Greetings. We’re team sleep is optional and are proud to introduce our crash map for the Queensland Road Safety challenge. We set out to build a tool to ease the visualisation of data relating to motor vehicle accidents within Queensland and to show how legislative changes, public safety campaigns, modern road design and newer vehicles have contributed to lower crash severities. Unfortunately, being a two person team, we promptly ran out of time after creating our tool.

Let’s take a look at it now. The overlaid heatmap is generated by using the worst thousand crashes recorded since 2001. The colour indicates the number of accidents and their severity, calculated using the number of fatalities, hospitalisations and injuries. Unsurprisingly, this is mainly centred around population centres on the coast, with a handful on highways around inland cities like Mount Isa.

To the left of the map, we can filter the types of crashes that are used to generate the heatmap. For example, we can filter this to only include crashes that happened in smoky or dusty conditions after 2015. At the time of recording, filters were not fully implemented due to the limited time.

A major feature that was originally planned, but also dropped due to time constraints, was to show the heatmap with respect to the amount of traffic passing through it. It is natural that there will be more crashes on wherever there are more cars, so showing accidents per capita would make it easier to see where faulty road designs or prevailing factors cause high crash or fatality rates.

For government use, this tool would be valuable assisting decisions in future road design decisions, especially when used to compare how legislative or road design changes have affected our safety on the roads. With the filters on unpaved roads and using traffic census data, it could also for example be used to plan what roads should be prioritised for surfacing.

For use in the general public, this could be used for avoiding high-use or dangerous roads on commutes, making informed decisions before buying a new property, and similar.

In our submission, we used Queensland datasets for the location crashes and traffic census data. We’re hosting a database containing this data on Azure,