

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 | |