

TRAFFIC SAFETY CASE STUDY/PROPOSAL



Target Audience: Insurance companies; Safety Officer.



The problem: A trucking company is noticing a higher rate of claims, and minor incidents on the road. They are trying to justify to their insurance company why their rates should not go up.

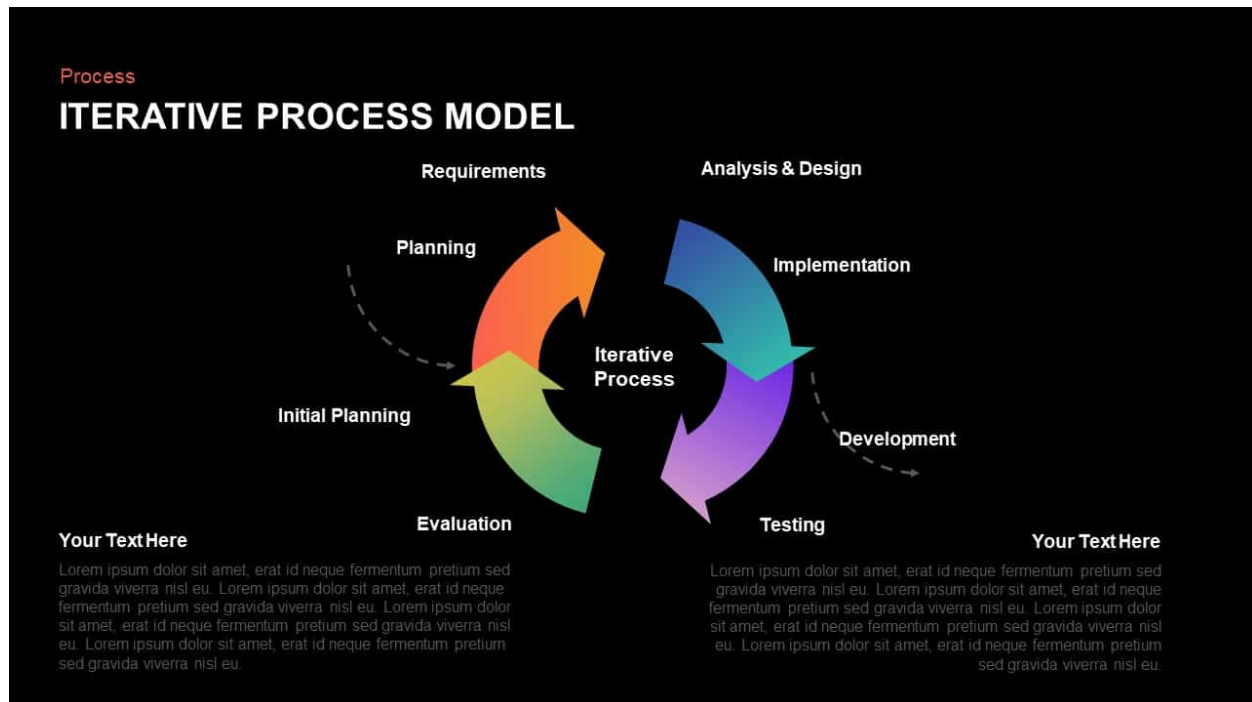
The problem could also not be a “problem” but could also be

Solution: Showing that their accidents fall within the statistical average of the regions in which they operate.

Solution #2: To further provide justification to safety officers to improve driver training, and vehicle maintenance.

Further Implementation: To monitor statistics within the company in order to monitor how solutions are working. This might involve safety bulletins, and safety meetings, as well as more funding for vehicle repair.

Benefits: Lower operating costs, including insurance, fuel, incidents, WCB rates.



The benefits will serve as KPI's, and will be ongoing measures to share with drivers, and staff.

Ongoing benefits: Attracting better drivers to a company which has a high safety record, and reliable equipment.

In order to better implement the solution(s) a continuous surveillance of the data, and reliable gathering methods will be necessary in order to feed into the KPI's.

(Below is an example of how the population data can be divided by the amount of accidents for further analysis.)

ACCIDENTS PER CAPITA

Los Angeles : 21

Chicago : 5

New York : 5

Tulsa : 2

Follow up questions:

- 1) Does the data answer the question?
- 2) Does the data support the conclusion, or is it a non-sequitur?
- 3) Do the solutions address the problem?

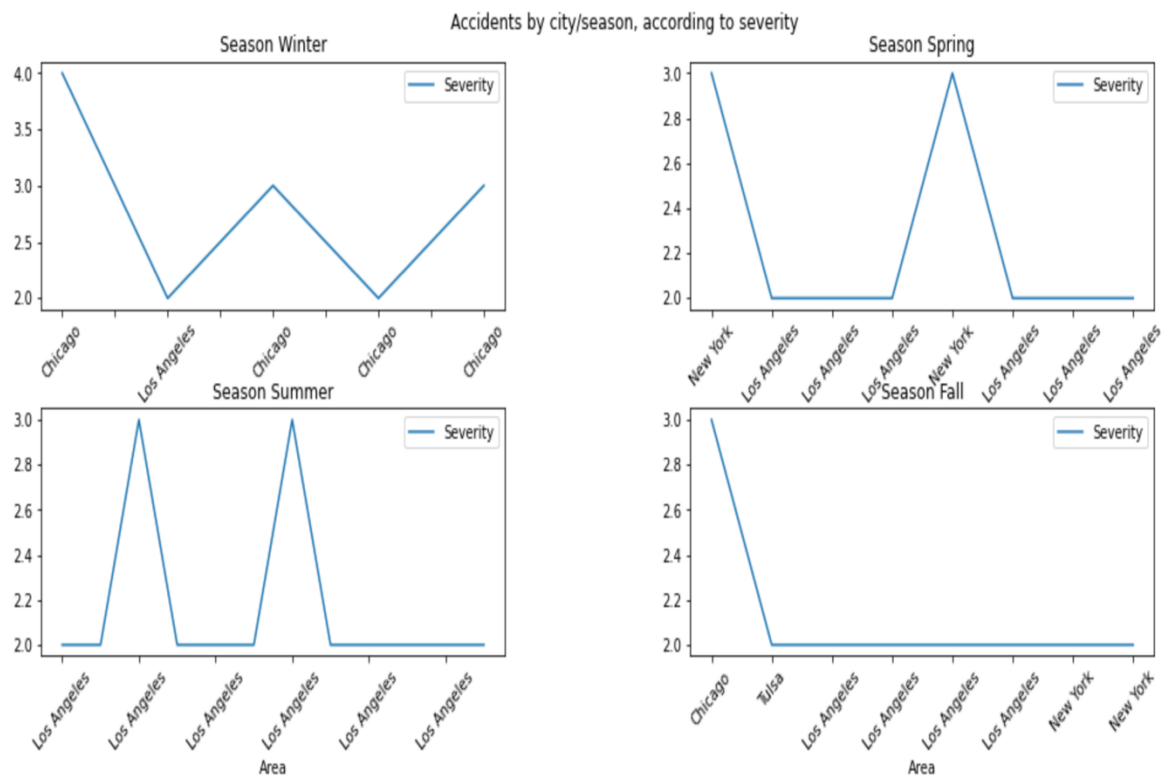
MAPPING CODE TO CASE STUDY:

The code correlates to the above in that different severities of accidents were labelled, and the seasons obtained.

While this data is generic, and does not pertain to a specific trucking organization, this method can be used with company specific data, and tailored to their needs. Specific trucking data was not publicly available from my search, since it is likely proprietary, and confidential.

	Area	Severity	Season	Pop
1699	Los Angeles	2	Summer	3971896
14974	New York	3	Spring	8550405
13879	Los Angeles	3	Summer	3971896
15501	Los Angeles	2	Spring	3971896
308	Los Angeles	2	Summer	3971896
4024	Los Angeles	2	Summer	3971896
10647	Los Angeles	2	Fall	3971896

Above demonstrates how the original data was augmented with outside data, and simplified for further analysis. While not all features are relevant for analysis, the gold standard is retained for retrieval in case a data scientist decides otherwise.



Here, it is shown how the data can be split up into different categories, and different parameters can be passed into the query to show different cities.

Further Development Ideas:

Create a graphical user interface to allow a company safety officer to interact with a livestream of data, while a data engineer keeps a reliable pipeline of information in storage. This will allow a user who is not familiar with backend development to utilize these methods without technical expertise.