

Owning a Tesla Going Electric

Updates Since Mar 2019
For IEEE Coulee Subsection
Oct 26th, 2020



Intro for Eldon

- B.S. and M.S. at the UMN Twin Cities in Electrical Engineering
- Licensed Professional Engineer P.E. – Minnesota #47894
- Current Chair of IEEE Twin Cities Section 2019/2020
- Verification Application Engineer at Synopsys
- Blog

<https://tenthousandfailures.com>

- 6 Published Papers in Verification

Updates

- Cost of Tesla Cars
- Car Changes
- Tesla Model 3 vs Chevy Bolt Sales
- The New Tesla Model Y
- Fuel Comparison
- Maintenance

Tesla Model S Changes

Price for car decreased from
~\$95k to \$69420

Full Self Driving increased from
\$7k to \$10k

Range Increased from 335 miles
to 402 miles – same battery size

Tesla Model S Software Updates

Upgraded Full Self
Driving Computer
(free with purchase)

Video games -
Cuphead

Dog Mode /
Camp Mode



#Model3 #Tesla #ModelY

Tesla Full Self Driving Beta Test Drive (daylight)

241,262 views • Oct 23, 2020

9.3K 529 SHARE SAVE ...



Tesla Raj
29.4K subscribers

SUBSCRIBE



MAX
40

6
mph



SPEED
LIMIT
40



208 mi 88°F

Changing lanes to follow route
Use turn signal to cancel

3:48 PM P R N D

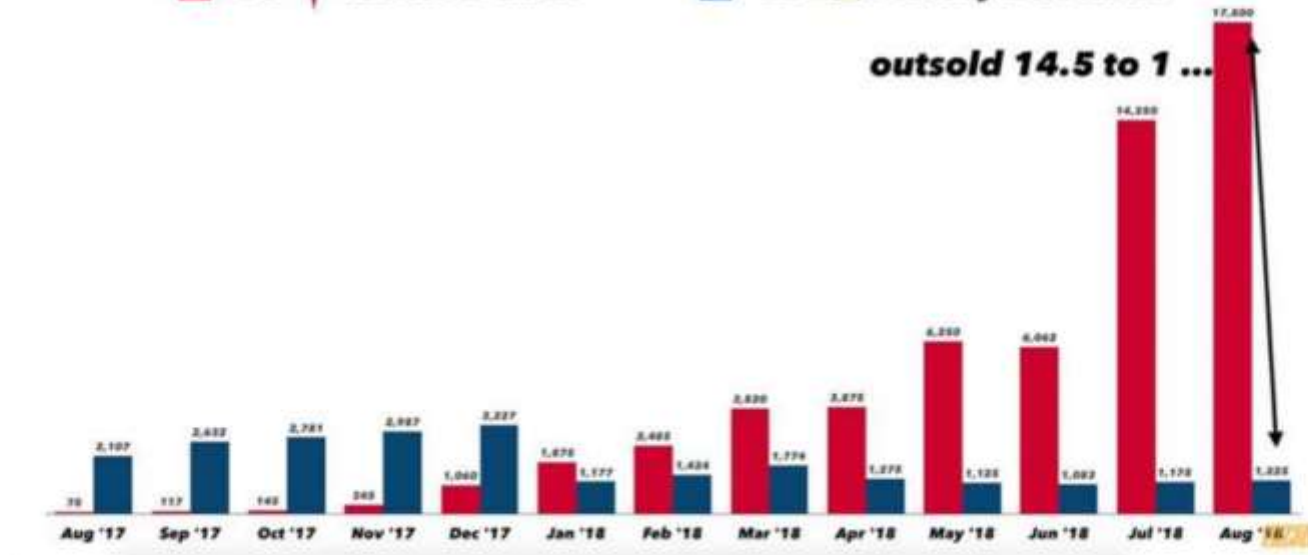
Chevy Volt Discontinued Mar 2019

Chevy Bolt lives on

Model 3 vs Chevy Bolt

■ US  Model 3 sales

■ US  Chevy Bolt sales



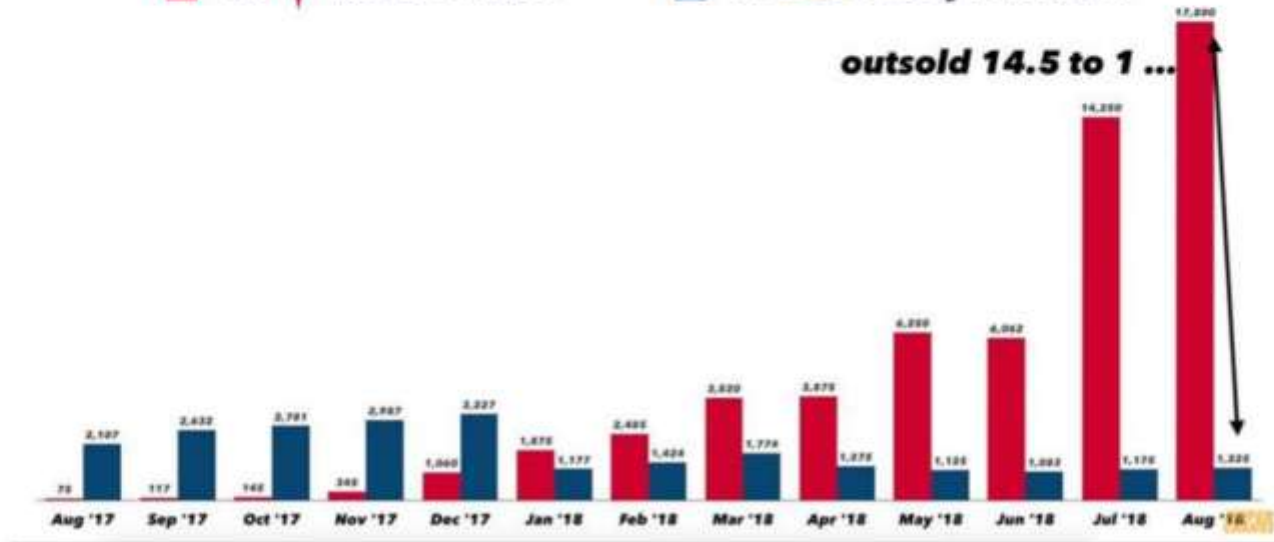
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Model 3 and Y deliveries 124,318 worldwide for 3rd quarter 2020

~40k per month

OPERATIONAL SUMMARY (Unaudited)

	Q3-2019	Q4-2019	Q1-2020	Q2-2020	Q3-2020	QoQ	YoY
Model S/X production	16,318	17,933	15,390	6,326	16,992	169%	4%
Model 3/Y production	79,837	86,958	87,282	75,946	128,044	69%	60%
Total production	96,155	104,891	102,672	82,272	145,036	76%	51%
Model S/X deliveries	17,483	19,475	12,230	10,614	15,275	44%	-13%
Model 3/Y deliveries	79,703	92,620	76,266	80,277	124,318	55%	56%
Total deliveries	97,186	112,095	88,496	90,891	139,593	54%	44%
of which subject to operating lease accounting	9,086	8,848	6,104	4,716	10,014	112%	10%

Chevrolet Bolt EV Sales - Q2 2020 - United States

In the United States, Chevrolet Bolt EV deliveries totaled 2,498 units in Q2 2020, a decrease of about 37 percent compared to 3,965 units sold in Q2 2019.

In the first six months of the year, Bolt EV sales increased about 1 percent to 8,371 units.

MODEL	Q2 2020 / Q2 2019	Q2 2020	Q2 2019	YTD 2020 / YTD 2019	YTD 2020	YTD 2019
BOLT EV	-37.00%	2,498	3,965	+1.09%	8,371	8,281

2498 Q2 2020 is about 832 per month in 2020 of Bolt in US
vs 1225 in Aug 2019



Tesla Model Y

The screenshot shows a 'Trips' menu on a car's infotainment system. It lists several trip categories with their respective metrics: distance, duration, total energy, and average energy. The 'Current Trip' is selected, showing 26.2 miles, 1:03 duration, and 413 Wh/mi. Other trips include 'Since Last Charge' (102.0 mi, 39.9 kWh, 391 Wh/mi), 'Trip A' (100.8 mi, 39.5 kWh, 391 Wh/mi), 'Trip B' (84,179.2 mi, 26,424.5 kWh, 314 Wh/mi), and 'Odometer' (102,337.0 mi). There are three 'Reset' buttons at the bottom: 'Reset Current Trip', 'Reset Trip A', and 'Reset Trip B'.

SHOW IN INSTRUMENT PANEL	DISTANCE	DURATION	AVG. ENERGY
<input checked="" type="checkbox"/> Current Trip	26.2 mi	1:03 hr	413 Wh/mi
SHOW IN INSTRUMENT PANEL	DISTANCE	TOTAL ENERGY	AVG. ENERGY
<input type="checkbox"/> Since Last Charge	102.0 mi	39.9 kWh	391 Wh/mi
<input checked="" type="checkbox"/> Trip A	100.8 mi	39.5 kWh	391 Wh/mi
<input type="checkbox"/> Trip B	84,179.2 mi	26,424.5 kWh	314 Wh/mi
<input checked="" type="checkbox"/> Odometer	102,337.0 mi		

26 MWh @ 12 cents per kWh is **\$3171 in Electricity**

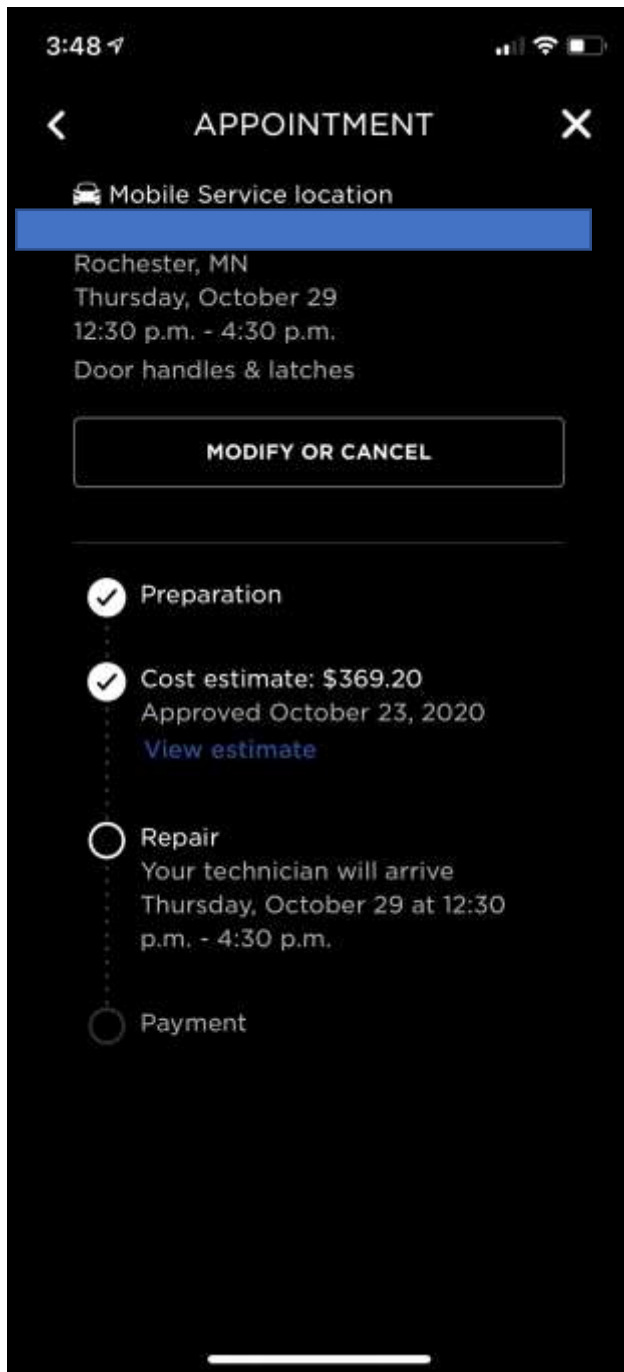
84179 miles / 26 mpg (for Toyota Avalon)

3238 gallons @ \$2.25 gallon is **\$7285 in gas**

84179 miles / 23 mpg (for BMW 7 Series)

3660 gallons @ \$2.75 gallon is **\$10065 in gas**

Then multiple all those numbers by 1.25 (Trip B is not complete)



At Home Service!

- Appointment made from phone and serviced at my house is \$369 to fix a door handle issue – likely not handled under warranty

Service at
100k Miles
(1st Service)

\$300 Dollars

Wiper Blades, Cabin Air Filter, Brake
Cleanup

\$30 for screen yellowing UV fix
(only on certain Tesla Model S cars)

Conclusion

I'd buy it again

Service is much less than tires

Fuel savings is of \$5k to \$8k
already realized

Full Self Driving is really exciting as
an engineering achievement!