COVID 19 MOBILITY DECREASE EFFECT IN TURKEY

MIS 376

BEDIRHAN HAZAR HASGUL
17030441009

Since the discovery of the Coronavirus, people all over the world had to stop moving to prevent the spread of the virus. The virus caused people to stay at home and the governments applied certain lockdowns to prevent people from going out. Many companies offered "work from home" options for their employees, which decreased the movement of people. Also, schools were shut down as well as many recreational places. The aim of this paper is to show how the Coronavirus led to decrease the mobility of people of Turkey. The data used were taken by both Google Covid-19 Community Mobility Reports and Apple Covid-19 Mobility Trends Report.
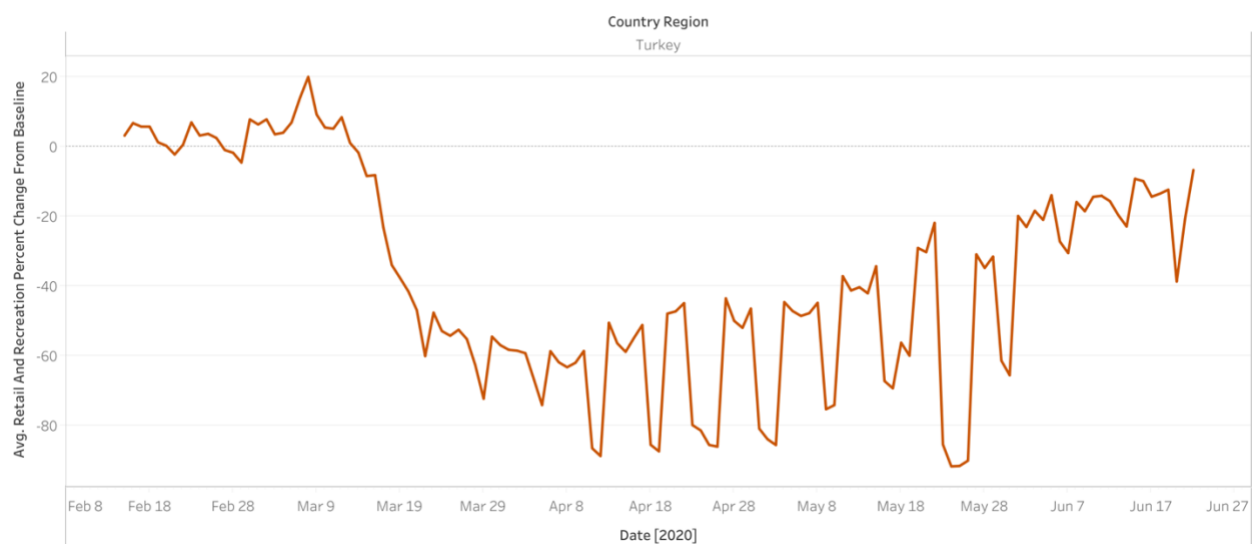
Retail

Fig 1: Retail Visualization.

The graph above represents the people's movement towards retail stores before and after the pandemic. The time period of this graph is between Feb 8th until June 27th. These dates were chosen to better understand the effect of Coronavirus. While in February, the graph is fluctuating around the baseline, after mid-March when Coronavirus was detected in Turkey and government started to encourage people to stay home, the graph decreased dramatically. After that it stayed low since the Coronavirus now was a part of our life. Sudden decreases represent the weekends and also the biggest drop represents the Ramadan Holiday on May 24th. The places that are considered as Retail are: Restaurants, Cafes, Shopping Centers, Theme Parks, Museums, Libraries, and Movie Theaters. Since many of these places are shut down after the Virus, mobility decreased and stayed low for a long time.
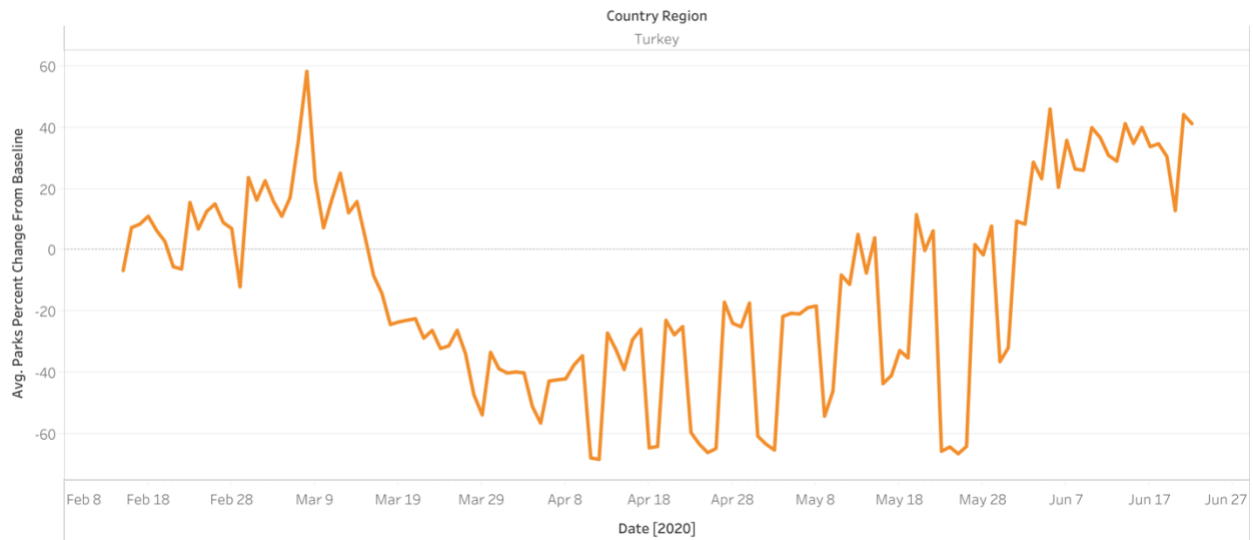
Parks

Fig 2: Parks Visualization

The places that are included as parks are: National Parks, Public Beaches, Marinas, Dog Parks, Plazas, and Public Gardens. Similar decrease on mid-March is clear here due to Coronavirus. However, after staying lower than average for around two months, with the arrival of summer and also the removal of lockdown rules lead mobility of humans to parks to increase.
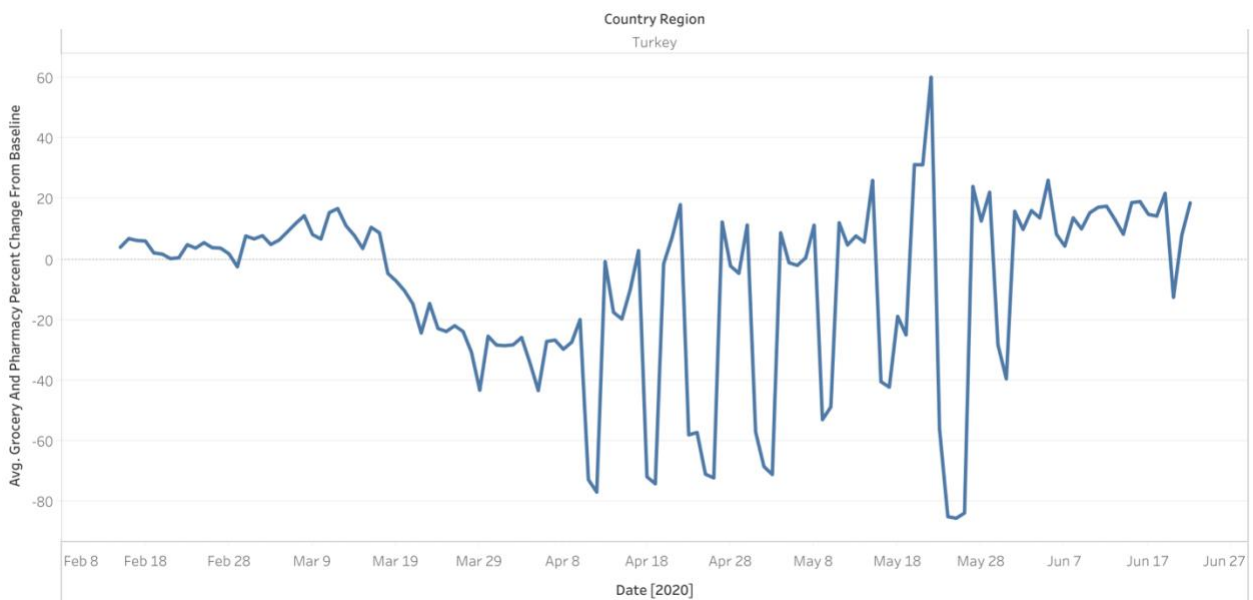
Groceries and Pharmacies

Fig 3: Groceries and Pharmacies

The visualization above represents the mobility of people to groceries and pharmacies. It decreased significantly after the reveal of Covid 19 in Turkey however since they are an obligatory need for people the graph was peaking to baseline points during weekdays and dropping on weekends when there was lockdown.
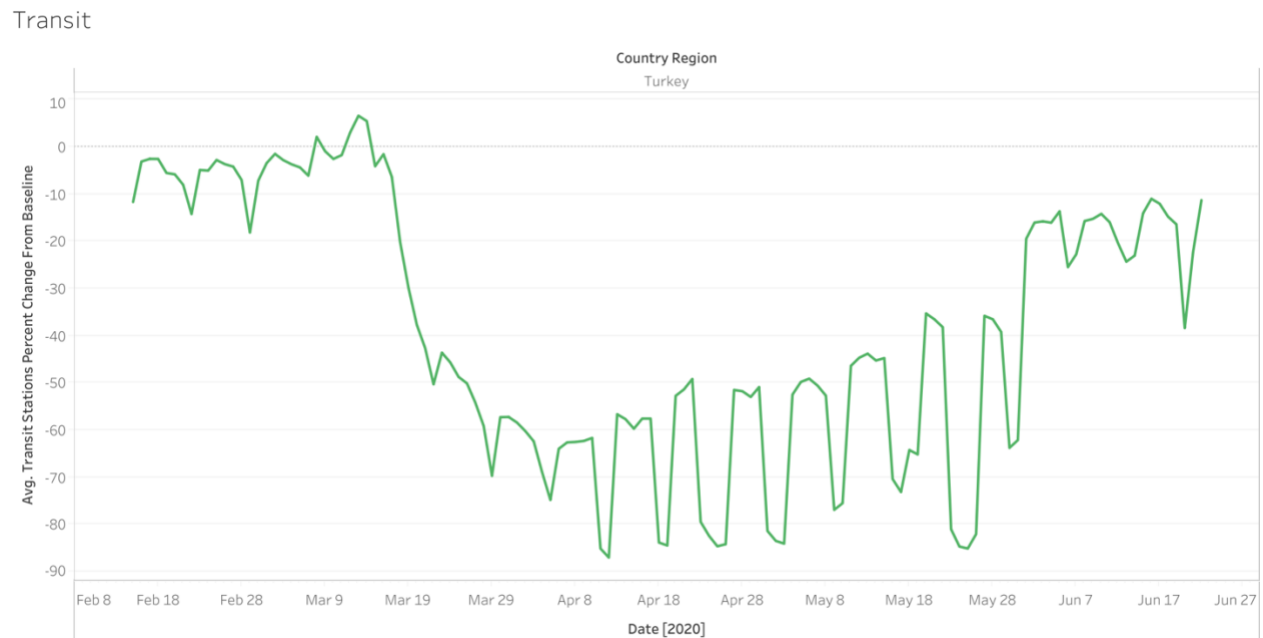
Transit

Fig 4: Transit Visualization

It can be seen in the visualization above that the Transit mobility decreased extremely and stayed low afterwards. That's due to employees staying home and not going to work and also the students having online classes and not going to work which kept transit mobility extremely low after the Coronavirus outbreak in Turkey.
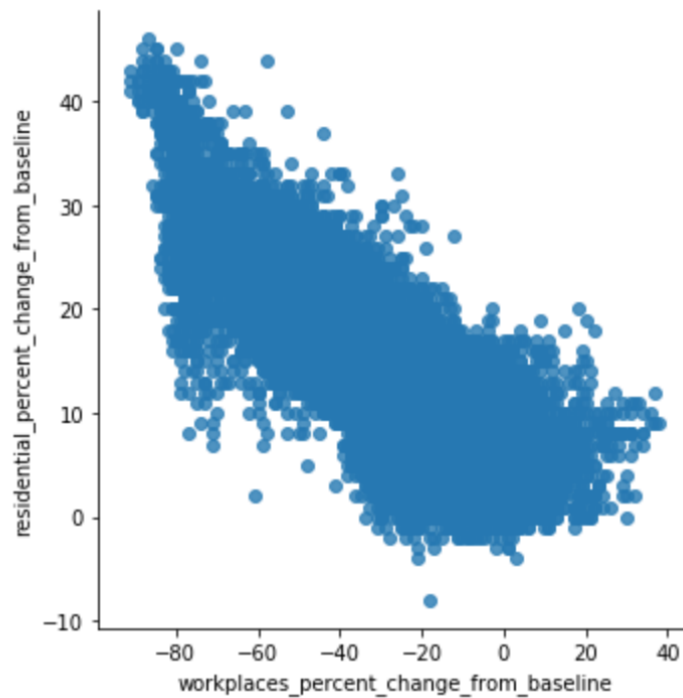
Fig 5: Residential and Workplace Scatter Plot

The graph above represents the correlation between the workplace and residential mobility. Correlation basically reveals how these two variables affect each other. It can be seen in the visualization that they have negative correlation because of negative slope. It means that while Residential mobility are increasing the Workplace mobility is decreasing.
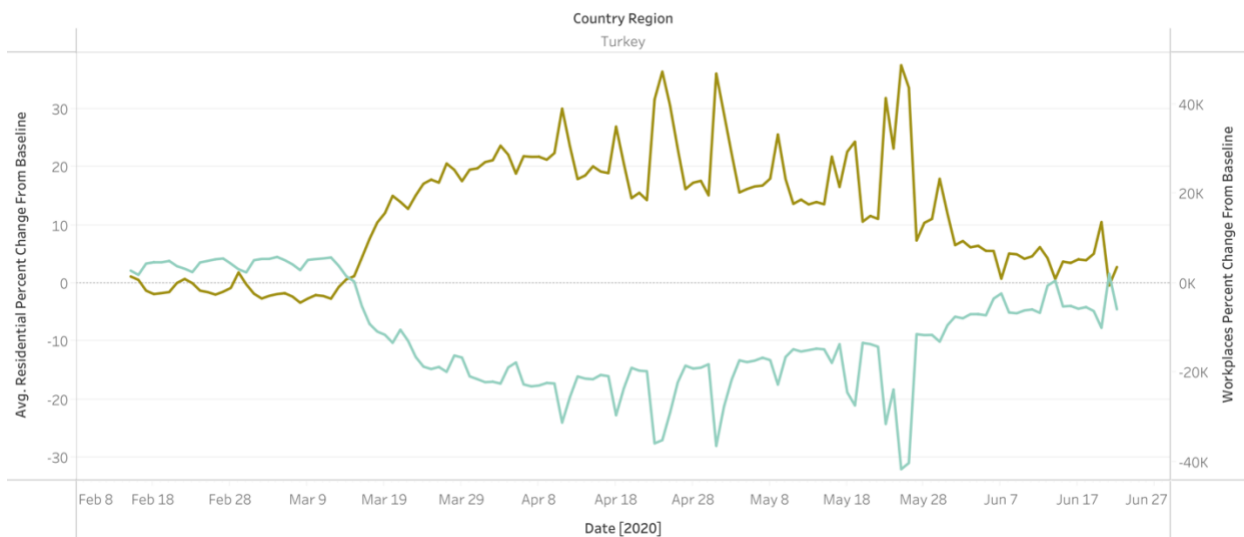

Fig 6: Residential vs Workplace in Visualization

As explained with the scatter plot, workplace and residential mobility had inverse relationship and had negative correlation. According to the graph above, it can be seen that these two lines are identically opposite of each other and that's due to people stopping to work at their offices or workplaces and starting to work at their homes.
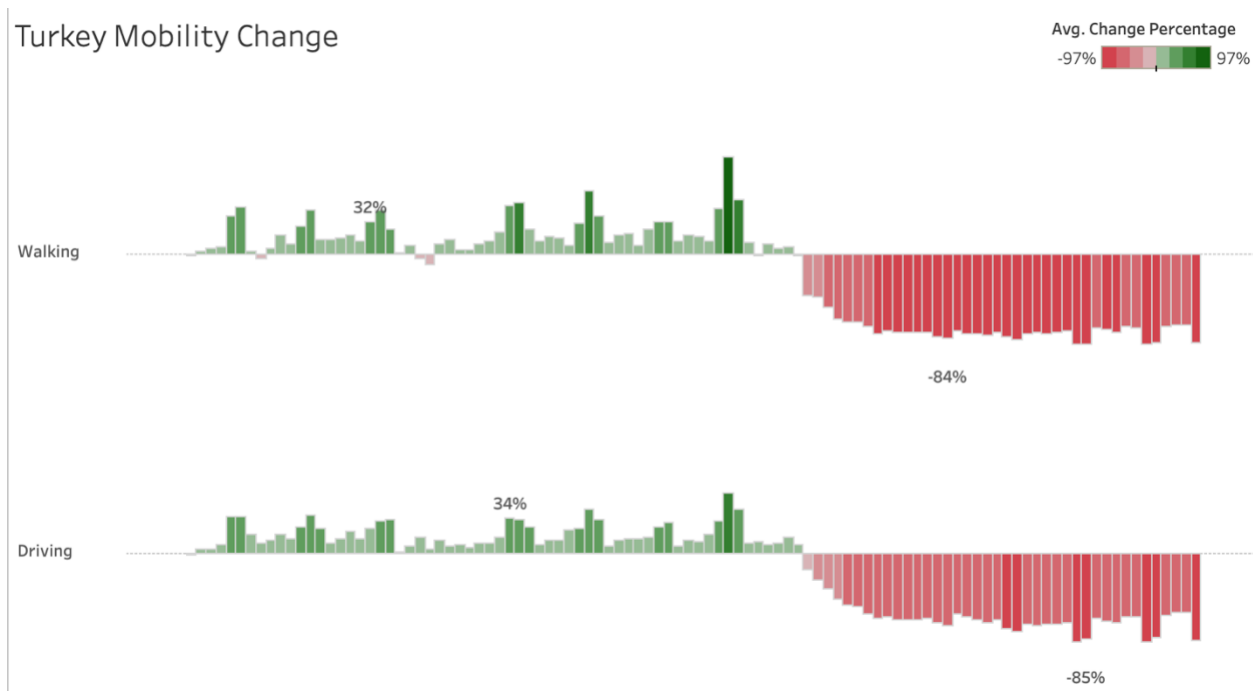

Fig 7: Type of Mobility in Turkey

Different then the past visualizations, this visual represents the type of mobility instead of place of mobility that people did. That's because while other graphs are based on the Google Data, this visual is based on the Apple Mobility Data. It is clearly seen in the visualization that after the discovery of Covid 19 in Turkey the both mobility methods ow walking and driving decreased dramatically and stayed low.