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Summary of Design

Background:

My design idea is based on the relation of alcohol-related accidents with different regions of Victoria. In order to show the relation between them properly, i combine a dataset which represents a stocktake of all liquor licences across Victoria. Before incorporating the dataset, I preprocessed the data and changed the region name of the dataset to the same region name as the primary dataset. In addition, I deleted some columns that are useless and meaningless.

Design and Its Interpretation:

The first map shows the geographic distribution of alcohol-related accidents in all regions of Victoria over the past five years. Their color indicates the region of accidents that involved alcohol. It illustrates that the more dense points, the higher the percentage of crashes involving alcohol. Metropolitan South East region and Metropolitan North west Region have higher percentages of crashes involving alcohol.

The second graph shows the relation between the number of alcohol-related accidents and number of liquor licences in different regions of Victoria over the past five years. Their color indicates the region of accidents that involved alcohol. It is a positive correlation between them. The more liquor licenses in that region, the more alcohol-related accidents happened in that region.

The third graph shows the number of alcohol-related accidents in different regions of Victoria in a day of week over the last five years. Their color indicates the region of accidents that involved alcohol. Every region has had more alcohol-related accidents on weekends and Fridays than on any other day of the week.

The fourth graph shows the number of alcohol-related accidents in different regions of Victoria in different kinds of light conditions over the last five years. It illustrates that most alcohol accidents occur when the dark streets lights on or the dark street with no lights.

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Recommendation

The Victoria government needs stronger alcohol policies, including those targeting both excessive drinking, alcohol consumption and driving while impaired by alcohol, especially in regions with lots of liquor licenses. What's more, the government needs to increasingly deploy alcohol testing vehicles in regions of high road trauma and during high-risk hours during the evening and night and high-risk days Weekend and Friday.

Appendix

1. Primary dataset: *Crashes_Last_Five_Years* data , which downloaded from Data Vic Gov page, refer to links below:
<https://discover.data.vic.gov.au/dataset/crashes-last-five-years>
2. Additional dataset: *Victorian liquor licences by location*, which downloaded from Data Vic Gove page, refer to links below:
<https://discover.data.vic.gov.au/dataset/victorian-liquor-licences-by-location>