

# Silicon Valley Auto Outlook



Comprehensive information on the Santa Clara County new vehicle market

**SPECIAL REPORT**

## How Semiconductor Shortage Will Impact County New Vehicle Market

The chip shortage and other supply-related bottlenecks have turned the auto industry upside down. For most of the past 50 years, here's how it worked: key economic factors would dictate the level of demand in the marketplace, and the manufacturers would produce more than enough vehicles to accommodate demand. Most of the time, **supply exceeded demand**.

This was clearly not the case for the second half of this year, and likely lasting well into 2022. **Demand is significantly higher than supply** and sales levels will be determined based on how many vehicles can be produced. Pinpointing production volume is a complex puzzle impacted by several inter-related pieces: the chip shortage, COVID-induced labor cutbacks, tight supplies of other key components, and transportation logistics. Even if it was possible to accurately predict production, it's not feasible to directly link this to county new vehicle sales.

As a result, a different forecasting technique is needed. One that relies more on macro trends, and less on county economic factors. The most salient indicator to gauge the market is the seasonally adjusted annual rate of sales for the U.S. (SAAR). It's a top-line number, recognized across the industry, that is used as a barometer to formulate consensus on where the market is headed. The sidebar to the right presents an analysis that translates the anticipated SAAR into an equivalent level of registrations in the county. According to the baseline forecast, registrations will increase by 11.8% for all of this year, and are likely to improve again in 2022.

There is a **silver lining** to the recent slowdown in sales. As discussed in the previous release of Auto Outlook, key pillars of demand for new vehicles are bullish. Affordability is strong, and consumers have an intense need and desire to purchase new vehicles. The supply-related issues will pull sales well below anticipated levels, but most of these purchases will occur in the future. When supply issues abate, pent up demand will give a boost to the market for an extended period.

### Outlook for Santa Clara County new vehicle market



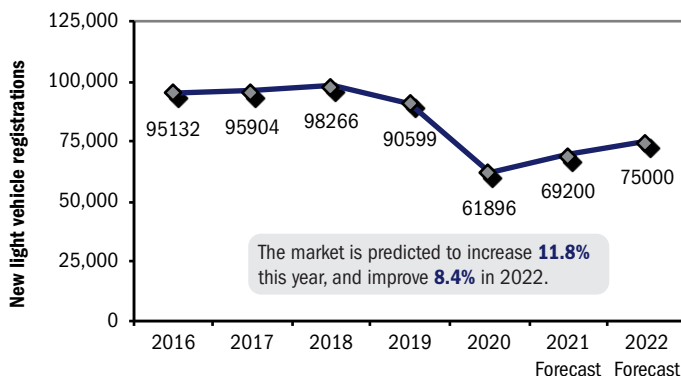
#### Forecast for county new retail registrations

Time Period	Forecast Scenarios		
	Baseline	Alternative Downside	Alternative Upside
4Q 2021 regs.	13,819	12,619	15,019
% change vs. 4Q '20	<b>-12.4%</b>	-20.0%	-4.8%
2021 annual regs.	69,200	68,000	70,400
% change vs. 2020	<b>11.8%</b>	9.9%	13.7%
2022 annual regs.	75,000	67,700	80,400
% change vs. 2021	<b>8.4%</b>	-0.4%	14.2%

#### Review of forecast methodology

- Demand will **not** be a primary driver for the county new vehicle market for perhaps the next 15 months.
- The level of sales will be dictated by production. A tangible indicator of how production will translate into county new vehicle registrations is the U.S. seasonally adjusted annual rate of sales (SAAR).
- The SAAR at the end of 3Q '21 was roughly 12.5 million units.
- Based on Auto Outlook's analysis of sales trends in the county market, a U.S. SAAR of 12.5m units in Q4 '21 would be equivalent to **13,819** new retail registrations in the county (shown as "Baseline" in above table).
- This would bring total registrations for all of 2021 to **69,200** units, up **11.8%** from 2020.
- Most projections for U.S. new vehicle sales in 2022 are in the vicinity of 15.4 million units. This would be equivalent to county registrations of **75,000** units next year, an **8.4%** increase from 2021.
- Due to the elevated uncertainty primarily related to the severity and duration of vehicle supply disruptions, the table above shows three different forecast scenarios: baseline, alternative downside, and alternative upside.

**Annual Trend in County Market**



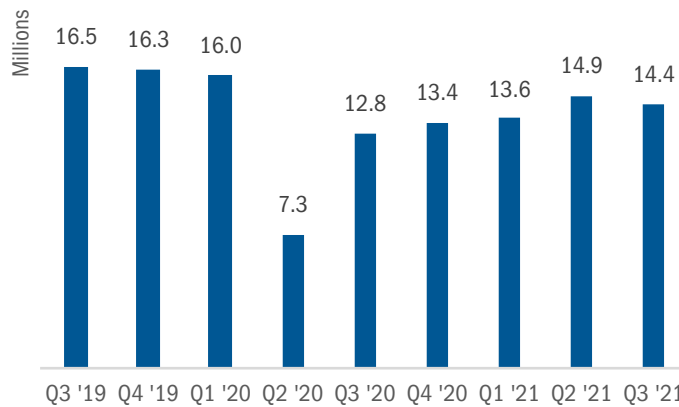
The graph shows annual new retail light vehicle registrations from 2016 thru 2020 and Auto Outlook's projections for all of 2021 and 2022. Source for historical data: AutoCount data from Experian.

# Santa Clara County New Vehicle Market Dashboard



## MARKET PERFORMANCE DURING PAST TWO YEARS

**Santa Clara 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 in the county were a U.S. equivalent level of 14.9 million units in the Second Quarter of 2021 and fell to 14.4 million in the Third Quarter as inventories declined.

Data Source: AutoCount data from Experian.



## COUNTY MARKET VS. U.S.

**YTD 2021 thru September**  
**% Change In New Retail Market vs. Year Earlier**

**Santa Clara County**  
**UP 20.1%**

**U.S.**  
**UP 18.2%**

Inventory issues had minimal impact on new light vehicle registrations for most of the first nine months of this year. And up until that time, the county market posted a larger gain than the U.S. Registrations will trail year-earlier levels for the remainder of the year, however.

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

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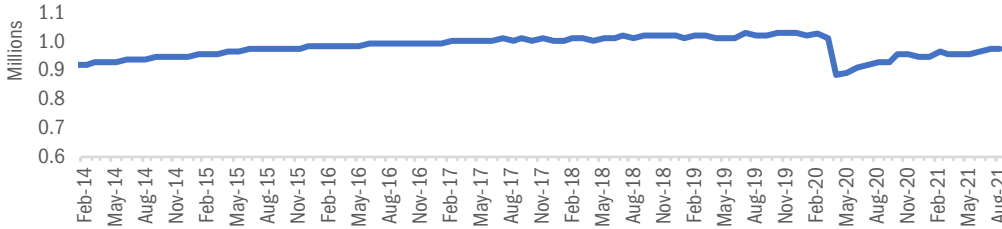
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# Santa Clara County New Vehicle Market Dashboard



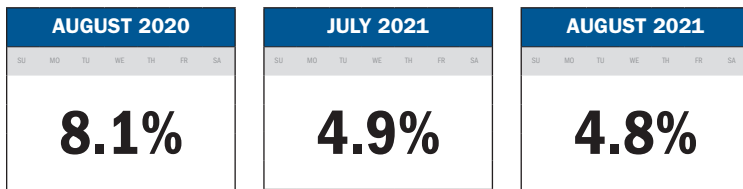
## TRACKING ECONOMIC INDICATORS

### Total Employment in Santa Clara County



Total employment in the county continued to drift slightly higher during the summer of 2021. The unemployment rate was 4.8% in August. Consumer sentiment has moved lower due to inflationary pressures and concerns about the pandemic. Household net worth has hit record highs, which should provide a boost to new vehicle sales when supply issues abate.

### Monthly Unemployment Rates in Santa Clara County



### Average Hourly Earnings for All Workers in County - Aug. 2021



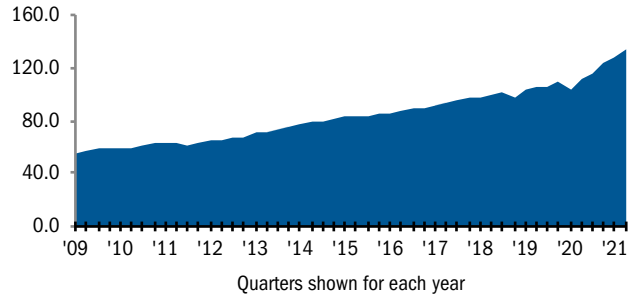
### University of Michigan Consumer Sentiment (U.S.)



10 year high - 101.4 (Mar. 2018)  
12 month high - 88.2 (Apr. 2021)  
Most recent - 72.8 (Sep. 2021)  
10 year low - 59.4 (Sep. 2011)

Key Values During Past 10 Years

### Household Net Worth Trillions of \$ (U.S.)

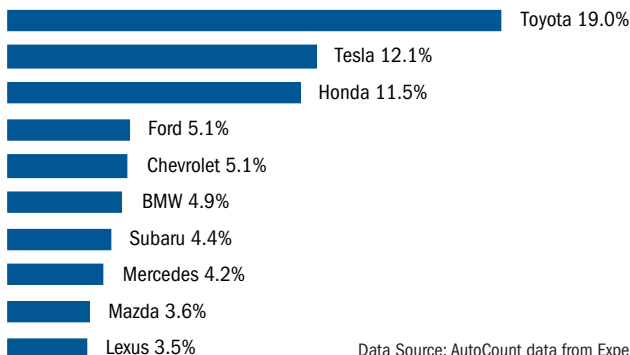


Sources: Bureau of Labor Statistics, University of Michigan, and Federal Reserve.



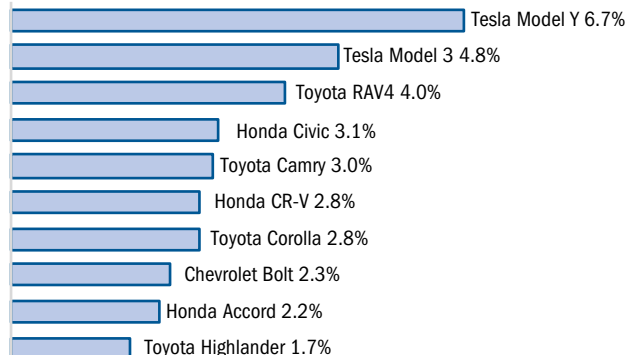
## TOP TEN RANKINGS IN COUNTY MARKET

### Market Share for Top Ten Selling Brands in County Market YTD 2021 thru September



Data Source: AutoCount data from Experian.

### Market Share for Top Ten Selling Models in County Market YTD 2021 thru September

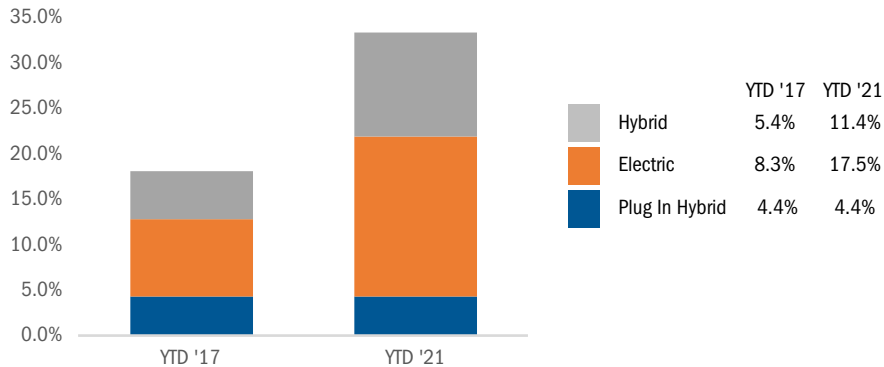


# Three Long Term Trends in Santa Clara County New Vehicle Market

Trend...	The numbers...	Primary conclusion...
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**Estimated Alternative Powertrain Share\*-YTD '17 and '21, thru Sept.**

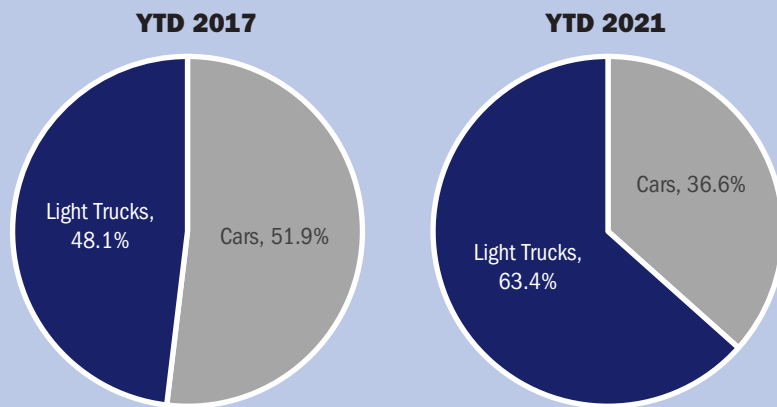
## Alternative Powertrains



**Hybrid vehicle market share in the county has increased by 6.0 share points during the past four years. Electric vehicle share was up 9.2 points.**

**Light Truck and Passenger Car Share - YTD '17 and '21, thru Sept.**

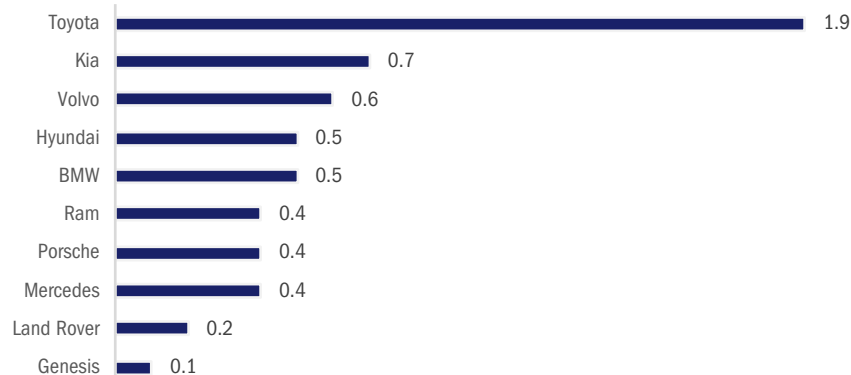
## Light Trucks



**Light truck market share increased to 63.4% during the first nine months of 2021, up 15.3 points from 2017.**

**Brands with Largest Market Share Increases - YTD '17 to YTD '21**

## New Vehicle Brands



**Five brands had market share increases of 0.5 of a point or higher: Toyota, Kia, Volvo, Hyundai, and BMW.**

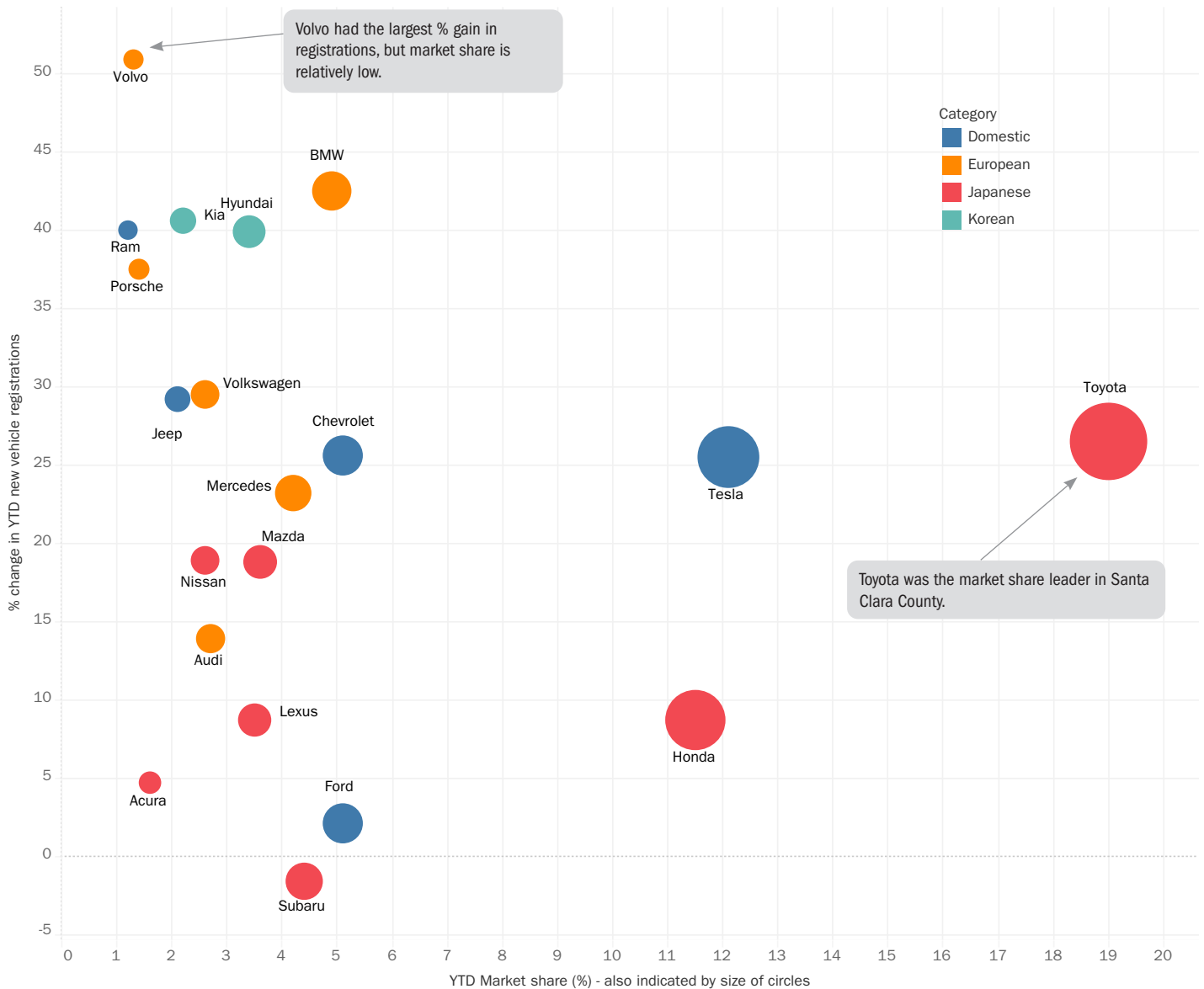
Data Source: AutoCount data from Experian. \*Registrations by powertrain for vehicles equipped with multiple engine types were estimated by Auto Outlook. The estimates are based on model registrations compiled by Experian, and engine installation rates collected from other sources. The graph above showing largest market share increases excludes Tesla, since the Model 3 was introduced during 2017.

BRAND SCOREBOARD

# Volvo, BMW, Kia, and Hyundai Had Largest Percentage Increases

The graph below presents a well-rounded view of brand sales results in the county market. It shows both the percentage change in registrations so far this year versus year earlier (vertical axis) and market share (horizontal axis, also denoted by relative size of the circles). Brand category (Domestic, European, Japanese, or Korean) is identified by color of the circles. Brands on the right side of the graph have higher market share, and those at the top have had larger percentage gains in registrations. Typically, brand sales performance is a function of such factors as new product cadence, marketing, incentives, and dealership sales performance. But during 2021, brand results have primarily been determined by vehicle supplies and availability.

**Santa Clara County Market Share (YTD '21 thru September) and Percent Change in Registrations (YTD '21 thru Sept. vs. YTD '20) Top 20 Selling Brands**



Data Source: AutoCount data from Experian.

Brand Registrations Report												
Santa Clara County New Retail Car and Light Truck Registrations												
	Thrid Quarter						Year to date thru September					
	Registrations			Market Share (%)			Registrations			Market Share (%)		
	3Q '20	3Q '21	% change	3Q '20	3Q '21	Change	YTD '20	YTD '21	% change	YTD '20	YTD '21	Change
TOTAL	15,779	18,498	17.2				46,119	55,381	20.1			
Cars	5,691	6,923	21.6	36.1	37.4	1.3	19,231	20,269	5.4	41.7	36.6	-5.1
Light Trucks	10,088	11,575	14.7	63.9	62.6	-1.3	26,888	35,112	30.6	58.3	63.4	5.1
Domestic Brands	4,404	5,230	18.8	27.9	28.3	0.4	13,372	15,984	19.5	29.0	28.9	-0.1
European Brands	2,735	3,560	30.2	17.3	19.2	1.9	8,144	10,364	27.3	17.7	18.7	1.0
Japanese Brands	7,876	8,549	8.5	49.9	46.2	-3.7	22,371	25,837	15.5	48.5	46.7	-1.8
Korean Brands	764	1,159	51.7	4.8	6.3	1.5	2,232	3,196	43.2	4.8	5.8	1.0
Acura	296	313	5.7	1.9	1.7	-0.2	845	885	4.7	1.8	1.6	-0.2
Alfa Romeo	17	27	58.8	0.1	0.1	0.0	78	78	0.0	0.2	0.1	-0.1
Audi	422	468	10.9	2.7	2.5	-0.2	1,327	1,512	13.9	2.9	2.7	-0.2
BMW	605	956	58.0	3.8	5.2	1.4	1,898	2,705	42.5	4.1	4.9	0.8
Buick	35	28	-20.0	0.2	0.2	0.0	116	105	-9.5	0.3	0.2	-0.1
Cadillac	54	61	13.0	0.3	0.3	0.0	177	219	23.7	0.4	0.4	0.0
Chevrolet	793	675	-14.9	5.0	3.6	-1.4	2,241	2,814	25.6	4.9	5.1	0.2
Chrysler	44	48	9.1	0.3	0.3	0.0	200	314	57.0	0.4	0.6	0.2
Dodge	145	115	-20.7	0.9	0.6	-0.3	399	423	6.0	0.9	0.8	-0.1
FIAT	4	0	-100.0	0.0	0.0	0.0	12	4	-66.7	0.0	0.0	0.0
Ford	1,052	738	-29.8	6.7	4.0	-2.7	2,776	2,834	2.1	6.0	5.1	-0.9
Genesis	9	55	511.1	0.1	0.3	0.2	38	121	218.4	0.1	0.2	0.1
GMC	227	220	-3.1	1.4	1.2	-0.2	653	658	0.8	1.4	1.2	-0.2
Honda	1,977	2,138	8.1	12.5	11.6	-0.9	5,836	6,343	8.7	12.7	11.5	-1.2
Hyundai	445	656	47.4	2.8	3.5	0.7	1,339	1,873	39.9	2.9	3.4	0.5
Infiniti	36	53	47.2	0.2	0.3	0.1	123	170	38.2	0.3	0.3	0.0
Jaguar	85	28	-67.1	0.5	0.2	-0.3	159	87	-45.3	0.3	0.2	-0.1
Jeep	385	383	-0.5	2.4	2.1	-0.3	918	1,186	29.2	2.0	2.1	0.1
Kia	310	448	44.5	2.0	2.4	0.4	855	1,202	40.6	1.9	2.2	0.3
Land Rover	123	131	6.5	0.8	0.7	-0.1	375	455	21.3	0.8	0.8	0.0
Lexus	624	661	5.9	4.0	3.6	-0.4	1,802	1,958	8.7	3.9	3.5	-0.4
Lincoln	22	20	-9.1	0.1	0.1	0.0	75	57	-24.0	0.2	0.1	-0.1
Maserati	13	6	-53.8	0.1	0.0	-0.1	27	23	-14.8	0.1	0.0	-0.1
Mazda	665	706	6.2	4.2	3.8	-0.4	1,695	2,013	18.8	3.7	3.6	-0.1
Mercedes	630	712	13.0	4.0	3.8	-0.2	1,878	2,313	23.2	4.1	4.2	0.1
MINI	67	85	26.9	0.4	0.5	0.1	179	202	12.8	0.4	0.4	0.0
Mitsubishi	21	23	9.5	0.1	0.1	0.0	54	58	7.4	0.1	0.1	0.0
Nissan	343	437	27.4	2.2	2.4	0.2	1,218	1,448	18.9	2.6	2.6	0.0
Other	25	19	-24.0	0.2	0.1	-0.1	83	77	-7.2	0.2	0.1	-0.1
Porsche	197	260	32.0	1.2	1.4	0.2	543	756	39.2	1.2	1.4	0.2
Ram	175	232	32.6	1.1	1.3	0.2	492	689	40.0	1.1	1.2	0.1
Subaru	840	831	-1.1	5.3	4.5	-0.8	2,485	2,445	-1.6	5.4	4.4	-1.0
Tesla	1,472	2,710	84.1	9.3	14.7	5.4	5,325	6,685	25.5	11.5	12.1	0.6
Toyota	3,074	3,387	10.2	19.5	18.3	-1.2	8,313	10,517	26.5	18.0	19.0	1.0
Volkswagen	381	593	55.6	2.4	3.2	0.8	1,119	1,449	29.5	2.4	2.6	0.2
Volvo	166	275	65.7	1.1	1.5	0.4	466	703	50.9	1.0	1.3	0.3

Source: AutoCount data from Experian.

The table above shows new retail light vehicle (car and light truck) registrations in Santa Clara County. Figures are shown for the Third Quarters of 2020 and 2021, and year to date totals. The top ten ranked brands in each category are shaded yellow.