ANALYSIS OF CHICAGO CRASH DATA

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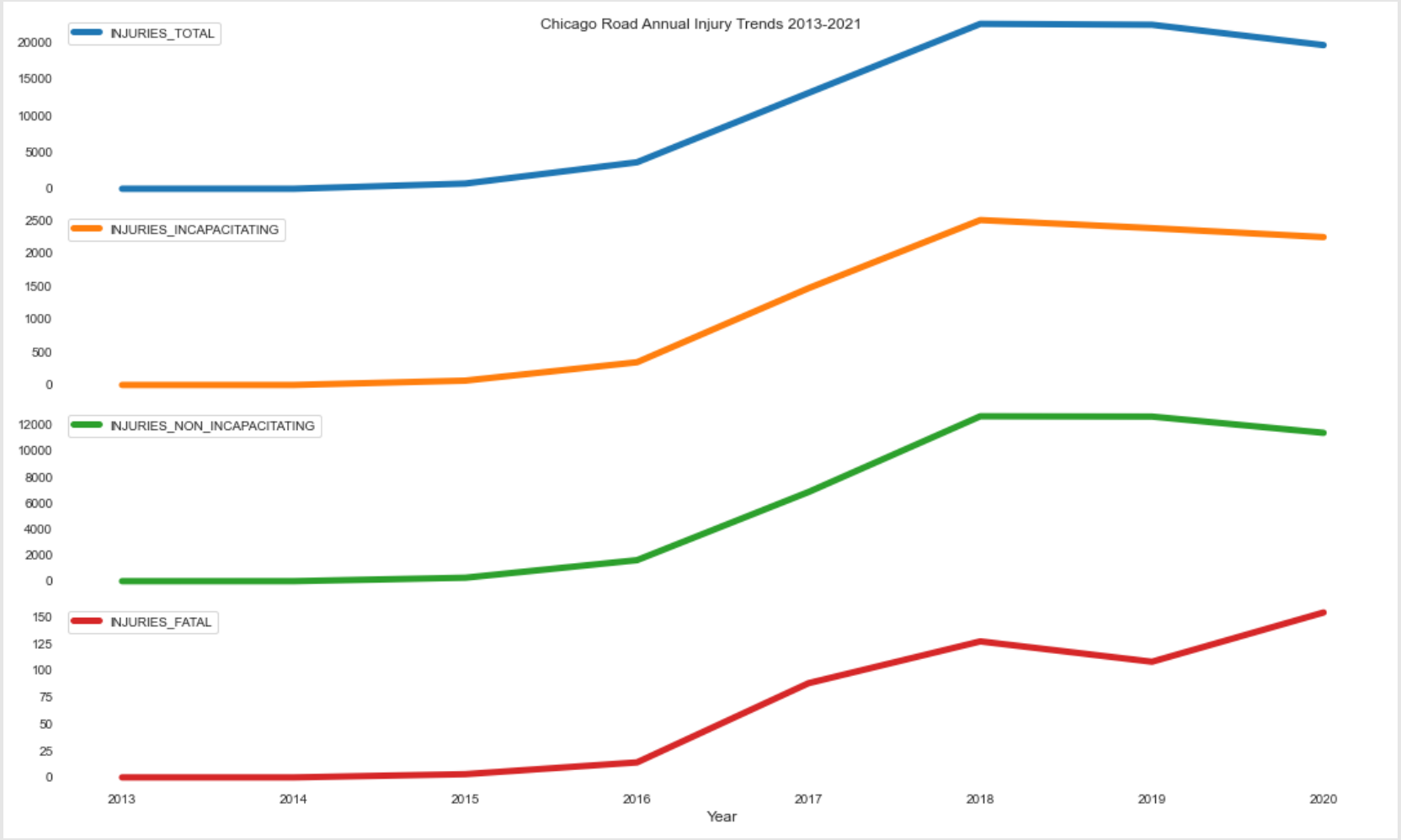
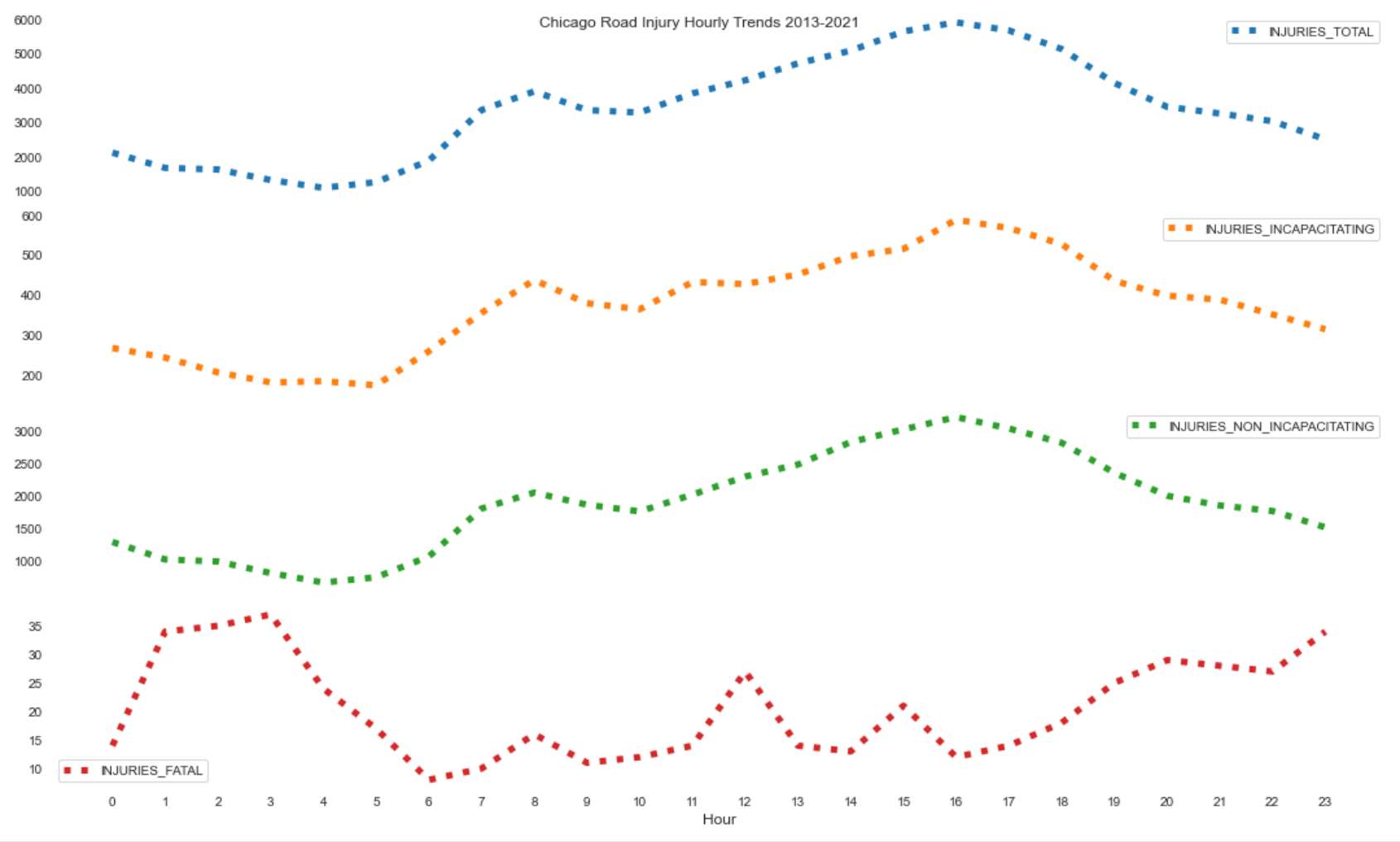
- Is there a road traffic issue in Chicago?
- What is it with doorings?
- Which conditions are important in predicting that a crash will result in an injury?
- Where are the injury and fatality hotspots in the city?

Injury Trends - Annual



Injury Trends - Hourly



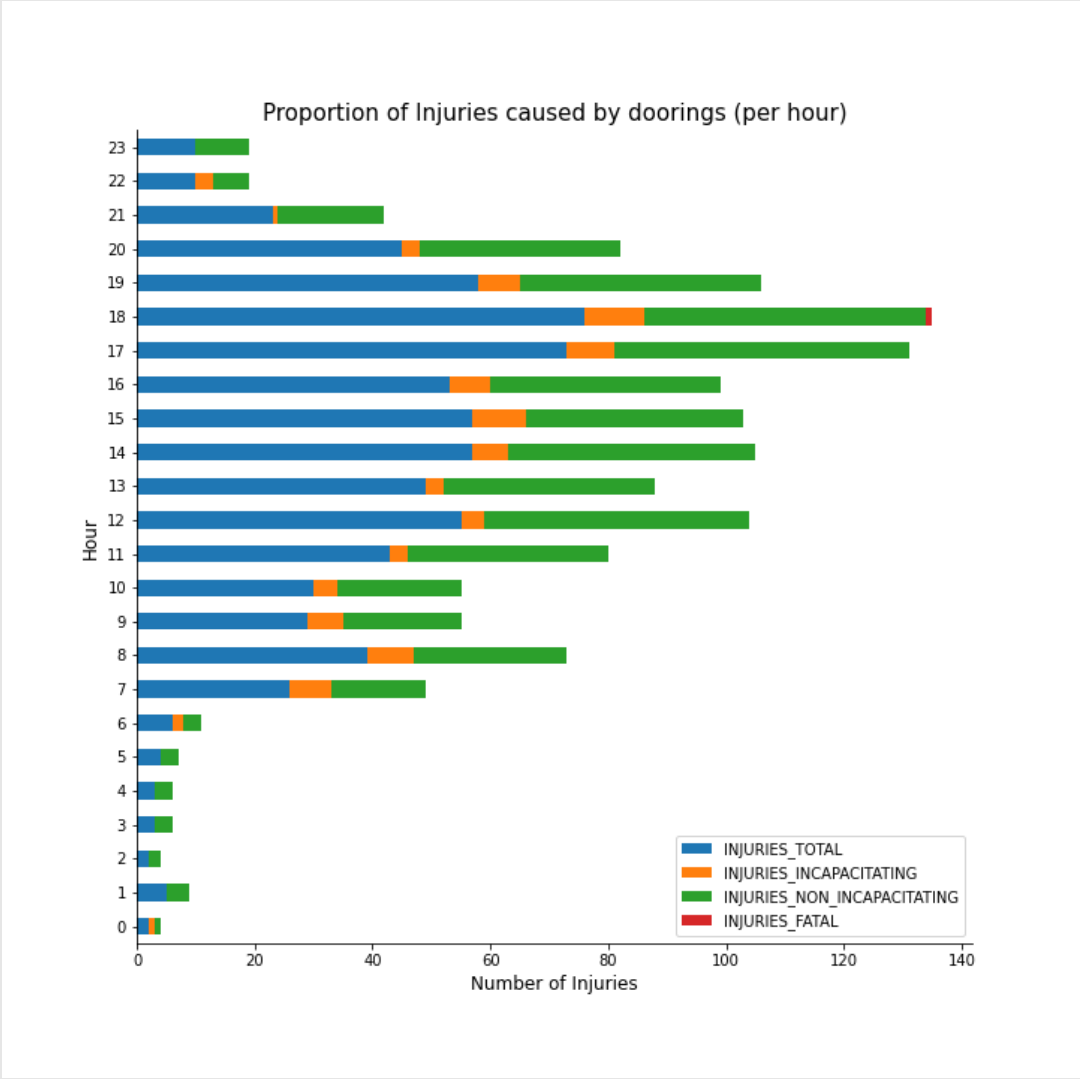
What is a dooring?

According to Wikipedia, a dooring is:

"*…. is the act of opening a motor vehicle door into the path of another road user. Dooring can happen when a driver has parked or stopped to exit their vehicle, or when passengers egress from cars, taxis and rideshares into the path of a cyclist in an adjacent travel lane*."

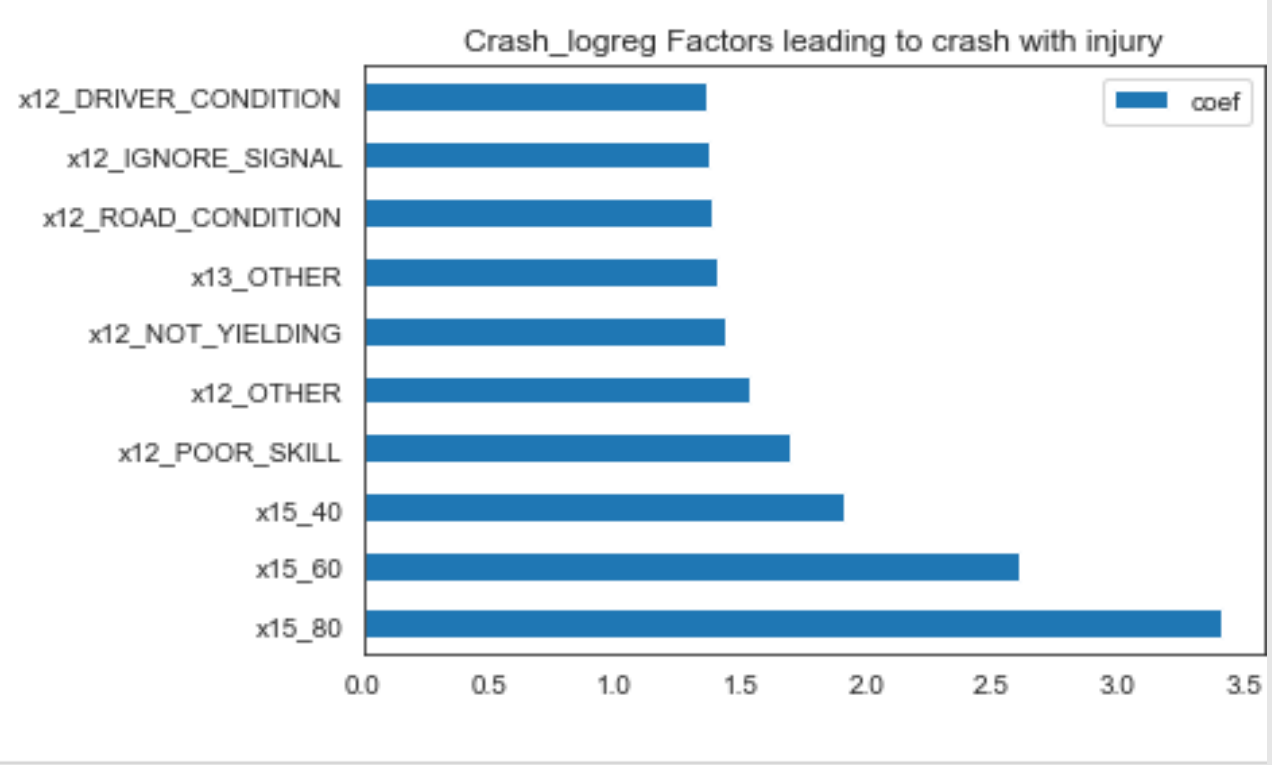
What is the damage cause by doorings? Where do doorings typically happen?

Dooring injuries – Hourly Trend



- There were 1,053 recorded doorings in the entire dataset
- 70% of doorings in the dataset resulted in at least one injury of any description
- Focus was on the doorings which occurred in 2019 (last "normal" year for which there was data)
- Volume of doorings occur during rush hour. This is also when the one fatality was recorded.
- City should look at the patterns behind dooring by time and also by location as per interactive map.

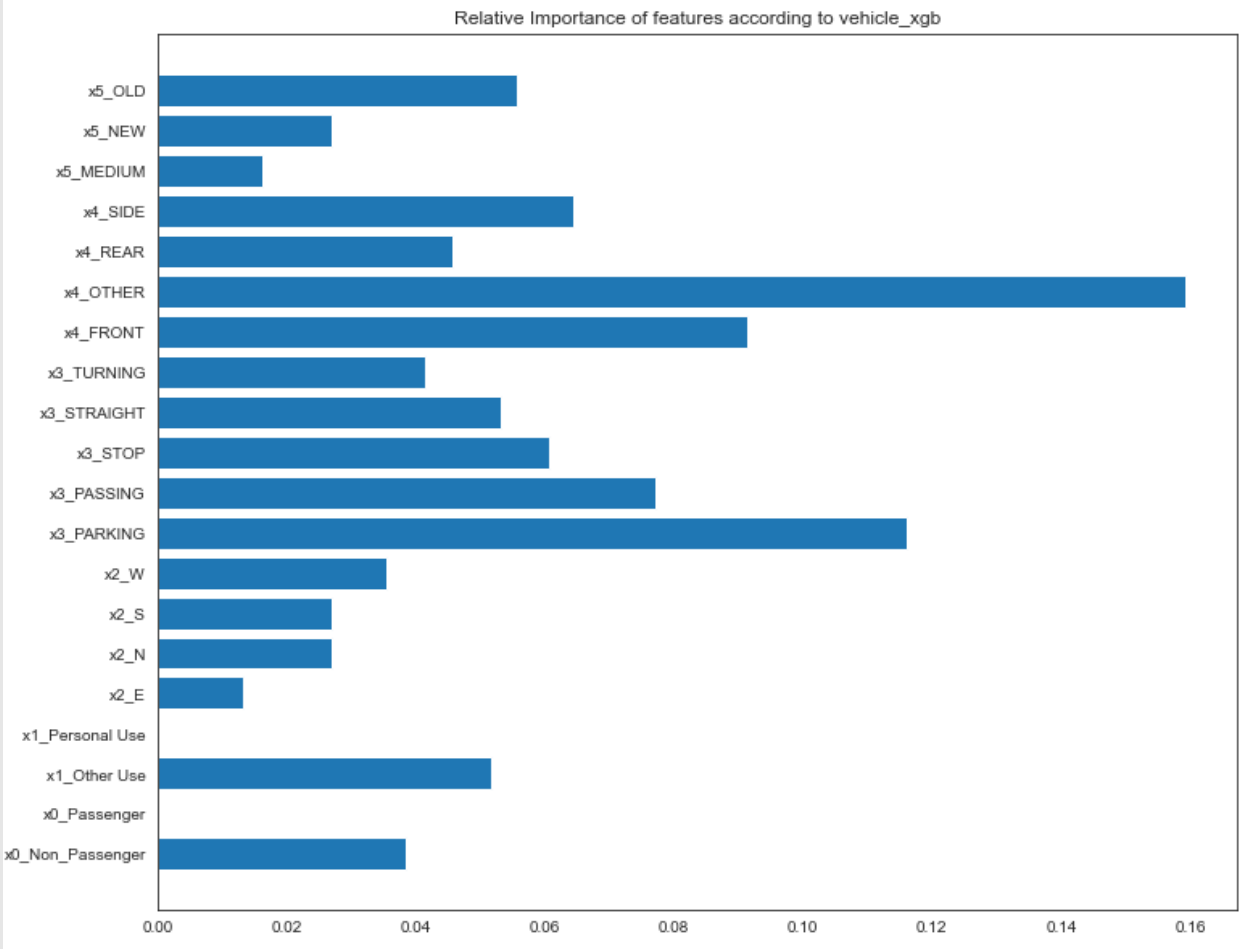
Modelling the crash data



- According to the best model trained on the crash data, a clear pattern emerges whereby **the higher the allowed speed limit at the scene of the crash, the more likely that crash is to result in injury.**

- The other clear pattern according to the crash data is that poor driver skill and poor driver condition are also contributing factors to a crash that results in an injury.

Modelling the vehicle data



- According to the best model trained on the vehicle data, the first contact point of the vehicle in a crash (x4_OTHER) contributes most prominently to whether the crash results in an injury.

- This category of "x4_OTHER" records crashes where there were multiple (as opposed to only one) first contact point. This therefore captures crashes where extensive damage was done to the vehicle. Such extensive damage usually means the crash results in injury.

Conclusions

3 key recommendations to the City:

- Any measures implemented should aim to reduce vehicle speed
- Any measures implemented should also prioritise road design which prevents extreme vehicle damage.
- Measures should be implemented in a targeted way, prioritising hotspots and locations highlighted in interactive maps.