**Electric Vehicle Registration in California**

**Chia Wei Tu-300289967**

* **Introduction**

For nowadays city life, the problems need to be solved are traffic jams, crowded spaces, inconveniences (too far from the public transportation system), and energy waste.

At first, I really want to do my project topic with eVTOL (An aircraft uses electric power to hover, take off, and land vertically). It really helps people to solve the commuting problems. However, the dataset in this area is not that sufficient. So, I choose another topic which is related to the use of electricity for transportation, and my second favorite topic as well.  
Highly automated driving can make driving safer, but also help improve our life or work efficiency. At the same time, the shared ride sharing mechanism brought about by autonomous driving can also reduce the number of vehicles, and the problems of traffic congestion and pollution in the city can be solved.

I still want to stick to use tableau. It is because I think the user interface is good to use and it can set some parameters and calculate area for the plot which is more flexible than power BI. Compare to other visualization tool, tableau is more familiar for me. And in the dashboard, the sheet layout can choose tile or float, it really saves more time for doing sizing the whole visualization time.

* **The Story**

Graphical user interface

Description automatically generated

When it comes to electric vehicle, some people will ask, is it commonly used now? Will the older generation want to change their habit? The data will not lie. There is total **2,542,443** electric vehicles on the road only in California. There is a large sum of electric vehicle only in a state. For this topic, I would like to make some plots that can display the enormous electric vehicles enter our life. I use tableau to group two electric vehicle type (the plot down below), there are total sum of battery electric vehicles and plug-in Hybrid electric vehicle.

Chart, treemap chart

Description automatically generated

I am using black at the background is because I think it can make the content color pop up. And for personally reason is I think it looks like more high-tech theme for electricity topic.

And how EV starts to dominate the vehicle market. Many vehicle brands start to produce plug-in Hybrid electric vehicle or battery electric vehicles instead of the gasoline car.

Timeline

Description automatically generated

Not only the famous Tesla, but also like BMW, Toyota and even Ferrari is doing EV right now.

For the EV table in different county through the California state, it can be filter by the year, vehicle brand, different EV type and the county. (The plot down below is the original table).

A screenshot of a computer

Description automatically generated with medium confidence

When we select the year and the EV(PHEV) type

A picture containing graphical user interface

Description automatically generated Chart, treemap chart

Description automatically generated

And hover the mouse to the California state map (Next Page)

We can see there are 68,229 PHEV in Los Angeles County in 2020.

Which is the most city using electric vehicle in California.

Map

Description automatically generated

And the table shows us all PHEV Brands in Los Angeles County.

A picture containing timeline

Description automatically generated

For the deeper analysis, we also can click the vehicle brand to know what kind of models in each brand in California.

Graphical user interface

Description automatically generated

The table shows us each Chevrolet’s BEV model in different county.A picture containing text

Description automatically generated

Now we might understand why so many vehicle brands start trying to make more EV instead of the gasoline vehicle even some of the brands (BMW, Toyota)

are so dominate in the past. The more automated life is coming. We can see the result from the forecast chart down below. Both BEV and PHEV are increasing rapidly in nest 3 years.

Chart, line chart

Description automatically generated

* Video Link

<https://youtu.be/J6vltUerPCc>