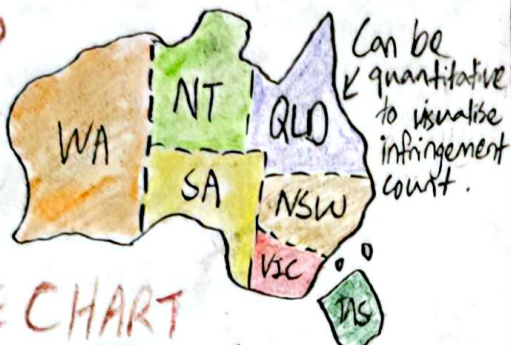


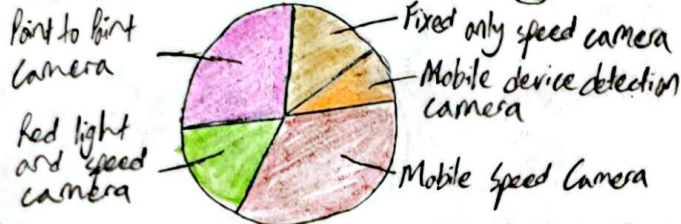
# 1. IDEAS

## ① CATEGORICAL ATTRIBUTES

### ④ MAP

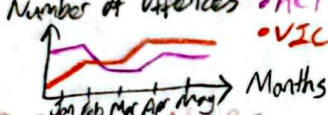


### ⑤ PIE CHART



## ② QUANTITATIVE ATTRIBUTES

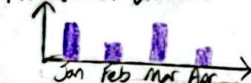
### ⑥ LINE CHART



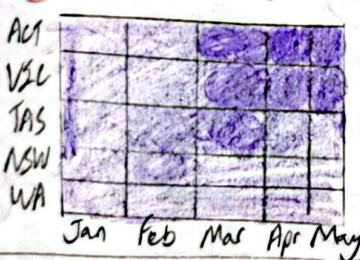
### ⑦ TREE MAP



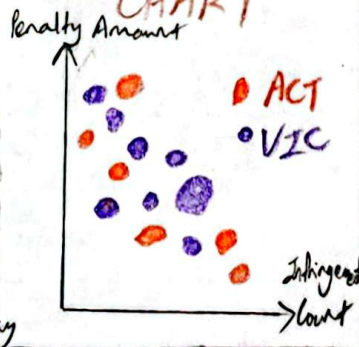
### ⑧ BAR CHART



### ⑨ HEAT MAP



### ⑩ BUBBLE CHART



# 2. FILTER

## 1A. MAP

- To view difference in infringement count in different states.



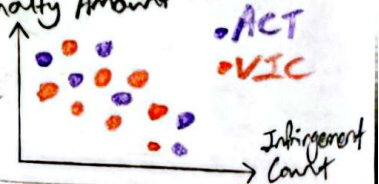
## 2A. LINE CHART

- To view trend in Number of offences over different months



## 2E. BUBBLE CHART

- To view correlation of penalty amount with the infringement count.



# 3. CATEGORIZE

## CATEGORICAL

### 1A. MAP

- Allow comparison between different states in Australia for the number of traffic infringements
- Using colour here as the categorical element of visualization
- Shows geographical information.

## QUANTITATIVE

### 2A. LINE CHART

- Uses points connected by line segments from left to right to show value change
- High offences in certain states

### 2E. BUBBLE CHART

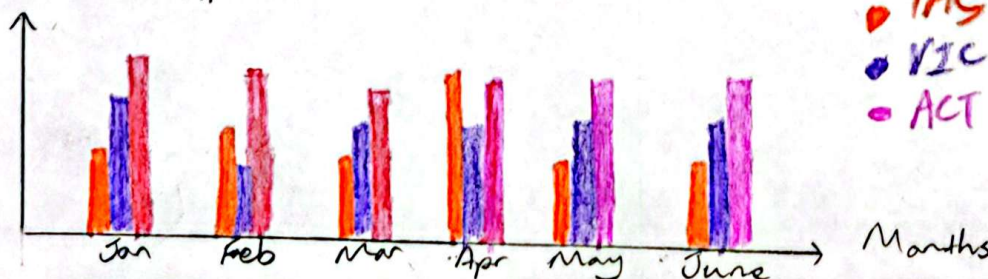
- Shows the total sum of infringements with their penalty amount and infringement count.

# 4. COMBINE & REFINE

②a is a better option than ②b because we are displaying time series information about the number of offences.

Different states' number of offences can also be displayed on the same chart to form group bar chart. This would

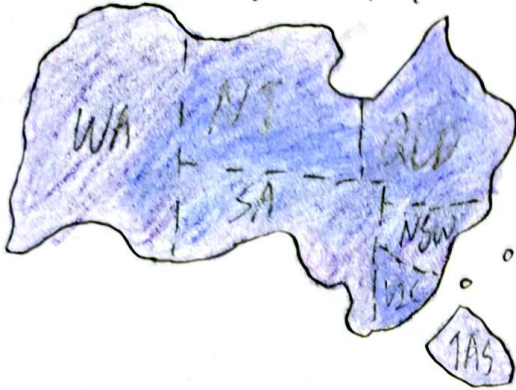
Number of offences



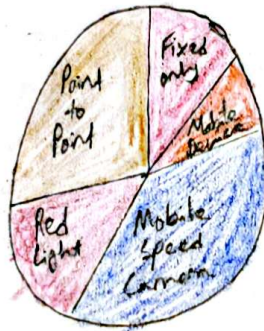
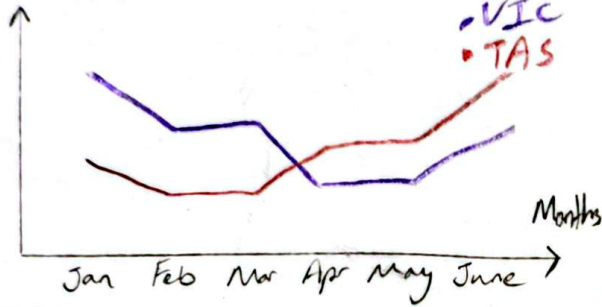


# LAYOUT

## TRAFFIC INFRINGEMENT



Number of Offences



Title : Traffic Infringement

Author : Brian Nge Jing Hong

Date : 13/9/2024

Sheet : 02

Task : Dashboard View

## OPERATION



After hovering, shows the number of traffic infringements

State : QLD  
Number : 10,000



After clicking, a popup would appear

offence : Point to Point  
Number : 20,000

## FOCUS

- The map shows the quantitative attribute so viewers know how much the difference is between states
- The dashboard view focuses on simplifying the information for viewers.
- The line chart shows the change in number of offences between different states.
- The treemap and pie chart visualises the different categories.



→ This slide show view puts the map as the centre of attention

## DISCUSSION

### Advantages

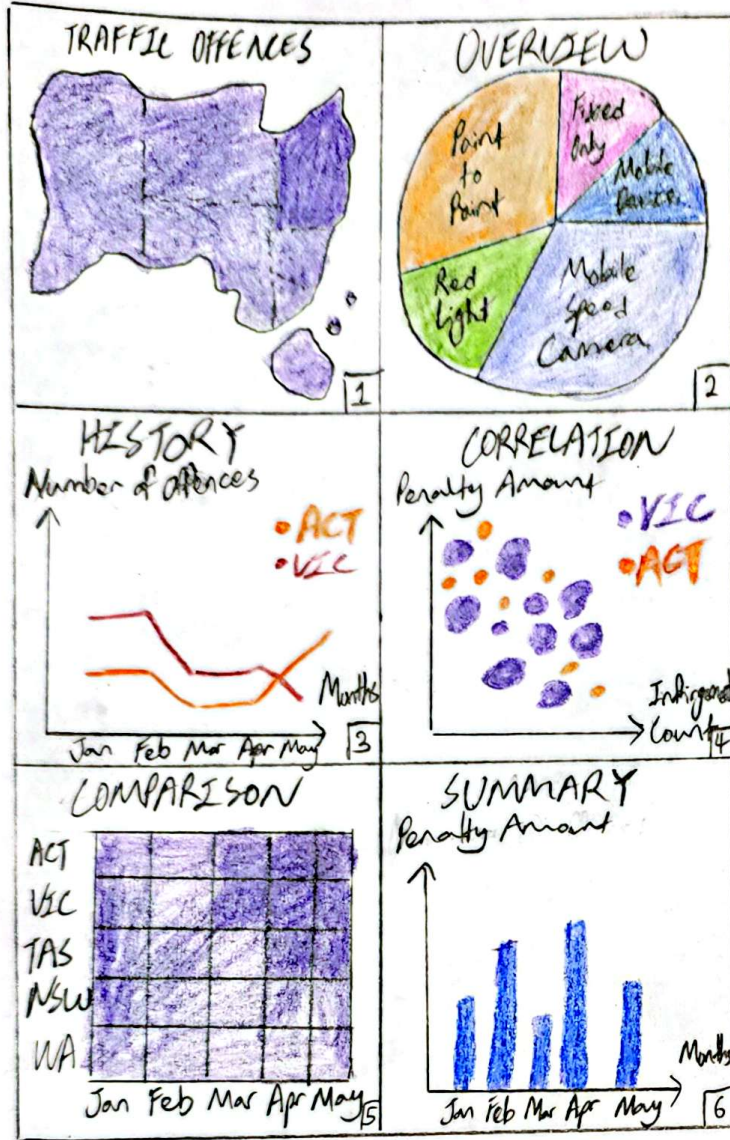
- Easy to use and provides a good overall summary about all the traffic infringements.
- Allow viewers to easily understand and see a pattern of traffic infringements in ACT.

### Disadvantages

- If difference between different states is low, they may look the same size in the pie chart.
- The treemap might look too clustered if there are too many categories.



# LAYOUT



Title : Traffic Infringement  
Author : Brian Nge Jing Hong

Date : 13/9/2024

Sheet : 03

Task : Partitioned Poster Visualisation

## OPERATION

Penalty Amount → Interactive bubble chart (hovering over bubble displays information about that state)

State: VIC  
Number: 20,000

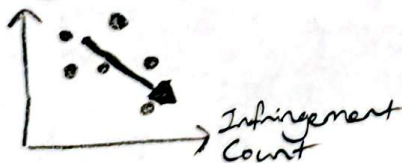
Infringement Count

→ Interactive pie chart which displays the different infringement categories when hovering over the pie chart

when traffic arrow red  
when traffic light red

## FOCUS

→ Bubble chart focuses on giving a correlation between the penalty amount and infringement count, along with the number at each point.



→ The treemap focuses on showing the comparison between each states and months. The colour saturation would show the viewers a summary of the states and their numbers.

## DISCUSSION

### Advantages

→ Easy to view the partitioned poster and follow along.

→ This partitioned poster is structured and presents important visualisation at the top with more detailed at the bottom.

### Disadvantages

→ Difficult to combine all partitions to 1 page. The lack of white space due to the number of visualisations makes it harder for viewers to understand at first glance.

→ The difference in the pie chart segments might be difficult for readers to understand.



# LAYOUT

## Traffic Infringement in Australian Capital Territory

Australian Capital Territory (ACT) comprises of Canberra, the national and territorial capital and surrounding land.

2 | NEXT



## Traffic Infringement Compared

1 | NEXT



## FOCUS

- The page buttons focus on allowing user to move between pages.
- The map shows quantitative attributes. The darker shade means that there are more traffic infringements from vehicles belonging to that state.
- Different colour hue is used for the treemap to show the difference to viewers to understand more easily.
- Colour should be chosen wisely so that it is easier for viewers to understand at first glance.



Title : Traffic Infringement

Author : Brian Nge Jing Hong

Date : 13/9/2024

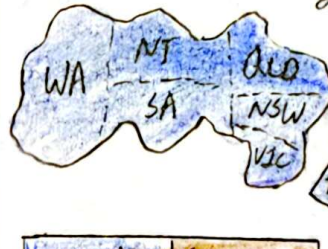
Sheet : 04

Task : Slide Show Visualisation

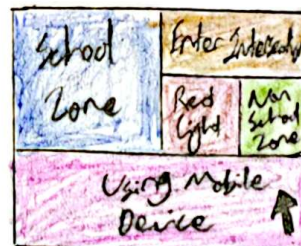
## OPERATION

2 | NEXT

Clicking the buttons switches the slide show to next page



Hovering over the map displays the number of offences at that point



Hovering over the different category highlights and displays details about that category.

## DISCUSSION

### Advantages

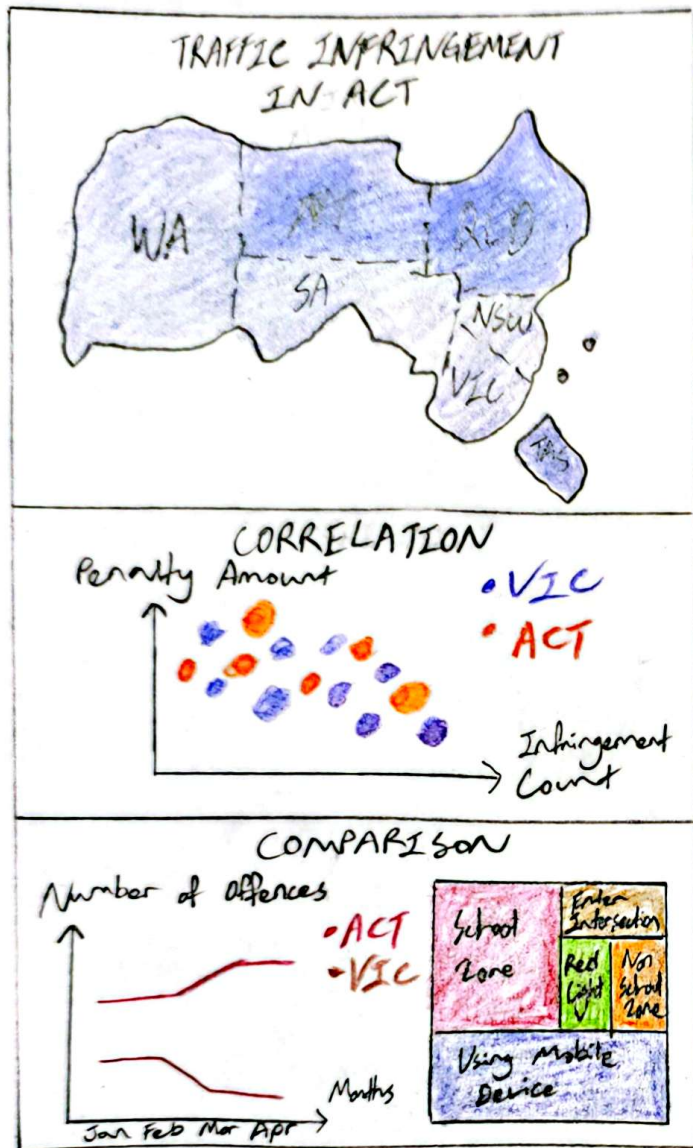
- Slide show visualisation allows the presentation of data to be more engaging and easily understandable.
- The page buttons allow easy navigation.
- Different colour hue improves readability.

### Disadvantages

- If there are too many categories in the treemap, it would be really difficult for readers to understand.
- If the numbers for different categories are similar, treemap might not be suitable.



# LAYOUT



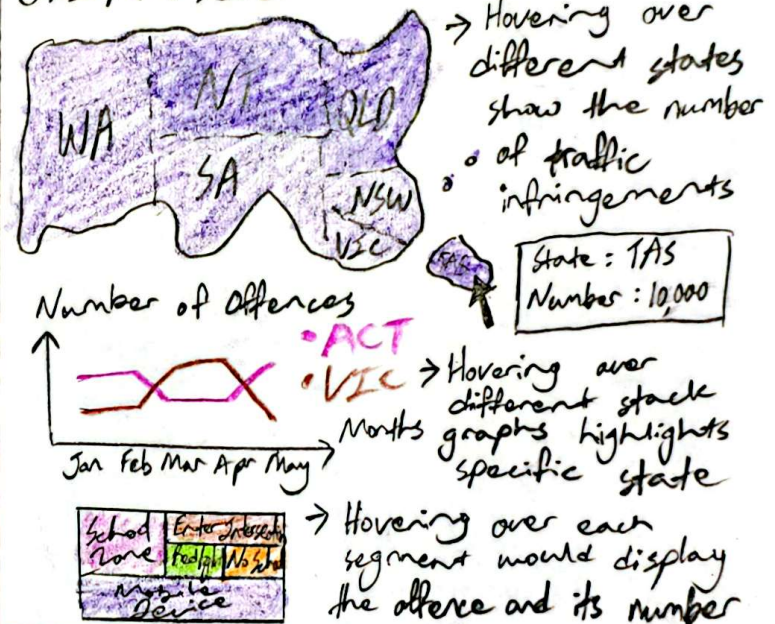
Title : Traffic Infringement  
Author : Brian Nge Jing Hong

Date : 13/9/2024

Sheet : 05

Task : Final Layout Design

## OPERATION



## FOCUS

- The map would display the most important information (main visualisation). It displays where the vehicle involved in an offence in ACT is from.
- The bubble chart would show the correlation with the 2 quantitative attributes (penalty amount & infringement count)
- The grouping of charts in comparison section makes it easier for users to analyse, compare the trends and correlations.



## DETAIL

- Dependencies : Vega lite for data visualisation. Dataset is imported in the form of CSV. HTML, CSS and Javascript are used to create the website.
- Estimated Time : Estimated of 3 days to build all idioms and design with 1 day to finalise
  - 1 day for 1st Section
  - 1 day for 2nd Section
  - 1 day for 3rd Section
- Specific Requirements : To use laptop for visualisation (adjustable for mobile). Site must be deployed on GitHub.