

An Analysis of Troy Teslike's Spreadsheet Data

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1 Introduction

The analysis of such a rich supply of Tesla Model 3 spreadsheet data found [here](#) is only made possible through the sustained and ongoing maintenance efforts of Troy Teslike. Troy has collected up to 34 pieces of information (data fields) for each Username ordering and completing purchase of a Tesla Model 3 vehicle.

Analyses below are carried using the **R** [statistical programming language](#) in conjunction with the integrated programming environment offered by [Rstudio](#). **R** is completely open source while **RStudio** has versions which are open source.

1.1 Usernames & Order Dates

Troy's spreadsheet as of today, August 01, 2022, contains 4643 entries (rows). Rows without a corresponding *Username* variable have been dropped from further consideration. Accordingly, at the present time, there are 4642 rows corresponding to 4642 ***Username***'s. Order dates range from March 31, 2016 onward.

2 Counts Analyses

2.1 Model 3: Order & Delivery Numbers by Year

Year	Ordered	Delivered
2016	4	0
2017	7	3
2018	1581	1577
2019	703	693
2020	378	387
2021	744	562
2022	1224	554
Total	4641	3776

2.2 Model 3 Orders:

2.2.1 Stratified by Trim Level

Table 2: Counts for Trim Level [2016 thru 2022 to date]

	Trim	count	%
Model 3 LR AWD		2162	46.6
Model 3 SR+		844	18.2
Model 3 Performance		812	17.5
Model 3 LR		672	14.5
Model 3 MR		127	2.7
Model 3 SR		25	0.5
Total		4642	100.0

2.2.2 Stratified by Trim Level & Year

Table 3: Counts for Trim Level Stratified by Year

	Trim	2016	2017	2018	2019	2020	2021	2022	Total
Model 3 LR		2	5	628	36	1	0	0	672
Model 3 LR AWD		2	1	613	271	182	375	718	2162
Model 3 Performance		0	1	217	196	83	89	225	811
Model 3 MR		0	0	121	6	0	0	0	127
Model 3 SR		0	0	2	18	5	0	0	25
Model 3 SR+		0	0	0	176	107	280	281	844
Total		4	7	1581	703	378	744	1224	4641

2.2.3 Stratified by Paint Color

Table 4: Counts for Paint Color [2016 thru 2022 to date]

Paint Color	count	%
Pearl White Multi-Coat	1325	28.5
Midnight Silver Metallic	1139	24.5
Deep Blue Metallic	937	20.2
Red Multi-Coat	582	12.5
Solid Black	488	10.5
Silver Metallic	98	2.1
Obsidian Black Metallic	58	1.2
Unspecified	15	0.3
Total	4642	100.0

2.2.4 Stratified by Paint Color & Year

Table 5: Counts for Paint Color Stratified by Year

Paint Color	2016	2017	2018	2019	2020	2021	2022	Total
Pearl White Multi-Coat	0	2	238	260	160	293	372	1325
Midnight Silver Metallic	1	1	357	128	95	159	398	1139
Deep Blue Metallic	1	1	360	148	53	150	224	937
Red Multi-Coat	0	1	287	74	39	70	111	582
Solid Black	0	0	185	88	31	70	113	487
Silver Metallic	1	1	96	0	0	0	0	98
Obsidian Black Metallic	1	0	57	0	0	0	0	58
Unspecified	0	1	1	5	0	2	6	15
Total	4	7	1581	703	378	744	1224	4641

2.2.5 Stratified by Country

Table 6: Model 3 Orders by Country [2016 thru 2022 to date]

	Country	count	%
	USA	3969	85.5
	Canada	362	7.8
	Other (include country together with city)	219	4.7
	United Kingdom	33	0.7
	Germany	16	0.3
	France	8	0.2
	Belgium	6	0.1
	Norway	6	0.1
	Spain	6	0.1
	Switzerland	5	0.1
	Netherlands	4	0.1
	Sweden	3	0.1
	Australia	1	0.0
	China	1	0.0
	Italy	1	0.0
	Japan	1	0.0
	Luxembourg	1	0.0
	Total	4642	100.0

2.2.5.1 Remarks

- Within Troy's spreadsheet American Model 3 orders, as expected, comprise the vast majority of orders. The next section details Country = "USA" Model 3 orders by Region of the Country.

2.2.6 Stratified by Region of the Country = "USA"

It is convenient to partition the 50 United States into 10 regions. I have employed the following "standard" Region designation [defined here](#). For our purposes it will be convenient to modify the aforementioned assignment of states to regions by assigning California its own distinct region. Records lacking geographical data: **City or Town** and **State or Province** have been assigned to the Region designated **Unspecified**.

Table 7: Model 3 Orders by Region of the Country [2016 thru 2022 to date]

	Region	count	%
	California	1106	27.9
	South	736	18.5
	Midwest	470	11.8
	Southwest	466	11.7
	Mid Atlantic	433	10.9
	Pacific Northwest	262	6.6
	Rocky Mountain	205	5.2
	New England	188	4.7
	Great Plains	71	1.8
	Unspecified	21	0.5
	Alaska & Hawaii	11	0.3
	Total	3969	100.0

2.2.7 Stratified by Region of USA & Year

Table 8: Model 3 Orders Stratified by Region of the Country and Year

Region	2016	2017	2018	2019	2020	2021	2022	Total
California	1	3	415	192	79	164	252	1106
South	0	1	253	105	63	114	200	736
Midwest	1	0	203	58	38	74	96	470
Southwest	0	0	136	74	40	66	150	466
Mid Atlantic	0	1	156	58	41	66	111	433
Pacific Northwest	1	1	126	41	21	32	40	262
Rocky Mountain	1	0	74	46	13	26	45	205
New England	0	0	87	23	13	27	38	188
Great Plains	0	0	25	7	6	17	15	70
Unspecified	0	1	4	5	2	2	7	21
Alaska & Hawaii	0	0	2	3	2	3	1	11
Total	4	7	1481	612	318	591	955	3968

3 Analysis of *Wait Time*: Delivery Date *Minus* Order Date

3.1 Wait Time by Region of the USA

Below we calculate *wait time* for each Region = “USA” spreadsheet entry subject to:

- Both delivery and order dates are available.
- Order date is January 1 2018 or later.
- Wait time is greater than zero days. Several entries corresponded to **negative** wait times and so were removed from consideration.

Table 9: Waiting Time Statistics by Region of the Country [2016 thru 2022 to date]

Region	Median	Mean	25th Percentile	75th Percentile	Interquartile Range	N
California	44.0 days	51.7 days	25 days	69 days	44 days	947
South	49.0 days	55.1 days	28 days	76 days	48 days	601
Midwest	49.0 days	54.5 days	29 days	78 days	49 days	410
Southwest	52.0 days	55.0 days	30 days	75 days	45 days	374
Mid Atlantic	55.0 days	63.9 days	32 days	85 days	53 days	371
Pacific Northwest	48.0 days	52.8 days	27 days	74 days	46 days	235
Rocky Mountain	51.0 days	55.3 days	27 days	81 days	54 days	178
New England	62.5 days	67.6 days	40 days	90 days	50 days	168
Great Plains	52.0 days	56.9 days	38 days	74 days	36 days	59
Unspecified	33.0 days	48.2 days	18 days	79 days	61 days	16
Alaska & Hawaii	68.0 days	67.1 days	54 days	87 days	33 days	9
Total						3368

3.1.1 Remarks:

- Very few Model 3 orders derive from years 2016 and 2017. For that reason the calculated “**Median Wait Time (Days) by Region of the USA & Year**” section, below, will exclude years 2016 and 2017 from consideration.

- The **median** is listed first above as it generally a more *robust* measure of “central tendency” than is the **mean**. Recall when data is ordered from its smallest value to its largest value, the **median** is defined to be the “middle” value; e.g., the value where half the data values will be larger than the **median** and half the data values will be smaller than the **median**.
- The **Interquartile Range** is the length of the interval centered about the **Median** commencing from the **25th Percentile** and ending at the **75th Percentile**. This interval contains about half of the data observed. For example, for the Region = “California”, we can expect about *half* of the **947** California wait times to lie between *25 days and 69 days* while approximately a *quarter* of the California wait times can be expected to be less than *25 days* and another *quarter* of California wait times can be expected to be greater than *69 days*.

3.2 Median Wait Time (Days) by Region of the USA & Year

Table 10: Median Wait Time (Days) by Region of Country over
Years: 2018 through 2022 to date

Region	2018	2019	2020	2021	2022
California	43.5	28	34.0	52.0	81.5
South	50.0	27	45.0	53.0	97.0
Midwest	55.0	21	36.5	49.0	93.0
Mid Atlantic	65.0	25	42.0	55.5	88.0
Southwest	61.0	26	46.5	45.5	89.0
Pacific Northwest	52.0	26	38.0	58.5	86.0
New England	75.0	24	43.0	45.5	93.0
Rocky Mountain	72.0	22	33.0	48.5	83.0
Great Plains	57.5	25	40.0	58.0	86.5
Unspecified	31.5	14	39.0	36.0	98.0
Alaska & Hawaii	67.5	34	101.0	70.5	