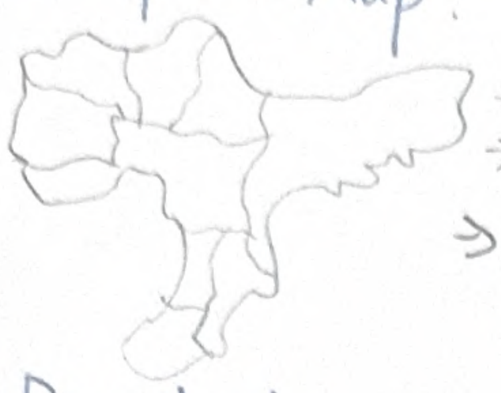
1. IDEA.

How Melbourne's celebrated cafe culture belong to everyone, or is it a lifestyle privilege concentrated in wealthy suburbs?

① Choropleth map.

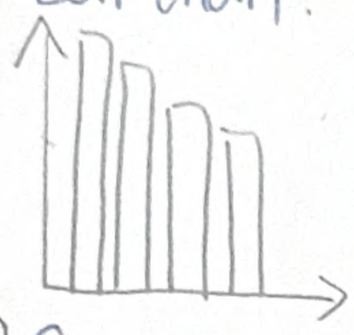


→Filters (colour, Sequential)
→Annotations
→show cafe density per suburb/LGA.

② Bar chart.

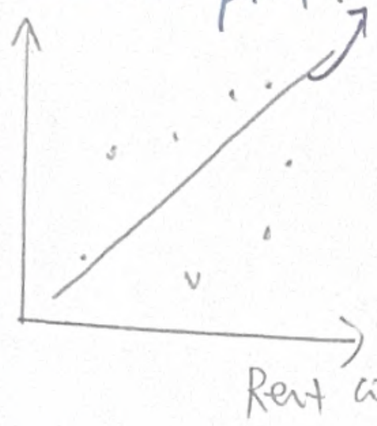
→show number of cafe by LGA.
→which ~~&~~ LGA has the highest concerations?
→Annotations highlight inner/outer suburb inequality

③ Bar chart.



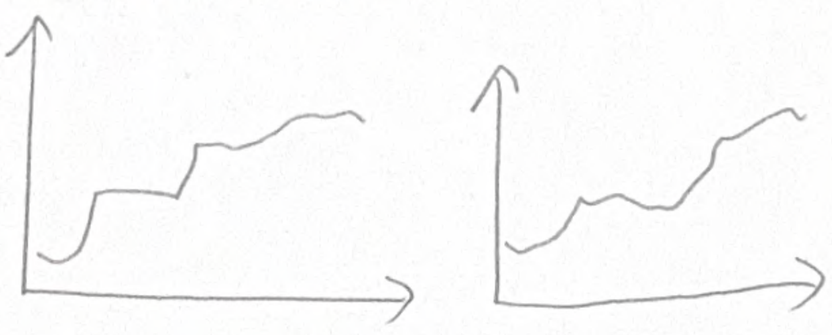
→ ~~high~~ lifestyle hotspots.
→ Top ~~to~~ 10 saturated suburbs

④ Scatter plot. Does higher rent = more hospitality venues?



→ Rent price (x)
Vs
Restaurant cout (Y).
→ Co

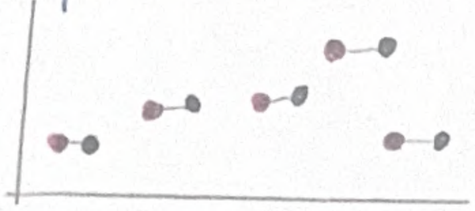
⑤ Line chart.



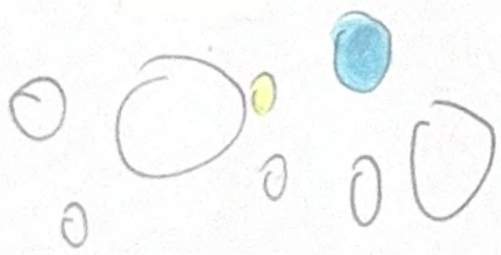
→ Cafe counts across years.
⇒ Rent price across years.
(Timelines).

⑥ & Compare number of cafes between high rent suburbs
Vs
low rent suburbs.

slope chart.



⑦ Bubble chart.



⇒ Number of cafe (circle = seats).
↓
can be the top 10 cafe

Student ID: 32444281
Student Name: Leyao liu.
Sheet: 1.
: Brainstorming.

2. FILTER.

Must keep:
1. Choropleth map.
2. Bar chart (cafe per LGA/Suburbs)
3. Scatter plot (Rent price Vs cafe count)

Optimal / Improve:
⑤ Line chart. (cafe count across years)
⑦ bubble chart

3. Categorize.

1. Map-based views:
→ choropleth,
⇒ bubble map (cafe)
⇒ Rent heatmap (Rent).
2. Comperison.
→ LGA bar chart.
→ Top 10 suburbs Ranking.
3. Correlation Analysis (cafe)
⇒ Rent Price VS cafe count

4. Combine & Refine.

Map (density) ⇒ LGA / Top 10 chart
⇒ Scatter plot (inequality) ⇒ Annotation + Conclusion.
(small text narrations between)

5: Question:

key concepts:
Is lifestyle across (cafe) evenly distributed across Melbourne, or do higher-income areas enjoy a disproportionate concentrations of hospitality venues?

Student ID : 32444428

Student Name: Leyao Liu.

Sheet : 2 . Initial Designs

1. Layout.

→ Screenshot layout.

Header Title: "Does Melbourne's cafe Culture Follow Wealth?"

(Choropleth Map)

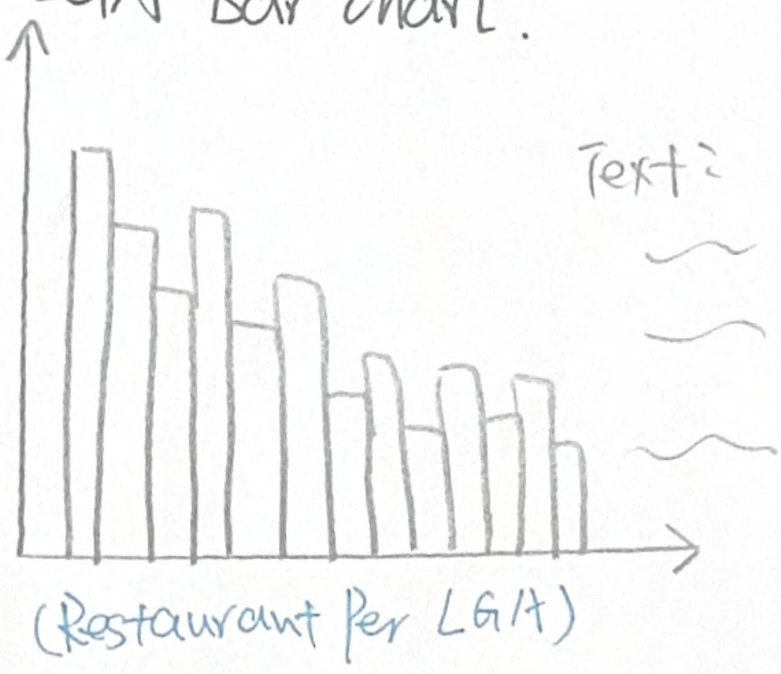
→ Colour gradient:
→ light = few cafe
dark = many cafe

→ Show:
Suburbs name + cafe count.

→ Cafe count / seating per suburb.

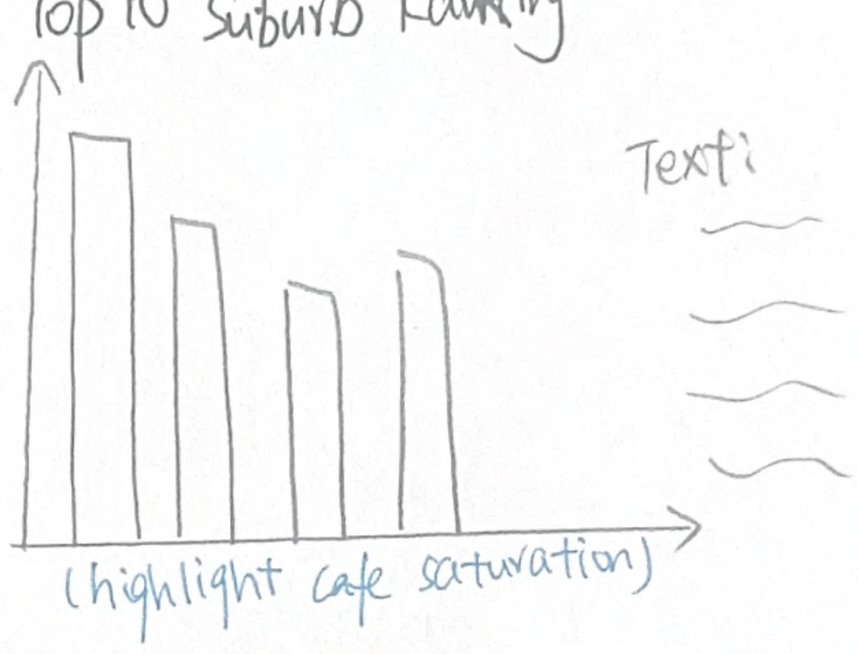
(Small Arrow or Text : Zoom into seleeted region → Compere) / or. Text here)

LGA Bar chart.



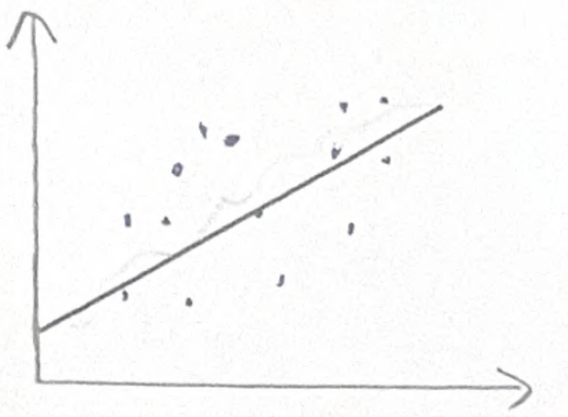
(Restaurant Per LGA)

Top 10 Suburb Ranking



(highlight cafe saturation)

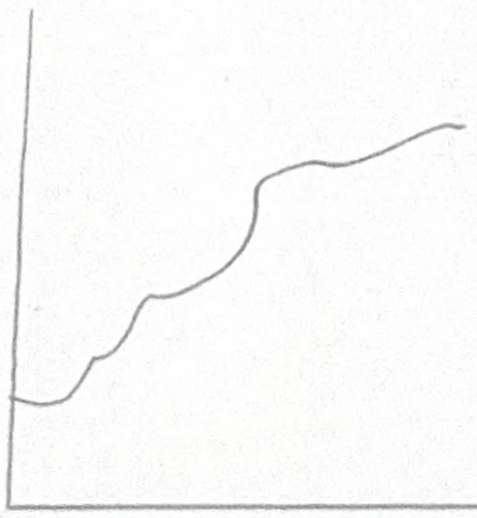
(Small Arrow or Text : Highlight : Wealthy Vs Cafe number.



(Time Trend Comparison)

(Text): → 'Rich lifestyle cluster'
Vs
'access gap suburb labels

. Line chart 1

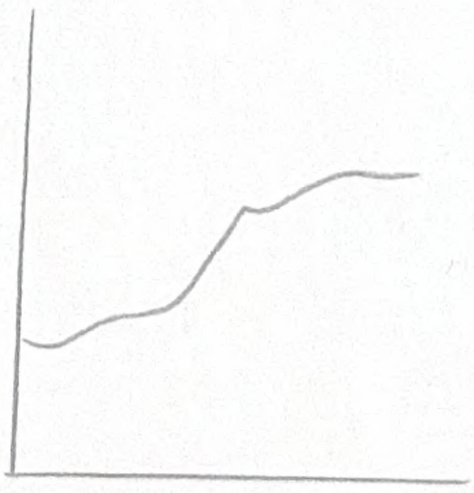


→ (afe Count Growth. (Year Vs Count)

→ Annotation : peak cafe expansion years

→ indicathy that lifestyle aeess is evolving alongside gentrification

. Line chart 2.



→ Rent increase per suburb (Year Vs Rent)

→ Use Same years → Compare slope steepness

2. Focus

→ intral Focus.

Geographical Distribution
(map)
↓
hierachical Comparison.
(bar charts).
↓
Ecnomic correlation insight
(Scatter plot Rent
Vs
cafe density)
↓
Time Trend comperison.
(line charts)

→ Scroll, sequence navigation

Map → Ranking → inequality

→ Timeline insight.

3. Discussion.

Map: → Needs clear colour legend to avoid confusion.

Scatter plot:

→ Annotation should provide clear insight.

→ Rent and cafe may dont correlate clearly.

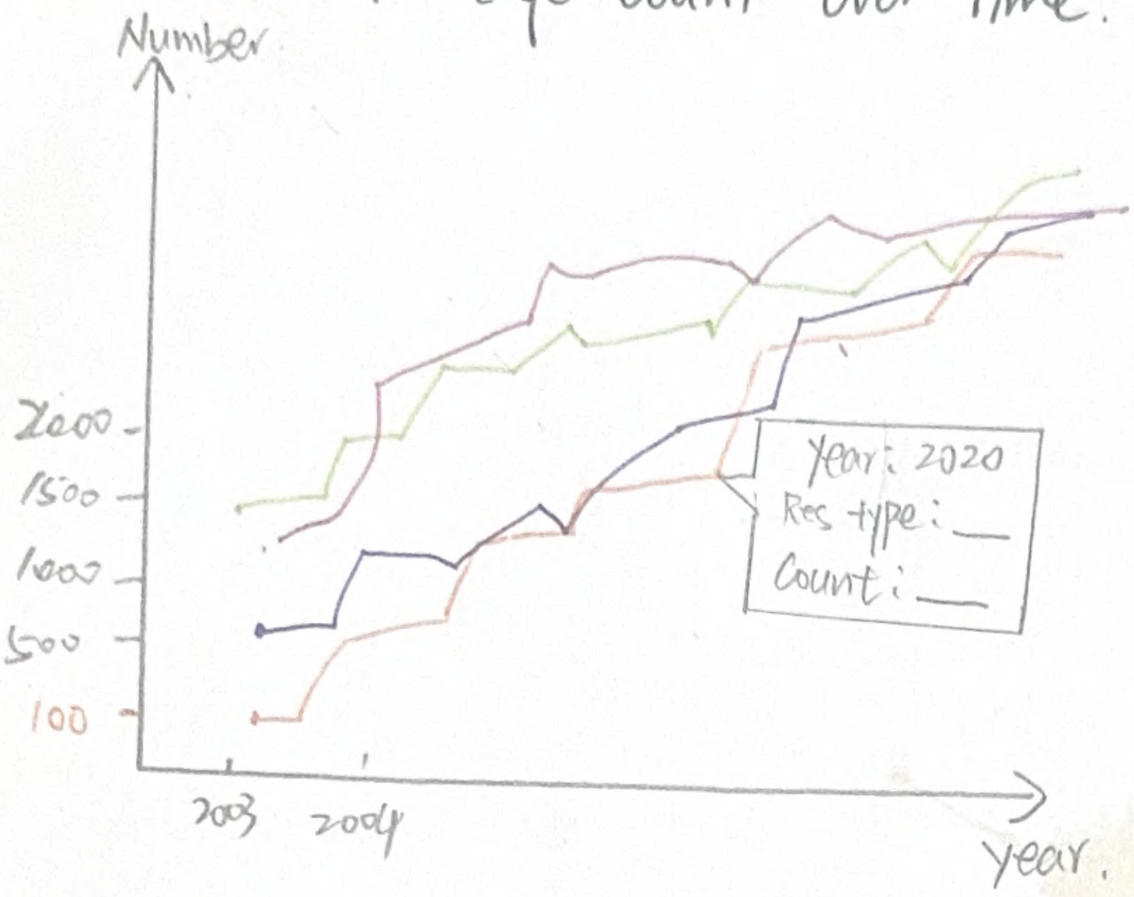
→ Contrast suburbs can be added. to Compare → give insight
(e.g. Fitzroy, Sunshine)

Has cafe culture grown alongside rising rent?

Student ID: 32444281
Student Name: Leyao Liu
Sheet: 3, Initial Design

1. Layout

LINE Chart 1: Cafe Count Over Time.

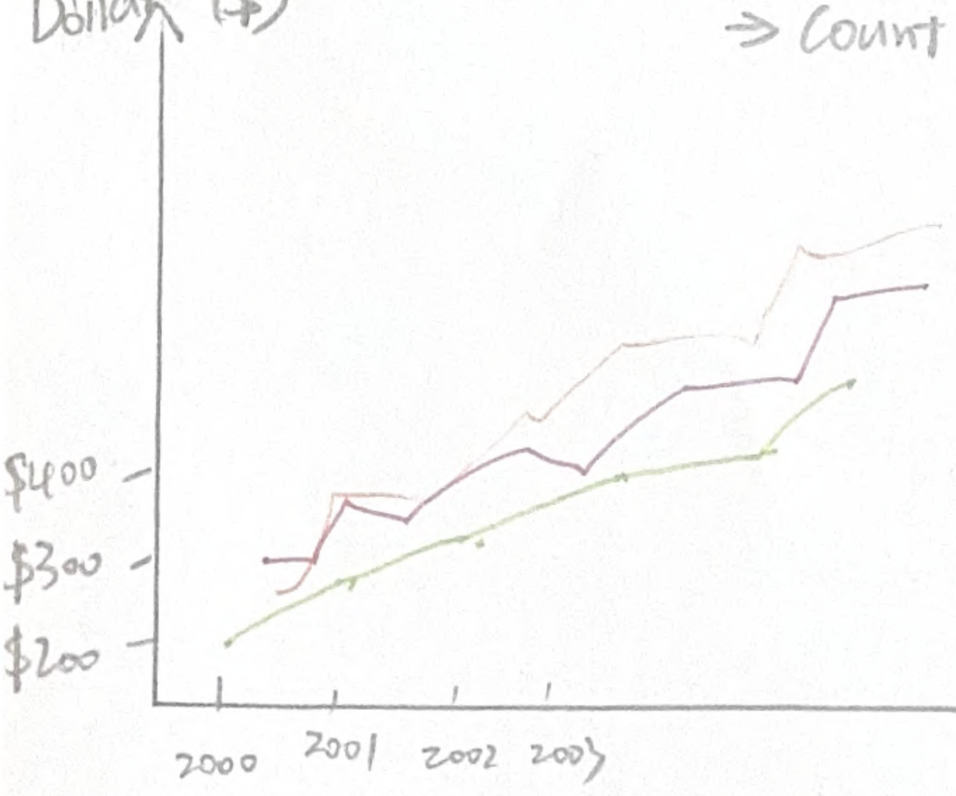


→ Y-axis: Number of cafe.
X-axis: year. (2003-2025)
- cafe and Restaurants
- Newspaper and Book Retailing
- Pubs Taverns and Bars.
- Takeaway food services.

→ use colour hue to differentiate.
→ Annotation: '2003, spike begin'
→ Tooltips: show year; restaurant type, Count.

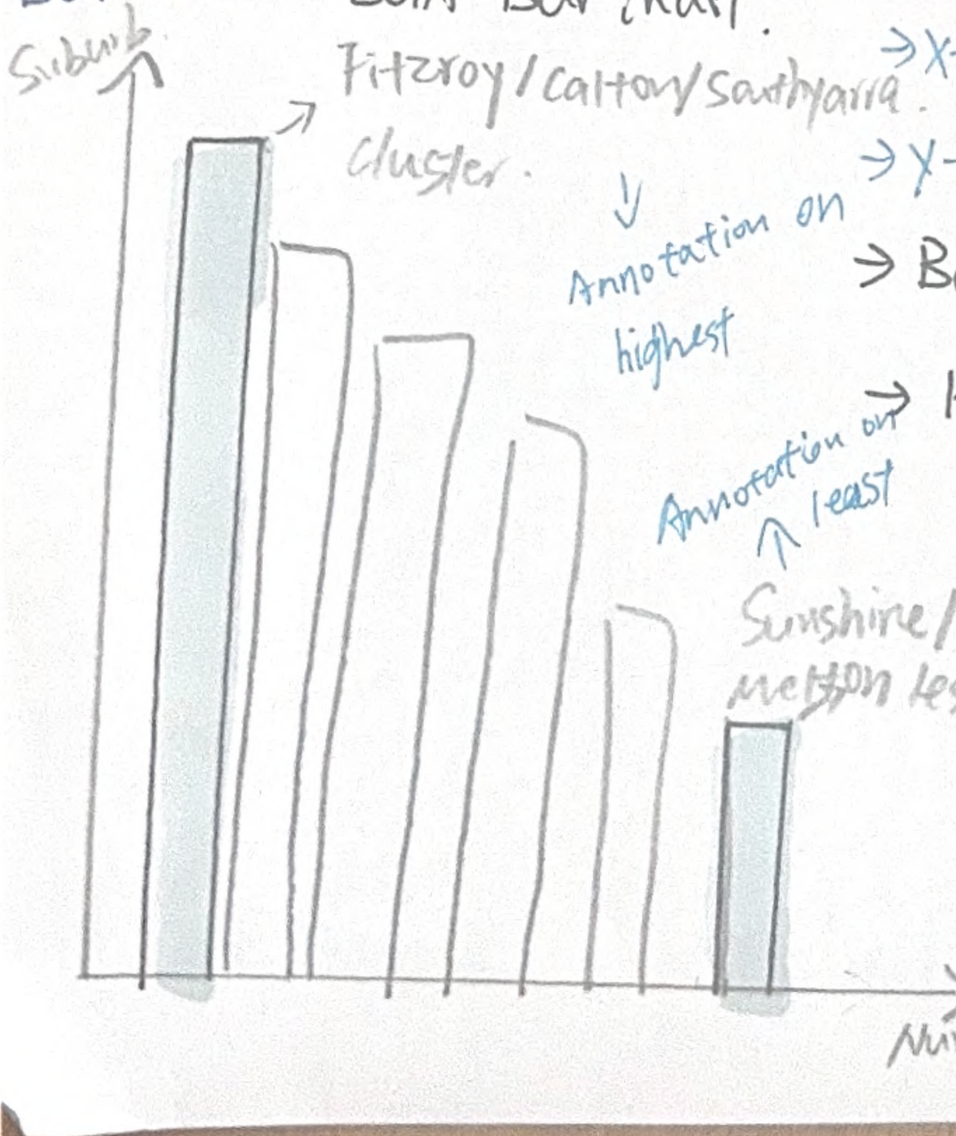
Small narrative label: "Lifestyle growth trend begins...."
→ little explaination to the chart.

Line chart 2: Median Rent Over Time



→ Count December period Median rent.
→ y-axis: Median Rent $
x-axis: year.
→ Different series represent different part of Melbourne.
→ Colour hue difference for distinction.
→ Filter: to toggle categories via checkboxes.

Bar chart: LGA Bar chart.



→ x-axis: Number of cafe (in 2024 specific)
→ y-axis: Suburb/LGA (Ranking Top 10)
→ Bar sorted Descending (highest at top)
→ Highlight bars from Highest Vs lowest (8-10 bars)

possible:
Toggle → ☐ Show only top 10
☐ Show all Mel LGAs

2. Focus

line chart: Highlight how cafe and rent evolve over time showing possible correlation between them.

Bar chart: To visually rank Suburbs/LGAs, highlight disparity between highest vs lowest. highlight inequality.

3. Operations:

Line chart:
→ show exact values per year.
→ Tooltip interaction:
when user havers on 2020, both charts reveal 2020.
→ highlight peak years → clickable markers. e.g. 2019, 2022 to show spikes.

Bar Charts:
→ Hover over bar: reveals Suburb Name, Number of cafe Median Rent.
→ Click to highlight: wealthy suburb vs low-rent.
→ possible: 'show only top 10 vs 'show all Melbourne LGAs'

4. Discussion:

→ Requires clean yearly data,
→ Storytelling may not clear.
→ Need clear labels
→ Data may be not clear enough to support

Has Cafe Culture Grown Alongside Rising Rent?

Student ID: 32444281
Student Name: Leyao Liu.
Sheet 4 : Initial Design 4

1. LAYOUT

Map (choropleth):

→Mark: Area

→Primary Channel: colour saturation. (light to Dark)

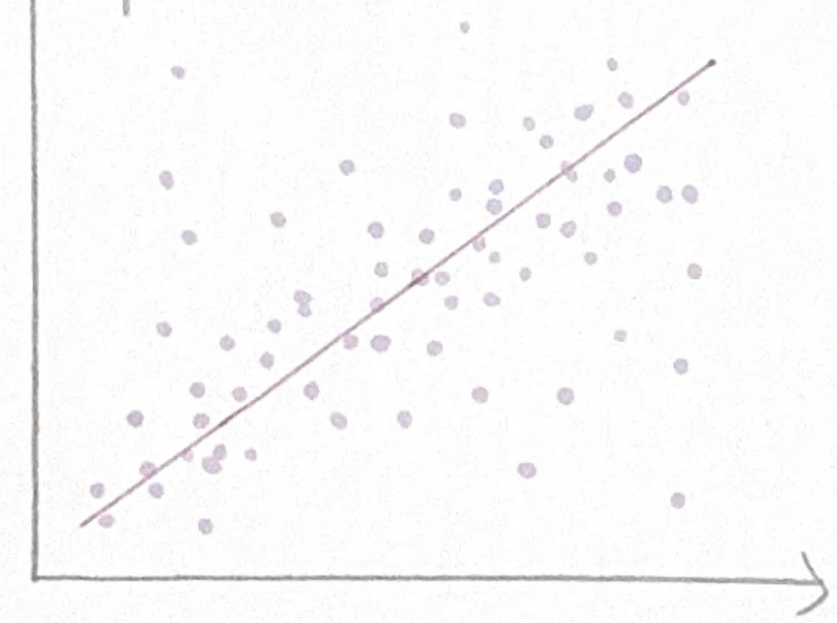
Tool-tip → →Cafe Count:
→Median rent price

click on suburb → triggers highlight beside.

↓

Linked bar chart (Top suburbs) → when suburb clicked on map
↓
Matching bar glows/highlights.

Scatter Plot:



→ x-axis: Median Rent Price.
y-axis: Count of Cafe.

→ Possible: Colour Grouping.
↓
Region category: e.g.
{ Inner melbourne
{ West melbourne.
{ South melbourne.

→Purpose:

DO LGAs with higher rent prices tend to have more cafes?

→ Mark: Circle (point)
Position x: Rent Price.
Position y: Number of cafes.

(possible):
channel: Colour hue.
↓
LGA region category (clusters by geography)

→Interaction:
Tooltip → show exact rent & cafe.
→Highlight specific outilers.

2. Focus.

choropleth:

→ Different colour saturation: Quickly identifies hospitality hotspots

→Mainly in 2024

→Hover tooltip Showing cafe count + rent value.

→ show aligned left for quickly ~~intera~~ interpretation.

→Map show 'where'
Bars show 'How'

→Reinforcing inequality in lifestyle access through linked map and bar comparison.

3. Discussion.

→ Local Government Act (LGA) requires matching suburbs
✗ Name across datasets

→Avoid unclear or too many colours or highlights may distract.

→ Tooltips or interaction should used to help understan-
-ing

Student Name: Leyao liu.
Student ID: 32444281
Sheet 5 = Realization.

1. Layout:

Title: Cafe Culture vs Costing of living: who gets Mel's lifestyle?

(Annotation insight): "Cafe access clusters in high-rent suburbs."

① Choropleth map: Cafe density.

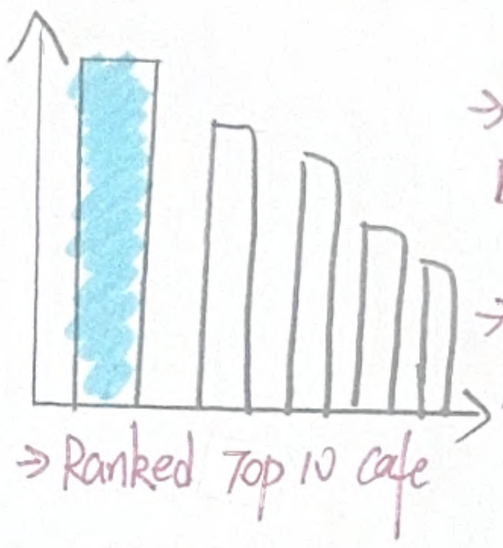
→Hover Tooltip: Suburb/LGAs, Rent, Cafe count.

→Colour saturation: highlight cafe clusters

→click suburbs → link to bar chart, highlight on scatter chart.

② Bar chart.

→ Restaurants per LGA.

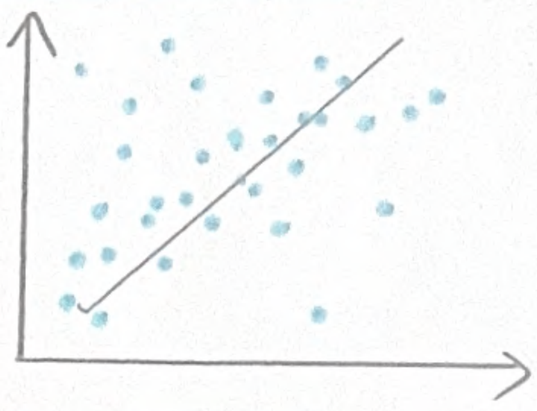


→Bar sorted Descending.

→Annotation: highest, lowest suburbs.

→ Ranked Top 10 Cafe

③ Scatter plot.



→Rent VS cafe density.

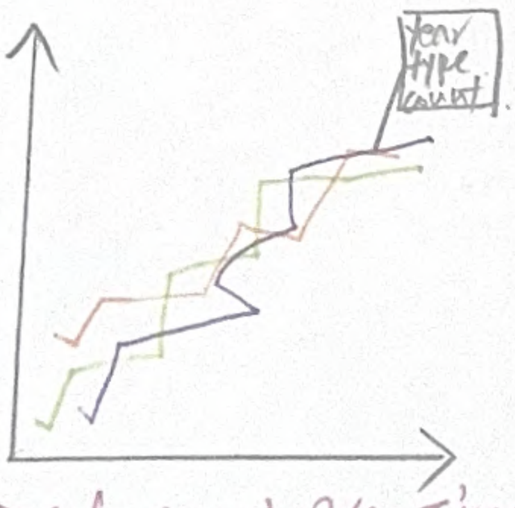
x-axis: Median Rent ($)

y-axis: cafe density / Count.

Color: LGA

→Annotations: Identify Outliers.

④ Line chart.



→Cafe count Over Time (2003 - 2024)

→Colour line: differentiate different parts.

→Tooltip: show year, restaurant type, Number.

→Median Rent Over Time (2000 - 2024)

→Use December Median Rent.

→Colour line: Different part of Melbourne.

→Filter: toggle categories via checkboxes.

2. Focus:

→Expose inequality: linking.

- Geography (map)
- Magnitude (bar)
- Economic (scatter)
- Time (Line chart)

→Key: higher Median Rent → higher Cafe density.

3. Operations:

→Hover: Tooltip (LGAs, Cafe, Rent

→click on map suburb: highlights the match bar and point on Scatter. (cross-filter via Selection)

→Click on bar: zooms the map to that suburb and highlight its scatter point.

4. Design Ideas:

→Map choropleth: light - Dark, single-hue blue for density. Outline suburb borders in light grey.

→Bar chart: horizontal bars, bar gets a bold stroke.

→Scatter plot: Neutral points with Selected point outlined, trend line faint for guidance.

→Annotations: High rent - high density