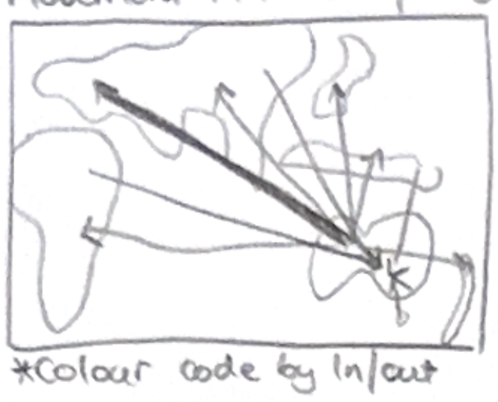
1: IDEAS

① Movement in + out of Aus

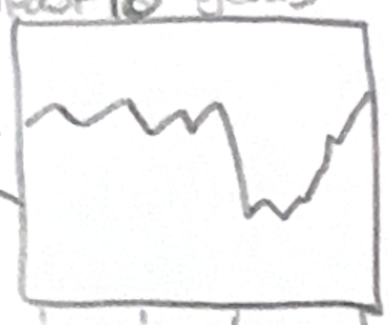


*Colour code by in/out

② Domestic movement in Aus.

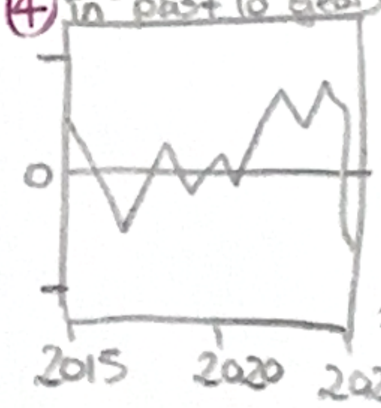
*colour + width varies

③ Monthly air travel in past 10 years



*2 charts for in/out
OR: 2 coloured lines

④ Net passengers in past 10 years



⑤ Do Australians travel more now?

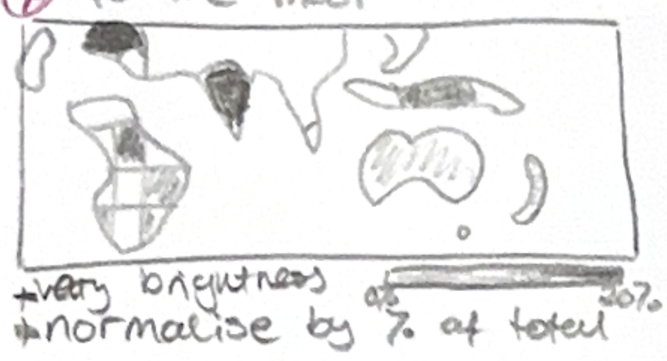
ratio of pax in/out

⑥

*different brightness for ratios

Where dom Aus passengers travel

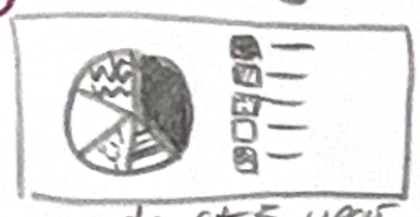
⑦ to the most



*vary brightness
*normalise by % of total

Visitor reason for travelling

⑧



*can do at 5 year intervals?
*vary hue

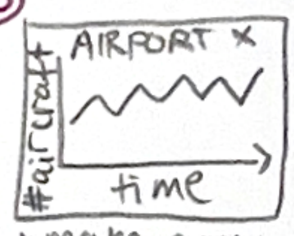
TOP 20 countries Australians travel

⑨ to + how it's changed

*slope chart
*vary hue

Have smaller Aus airports become busier?

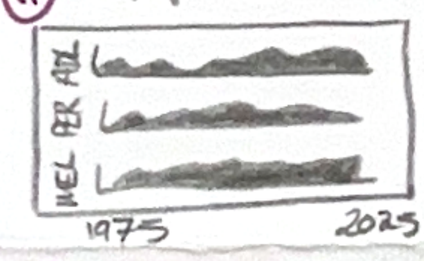
⑩



*make array of line charts for non city airports

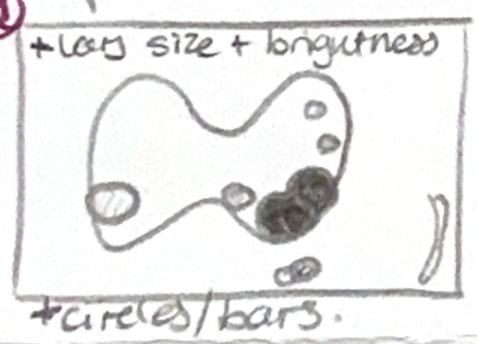
Flights from Aus airports

⑪



Passenger arrivals/ departure total

⑫



*lay size + longitudness
*circles/bars.

travel by month/year

⑬

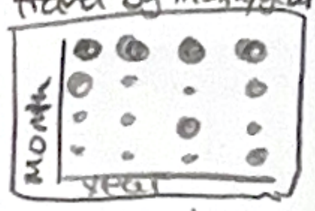


*table bubble plot

2: FILTER

*① + ⑦ essentially show the same thing (where Australian passengers travel by country) however ⑦ will be normalised.
↳ ① might have too many lines → confusing
↳ ~~just keep ⑦ for where Aus travellers go and have flow diagram for ②~~

*③ + ⑤ show same thing but for different time scales

*Whilst ⑨ and ⑦ are similar - point of difference is ⑨ focuses on change, ⑦ is on popularity

③ & ⑬ quite similar - ⑬ is more granular as a bubble chart + given aim to show trend in months ⑬ does so more effectively

~~② will have 21x~~
Do not have data for ②, but can do ②
↳ user could filter for year?

3: CATEGORISE

* International travel patterns
① ~~②~~ ~~④~~ ⑦ ⑧ ~~⑩~~

* Domestic travel patterns
② ~~④~~ ~~⑤~~ ⑥ ⑫

* Overall trends in passengers
⑤

* International travel vs time
⑨ ⑬ ③ ④ ~~⑤~~

* Aircraft vs. time
⑩ ⑪

* Domestic travel vs time
⑬ ③ ④

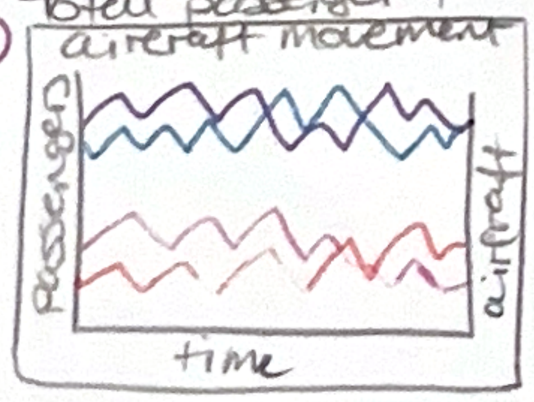
* Maps
① ② ⑥ ⑦ ⑫

4: COMBINE + REFINE

Note the datasets to be used cannot be joined

Refine ③

⑭ total passenger + aircraft movement



passengers in
passengers out
Aircraft in
Aircraft out

*dual axis
↳ or could split into 2

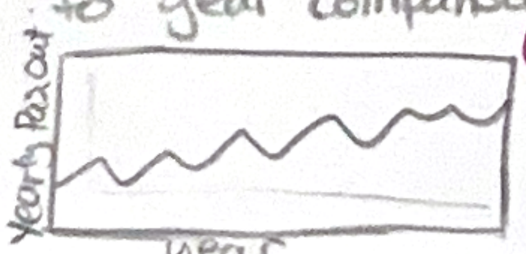
Refine ⑫ by using bars rather than circles as they are easier to read/compare

⑮

make ⑥ side by side array to show change over time ⑯

*ratio of passengers in and out

Normalise ⑤ with census population data to enable year to year comparison ⑰



Normalising isn't a good idea here as people who travel >once are double counted

5: QUESTIONS

Q: Can I code dropdowns and filtering into my idioms in vegalite?
↳ does support but I need to learn more about how to encode

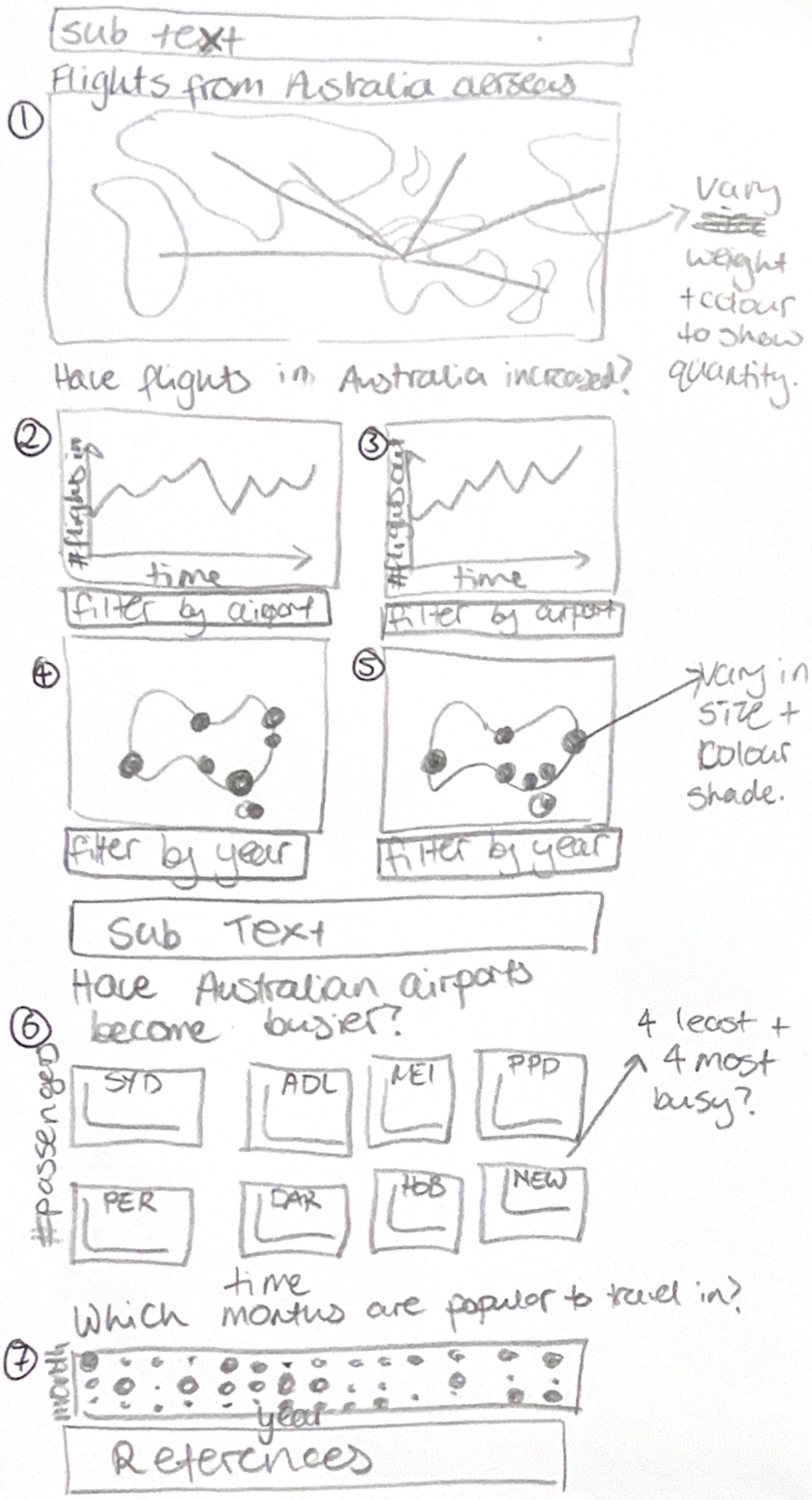
Q: Will ① be too chaotic with ~75 arrows out of Australia? Can I change line colours?
↳ can try for W9 homework to trial early and get feedback (else, try refined ⑫ → ⑮)

Q: Is the reason for travelling insightful to the visualisations storyline?
↳ focus will be how Australia's travel habits have changed over time → could make into an array

Q: for ⑨ - how many countries to show?
↳ 20 would be ~25% of countries in dataset.

LAYOUT

Title: Layout #1
Author: Alice Solomon
Date: 30th September 2025
Sheet: 2
Task: Create a layout

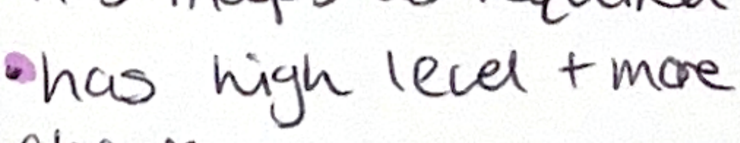


OPERATIONS

* For all
  ↳ add tooltips to make identification of specific data points easier
  ⑦ can they be formatted with different coloured text like tableau?

* ②+③ → filter by airport, otherwise all airports grouped together
  ↳ having ~20 coloured lines would be too confusing

* ④+⑤ → filter by year to show yearly totals
  ↳ or potentially use double ended slider?



*SCROLL down page to view all visuals
  ↳ is it possible to have them stay at top while things SCROLL under?

FOCUS

→ No main focus - this is a very broad view of the data.

→ There is a lack of a narrative in this data visualisation. By grouping visuals together, a story could be formed.
  ↳ eg: ① + a slope chart showing change in trends for overseas travel

→ ②→⑤ create a good sub story, showing out bound and in bound data. Line charts show a summarised view, PROP symbol charts show breakdown.

DISCUSSION

Advantages:

- has maps as required
- has high level + more low level charts
- array of charts enables comparison without high mental load (don't remember when switching)

Disadvantages:

- lacks story overall
- need more subtext to guide
- Questions as heading - must ensure answer is clear.

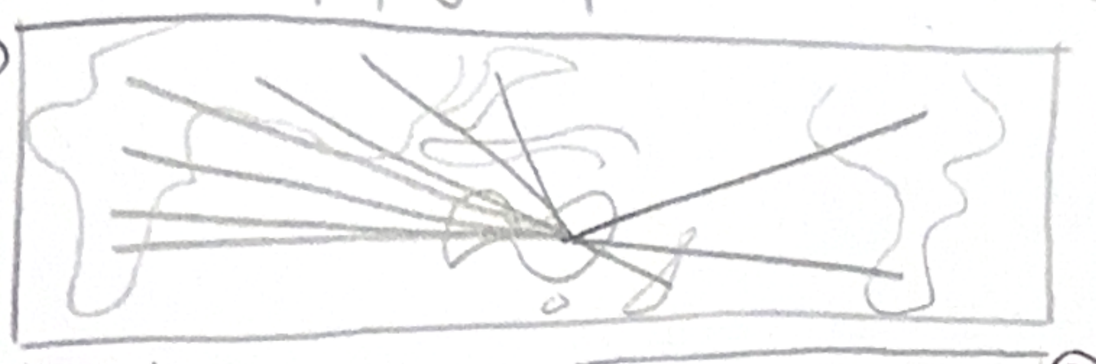
LAYOUT

Flight Travel Trends in Australia

sub text

Number of flights from Australia across

①



How the most popular destination country changed?

From year ∨

To year ∨

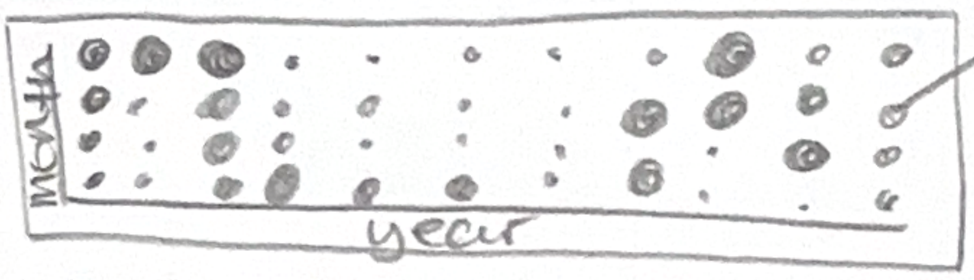
②

Show ~20 countries

sub text

Which months are most popular to travel in?

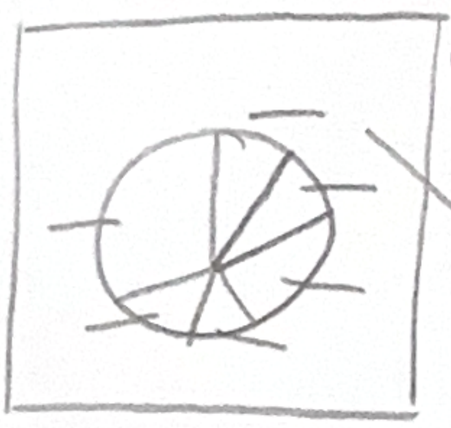
③



bubble varies size with #passengers

What are the most popular reasons for travel?

④



add legend that varies in colour hue.

sub text

References

Title: Layout #2
Author: Alice Solomon
Date: 30th September
Sheet: 3
Task: Create a layout

OPERATIONS

⑧ For All: tooltips so when you hover on marks they show the exact datapoint they encode

② has 2 filtering options - need to check/test if this is possible
↳ purpose is to show ~~this~~ that popular destinations have changed overtime, so enabling user to change the years should not detract from this point.

⑧ Interactivity is lacking in this design - perhaps some scrolling could be enabled on ③ to show a less cramped but informative chart?
↳ will be 50 years of data, so would enable better ~~the~~ resolution.

FOCUS

→ This vis has a focus on "what's popular" - in terms of countries flights go to, when people travel, and why. Together, I think this works as a good storyline (especially ① + ② + ③)

→ Another chart that has a 'popularity' focus is a proportional symbol chart - could added to explore a domestic lens of flight travel which is not present here.

DISCUSSION

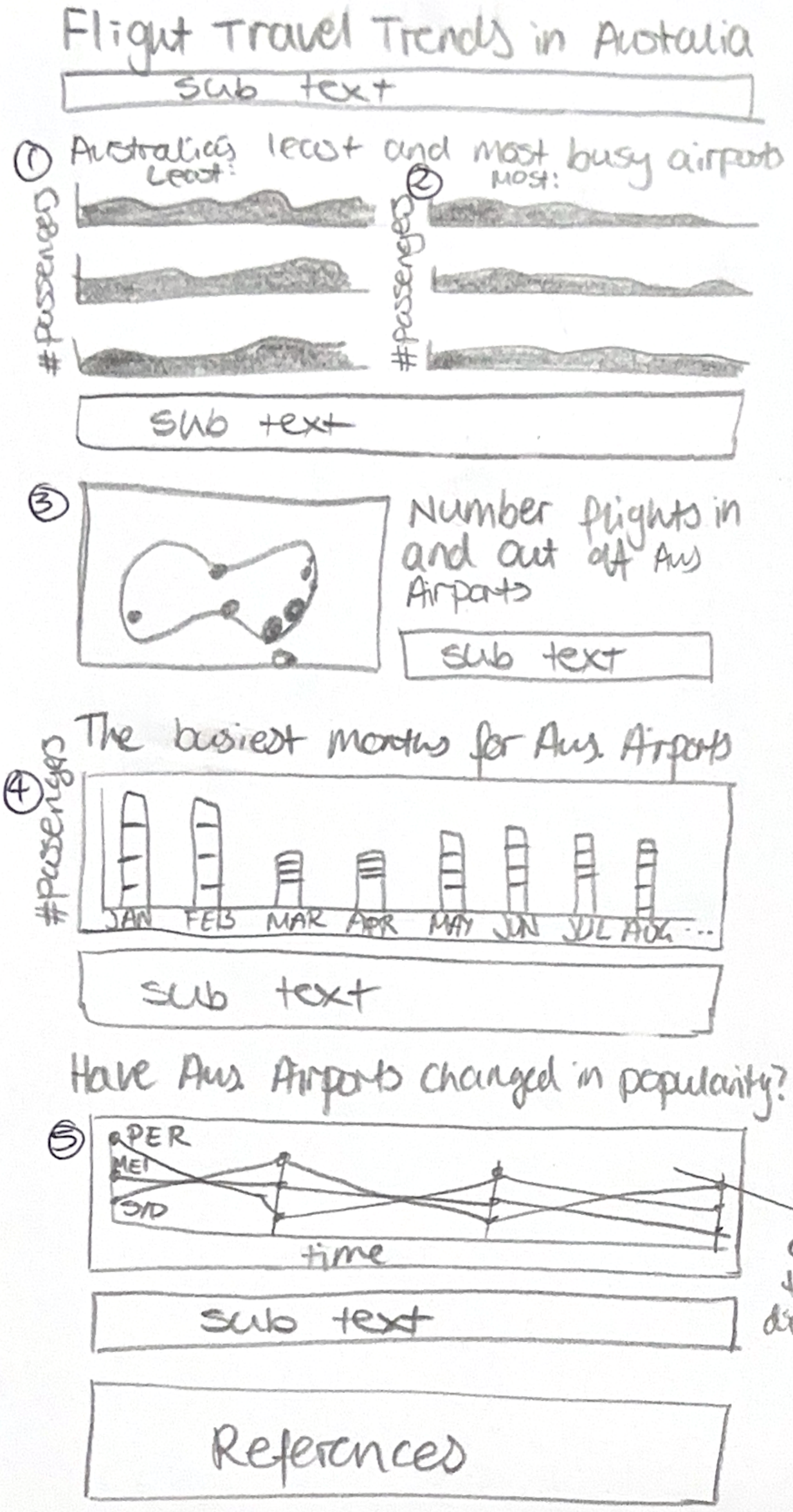
Advantages:

- has a map as required
- improved storytelling compared to #1 + more sensical flow
- titles (potential ones) more effective

Disadvantages

- make better use of maps
- ~~Bar~~ charts in an array ~~chart~~ could be added to show trend changes
- lacks charts - only 4, there is more to story to leverage the data.

LAYOUT



Title: Layout #3
Author: ~~Aus~~ Alice Solomon
Date: 30th September 2025
Sheet: 4
Task: Create a layout.

OPERATIONS

✱ Tooltips on all visulisations to improve readability + understanding.

✱ Instead of ① and ② being very short to fit 3 in a stack of charts, could have 2 filters to choose 2 airports to compare. ① could have the top popular ones, and ② the bottom least popular ones
↳ is there a way to have a default? otherwise chart would be empty?

✱ Overall, little interactivity on this layout. A year filter or slider could be added to ~~the~~ ④ - with default being all years to improve interactivity.

FOCUS

→ This layout has a focus on the domestic datasets and travel within Aus.
↳ done with aus map, exploration of ~~Aus~~ airports

→ There is also a strong focus on trends over time as 3/4 of the charts ~~have~~ have a time attribute

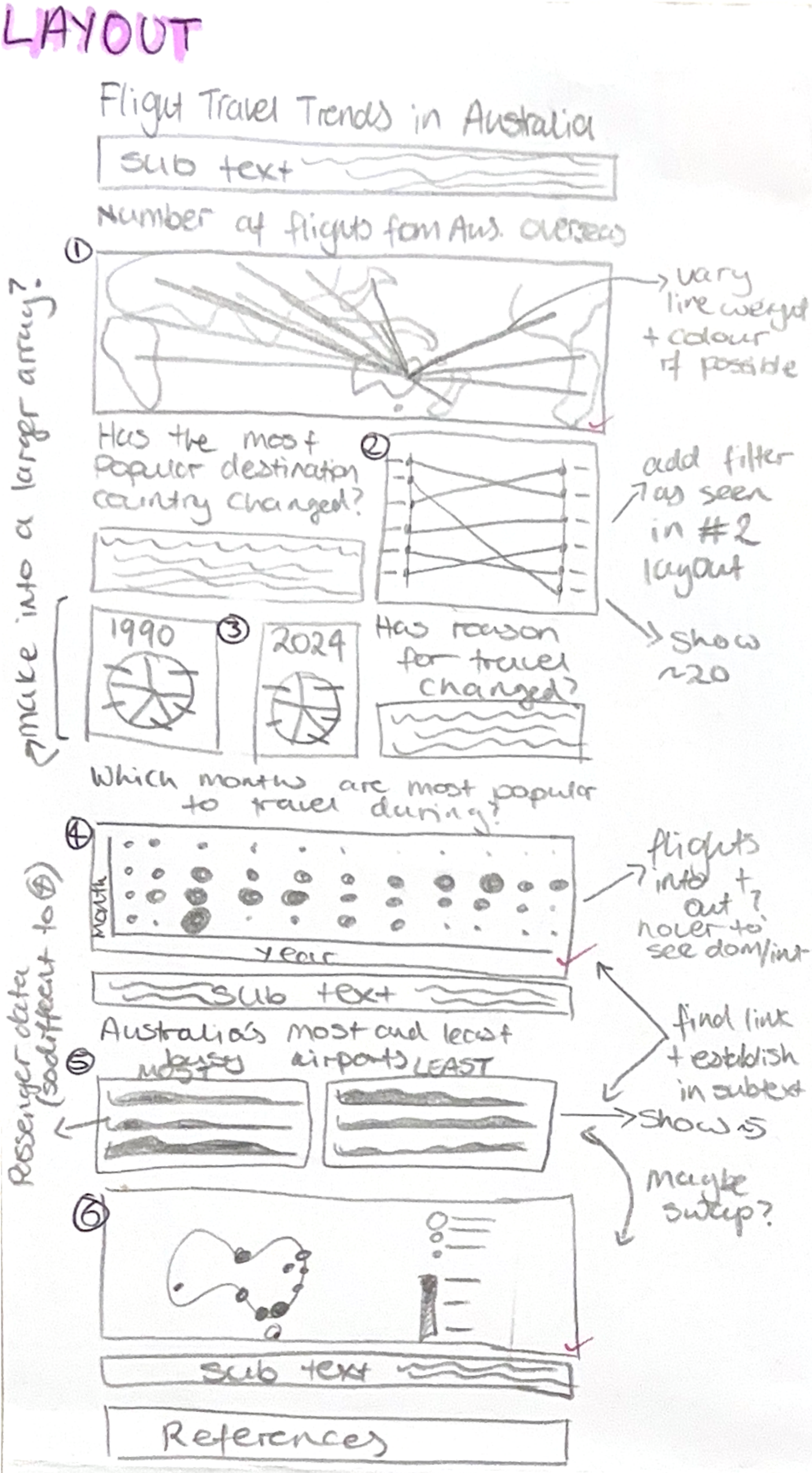
→ The ordering here does not make ~~the~~ this focus clear however, starting with a low level chart makes it a bit technical, a first focus on ③ would be better I believe.

DISCUSSION

Advantages:
- has a map as required
- All charts are in the same theme - sort of match/flow together.
- lots of subtext in layout to aid storytelling

Disadvantages:
- Order of visulisations can be improved → high → low level would be better
- only 4 visulisations, more would give a more comprehensive view and enable story to ~~be~~ told.

LAYOUT



Title: Final Design
Author: Alice Solomon
Date: 30th September 2025
Sheet: #5
Task: Design the final layout

OPERATION

*All charts have capacity for tooltips to be added. this will help with readability and help decode legends (eg, if there is a colour scale)

*② will have 2 drop down filters to select start and end year. Default will be the whole range (1975-2025)

*④ might be easier read if you could scroll left to right? as 12 rows, 50 columns

*Framing of maps will be set - no zooming enabled
↳check if that is default.

FOCUS

→here I have attempted to merge the two stories + themes of layout #2 and #3. Begins with high level map overview, then narrows down with the slope chart showing changes, then moving into reasons + popular times and finishing with aus airports.

→I feel like a strong link needs to be identified + explained from ④ to ⑤, but hopefully that will become clearer once they are made and the data is shown.

→I've tried to maintain time attributes, as the domain is changes in air travel trends.

DETAILS

Dependencies

- Excel for data cleaning + exploration of the datasets.
- Vegalite for visualisations
- HTML page thingness

Estimated time + Effort

- 7 day for larger charts-each
- 3 days for HTML design
- 7 day tooltip finalising
- * interactive chart due W10

Special requirements.

- All data collected, research on complex charts