

Which 2021 Tesla Model 3 should Bob buy?

Data Kaizen





Goal:
Bob lives in CA and he wants to buy the best value
2021 Tesla Model 3 on the market



What car specs is Bob looking for?

- 2021
- Model 3
- Autopilot
- Any color interior & exterior
- 18" Aero Wheels
- Standard Range Plus
- Rear-Wheel Drive
- Supercharger Network Access + Pay as you go



Question:

With so many cars with Bob's desired specs, how do we determine which is the best value?



Year	Price	Miles	Model	Location	Exterior	Interior
2021	33000	22095	Model 3 - Standard Range Plus	CA	Blue	White
2021	36998	8500	Model 3 - Standard Range Plus	TX	White	Black
2021	34998	16375	Model 3 - Standard Range Plus	FL	White	Black
2021	36998	9788	Model 3 - Standard Range Plus	AZ	White	White
2021	37998	6642	Model 3 - Standard Range Plus	FL	Blue	Black
2021	34998	19801	Model 3 - Standard Range Plus	TX	White	Black
2021	36998	12342	Model 3 - Standard Range Plus	AZ	White	Black
2021	38998	5738	Model 3 - Standard Range Plus	CA	White	White
2021	37998	11819	Model 3 - Standard Range Plus	CA	White	Black
2021	33998	27810	Model 3 - Standard Range Plus	FL	Blue	Black
2021	37998	13586	Model 3 - Standard Range Plus	NV	White	Black
2021	34998	25273	Model 3 - Standard Range Plus	WA	Gray	Black
2021	36998	17409	Model 3 - Standard Range Plus	CA	White	Black
2021	35998	21428	Model 3 - Standard Range Plus	MA	White	White
2021	34998	27217	Model 3 - Standard Range Plus	CO	White	Black
2021	36998	19666	Model 3 - Standard Range Plus	CT	White	Black
2021	33998	32551	Model 3 - Standard Range Plus	VA	White	White
2021	34998	28503	Model 3 - Standard Range Plus	OR	White	White
2021	37998	17014	Model 3 - Standard Range Plus	CA	Black	Black
2021	33998	33853	Model 3 - Standard Range Plus	IL	Red	White
2021	32998	39276	Model 3 - Standard Range Plus	NC	Black	Black
2021	37998	18674	Model 3 - Standard Range Plus	CA	Blue	Black
2021	33998	35365	Model 3 - Standard Range Plus	TX	Gray	Black
2021	35998	27298	Model 3 - Standard Range Plus	FL	White	White
2021	35998	27350	Model 3 - Standard Range Plus	TX	Black	White
2021	35998	27425	Model 3 - Standard Range Plus	GA	Blue	Black
2021	35998	28594	Model 3 - Standard Range Plus	GA	White	Black
2021	37998	21390	Model 3 - Standard Range Plus	MD	White	White
2021	32998	43430	Model 3 - Standard Range Plus	CA	White	Black
2021	33998	42553	Model 3 - Standard Range Plus	WI	White	Black
2021	33998	43471	Model 3 - Standard Range Plus	FL	Gray	Black
2021	33998	43837	Model 3 - Standard Range Plus	GA	White	Black
2021	33998	43952	Model 3 - Standard Range Plus	NV	White	White
2021	33998	44796	Model 3 - Standard Range Plus	AZ	White	Black
2021	33998	45342	Model 3 - Standard Range Plus	CA	White	Black
2021	39998	21783	Model 3 - Standard Range Plus	TX	Black	Black
2021	38998	27959	Model 3 - Standard Range Plus	TX	White	White

The image shows all the cars with Bob's desired specs that are listed on Autolist.com as of 11/20/2023

Answer:

We come up with a metric called **Depreciation Adjusted Price**, the price of a Tesla with depreciation factored into it. This standardizes the prices of all the cars on the market, so we can rank them to see which car is the best value





Some Algebra

$$\text{Listed Price} = \text{New Car Price} - \text{Depreciation}$$

$$\text{Listed Price} + \text{Depreciation} = \text{New Car Price}$$

Once we add the depreciation amount to the listed price, we'll have our New Car Price, which is renamed to Depreciation Adjusted Price to avoid confusion with the actual New Car Price

$$\text{Listed Price} + \text{Depreciation} = \text{Depreciation Adjusted Price (DAP)}$$

Bob is looking for a car with the lowest depreciation adjusted price



One more thing
Since the cars are from different states, Bob's real cost must include the transportation cost

Listed Price + Depreciation = **Depreciation Adjusted Price (DAP)**

DAP + Transportation Cost = Real Cost

The car with the lowest Real Cost is the best deal for Bob



Quick Recap

Listed Price = New Car Price - Depreciation

Listed Price + Depreciation = New Car Price

Listed Price + Depreciation = Depreciation Adjusted Price (DAP)

AND

DAP + Transportation Cost = Real Cost



In Depth

How do we figure out depreciation?

- 1) Depreciation is calculated using its current mileage
 - a) On average, cars generally depreciate about 10% per year at the rate of 12K miles per year
 - i) Sources:
 - (1) <https://www.blossomchevrolet.com/blog/should-you-buy-a-one-year-old-car/>
 - (2) <https://www.boeleheads.org/forum/viewtopic.php?t=393892&-text=1%27%20a%20rough%20estimate%2C%20but%20is%20still%20the%20better%20bargain>
 - (3) <https://www.quora.com/How-much-does-each-additional-1-000-miles-decrease-the-value-a-used-car>
 - b) This equates to about 0.83% depreciation for every 1000 miles
 - 2) Example 1 - What is the depreciation for a car with 22095 miles?

$$\frac{0.83\% \text{ depreciation}}{1000 \text{ miles}} = \frac{X\% \text{ depreciation}}{22095 \text{ miles}}$$

$$X = 18.3\%$$

The depreciation value is 18.3% of the Listed Price

$$\text{Depreciation} = 18.3\% * \$33000 = \$6039$$

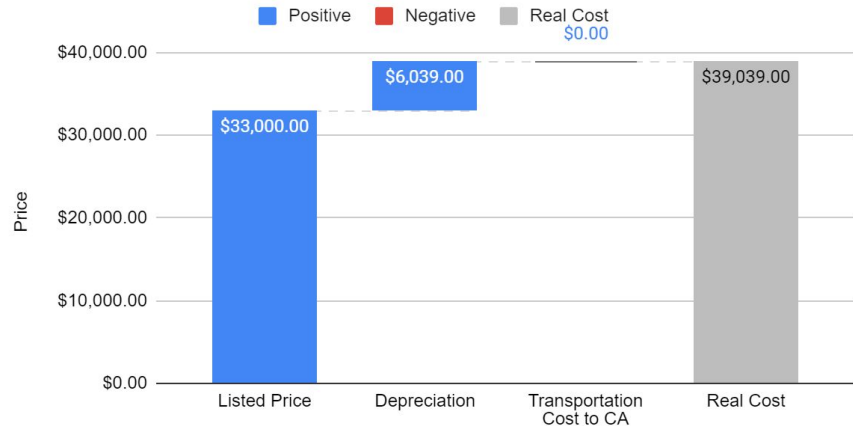
Example 1

Listed Price + Depreciation = Depreciation Adjusted Price

DAP + Transportation Cost = Real cost

Listed Price + Depreciation + Transportation Cost = Real Cost

Example 1 - What is the real cost of a CA Tesla with 22095 Miles?



Transportation Costs sourced from
RoadRunnerAutoTransport.com

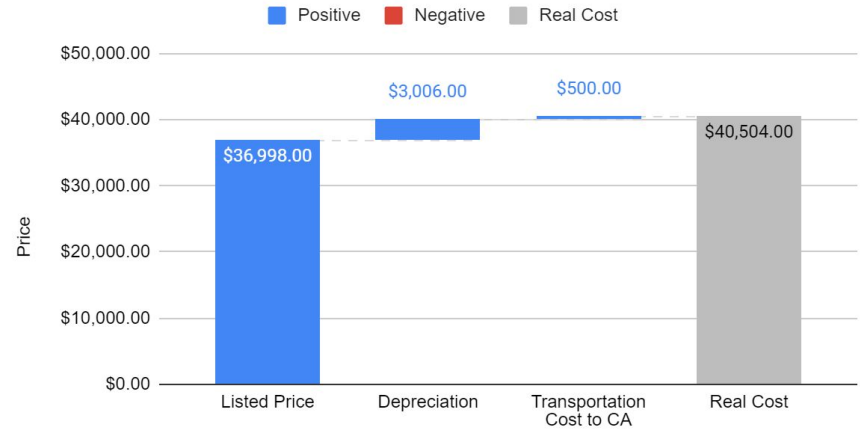
Example 2

Listed Price + Depreciation = Depreciation Adjusted Price

DAP + Transportation Cost = Real cost

Listed Price + Depreciation + Transportation Cost = Real Cost

Example 2 - What is the real cost of an AZ Tesla with 9788 miles?





Final Verdict:

John should buy the Tesla from CA priced at \$33k with 22095 miles

Year	Price	Miles	Model	Location	Exterior	Interior	Depreciation rate per 1000 miles (%)	Total Depreciation (%)	Depreciation adjusted price	Transportation Cost to CA	Real Price	Rank
2021	33000	22095	Model 3 - Standard Range Plus	CA	Blue	White	0.83	18.3	\$39,052	\$0	\$39,052	1
2021	36998	9788	Model 3 - Standard Range Plus	AZ	White	White	0.83	8.1	\$40,004	\$500	\$40,504	2
2021	38998	5738	Model 3 - Standard Range Plus	CA	White	White	0.83	4.8	\$40,855	\$0	\$40,855	3
2021	34998	16375	Model 3 - Standard Range Plus	FL	White	Black	0.83	13.6	\$39,755	\$1,200	\$40,955	4
2021	36998	8500	Model 3 - Standard Range Plus	TX	White	Black	0.83	7.1	\$39,608	\$1,350	\$40,958	5
2021	36998	12342	Model 3 - Standard Range Plus	AZ	White	Black	0.83	10.2	\$40,788	\$500	\$41,288	6
2021	37998	6642	Model 3 - Standard Range Plus	FL	Blue	Black	0.83	5.5	\$40,093	\$1,200	\$41,293	7
2021	37998	11819	Model 3 - Standard Range Plus	CA	White	Black	0.83	9.8	\$41,726	\$0	\$41,726	8
2021	34998	19801	Model 3 - Standard Range Plus	TX	White	Black	0.83	16.4	\$40,750	\$1,350	\$42,100	9
2021	36998	17409	Model 3 - Standard Range Plus	CA	White	Black	0.83	14.4	\$42,344	\$0	\$42,344	10

**The CA Tesla priced at \$33000 with 22095 Miles is
Vien's Tesla.**



Homie discount \$30k