Variables affect Time Travel when Driving

1. Distance between original position with the destination.
   1. The further the distance, the longer the time needed
   2. Get the route by listing all position and direction for each timestamp available, then calculate the total length of the road
2. Very bad weather
   1. On very bad weather like extreme rainfall intensity, car will move slowly because of shorter line of sight and slippery road, thus estimated time arrived should be longer
   2. Get external data and make Boolean value, if rainfall intensity is very high, check as bad weather, else is okay (regular and small rain won’t bother driver too)
3. Night time
   1. During night time (almost midnight) until dawn, the roads are very quiet, thus time travel will be shorter than average.
   2. We can identify this time by looking at the hourly cycle, when the cycle drops, that is the time where the number of rides decreased and roads become very quiet
4. Work and School commute
   1. Monday to Friday morning and evening (dusk) are the time where roads are very crowded, thus time travel will be longer than average. In some places, Saturday and Sunday are very crowded, especially for city area, while the countryside and universities area became very quiet.
   2. We can identify by date and hour for Monday to Friday. However, for Saturday and Sunday needs to consider location instead of hour, as some places become very quiet and others become very crowded.
5. Traffic
   1. If traffic in the route is very crowded, time travel will be longer, and vice versa.
   2. Applying the number of cars currently on the map bin, set a Boolean value as crowded and not crowded if met certain level of number of cars.
6. Event
   1. When big events happened, like religious events or demonstration, the roads become more crowded as people will go out
   2. Put as special condition or can be ignored as it might need to be hardcoded.
7. Road problems
   1. When there are road problems like road closing or road repair, time travel will be longer
   2. This longer time could be signaled by changed of route or crowded traffic