Los Angeles Auto Outlook



Comprehensive information on the LA County new vehicle market

FORECAST

Supply Chain Issues Linger and Demand Softens; But Reasons for Optimism

There is cause for concern regarding the prospects for the Los Angeles County new vehicle market. Supply chain issues continue to limit inventories, inflation is surging, interest rates are moving higher, economic growth has turned negative, and consumer sentiment is weak. It's a formidable list. But there are two key positives that will likely prevent deterioration in current sales rates and should provide a boost when supply issues abate and the economic picture brightens. Both are explained below.

Positive factor #1 - Pent-up demand continues to grow. Contrary to what some analysts are saying, pent-up demand is NOT "vanishing" due to weakening affordability and economic conditions. In fact it's just the opposite! Pent-up demand accumulates when new vehicle sales fall below baseline levels, which are a function of core factors, such as driving age population and vehicles in operation. Purchases are postponed and sales move below baseline levels due to economic declines or supply interruptions, exactly what is happening now.

Baseline annual sales in the U.S. are roughly 15.5 million units and the average has been well below that level during the past three years and likely in 2023 as well. As shown on page 3, Auto Outlook estimates that 231,447 vehicle purchases have been

postponed in the county since the onset of the pandemic, and this figure will continue to grow as sales remain subdued.

Bottom line: these vehicle purchases have not vanished, they are being "stored up." It's the proverbial gas in the tank for when fundamentals improve.

Positive factor #2 - Vehicle prices are poised to move lower when supply chain issues improve. The industry has a card up its sleeve to combat falling consumer affordability. Vehicle prices, which have increased sharply due to supply constraints, CAN move lower. It doesn't happen often and it defies conventional wisdom, but these are NOT conventional times.

The factors that resulted in the price increases during the past two years can be unwound. If demand weakens sufficiently, dealers can curtail the practice of selling vehicles at or above list price. In addition, manufacturers could easily dial up incentives, which have all but disappeared during the past year. And finally, production can be shifted away from higher margin, fully equipped vehicles to less expensive, lower-content models. Lowering prices is a natural weapon to combat falling demand and the industry definitely has this tool in it's toolbox.

Outlook for Los Angeles County New Retail Light Vehicle Market

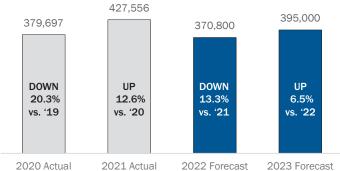


Market is almost certain to **improve in the Fourth Quarter of this year** due
primarily to weak results in 4Q '21
when inventory shortages were acute.

Predicting the impact of supply chain issues has been difficult, to say the least. Lost production due to the microchip shortage during 2022 was significantly higher than expected at the beginning of the year. As a result, vehicle sales projections have been lowered during the year. **Registrations** for all of 2022 are now predicted to decline 13.3% from 2021.

Demand is likely to soften due to deteriorating economic conditions, but pent-up demand and the ability for vehicle prices to shift lower are positives. Assuming supply chain issues ease during the next 12 months, Auto Outlook believes that the market will increase next year. It would likely take a severe economic downturn for the market to fall, while the chances for an upside surprise are above average.

Forecast for County New Retail Light Vehicle Registrations



The graph above shows annual new retail light vehicle registrations in 2020 and 2021 and Auto Outlook's projections for all of 2022 and 2023. Historical Data Source: AutoCount data from Experian.

Market Summary

	YTD '21	YTD '22	% Chg.	Mkt. Share		
	Sept.	Sept.	'21 to '22	YTD '22		
TOTAL	341,505	275,877	-19.2%			
Car	132,232	98,898	-25.2%	35.8%		
Light Truck	209,273	176,979	-15.4%	64.2%		
Domestic	77,393	79,259	2.4%	28.7%		
European	68,980	52,076	-24.5%	18.9%		
Japanese	163,053	114,838	-29.6%	41.6%		
Korean	32,079	29,704	-7.4%	10.8%		

Domestics consist of vehicles sold by GM, Ford, Stellantis (excluding Alfa Romeo and FIAT), and Tesla.

Data Source: AutoCount data from Experian.

Los Angeles County New Vehicle Market Dashboard



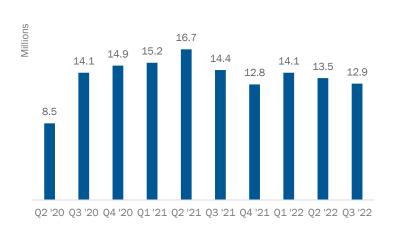






MARKET PERFORMANCE DURING PAST TWO YEARS

Los Angeles County Quarterly Registrations Seasonally Adjusted Annual Rate, Converted to Equivalent U.S. New **Vehicle Market SAAR** (millions of units)



The graph on the left provides an easily recognizable way to gauge the strength of the county market. It shows quarterly registrations based on a seasonally adjusted annual rate. These figures are then indexed to SAAR sales figures for the U.S. new vehicle market. So just like in the national market, when the quarterly SAAR is above 17 million units, the county market is strong, 15 million is about average, and below 13 million is weak. Quarterly registrations stayed below 15 million units in each of the past five quarters.

Data Source: AutoCount data from Experian. SAAR estimates: Auto Outlook.



COUNTY MARKET VS. U.S.

% Change In **New Retail Market** YTD '22 thru Sept. vs. YTD '21

Los Angeles County

U.S.

DOWN 19.2% DOWN 16.9%

New retail light vehicle registrations in Los Angeles County declined by 19.2% during the first nine months of this year versus year earlier, slightly worse than the 16.9% drop in the Nation.

Source for county registrations: AutoCount data from Experian. U.S. figures estimated by Auto Outlook.

At Auto Outlook, we strive to provide sound and accurate analyses and forecasts based upon the data available to us. However, our forecasts are derived from third-party data and contain a number of assumptions made by Auto Outlook and its management, including, without limitation, the accuracy of the data compiled. As a result, Auto Outlook can make no representation or warranty with respect to the accuracy or completeness of the data we provide or the forecasts or projections that we make based upon such data. Auto Outlook expressly disclaims any such warranties, and undue reliance should not be placed on any such data, forecasts, projections, or predictions. Auto Outlook undertakes no obligation to update or revise any predictions or forecasts, whether as a result of any new data, the occurrence of future events, or otherwise.

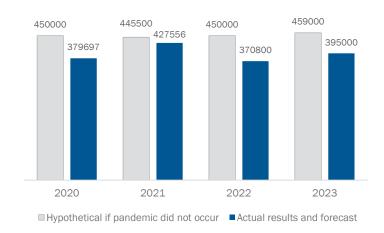
Los Angeles County New Vehicle Market Dashboard





PENT-UP DEMAND

Actual and forecast new retail light vehicle registrations versus hypothetical levels if pandemic did not occur



Estimated

231,447

new vehicle purchases will be postponed between 2020 & 2023 representing

51%

of sales in an average year

Historical Data Source: AutoCount data from Experian. Projections: Auto Outlook.



TRACKING ECONOMIC INDICATORS

Monthly Unemployment Rates in Los Angeles County

	AUGUST 2021									
SU	MO	TU	WE	TH	FR	SA				
	8	3.	9	%	0					





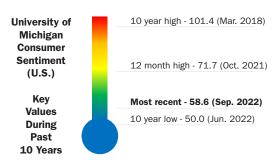
Average Hourly Earnings for All Workers in County - Aug. 2022



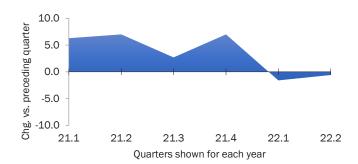


Up \$1.49 vs. year earlier

The county unemployment rate was 4.9% in August of this year. Wages were up versus year earlier. Consumer sentiment has deteriorated and GDP growth turned negative in 2022.







Los Angeles County New Vehicle Market Dashboard



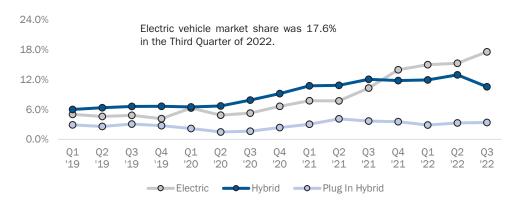






TRACKING ELECTRIC AND HYBRID VEHICLE SALES

Estimated Quarterly Alternative Powertrain Market Share (includes hybrid and electric vehicles)

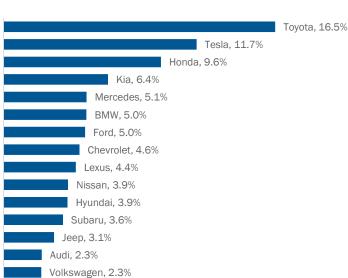




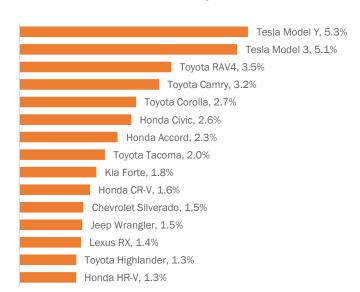
The graph above shows estimated hybrid powertrain and electric vehicle market share. Registrations by powertrain for vehicles equipped with multiple engine types were estimated by Auto Outlook. The estimates are based on model registrations compiled by Experian, and engine installation rates collected from other sources.

TOP 15 RANKINGS IN LOS ANGELES COUNTY MARKET

Market Share for Top 15 Selling Brands in County Market YTD 2022 thru September

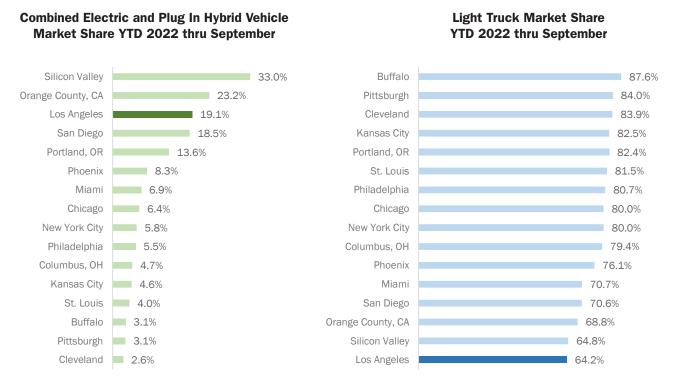


Market Share for Top 15 Selling Models in County Market YTD 2022 thru September

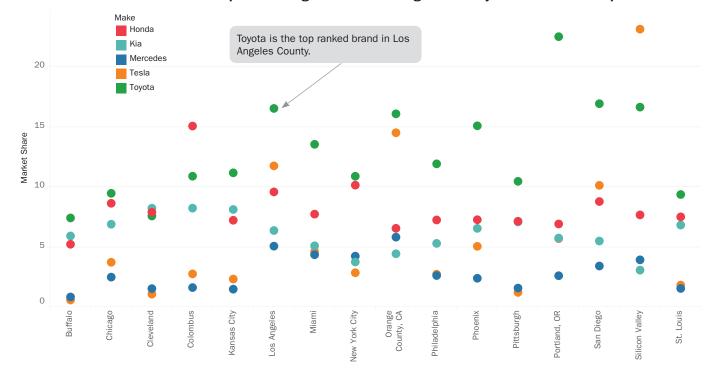


Comparison of Selected Metro Area Markets

The graphs below compare three primary indicators for selected metro area markets: combined market share for electric and plug in hybrid models, light truck market share, and market shares for the top five selling brands in the area. Los Angeles County was ranked third out of the 16 markets for electric/plug in hybrid market share, and last for light truck share.



Brand Market Share for Top Five Selling Brands in Los Angeles County - YTD 2022 thru September



The graph above shows market share for the top five selling brands in Los Angeles County. Each colored circle corresponds to market share for a specific brand, as depicted in the legend at the top of the graph. Some circles overlap for brand market shares that are almost identical. Data Source: AutoCount data from Experian. Note: figures for some areas are thru August of 2022.

Brand Registrations Report Los Angeles County New Retall Car and Light Truck Registrations												
	Light Truck Registrations YTD thru September											
	Third Q Registrations			Market Share (%)			Registrations				ket Share (%	6)
Ī	3Q '21	3Q '22	% change	3Q '21	3Q '22	Change	YTD '21	YTD '22	% change	YTD '21	YTD '22	Change
TOTAL	106,340	85,355	-19.7				341,505	275,877	-19.2			
Cars	41,545	30,291	-27.1	39.1	35.5	-3.6	132,232	98,898	-25.2	38.7	35.8	-2.9
Light Trucks	64,795	55,064	-15.0	60.9	64.5	3.6	209,273	176,979	-15.4	61.3	64.2	2.9
Domestic Brands	23,649	26,073	10.2	22.2	30.5	8.3	77,393	79,259	2.4	22.7	28.7	6.0
European Brands	20,970	15,793	-24.7	19.7	18.5	-1.2	68,980	52,076	-24.5	20.2	18.9	-1.3
Japanese Brands	51,136	33,033	-35.4	48.1	38.7	-9.4	163,053	114,838	-29.6	47.7	41.6	-6.1
Korean Brands	10,585	10,456	-1.2	10.0	12.3	2.3	32,079	29,704	-7.4	9.4	10.8	1.4
Acura	1,228	541	-55.9	1.2	0.6	-0.6	3,420	2,058	-39.8	1.0	0.7	-0.3
Alfa Romeo	406	246	-39.4	0.4	0.3	-0.1	1,458	779	-46.6	0.4	0.3	-0.1
Audi	2,288	2,044	-10.7	2.2	2.4	0.2	9,320	6,426	-31.1	2.7	2.3	-0.4
BMW	5,608	4,086	-27.1	5.3	4.8	-0.5	17,017	13,896	-18.3	5.0	5.0	0.0
Buick	181	131	-27.6	0.2	0.2	0.0	629	342	-45.6	0.2	0.1	-0.1
Cadillac	485	589	21.4	0.5	0.7	0.2	1,804	1,617	-10.4	0.5	0.6	0.1
Chevrolet	4,763	4,792	0.6	4.5	5.6	1.1	17,181	12,743	-25.8	5.0	4.6	-0.4
Chrysler	107	87	-18.7	0.1	0.1	0.0	723	377	-47.9	0.2	0.1	-0.1
Dodge	1,231	926	-24.8	1.2	1.1	-0.1	4,632	2,777	-40.0	1.4	1.0	-0.4
Ford	3,334	4,224	26.7	3.1	4.9	1.8	13,212	13,699	3.7	3.9	5.0	1.1
Genesis	439	563	28.2	0.4	0.7	0.3	888	1,427	60.7	0.3	0.5	0.2
GMC	950	1,047	10.2	0.9	1.2	0.3	3,122	2,826	-9.5	0.9	1.0	0.1
Honda	14,515	6,635	-54.3	13.6	7.8	-5.8	45,818	26,402	-42.4	13.4	9.6	-3.8
Hyundai	3,912	3,701	-5.4	3.7	4.3	0.6	12,332	10,741	-12.9	3.6	3.9	0.3
Infiniti	576	323	-43.9	0.5	0.4	-0.1	2,191	1,209	-44.8	0.6	0.4	-0.2
Jaguar	179	75	-58.1	0.2	0.1	-0.1	597	263	-55.9	0.2	0.1	-0.1
Jeep	2,938	2,736	-6.9	2.8	3.2	0.4	9,792	8,497	-13.2	2.9	3.1	0.2
Kia	6,234	6,192	-0.7	5.9	7.3	1.4	18,859	17,536	-7.0	5.5	6.4	0.9
Land Rover	1,232	667	-45.9	1.2	0.8	-0.4	4,513	2,504	-44.5	1.3	0.9	-0.4
Lexus	5,260	4,073	-22.6	4.9	4.8	-0.1	16,392	12,123	-26.0	4.8	4.4	-0.4
Lincoln	175	176	0.6	0.2	0.2	0.0	849	600	-29.3	0.2	0.2	0.0
Maserati	106	74	-30.2	0.1	0.1	0.0	340	301	-11.5	0.1	0.1	0.0
Mazda	3,117	1,607	-48.4	2.9	1.9	-1.0	8,639	5,862	-32.1	2.5	2.1	-0.4
Mercedes	4,876	3,980	-18.4	4.6	4.7	0.1	16,778	13,941	-16.9	4.9	5.1	0.2
MINI	415	459	10.6	0.4	0.5	0.1	1,381	1,225	-11.3	0.4	0.4	0.0
Mitsubishi	321	178	-44.5	0.3	0.2	-0.1	831	800	-3.7	0.2	0.3	0.1
Nissan	4,118	2,821	-31.5	3.9	3.3	-0.6	13,093	10,827	-17.3	3.8	3.9	0.1
Other	270	233	-13.7	0.3	0.3	0.0	876	711	-18.8	0.3	0.3	0.0
Porsche	1,322	1,064	-19.5	1.2	1.2	0.0	4,201	3,525	-16.1	1.2	1.3	0.1
Ram	1,349	1,032	-23.5	1.3	1.2	-0.1	4,621	3,399	-26.4	1.4	1.2	-0.2
Subaru	3,518	3,271	-7.0	3.3	3.8	0.5	11,001	9,981	-9.3	3.2	3.6	0.4
Tesla	8,136	10,333	27.0	7.7	12.1	4.4	20,828	32,382	55.5	6.1	11.7	5.6
Toyota	18,483	13,584	-26.5	17.4	15.9	-1.5	61,668	45,576	-26.1	18.1	16.5	-1.6
Volkswagen	3,018	2,338	-22.5	2.8	2.7	-0.1	9,128	6,333	-30.6	2.7	2.3	-0.4
Volvo	1,250	527	-57.8	1.2	0.6	-0.6	3,371	2,172	-35.6	1.0	0.8	-0.2

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