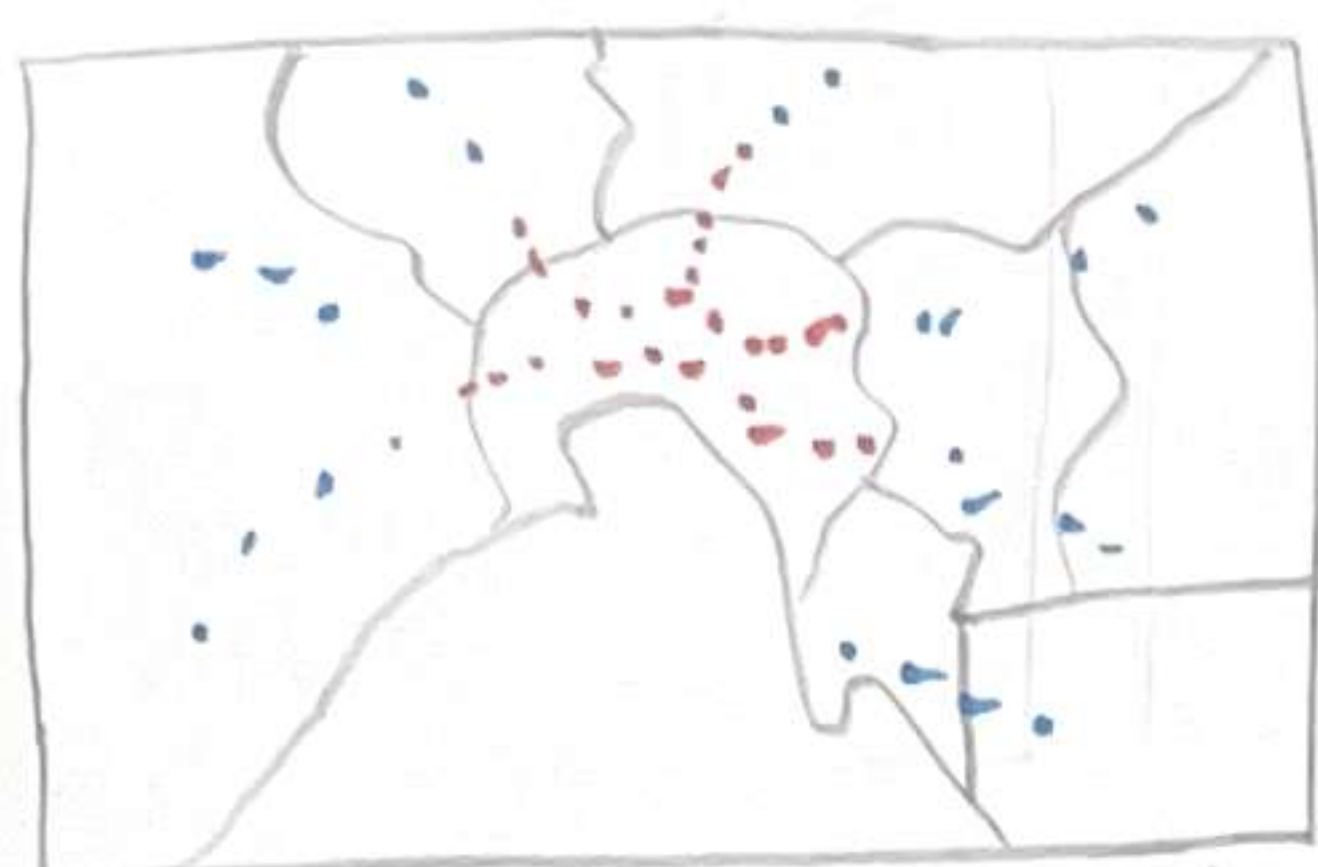


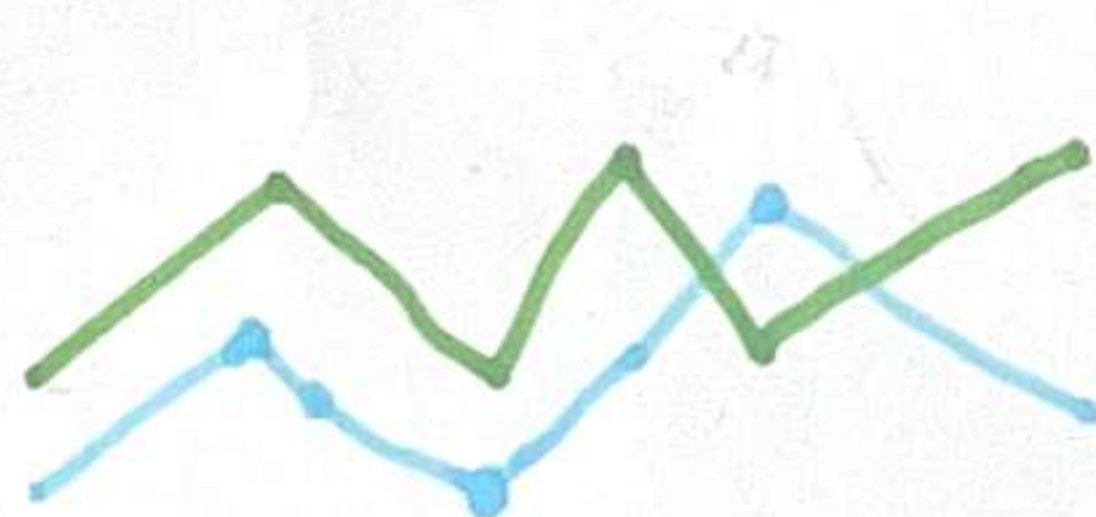
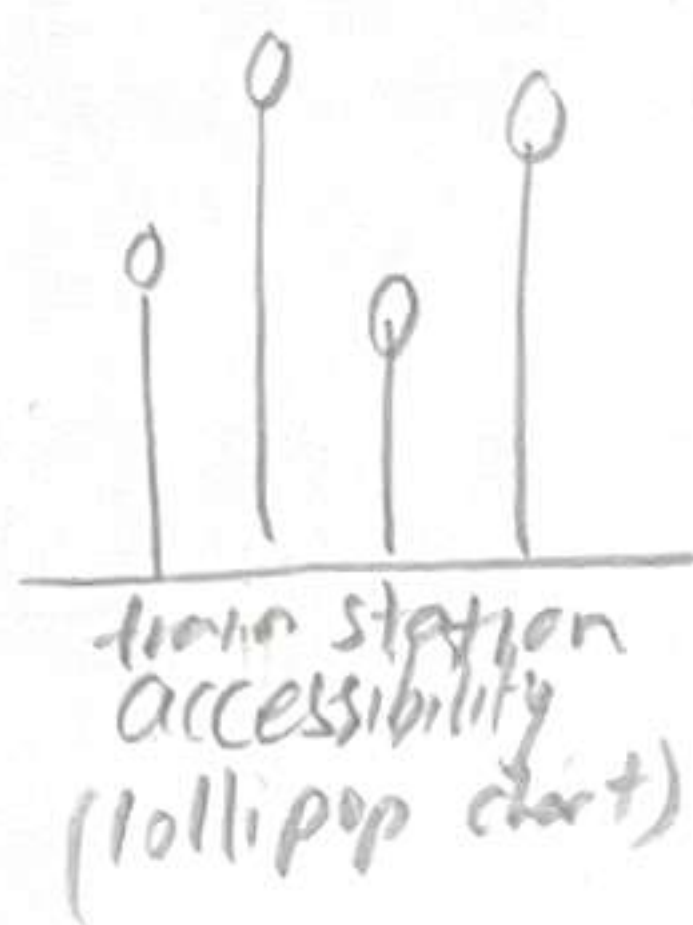
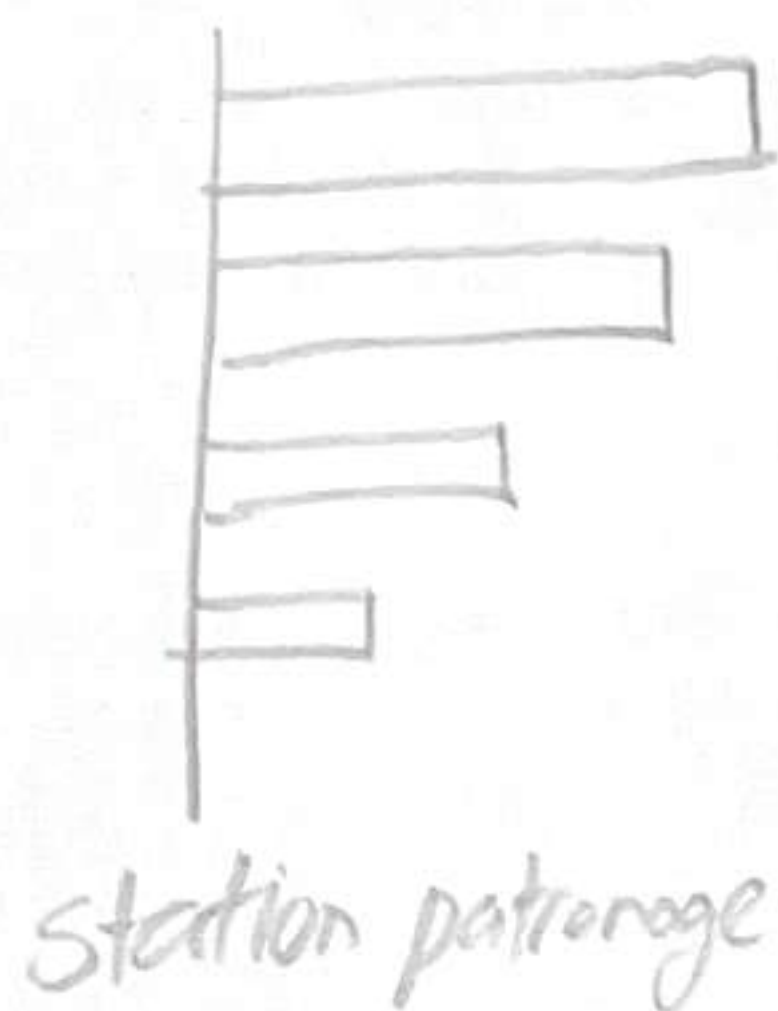
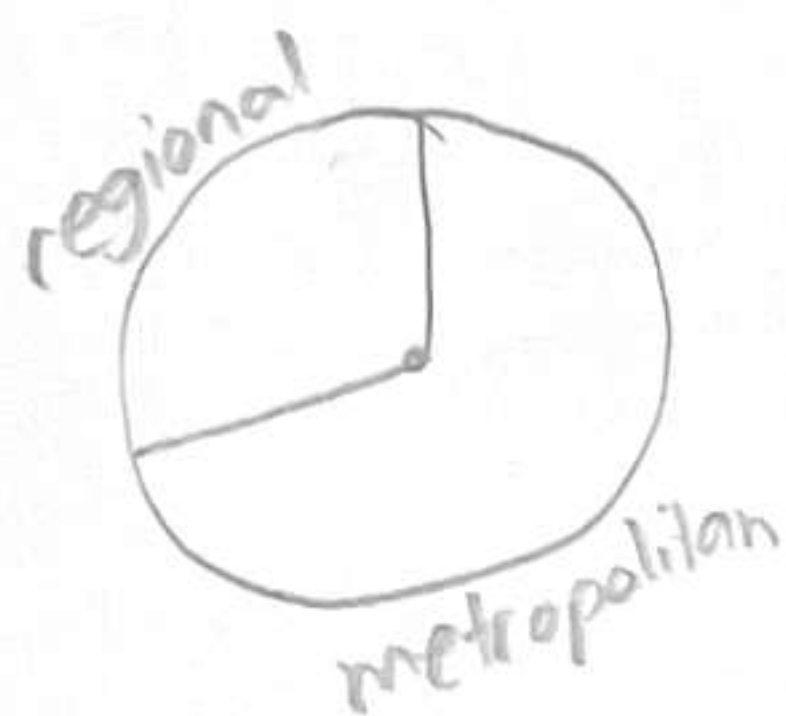
# IDEAS



proportional symbol map of each train station.



choropleth map of train station counts



patronage over the years by station (slope)

train punctuality at station

hourly services by train

## FILTER

- distance from city center (can be Flinders Street)
- each area on map
- train lines (e.g. Pakenham)
- Filter all idioms based on region
- Zone 1/Zone 2

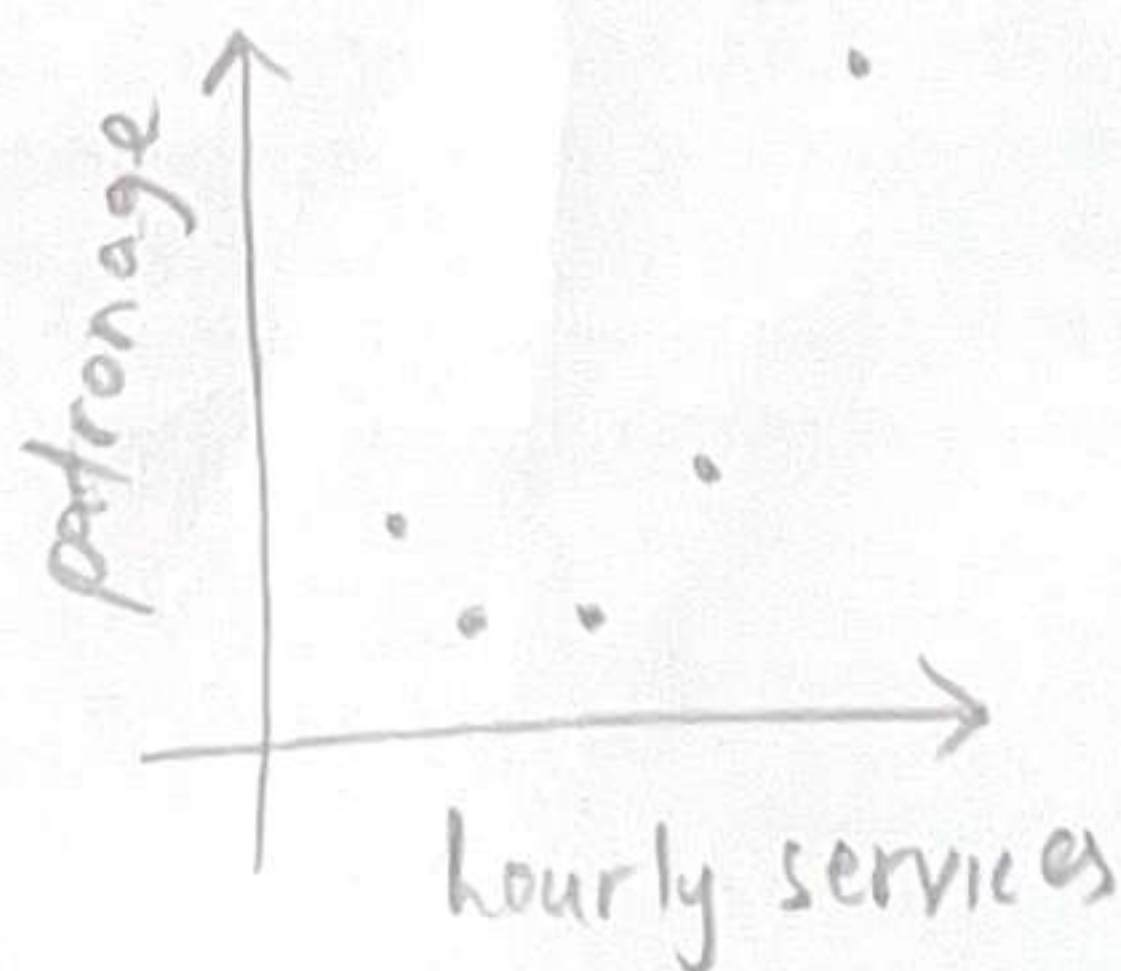
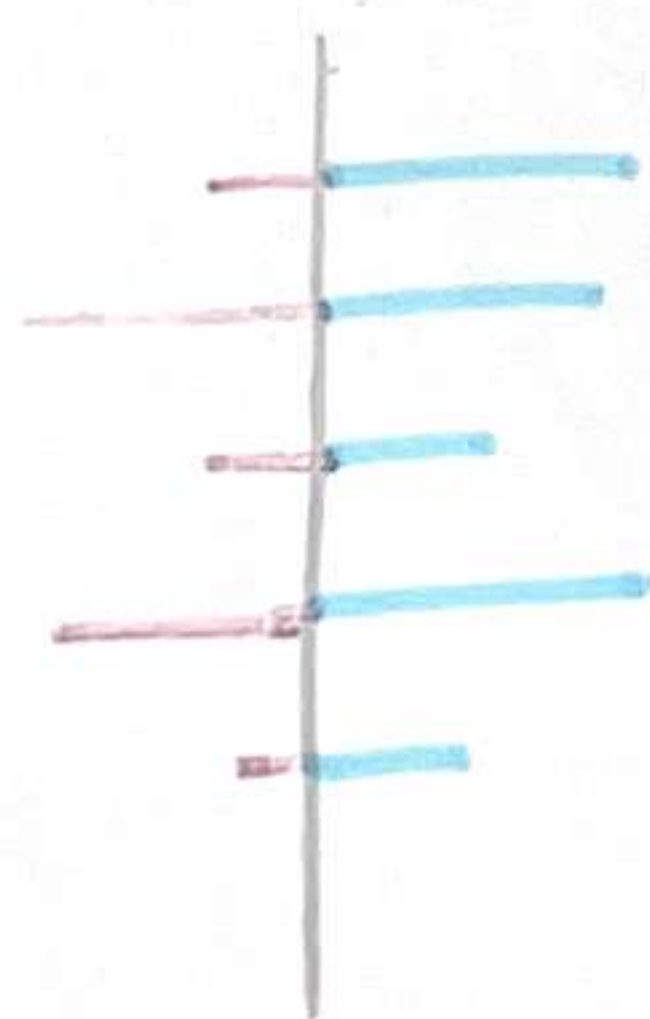
## CATEGORIZE

- TRAIN STATION SPREAD ACROSS VICTORIA
- STATION ANALYSIS
- SERVICE PERFORMANCE
- ACCESSIBILITIES OF TRAIN STATIONS

## QUESTIONS

- How to create the slope
- How to create the choropleth as dataset does not contain any suburb data
- Punctuality data from API? Is a dataset possible

## COMBINE AND REFINE



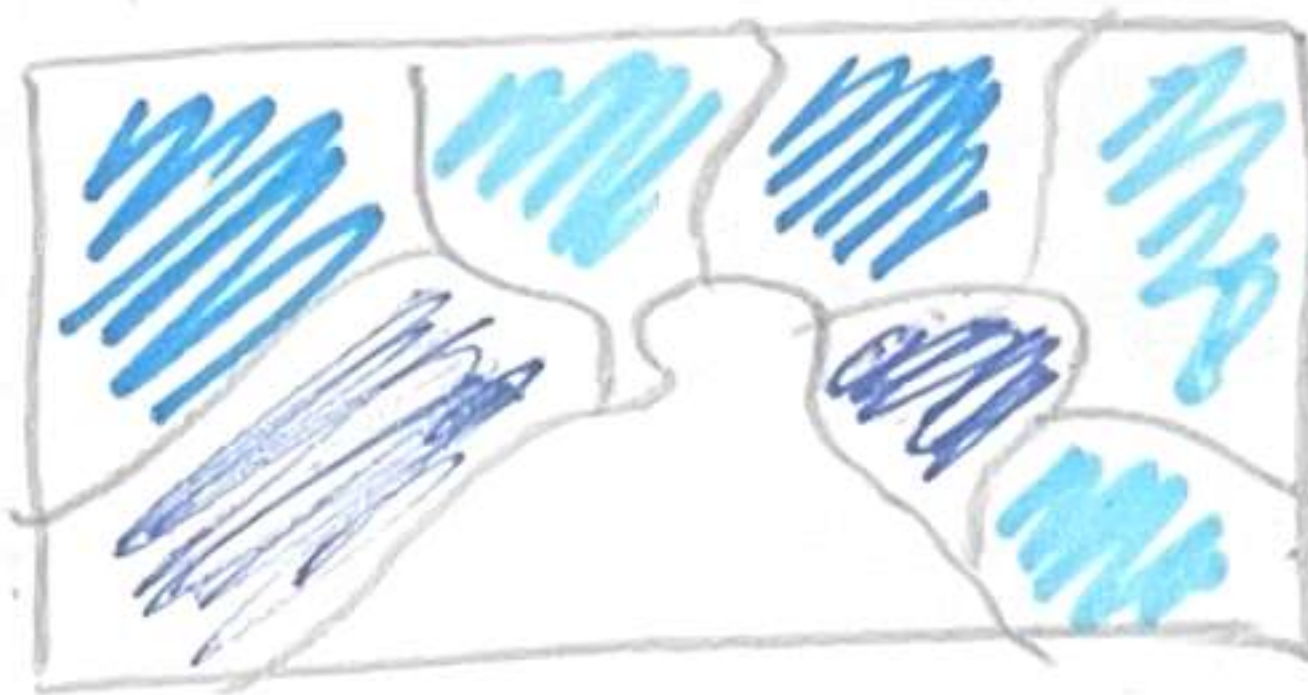
station patronage based on regional/metropolitan





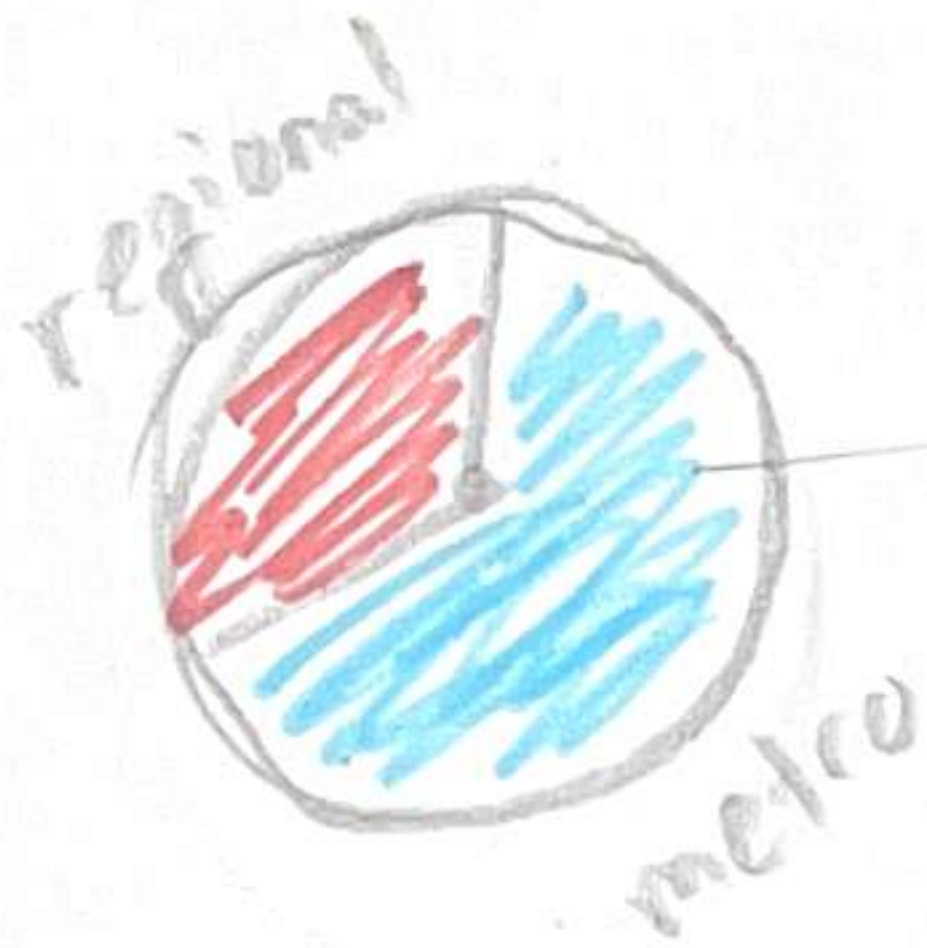
# REGIONAL TRAIN STATIONS

description

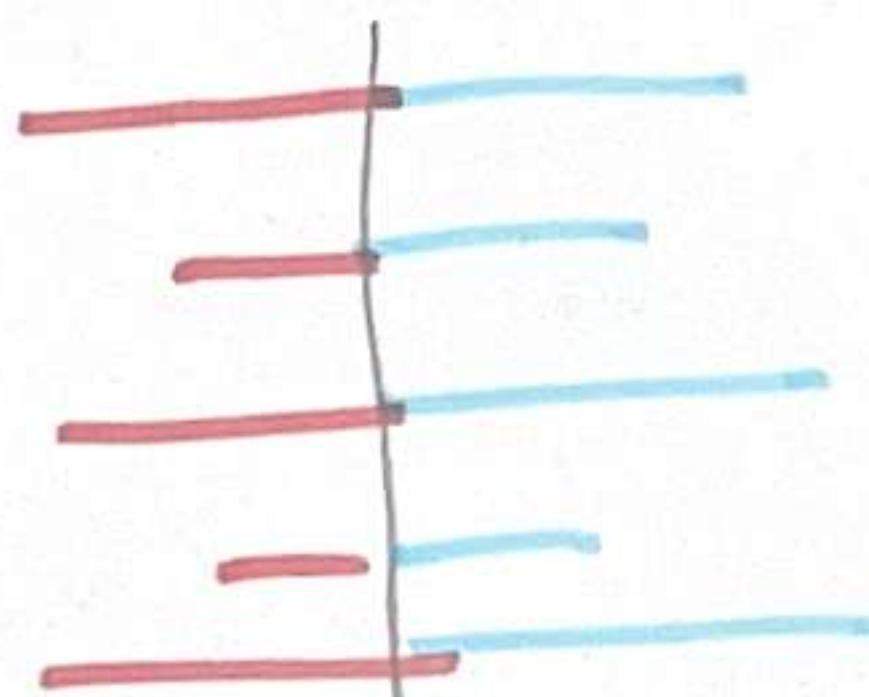


choropleth of train station counts

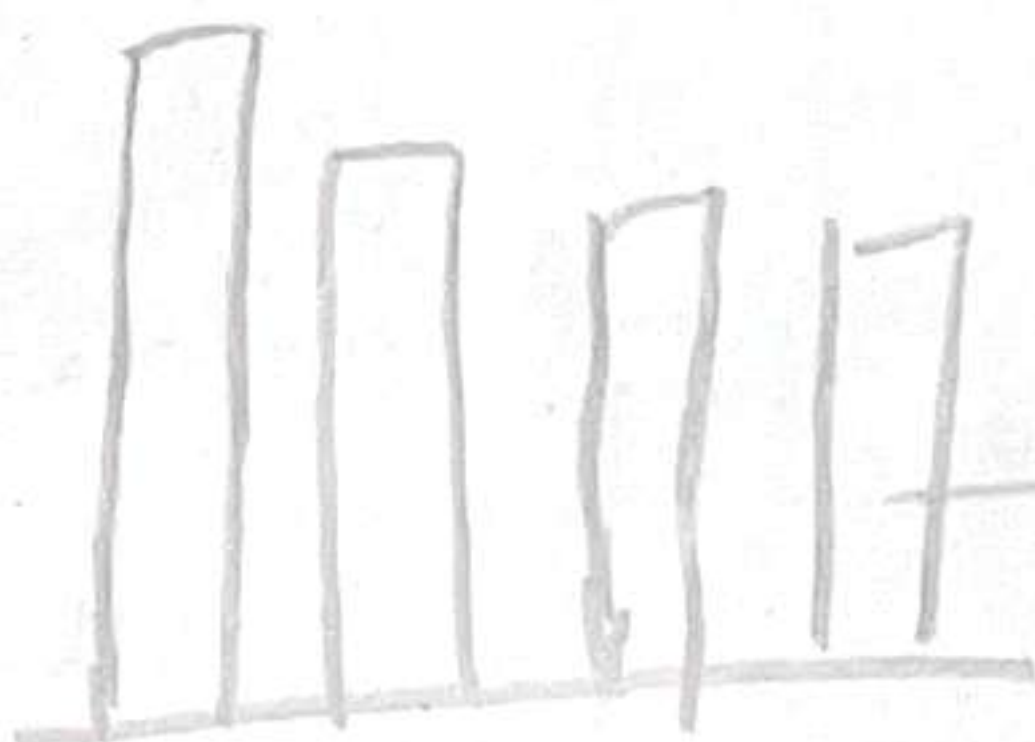
this % of trains go to regional stations.



but it leads to this 2% amount of patronage compared to metropolitan



regional | metro  
by months of the year  
(diverging bar)



Compare the locations.  
Why which station is more popular.

patronage of stations in selected region

## FOCUS

- Convey the proportion of regional train stations
- Highlight how far the stations are.
- Indicate patronage for stations in a region.
- Compare regional and metropolitan patronages
- Tells a story of regional train stations and why they are popular.
- Compare stations in a given region.

TITLE: Regional Train Station Analysis.

Name: Mahathir M

Lutfullah

Date: 20 Oct 24

Sheet: 2

Task: Compare regional and metro trains

## OPERATIONS

- Select on choropleth to see the proportion for each region.
- Sort bar chart to see ascending and descending order.

## DISCUSSIONS

- Diverging bar may not be the most appropriate, explore.
- Annotations need to be in boxes to follow sight lines
- How to add reverse bar chart button?



# TRAIN STATION AVAILABILITY



VIC has  $x$  train stations. A total of  $y$  people use it annually. How easy is it?

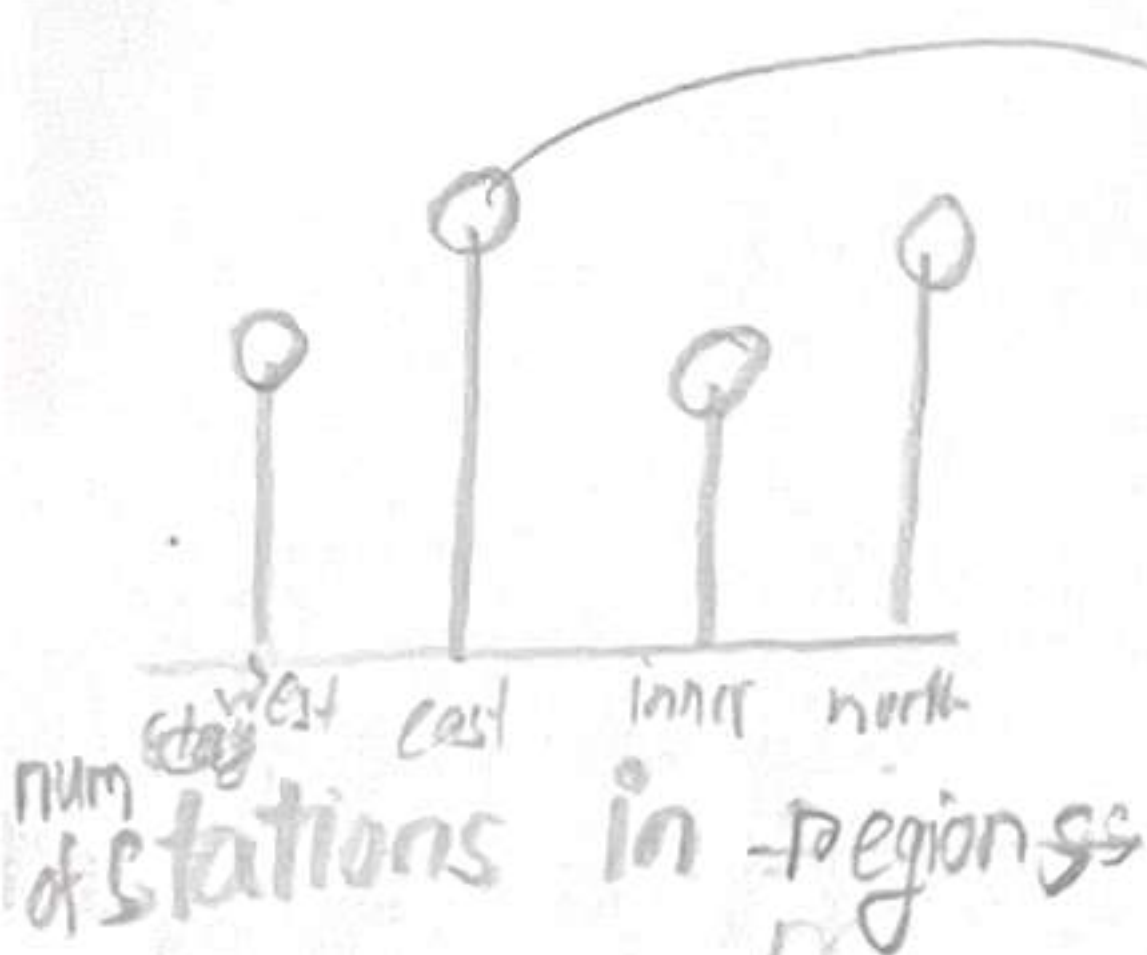


residences

meet this target of 800m of train station\*



suburbs



$x$  stations but only  $21\%$  are accessible

21%



lifts



hearing aids

## FOCUS

- Show all train stations
- Convey stats on how easily the train station can be accessed.
- Convey the access from suburbs in VIC.
- Show station count by region.
- Show accessibility options at train stations (e.g. lifts)

## Title: Train Station Availability Dashboard

Name: Mahathir M Lutfullah

Date: 20 Oct 2024

Sheet: 3

Task: Visualize station accessibility

## OPERATIONS

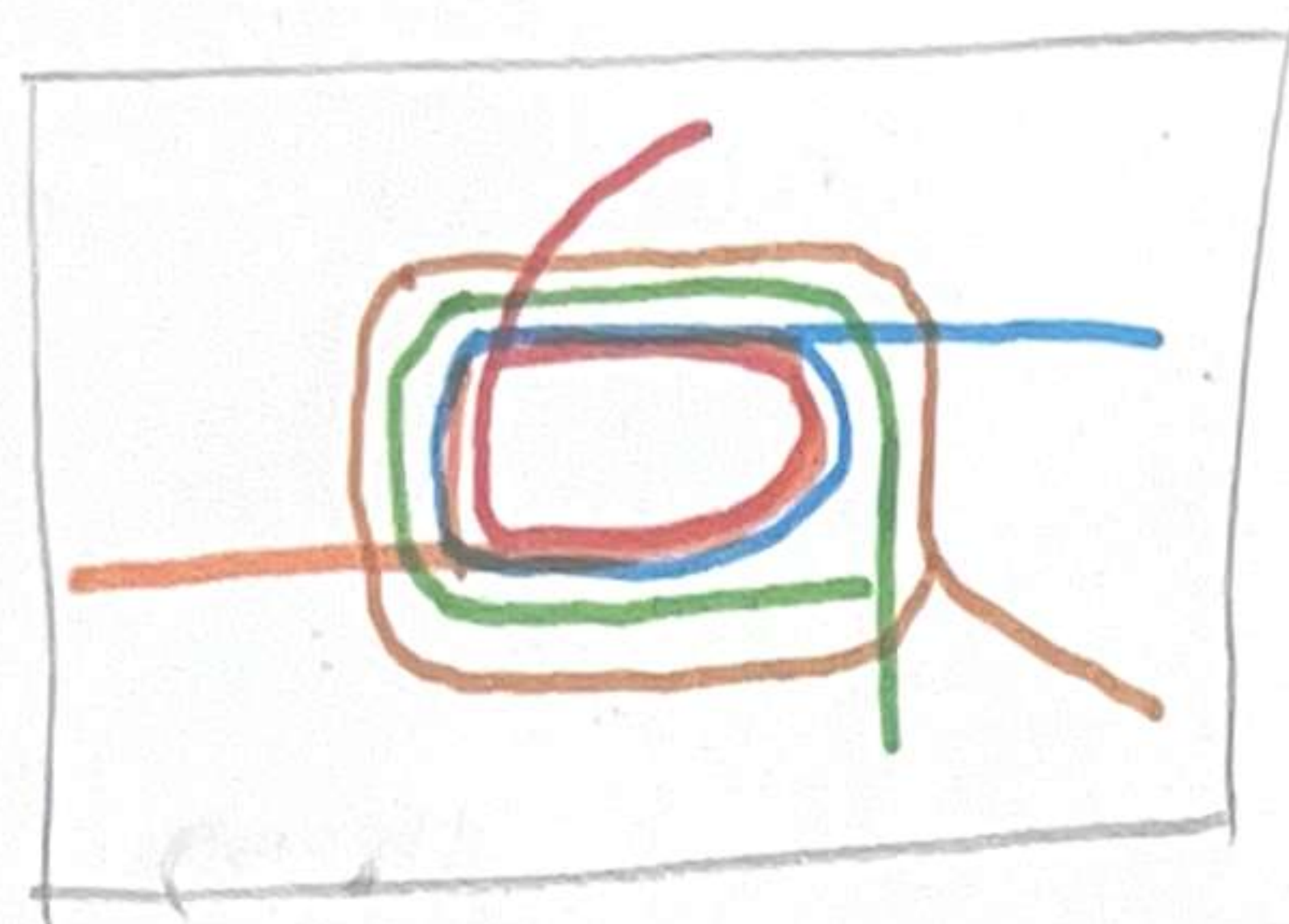
- Bubble size indicates station patronage.
- Distance filter for map.
- Highlight station with bar chart?
- Region wise bar chart filter.

## DISCUSSIONS

- How to merge datasets?
- How to make more interactive?
- The sight lines and flow may be confusing.
- What is PIDs?

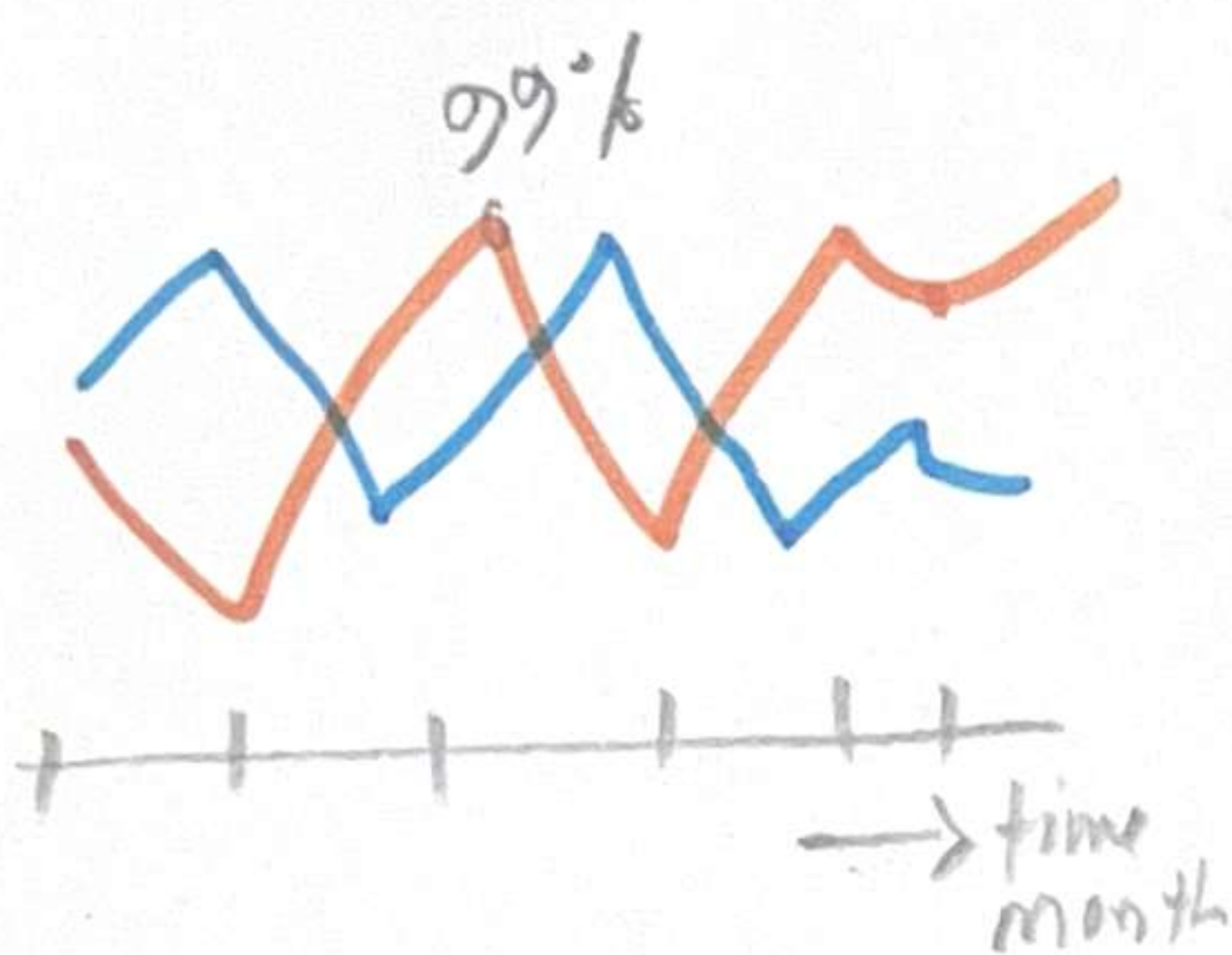


# TRAIN PERFORMANCE



PTV has invested  
**\$\$\$12mil**  
in the last week  
where is it going?

Where is it going?

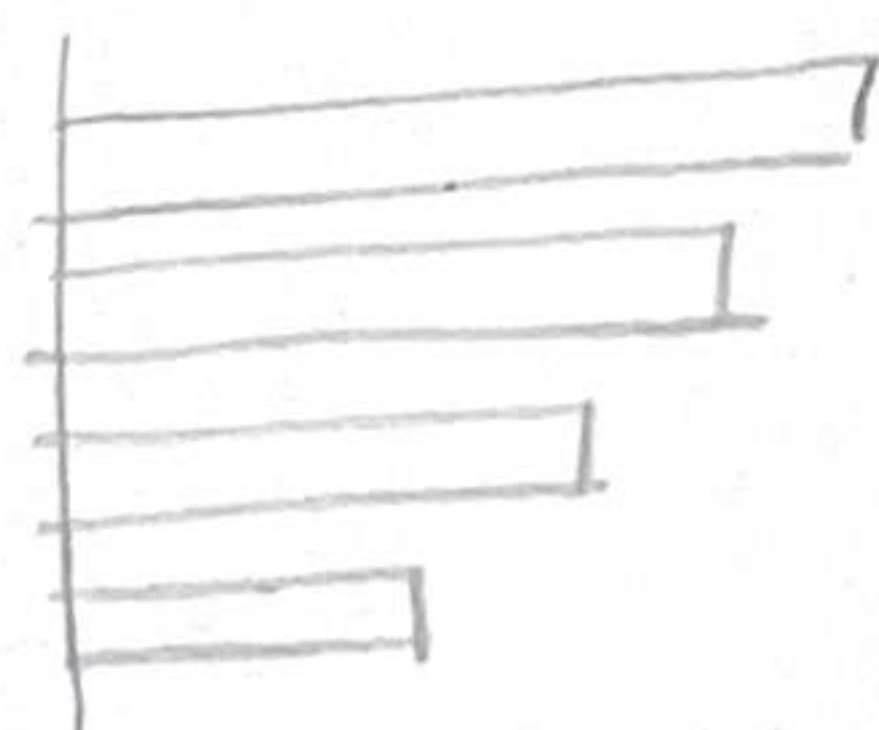


delivery vs punctuality

PTV was used by  
**222222**  
people in FY23-24



punctuality over  
the years.



top stations

This was spread daily  
apart as shown by  
the hourly chart.



Title: PTV performance  
analysis.

Name: Mahathir M  
Lutfullah

Date: 20 Oct 2024

Sheet: 4

Task: Visualize PTV  
performance

## OPERATIONS

- Select line from image for punctuality
- Select station for patronage / hourly service info.
- Filter top stations by count (e.g. < 1 mil)
- Network flow map
- Filter day for hourly.

## DISCUSSION

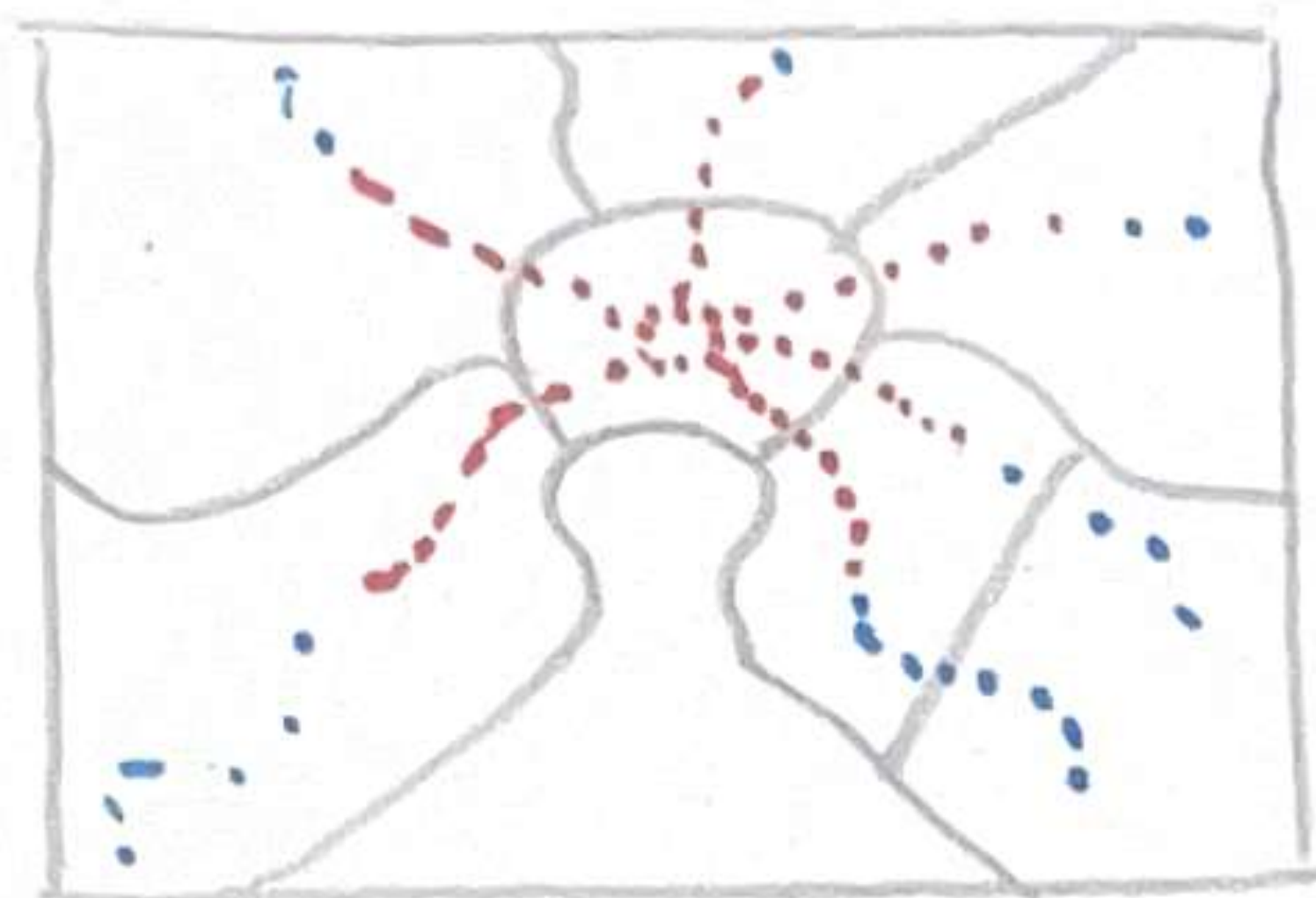
- How to create the network flow map.
- How to select the train service
- How to get the punctuality for each train service.

shows the performance of trains.

- Rather than just a map, uses routes to create a network flow map.
- Shows the individual line performance.
- Shows top stations and the patronage based on daily activity. The day can be selected by a filter.

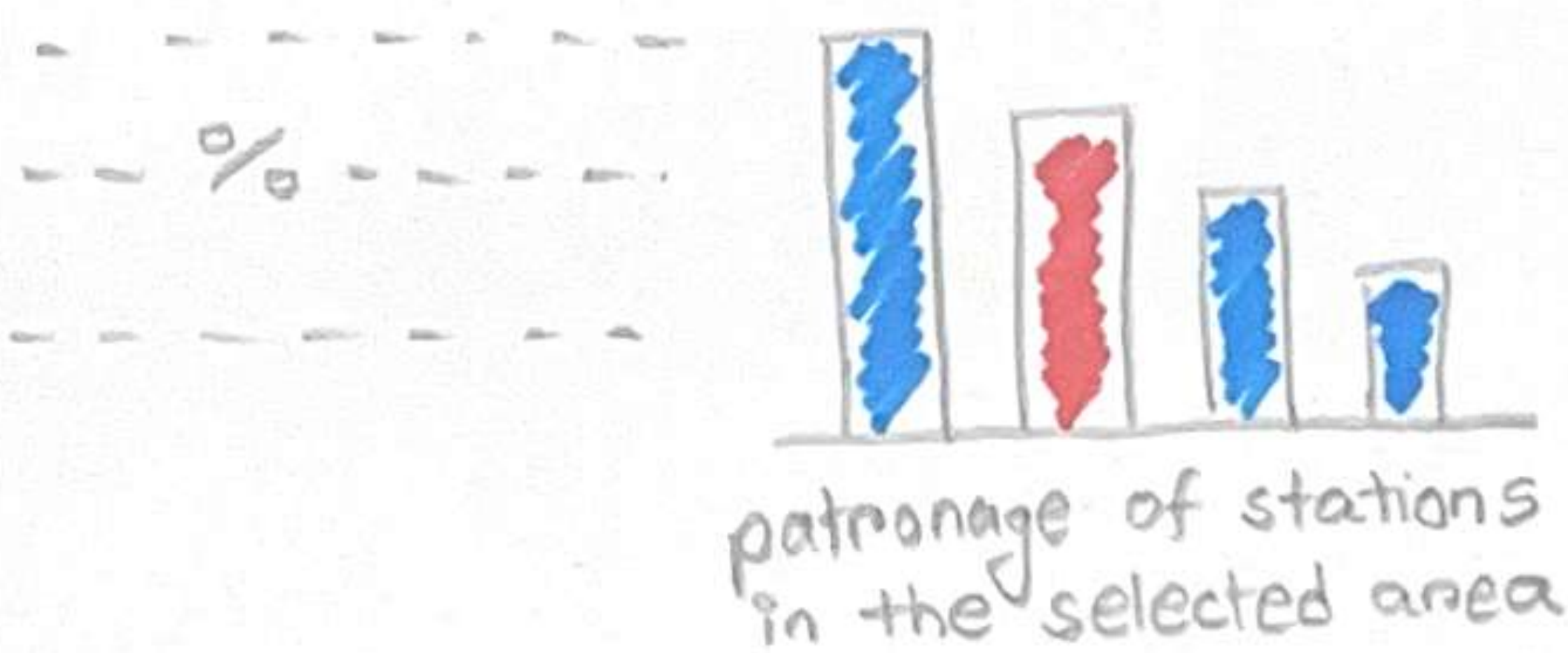


# TRAIN STATIONS IN VICTORIA

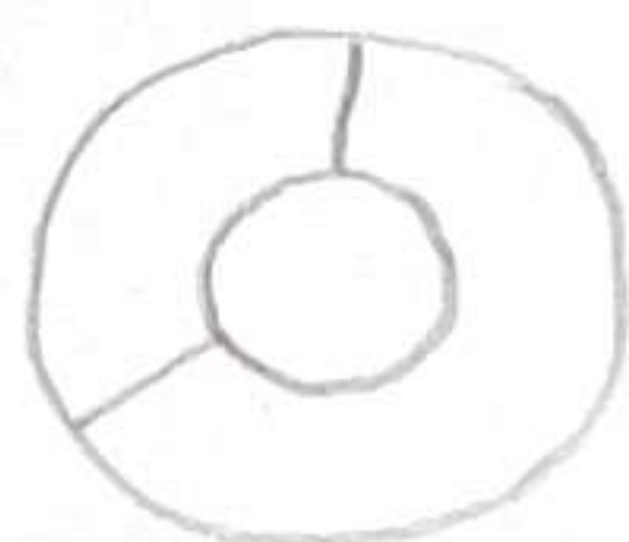


VICTORIA

## REGIONAL OR METROPOLITAN



## HOW ACCESSIBLE ARE STATIONS



lifts



hearing aids  
SERVICE



pids



delivery

punctuality

Title: Final Design Sheet

Author: Mahathir Lutfullah

Date: 20-Oct-24

Sheet: 5

Task: Combine sheets to create the final implementation

## OPERATIONS

- Filter choropleth by the region, auto zoom
- Filter pie chart on selected region
- Filter patronage bar chart.
- Annotations on accessibility options
- Punctuality and delivery filter by time.

## DISCUSSION

- How to filter other charts, based on input in one.
- Sight line use
- How to fit it all in the page.

## FOCUS

- Choropleth shows patronage (annual) by size, type by color.
- Color indicates regional/metropolitan, so some data shown.
- Region or metropolitan details proportions of patronage by region.
- Accessibility covers if stations are usable for disabled people.
- Performance dictates station times.