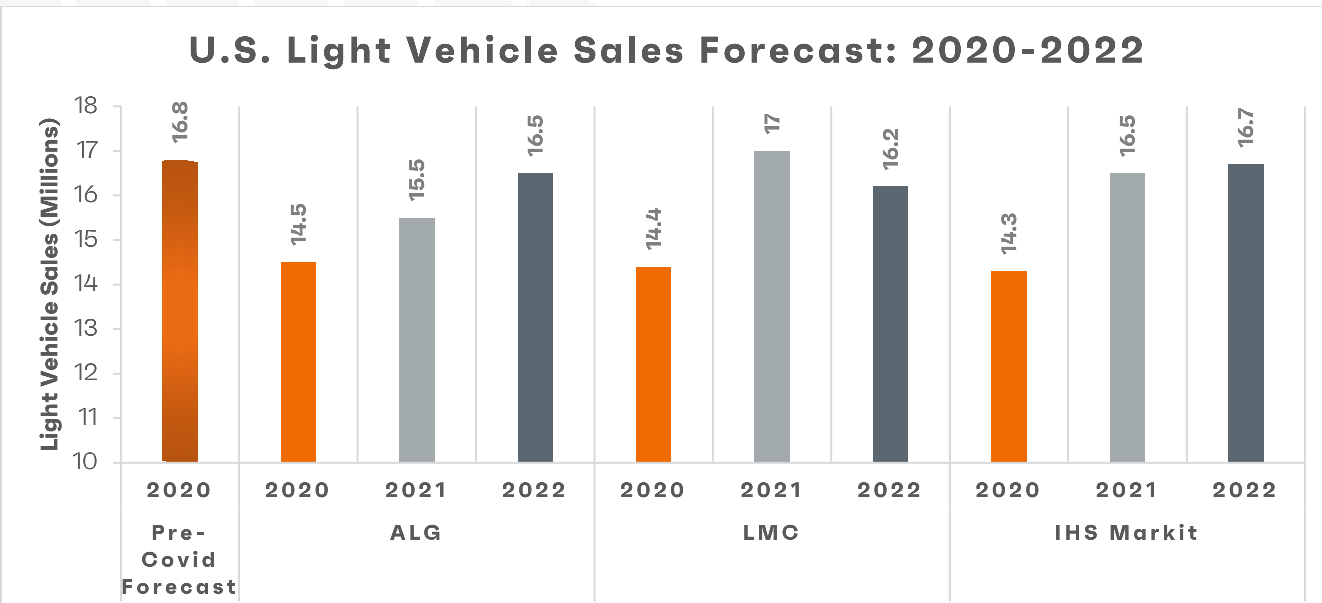
“Based on Wards Intelligence’s projections and utilizing partner LMC Automotive’s forecast that sales will total 17.0 million units in 2021, inventory from April will continue to get leaner in comparison with demand until the fourth quarter.

“May raw volume is forecast to total 1.53 million units, 36.5% above like-2020’s 1.12 million. The daily selling rate equates to 58,743, compared with May 2020’s 43,042 – 26 selling days both periods. Excluding year-ago’s pandemic-influenced results, the 2021 forecast is the lowest DSR for May since 55,497 in 2013.”

Ward Intelligence 2021 Outlook[5]: “WI’s revised outlook for how the remainder of the year rolls out has June sales posting a 16.0 million-unit SAAR, which means Q2 will total 17.0 million. That will be followed by 16.6 million in Q3 and 17.4 million in Q4. The first quarter totaled 16.9 million.”



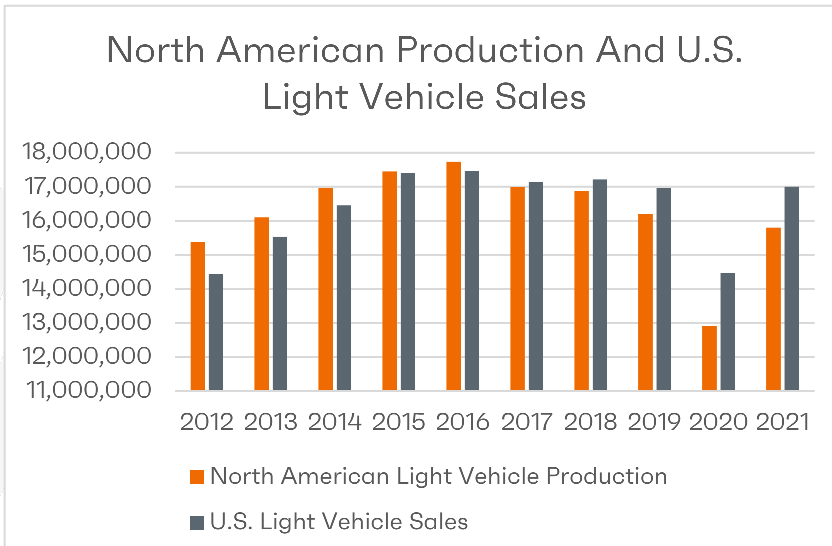
North American Production Outlook (Updated 5/26)

Wards Intelligence Outlook[6]: “Second-quarter North America output is tracking toward 3.61 million units, 153% above April-June 2020’s 1.43 million and 16.2% below Q2-2019’s 4.4 million. The Q2-2021 total also was lowest for the period since 2011 – 3.21 million units. In fact, except for the year-ago period, it was lowest for any quarter since 3.54 million units in Q4-2011.

“May is tracking to 1.18 million units, a 193,000-unit reduction from month-ago’s expectations, and 386% above like-2020. The June outlook was cut 96,300 units from month-ago’s projection to 1.34 million units, 15.1% above like-2020 - both May and June 2021 totals are below same-period 2019.

The first-half of 2021 is pegged at 7.31 million units, 38.0% above January-June 2020's 5.30 million, and – save last 2020 - lowest 6-month year-to-date total since 2011.

"With further production losses, capacity utilization, accordingly, has not returned to pre-Covid-19 levels. Light-vehicle capacity utilization in Q2-2021 is pegged at 78%, well below Q2-2019's 95%. Q1-2021's 82% capacity utilization also was well below like-2019 (96%). The 12-month trailing total, at 84% through the Q2 outlook, is turning up but still well below the 93% utilization rate through June 2019.



IHS Markit May Update: "The outlook for North America light vehicle production was reduced by 267,000 units and increased by 152,000 units for 2021 and 2022, respectively (and increased by 117,000 units for 2023). The production outlook for 2021 was reduced amid the ongoing semiconductor shortage and other supply chain and logistical issues. The quarterly progression for 2021 reflects the first and second quarter as being most impacted by the shortages with the second quarter impact having intensified. While US automakers are communicating plans to recover volume in the second half at select plants with a combination of reduced summer shutdowns and added overtime, the forecast does not represent a full progression given the issues still facing these manufacturers which have been more heavily impacted in North America compared to their transplant counterparts. Should the situation improve for the US manufacturers at a faster rate over the coming months, the forecast will begin to reflect more vigorous volume recovery efforts. Despite robust demand, production remains constrained further bolstering the outlook for 2022 and 2023. Market conditions support the need for around 1.0 million units of additional inventory to align with the industry norm of a 60 to 65 days' supply of vehicles. Inventory is projected to reach a low point of 1.58 million units or a 28 days' supply in July before beginning to improve, though forecasted to remain under 2.0 million units through the balance of 2021."[7]

WardsIntelligence Update: "Production losses mostly related to the microchip shortage continue to stack up. North America production of light-vehicles and medium-/heavy-duty trucks is tracking to 199,000 units less in the second quarter than what was projected for the period a month ago in Wards Intelligence's Production Tracker. It was offset partially by the first quarter finishing higher than expected, but total first-half 2021 output has been reduced 117,000 units from March's revision. Thanks to the global microchip shortage and a winter-storm-caused reduction in oil produced to make petrochemicals for automotive parts, the short-term production outlook remains shaky. During March, and in the first half of April, scheduled production slowdowns in the second quarter continually grew, creating a sense that the microchip shortage still has more to play out in terms of production stoppages before summer.

"Furthermore, although the messaging remains that most of the supply issues can be smoothed out heading in the second half of the year, there are rumblings that microchip capacity for the automotive industry still will be a problem throughout the remainder of the year. . . .

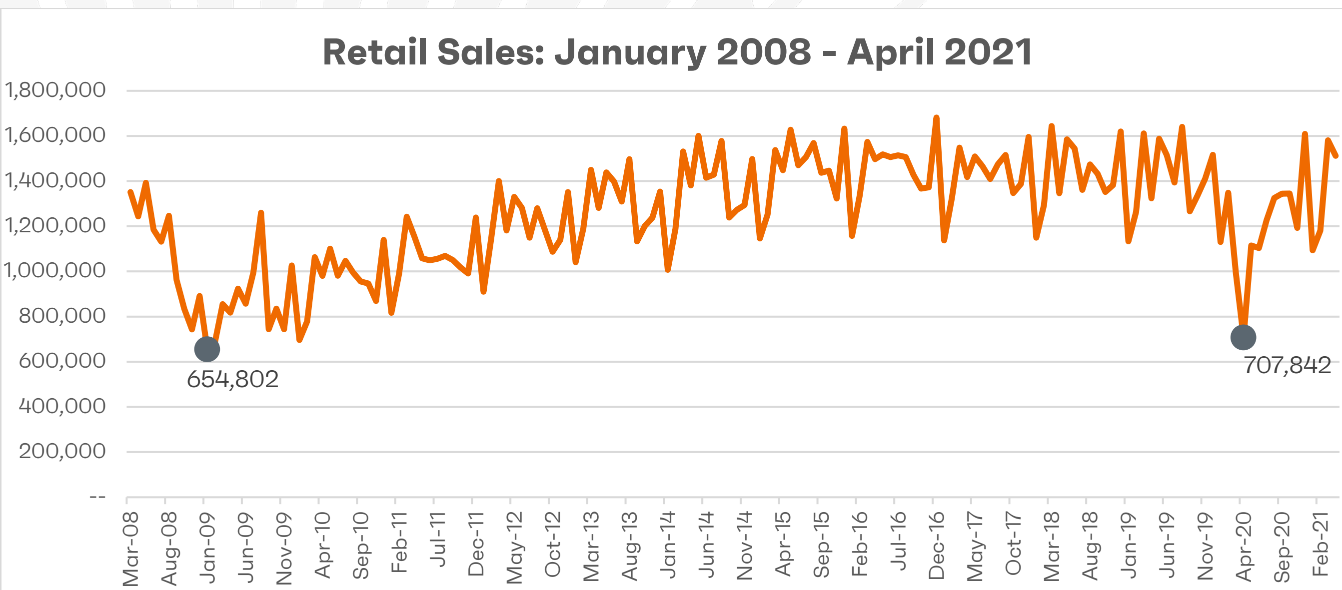
"The second-quarter outlook is 191,000 units below December's projection for the period. Thus, the estimated total first-half loss stands at 678,000 units. Second-quarter production is pegged at 3.941 million units, 176% above Q2-2020's pandemic-smacked total of 1.427 million units."[8]

Market Meter

U.S. Light Vehicle Sales (Updated 5/5)

Monthly Sales (Updated 5/4)

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.



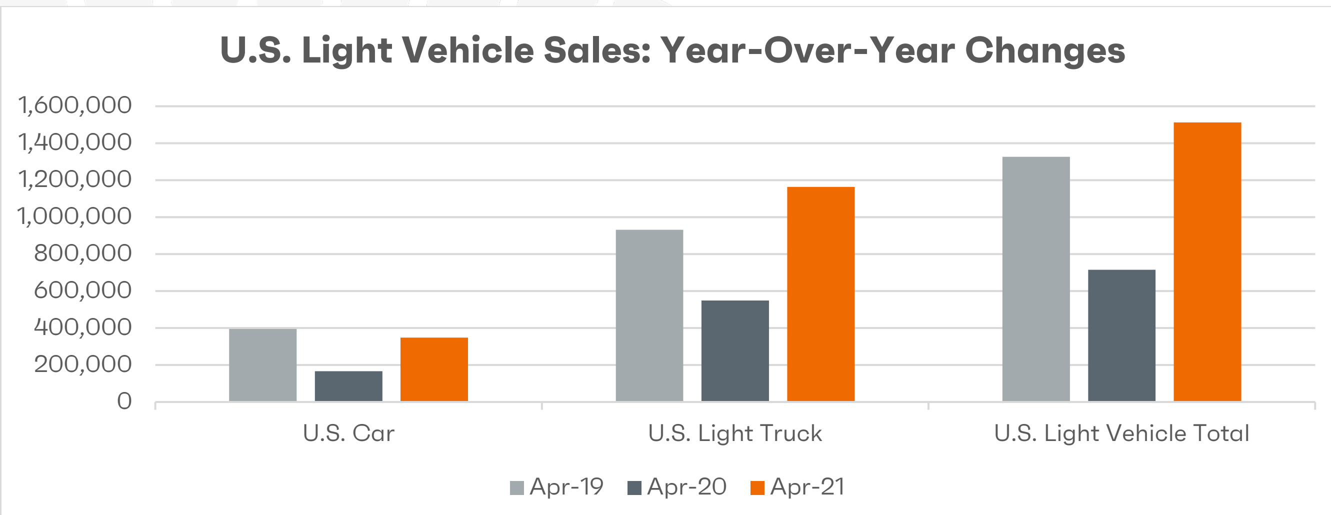
April Sales (Updated 5/5)

WardsIntelligence: "U.S. new-vehicle sales continued to roar in April, even finishing above extremely high expectations for the month, which, given recent history, was not surprising even in the face of the inventory drain the industry has undergone since the beginning of the year.

“April light-vehicle sales totaled an 18.5 million-unit seasonally adjusted annual rate, topping the prior month’s revised 18.0 million and highest for any month since July 2005’s 20.6 million. It more than doubled April 2020’s 8.7 million-unit SAAR, which was the first full month the industry was in the grip of the Covid-19 pandemic.

“Though there are other reasons, March-April’s combined 18.2 million-unit SAAR was mostly spurred by pent-up demand created from purchases delayed from last year and early-2021 due to uncertainty caused by the pandemic. There also could be a small amount of pull-ahead from consumers who otherwise might have waited to buy fearing the vehicle they want will not be there later because of the ever-worsening depletion of inventory. . . .

“April’s raw sales volume totaled 1.51 million units, good for a daily selling rate of 58,165, 111% above like-2020 – 26 selling days both periods. April’s DSR was the highest for the month since 2000’s 59,813.”[9]



Fleet Sales (Updated 4/7)

Wards Intelligence: “Fleet increased an estimated 88% from April 2020 but was 42% below same-month 2019.

If fleet were at pre-pandemic levels, and enough inventory available, April’s SAAR could have hit 20 million units. In fact, the first four months of 2021 would have been much higher than the 17.3 million-unit SAAR the period totaled.

With the economy expected to keep running on all cylinders as it did in the first quarter when annualized GDP grew 6.4%, increased confidence is boosting signs for more travel, which should lift fleet demand. However, and the trend started months ago, fleet operators will be hard pressed in several cases to get vehicles due to the lack of supply. While the economy continues chugging along, pent-up demand will build up in the fleet sector – upward pressure on overall sales that might continue into 2022."[10]

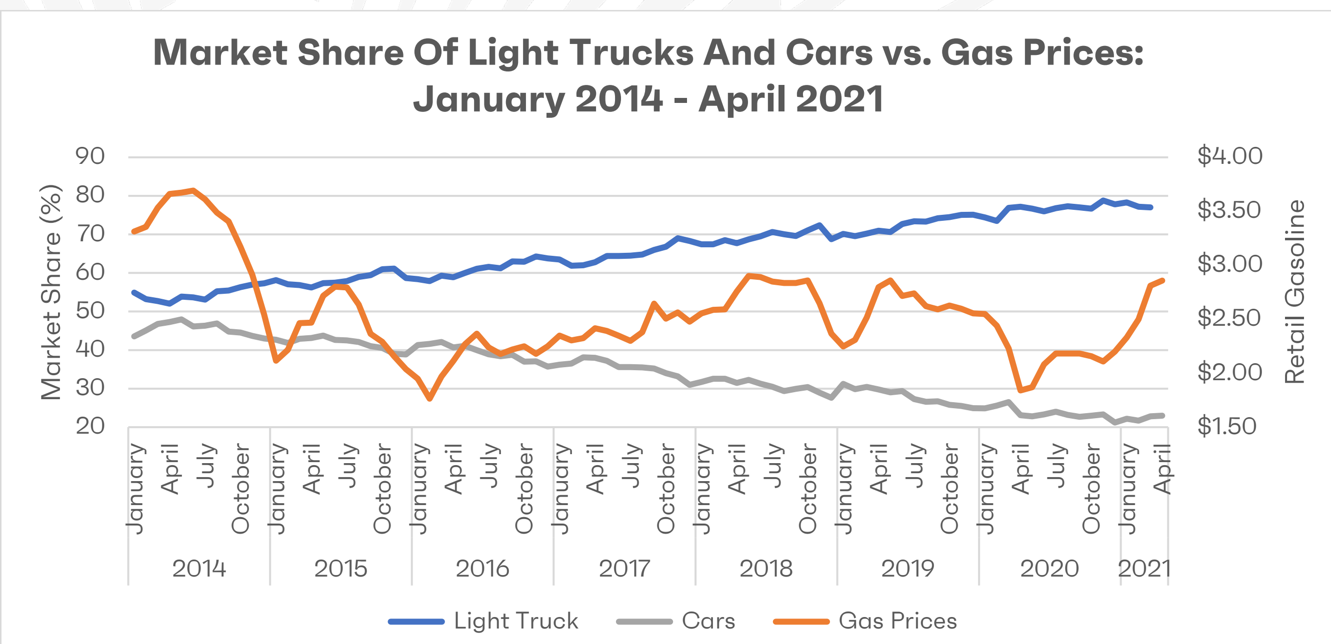
Segments vs. Gas Prices (Updated 5/5)

WardsIntelligence: "Although there is anecdotal evidence more consumers, and perhaps some fleet operators, are increasingly opting to take what they can get over what they want, which presumably could be advantageous to cars, penetration in April of the vehicle type declined year-over-year to 23.0% from 23.3%. Car penetration has declined every month since December 2012.

"However, April was the first month since October – prior to then it was March 2020 - any car segment group increased share over the same year-ago period, as market share for Small increased to 9.9% from 9.0%.

"CUV (46.0%) and Van (4.7%) increased share in April over the year-ago month, while SUV (8.9%) and Pickup – 17.4% vs. like-2020's 25.6% - declined. After increasing market share year-over-year in 27 of 28 months, April was the second straight decline for Pickup. Share of SUV had risen 12 straight months until April. Both also have the leanest inventory relative to demand among all segment groups."[11]

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.[12] and gas was over $3.00.[13] 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, the perfect conditions existed to continue fueling light truck market growth.[14]



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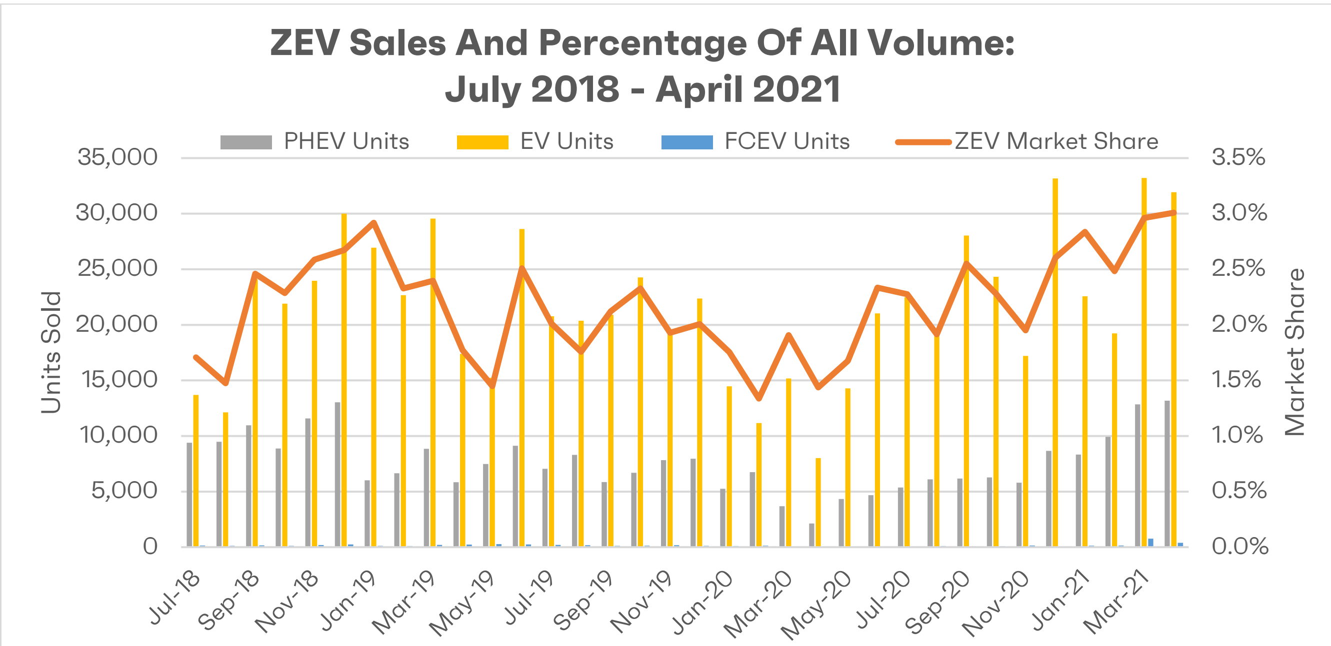
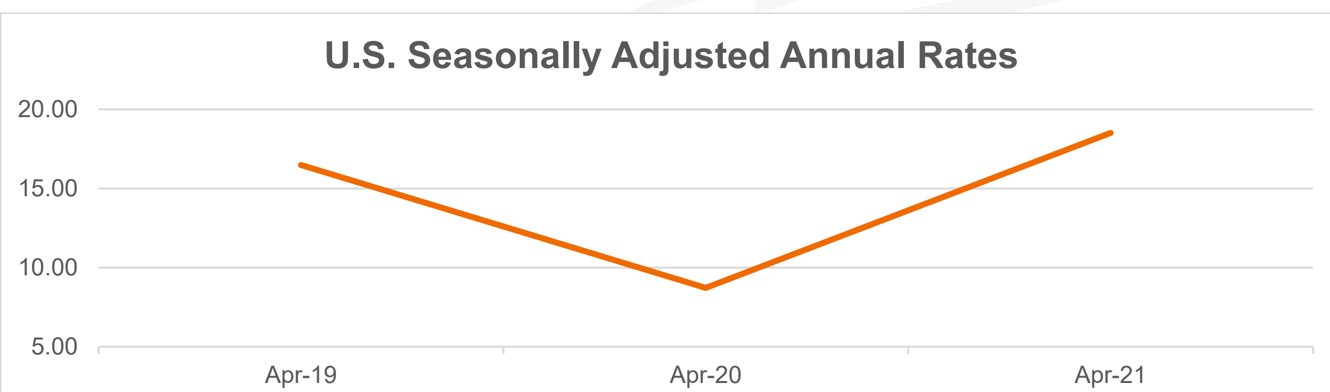
ZEV Powertrain Sales (Updated 5/5)

Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for 3% of total vehicle sales in April 2021, up from 1.4% from a year ago and the same as March 2021. Sales of battery electric vehicles led the way for ZEVs, accounting for 2.11% of total sales, up .98% from April 2020. Plug-in hybrids accounted for 0.87%, nearly triple the amount from the same time last year.[15]



Seasonally Adjusted Annual Rates (Updated 5/5)

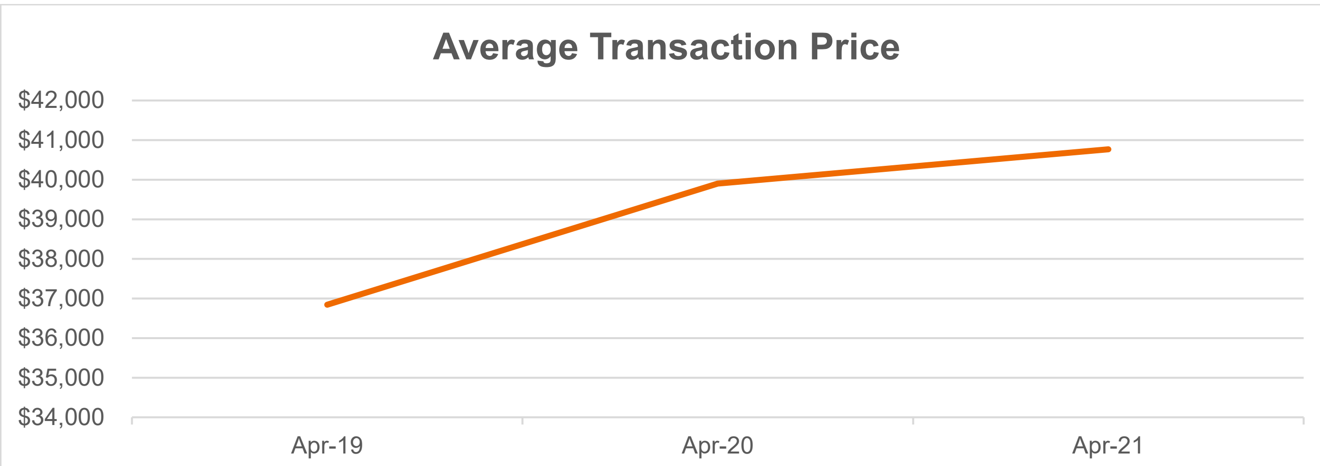
"April light-vehicle sales totaled an 18.5 million-unit seasonally adjusted annual rate, topping the prior month's revised 18.0 million and highest for any month since July 2005's 20.6 million. It more than doubled April 2020's 8.7 million-unit SAAR, which was the first full month the industry was in the grip of the Covid-19 pandemic."[16]



Average Transaction Price (Updated 5/19)

Kelley Blue Book: "he estimated average transaction price for a light vehicle in the United States was $40,768 in April 2021, according to the analysts at Kelley Blue Book. New-vehicle prices increased $864 (up 2.2%) from April 2020, while increasing $92 (up 0.23%) from March 2021.[17]

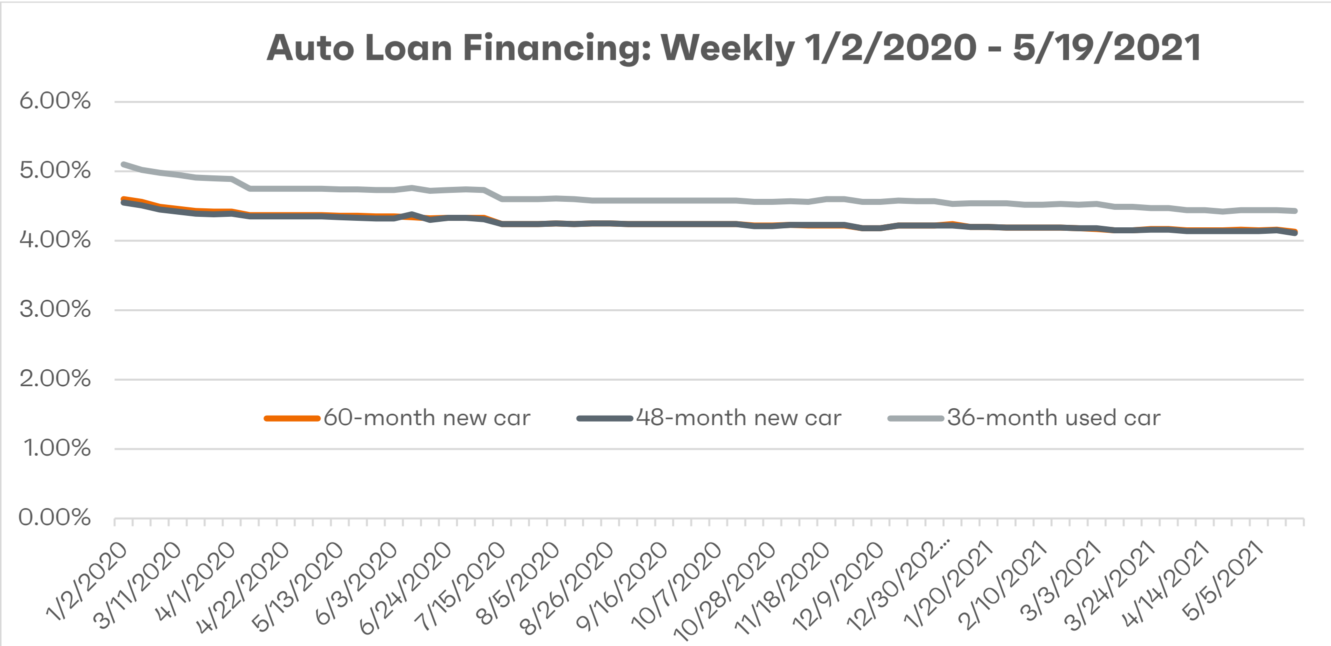
J.D. Power: "Average transaction prices are expected reach another monthly high, rising 6.8% to $37,572, the highest ever for the month of April and second highest all time on record behind December 2020. For context, average transaction prices are 20% higher in April 2021 than they were in April 2016 at $31,240."[18]



Auto Loan Financing (Updated 5/19)

Financing Rates Generally Holding Steady: Interest rates for new cars and used cars remained mostly the same. The interest rate for 60 months currently stands at 4.13%, down .03% from last week. Rates moved slightly to 4.43% for a 36-month used car loan. Since the beginning of last year, rates are down 0.47%, but only down 0.23% since the same time a year ago.[19]

Dates	60-month new car	48-month new car	36-month used car
5/20/2020	4.36%	4.33%	4.74%
1/2/2020	4.60%	4.55%	5.10%
5/12/2021	4.16%	4.15%	4.44%
5/19/2021	4.13%	4.11%	4.43%
One Week Change	-0.03%	-0.04%	-0.01%
Two Week Change	-0.02%	-0.03%	-0.01%
Change since 1/3/20	-0.47%	-0.44%	-0.67%
One Year Change	-0.23%	-0.22%	-0.31%

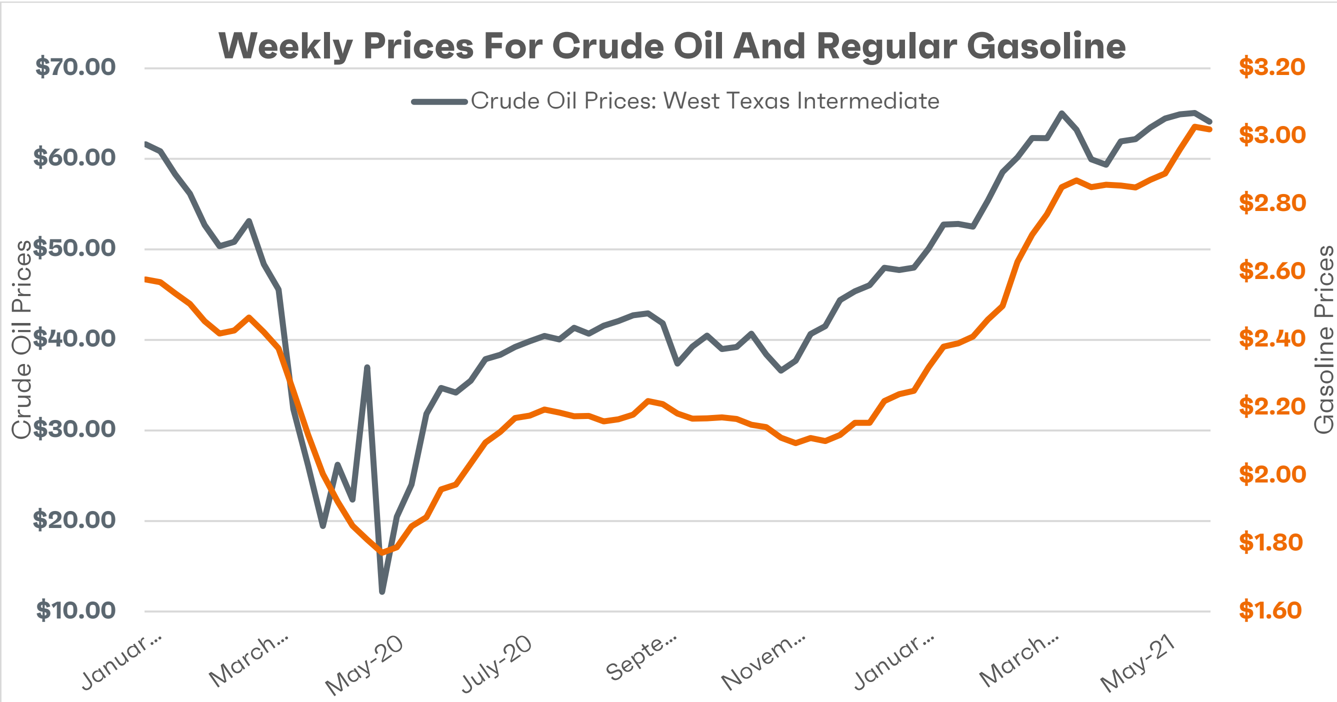


Crude Oil and Gas Prices (Updated 5/26)

EIA Outlook For Gasoline: "We expect that gasoline consumption in the United States will average almost 9.0 million b/d this summer (April–September), which is 1.2 million b/d more than last summer but almost 0.6 million b/d less than summer 2019. We increased our summer gasoline consumption forecast by 0.1 million b/d from last month based on weekly datathat suggested more gasoline consumption than we had previously forecast. The increase also reflects IHS Markit's increased employment forecast. For all of 2021, we forecast that U.S. gasoline consumption will average 8.7 million b/d, which is up from 2020 (8.0 million b/d) but down from 2019 (9.3 million b/d)."[20]

EIA Outlook For Oil: "Brent crude oil spot prices averaged $65 per barrel (b) in April, unchanged from the average in March. Brent prices were steady in April as market participants considered diverging trends in global COVID-19 cases. In some regions, notably the United States, oil demand is rising as both COVID-19 vaccination rates and economic activity increase. In other regions, notably India, oil demand is declining because of a sharp rise in COVID-19 cases. EIA forecasts that Brent prices will average $65/b in the second quarter of 2021, $61/b during the second half of 2021, and $61/b in 2022.[21]

Gas Prices Remail Above $3 A Gallon: Oil prices, as benchmarked at West Texas Intermediate, decreased nearly a dollar the week of May 24 to $64.11per barrel. Since election day, oil prices have climbed over $26 a barrel. Gas decreased by a penny this week but remained above $3.00 a gallon. Gas first rose above $3 a gallon in mid-May, for the first time October 2014. Gas is about 17 percent higher than the beginning of 2020.[22]



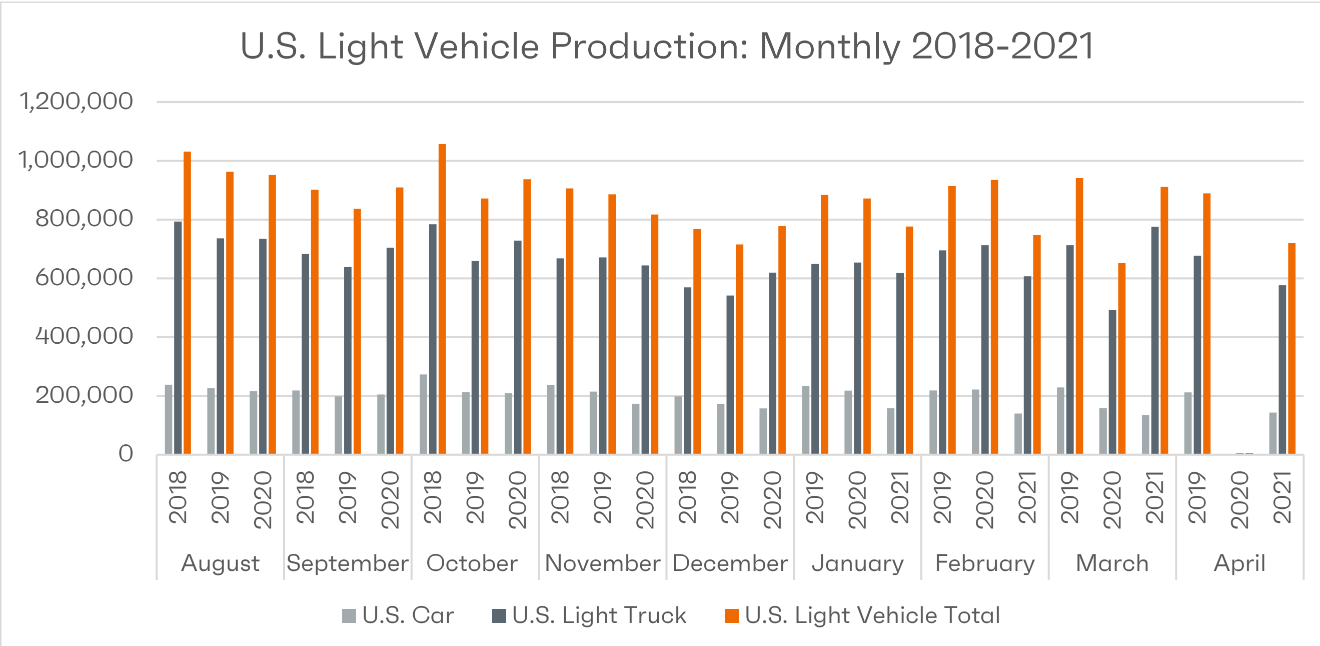
Production Meter

U.S. Light Vehicle Production (Updated 5/26)

WardsIntelligence[23]: "The downward bias noted in month-ago's outlook came to fruition as production in April finished nearly 39,000 units below expectations and 328,000 units were cut from the entire second quarter in Wards Intelligence's most recent North American Production Tracker. The totals include light vehicles and medium-/heavy-duty trucks. The production cuts are almost totally due to fallout from the global microchip shortage, which continues to worsen, and though still expected to improve by Q3, is looking like it will impact the second half of the year to a larger degree than the consensus of automakers and suppliers expected earlier in the year.

"April's production totaled 1.095 million units, a huge improvement on like-2020's 18,828 units when most plants were closed for the entire month after the Covid-19 virus hit North America in March. A better comparison for April's results is that it was a 22.5% decline from same-month 2019, and it was the lowest for the month since 968,874 in 2011."

Light vehicle production for April 2021 totaled 719,982, down 19% from 2019:



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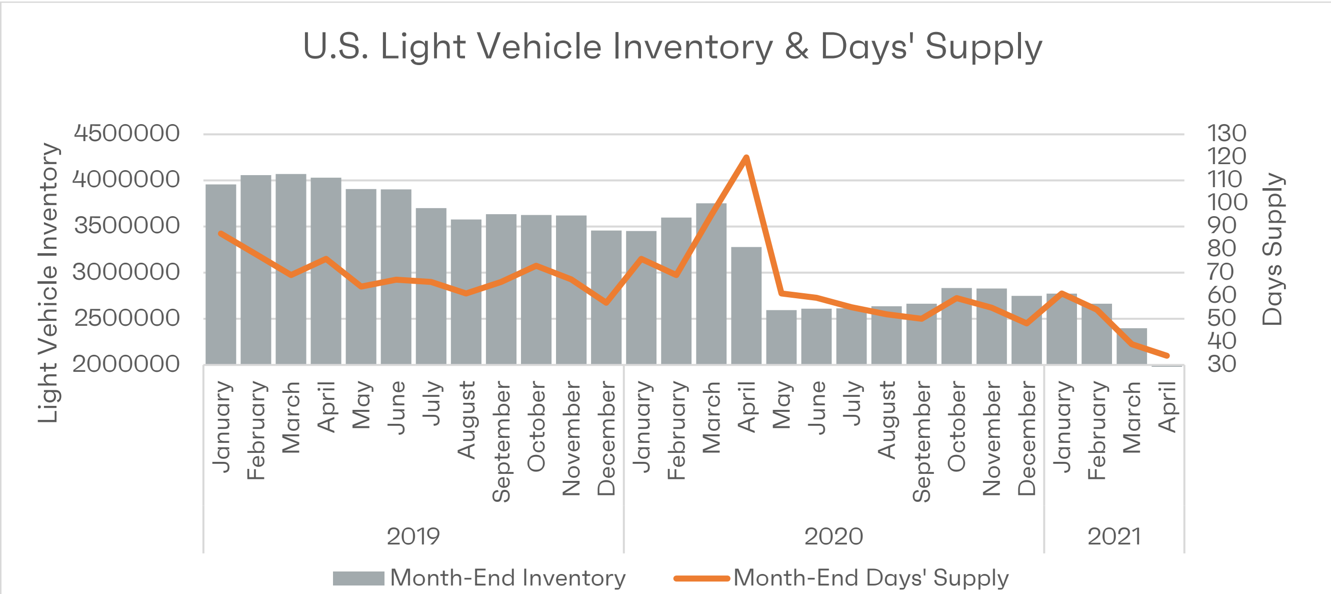
U.S. Light Vehicle Inventory and Days' Supply (Updated 5/26)

WardsIntelligence Inventory Update[25]: "Beginning-month-inventory as a ratio to sales averaged 2.6 per month over the past 20 years. The ratio fell to 1.7 and 1.6, respectively, in March and April. May's forecast drops it further to 1.3, the lowest for any month in at least the past two decades, including peak years such as record-year 2016 when sales totaled 17.5 million units and the ratio averaged the historically typical 2.6.

"Based on Wards Intelligence's projections and utilizing partner LMC Automotive's forecast that sales will total 17.0 million units in 2021, inventory from April will continue to get leaner in comparison with demand until the fourth quarter.

"Besides May, the leaner inventory is expected to dampen sales over the next few months. But assuming the global shortage of microchips improves for the automotive industry, and other supply issues get ironed out by this summer, production should improve enough to allow sales to end the year with a bang."



Global Meter

Global Light Vehicle Sales Outlook (Updated 5/19)

Wards Intelligence Outlook: "Global vehicle sales totaled 8.75 million in March, jumping 53.1% over year-ago's early pandemic low of 5.72 million. Despite the impressive growth, the month still fell 4.5% short of March 2019's 9.16 million tally.

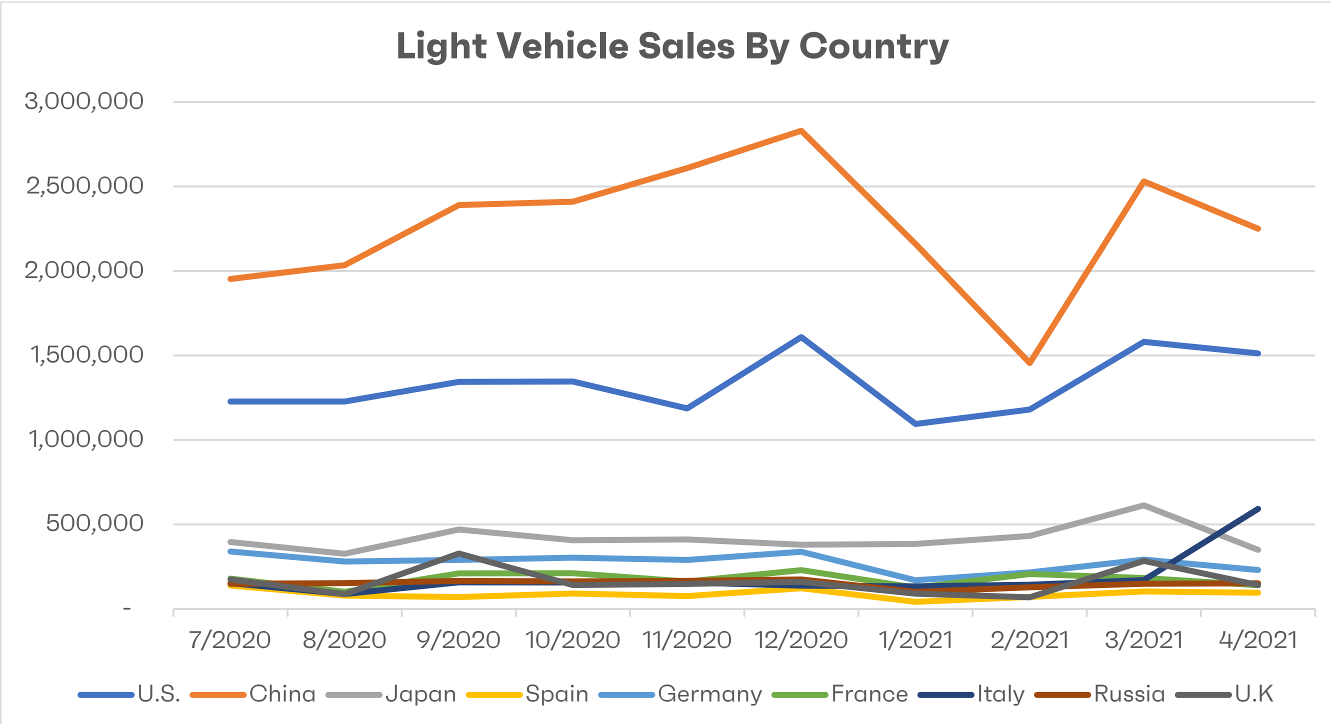
"The rebound over year-ago's dramatic slowdown was seen in every region, with Europe seeing the highest increase. Sales soared 57.6% to 1.93 million from year-ago's 1.22 million. It was the region's first positive result since October 2020.

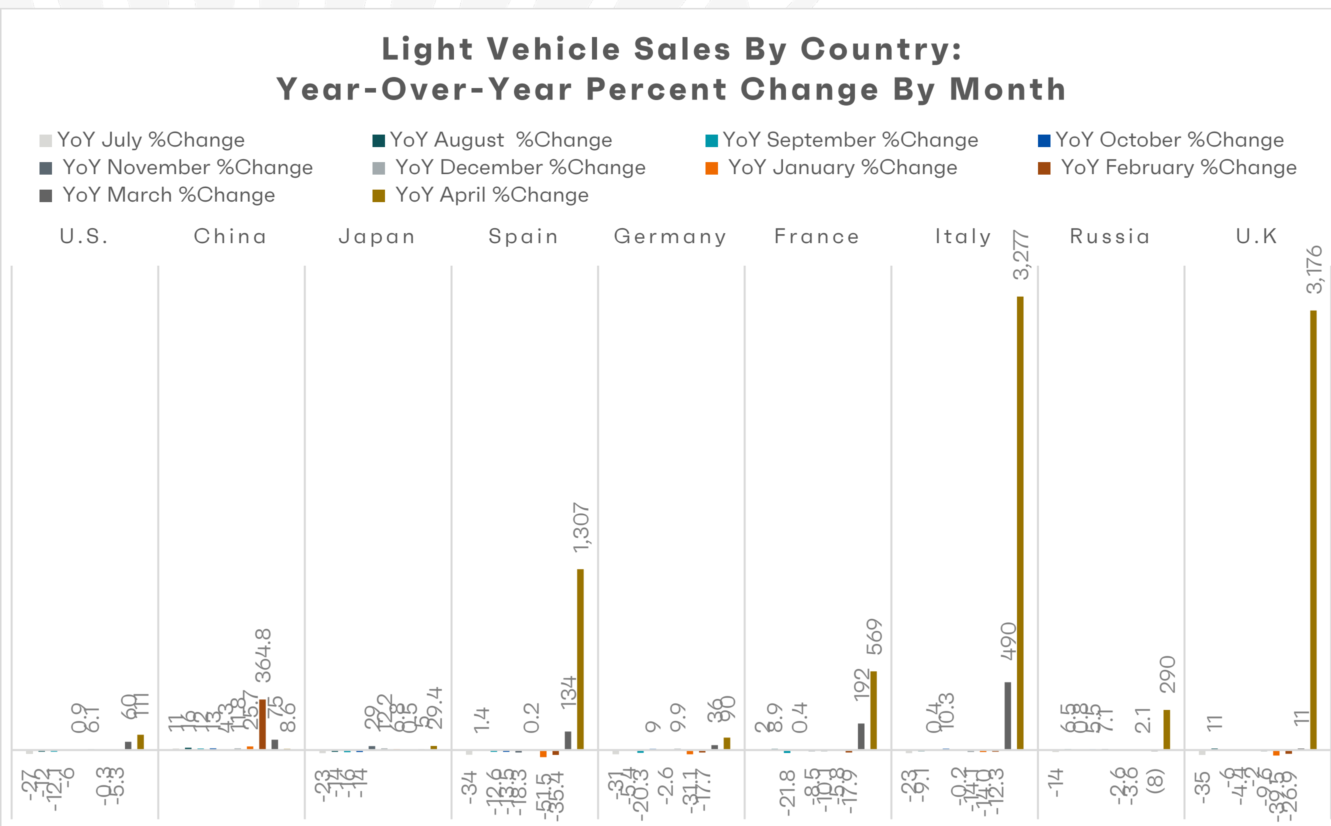
"Several countries posted triple-digit gains, including Austria (+173.9%), France (+185.7%) and Spain (+132.3%).

"In Italy, the early epicenter of the pandemic in Europe, sales surged 441.7% to 191,000 vehicles over year-ago's 35,000.

"Through the first quarter, Europe sales were up 5.2% to 4.31 million, with many countries still not pulling ahead of same-period 2019. The full impact of the early broad lockdowns to slow the spread of the coronavirus was seen in April, so next month is expected to show an even bigger year-over-year increase for most markets."[26]

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
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
7/2020
8/2020
9/2020
10/2020
11/2020
12/2020
1/2021
2/2021
3/2021
4/2021
U.S.
China
Japan
Spain
Germany
France
Italy
Russia
U.K


Light Vehicle Sales By Country:
Year-Over-Year Percent Change By Month
YoY July %Change
YoY August %Change
YoY September %Change
YoY October %Change
YoY November %Change
YoY December %Change
YoY January %Change
YoY February %Change
YoY March %Change
YoY April %Change
U.S.
China
Japan
Spain
Germany
France
Italy
Russia
U.K
3,277
3,176
1,307
569
490
364.8
290
192
134

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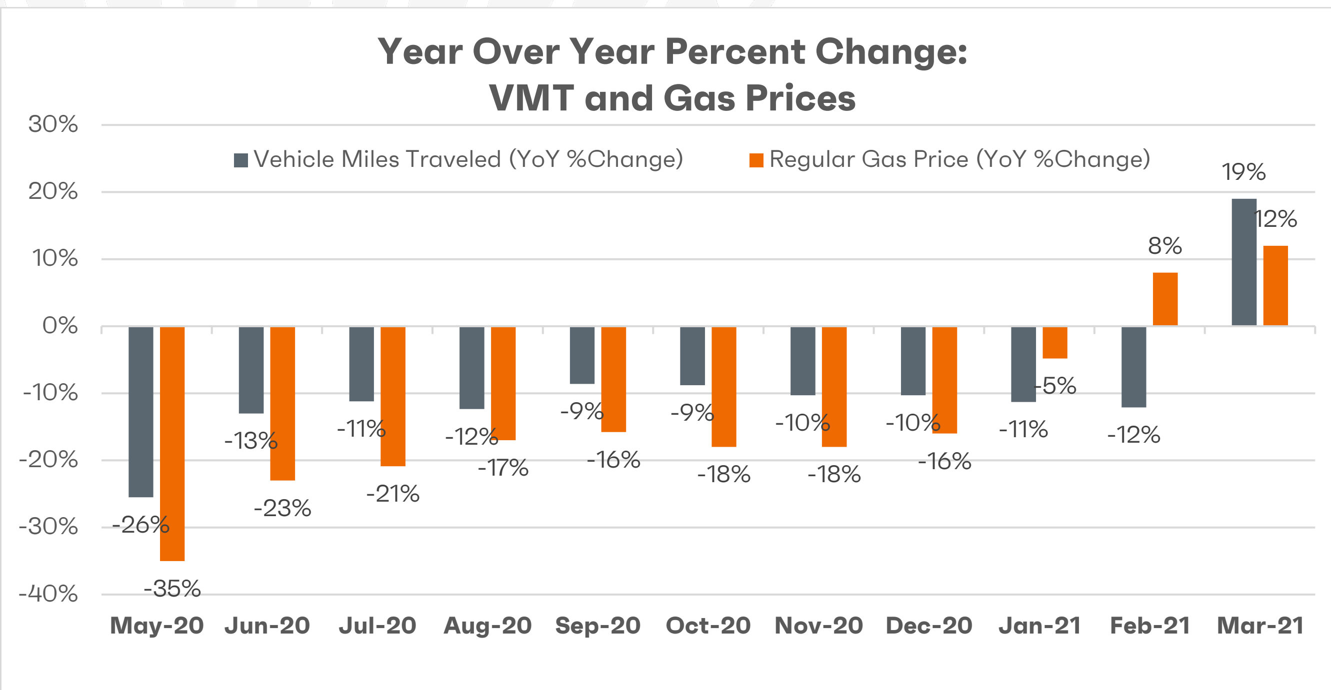
Recovery Meter

Roadway Travel (Updated 5/19)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in March rose 19 percent from the same time a year ago. The cumulative travel estimate for 2021 is 691.5 billion vehicle miles.[27]

- Travel on all roads and streets changed by +19.0% (+42.0 billion vehicle miles) for March 2021 as compared with March 2020. Travel for the month is estimated to be 263.0 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for March 2021 is 261.1 billion miles, an 18.5% (40.7 billion vehicle miles) increase over March 2020. It also represents a 6.2% increase (15.2 billion vehicle miles) compared with February 2021.
- Cumulative Travel for 2021 changed by -2.1% (-14.9 billion vehicle miles). The Cumulative estimate for the year is 691.5 billion vehicle miles of travel.



Economic News (Updated 5/12)

Manufacturing Employment Declined By 18,000 In April, Mainly In Motor Vehicles, As Factories Were Idled From Semiconductor Shortages. "U.S. employers added a modest 266,000 jobs in April, a report Friday by the Labor Department showed, far short of the one million that economists had forecast and the weakest monthly gain since January. . . Manufacturing employment was down 18,000—predominantly in motor vehicles, where semiconductor-chip shortages idled some factories.[28]"

- **Motor Vehicle And Parts Manufacturing Lost 27,000 Jobs In April (not seasonally adjusted).[29]**

Auto Sales Make Big Contribution To Increase In GDP In The First Quarter. "In the first months of 2021, what was good for the auto industry was decidedly good for the American economy. Spending on motor vehicles and parts rose almost 13 percent in the first quarter, making a big contribution to the increase in gross domestic product, the Commerce Department reported Thursday. .. In fact, demand in the first quarter was robust enough that the auto industry was able to post healthy results despite a shortage of computer chips that forced temporary shutdowns of many auto plants."[30]

Manufacturing Activity Grew At A Smaller Pace In April, Due To Supply Chain Disruption. "U.S. manufacturing activity grew at a slower pace in April, restrained by shortages of inputs as rising vaccinations against COVID-19 and massive fiscal stimulus unleashed pent-up demand. The survey from the Institute for Supply Management (ISM) on Monday showed record-long lead times, wide-scale shortages of critical basic materials, rising commodities prices and difficulties in transporting products across industries."[31]

The Institute For Supply Management's Manufacturing Index For March Reached Its Highest Level In Nearly 40 Years. "The manufacturing economy has been strengthening in recent months as it recovers from the COVID-19 pandemic. The Institute for Supply Management said last week its manufacturing index for March reached its highest level in almost 40 years. That index is considered a leading indicator and is a barometer of where manufacturing is headed economically."[32]

Paul Traub Of The Federal Reserve Bank of Chicago Predicted The U.S. Economy Will Rebound In 2021 From Previous Peaks If Vaccines And Public Action Stops The Virus. "The economy recovered relatively quickly after the initial hit of the Covid-19 pandemic. We saw a V-shape recovery in GDP. 'We spent our way out of it,' Paul said. While personal consumption expenditures on service were down greatly, spending on durable and non-durable goods shot up. The new-car-buying population is high-income, the group least affected by unemployment and reduced wages. Employment figures look better than they really are. Unemployment looks low, but participation is down (people, especially women, have given up looking for a job, and thus are no longer counted as 'unemployed'). Wages seem to have risen, but the lower-income population was hit most by job losses, shifting the average to those who were able to retain their position. Economic forecasts estimate the U.S. economy could get back to its previous peak sometime in 2021, but only if vaccines and public action are successful at controlling the spread of the virus. Current trends that could have a negative impact on light-vehicle sales in the future: decline in the rate of licensed drivers, lower number of households plus household size declining, normalizing of working from home, and overall drop in average vehicles miles traveled."[33]

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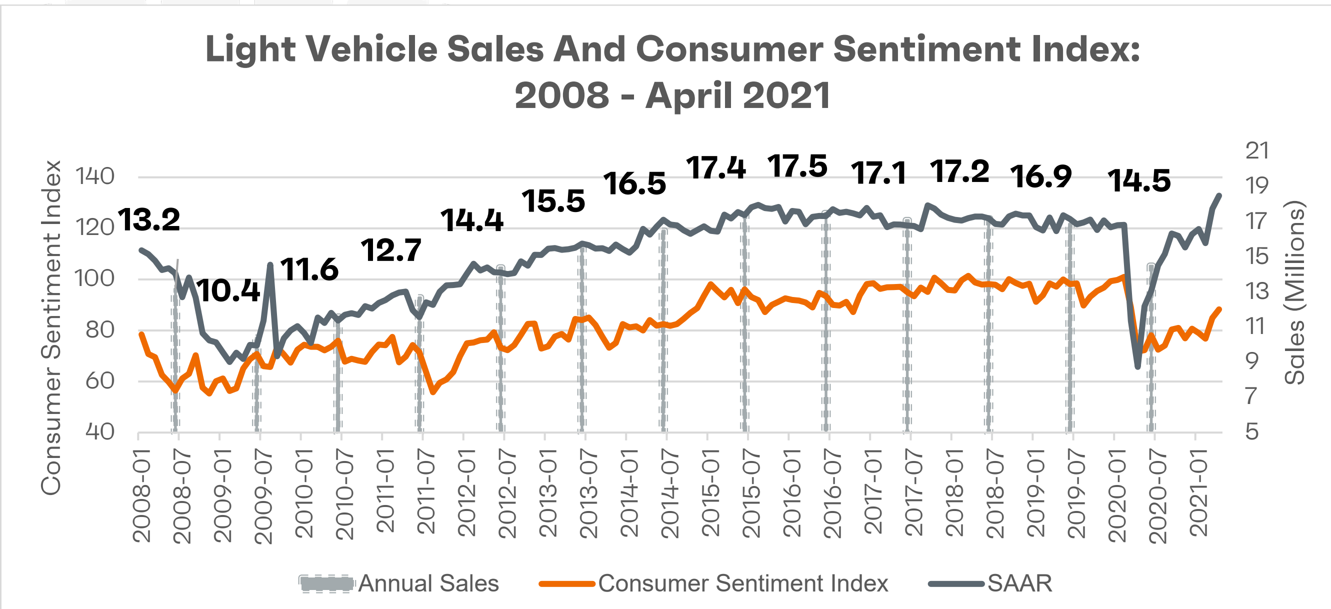
Consumer Confidence and Sales (Updated 5/5)

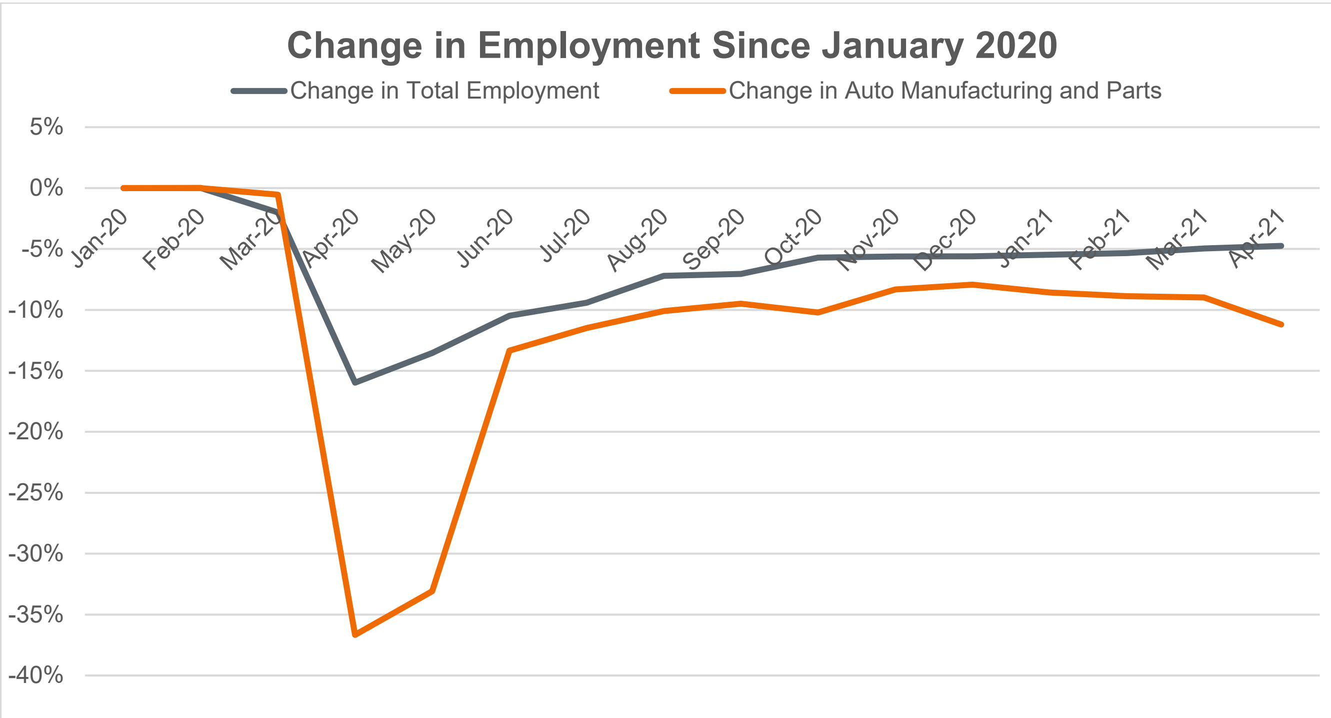
"The April survey recorded continued gains in consumer confidence due to a growing sense that the upward momentum in jobs and incomes will persist. The renewed confidence is due to record federal stimulus spending, both recently passed and proposed, as well as the positive impact from a growing share of the population who are vaccinated. The largest and most important change in April was that an all-time record number of consumers expected declines in the unemployment rate during the year ahead. Even if a booming economy resulted in higher inflation, consumer optimism would not diminish since consumers have already anticipated a temporary increase. Overall, the data indicate an exceptional outlook for consumer spending through mid-2022. The size and persistence of the spending gains depend on continued job growth as well as wages that effectively draw people back into the labor force."[34]



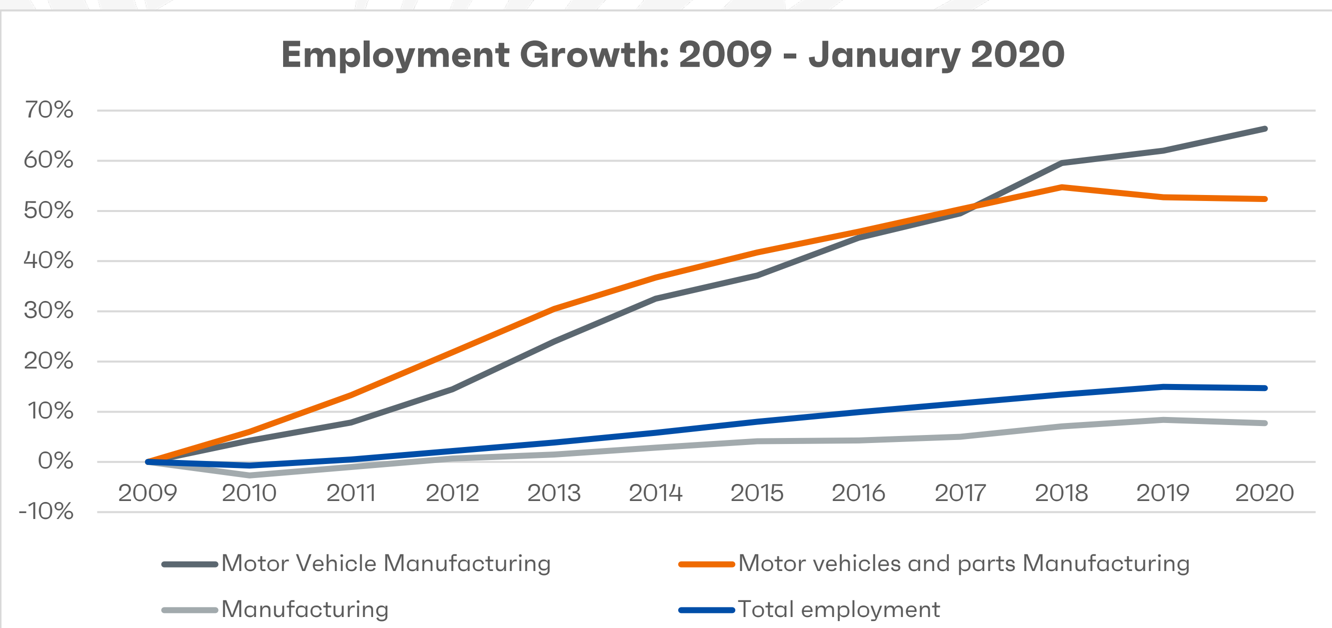
Employment (Updated 5/12)

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. Employment in motor vehicles and parts is down 95,000 since January 2020.[35]

- **Motor Vehicle And Parts Manufacturing Lost 27,000 Jobs In April (not seasonally adjusted).[36]**



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.[37] Additionally, the chart below shows how the recovery of jobs in motor vehicle manufacturing alone and motor vehicle and parts manufacturing far outpaced the recovery of manufacturing and total jobs.



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