



Settling the Great Australian Rivalry

IS SYDNEY BETTER THAN MELBOURNE?

*We've got Australian booze
and the Melbourne Cup each year.
Sydney's girls are way out front
but we've got stronger beer.*

- IDLERS FIVE (MELBORN AND SIDENY)

Introduction



SYDNEY

MELBOURNE



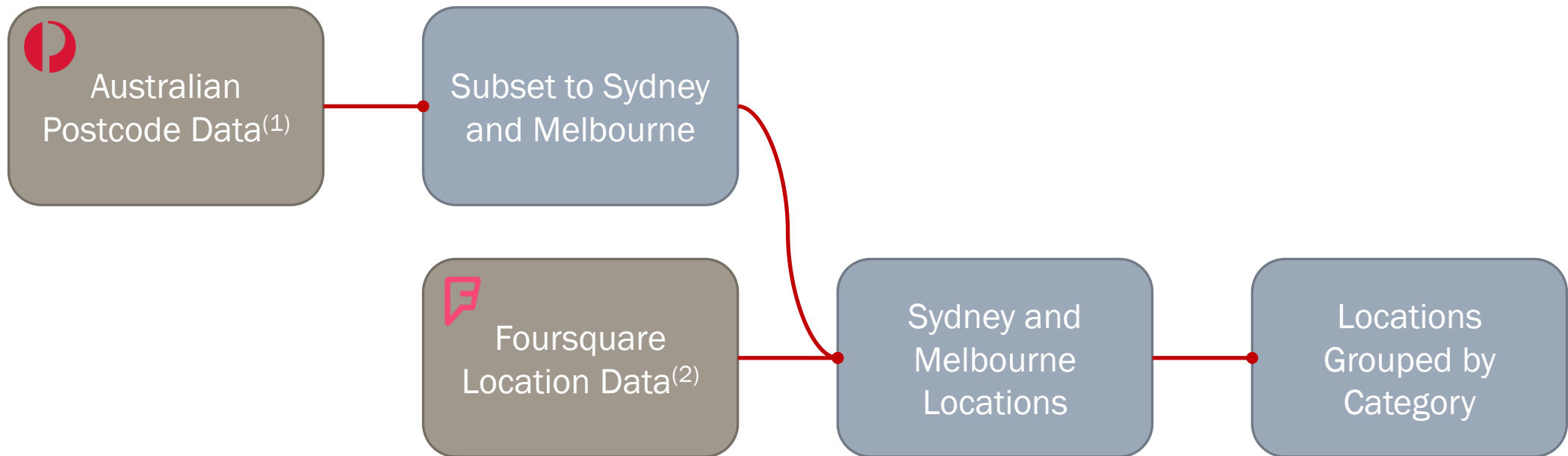
Australian's have always argued over whether Sydney or Melbourne is better

Melbourne claims sport and culture, while Sydney boasts of natural beauty and international appeal

To settle this rivalry, data science and Foursquare data will combine to provide the cold hard facts:

Is Sydney better than Melbourne?

Data

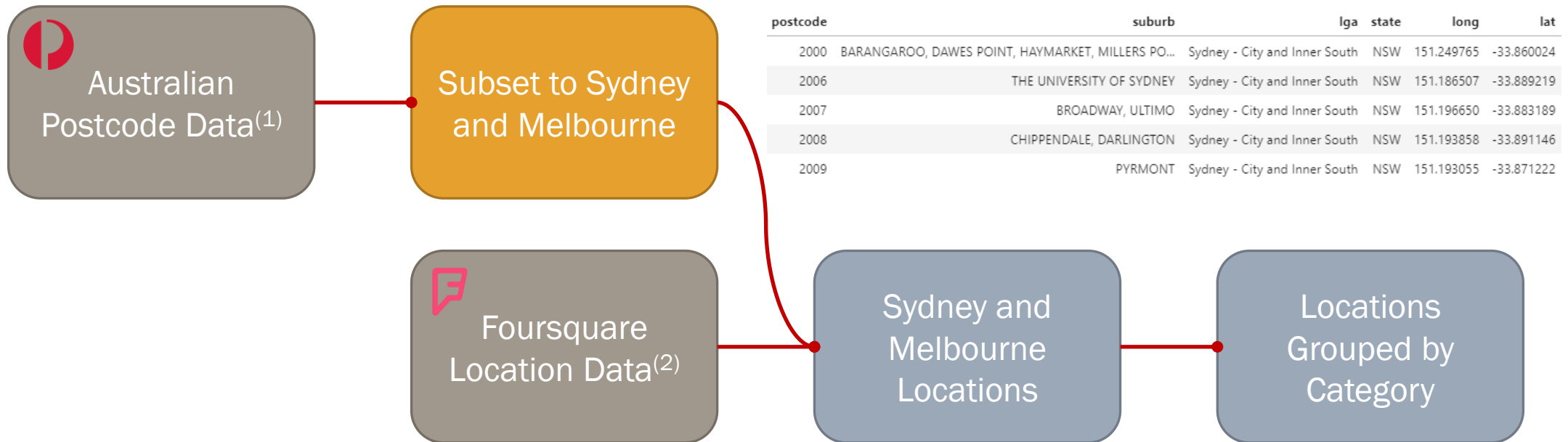


⁽¹⁾ <https://www.matthewproctor.com/>

⁽²⁾ <https://foursquare.com/>

Data: Postcodes

Example



(1) <https://www.matthewproctor.com/>

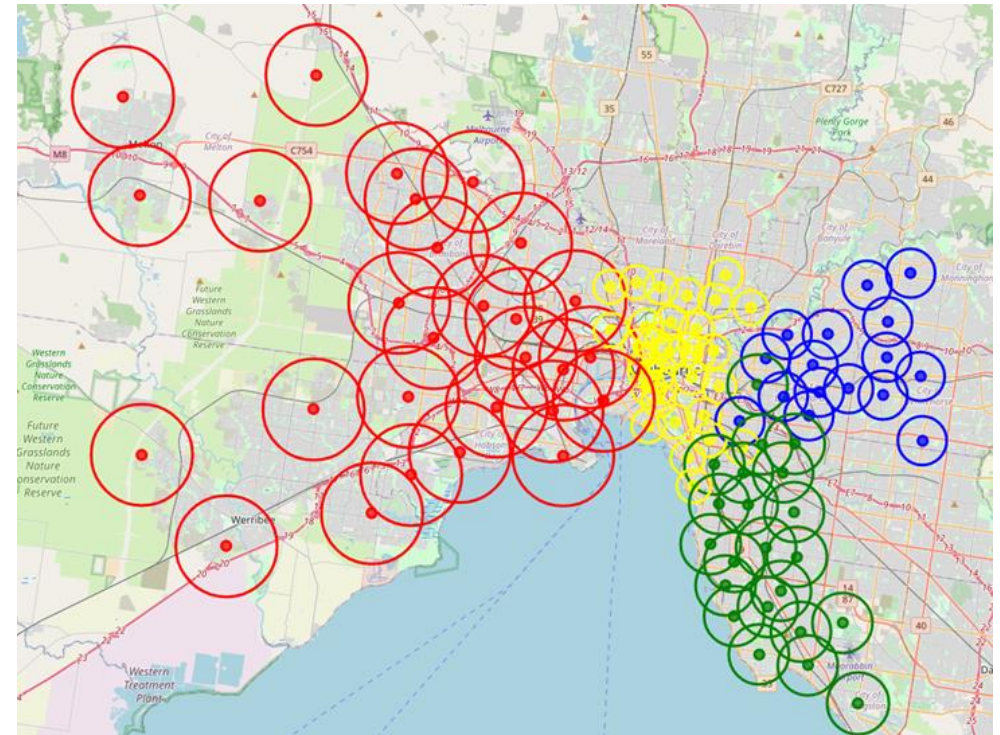
(2) <https://foursquare.com/>

Data: Postcodes – Radius Calculation

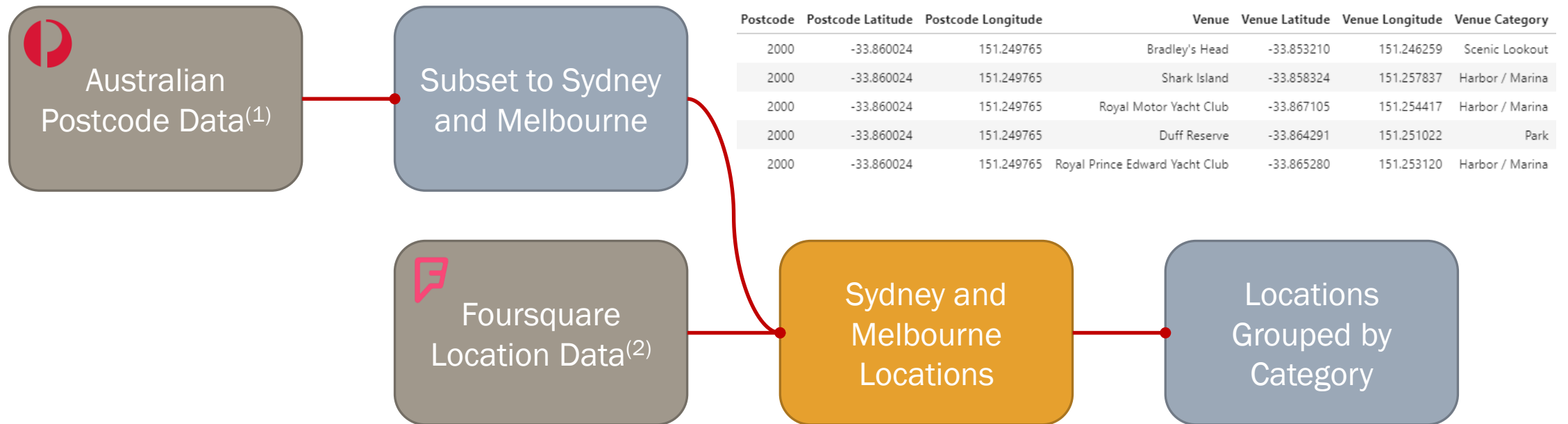
Postcode data was used to estimate the size for each of the four local government areas selected for each city

This allowed Foursquare to use an suitable radius in its search for each postcode

Melbourne results are displayed, with inner city postcodes having smaller radii than outer suburbs



Data: Locations

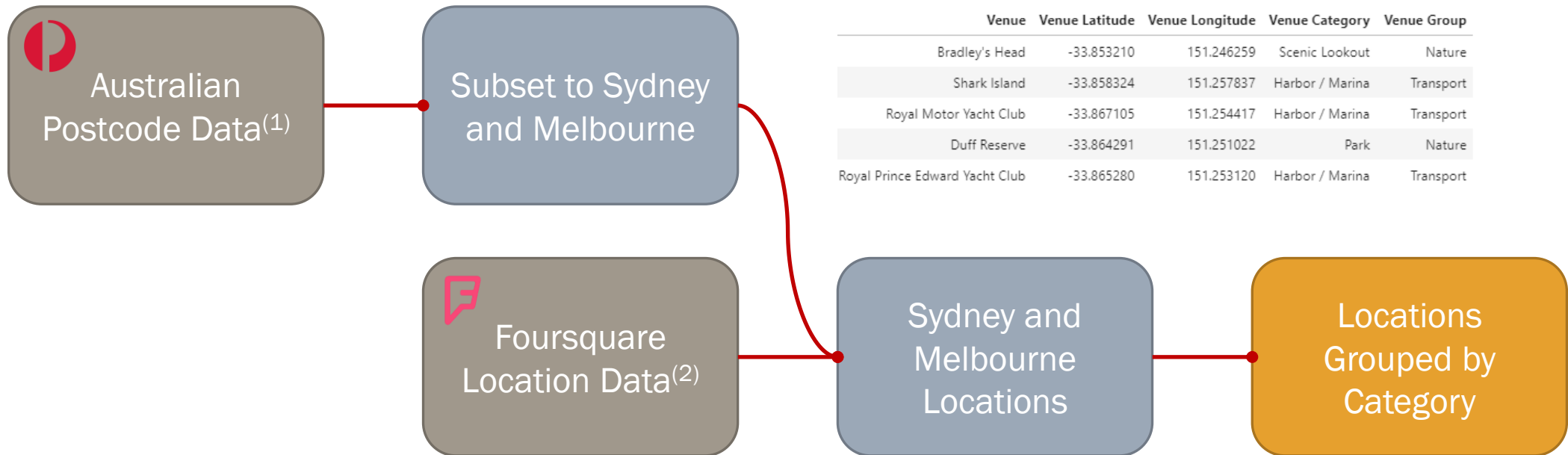


⁽¹⁾ <https://www.matthewproctor.com/>

⁽²⁾ <https://foursquare.com/>

Data: Location Groups

Example



⁽¹⁾ <https://www.matthewproctor.com/>

⁽²⁾ <https://foursquare.com/>

Profiling Postcodes

Grouped location data was used to profile postcodes by penetration of each group

The top three location groups are shown for Sydney and Melbourne city centres

Sydney seems more functional with transport its number one feature, while Melbourne appears more consumer-friendly with retail, food and entertainment

Sydney City: 2000

- | | |
|--------------|-----|
| 1. Transport | 50% |
| 2. Nature | 40% |
| 3. Cultural | 10% |

Melbourne City: 3000

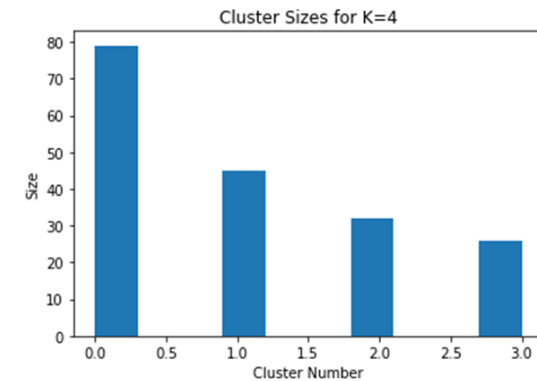
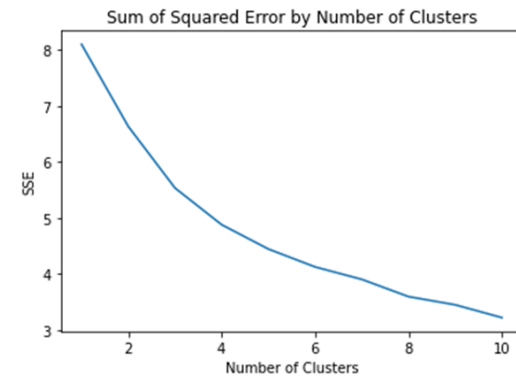
- | | |
|--------------------------|-----|
| 1. Retail | 29% |
| 2. International Cuisine | 24% |
| 3. Entertainment | 16% |

Identifying Types of Postcodes

To compare Sydney and Melbourne, their postcodes needed to be classified using a common framework

The unsupervised technique K-Means clustering divides data into K groups based on their similarity

Four was determined the appropriate number of groups using the “elbow” method, which is shown along with resulting segment sizes



Interpreting the Segments



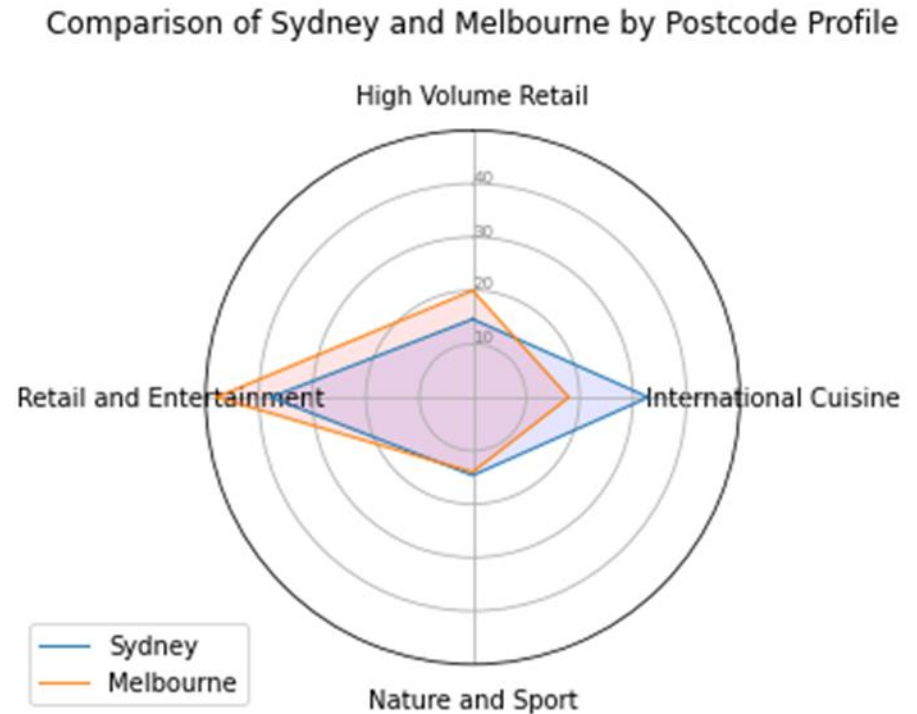
Using the “average” member for each cluster, the segments were identified and labelled as:

- Segment 1: “Retail and Entertainment”
- Segment 2: “International Cuisine
- Segment 3: “High Volume Retail”
- Segment 4: “Nature and Sport”

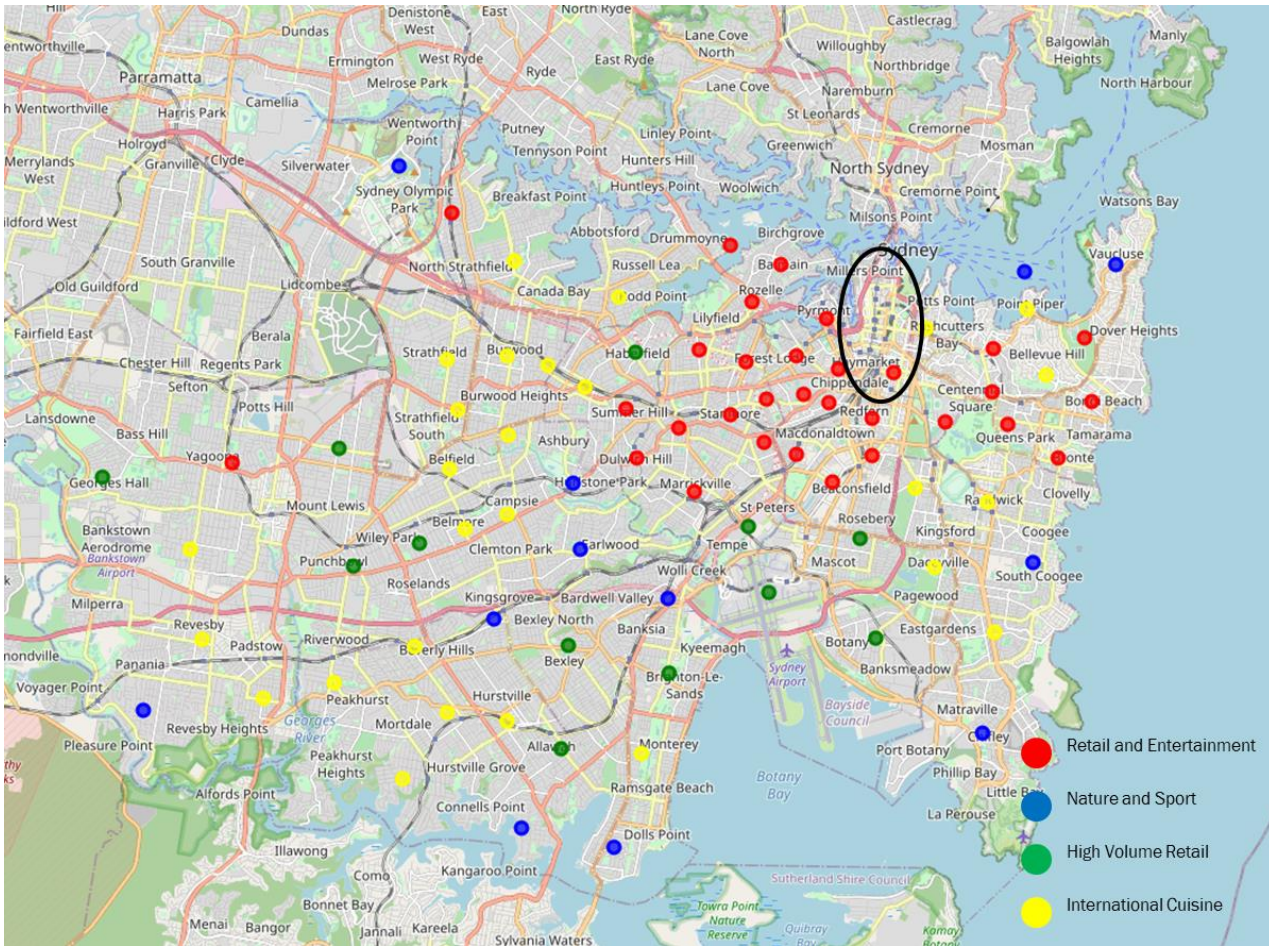
Comparing Sydney & Melbourne

Having identified each postcode as one of four types, results were aggregated to allow comparison of the cities' features and strengths

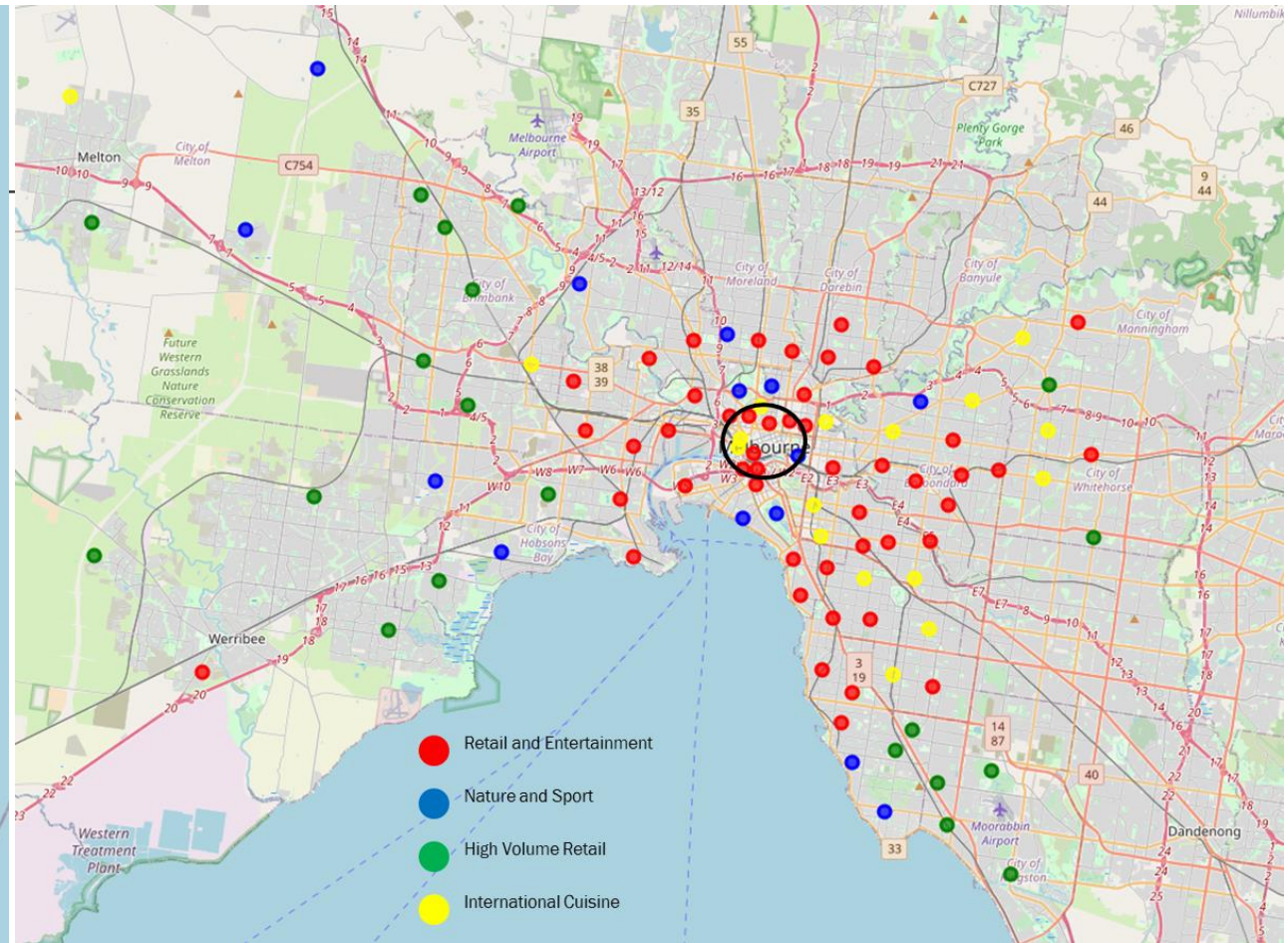
The radar plot (right) visualises the results, while the maps on the following slide provide spatial views of the distribution in each city



Sydney



Melbourne



Findings

Melbourne is dominated by Retail related postcodes, while Sydney has double the rate of postcodes boasting International Cuisine

While Melbourne and Sydney show similar levels of Nature and Sport, the individual contribution of nature and sport in each city is not known



Both cities show a tendency of Retail and Entertainment postcodes around the CBD, with High Volume Retail further out

Sydney's Nature and Sport is centred around water, while Melbourne's is more diverse, incorporating parks and mountains

In line with Sydney's prevalence of International Cuisine, its geographic distribution is more dispersed than Melbourne

Conclusion

With Sydney matching Melbourne in sports and nature and demonstrably proving its international status, it is clearly living up to its claims as natural beauty and international city

Melbourne on the other hand failed to demonstrate one of its key claims: that of cultural superiority

The analysis does, however, have the potential for human bias, through the crowd sourced Forsquare data and the objective categorisation and cluster analysis

Potential weaknesses aside, the analysis provides a clear answer to the question:

Which is better? Sydney or Melbourne...

And the winner is... Sydney

