MELBOURNE PROPERTY ANALYSIS

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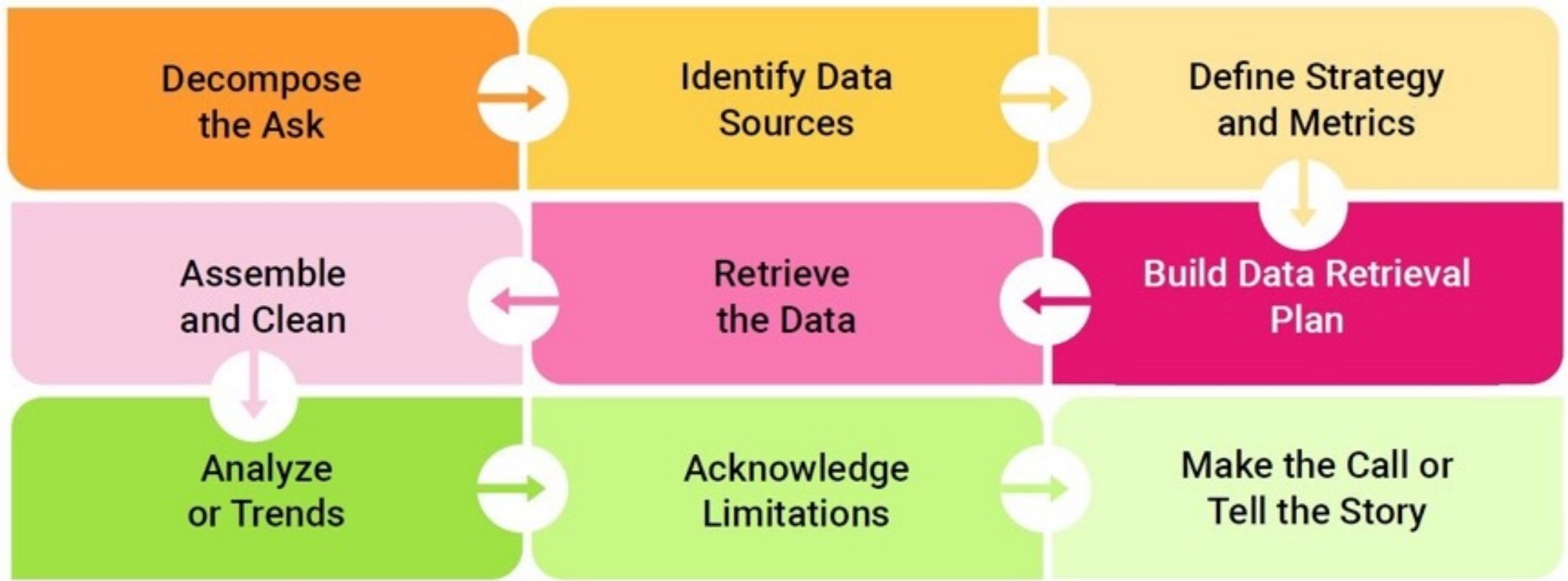
AGENDA

INTRODUCTION	CLEANING DATA	VISUALISATIONS	FINDINGS, CONCLUSIONS
Ali	Asal	Ray and Kylie	Ali

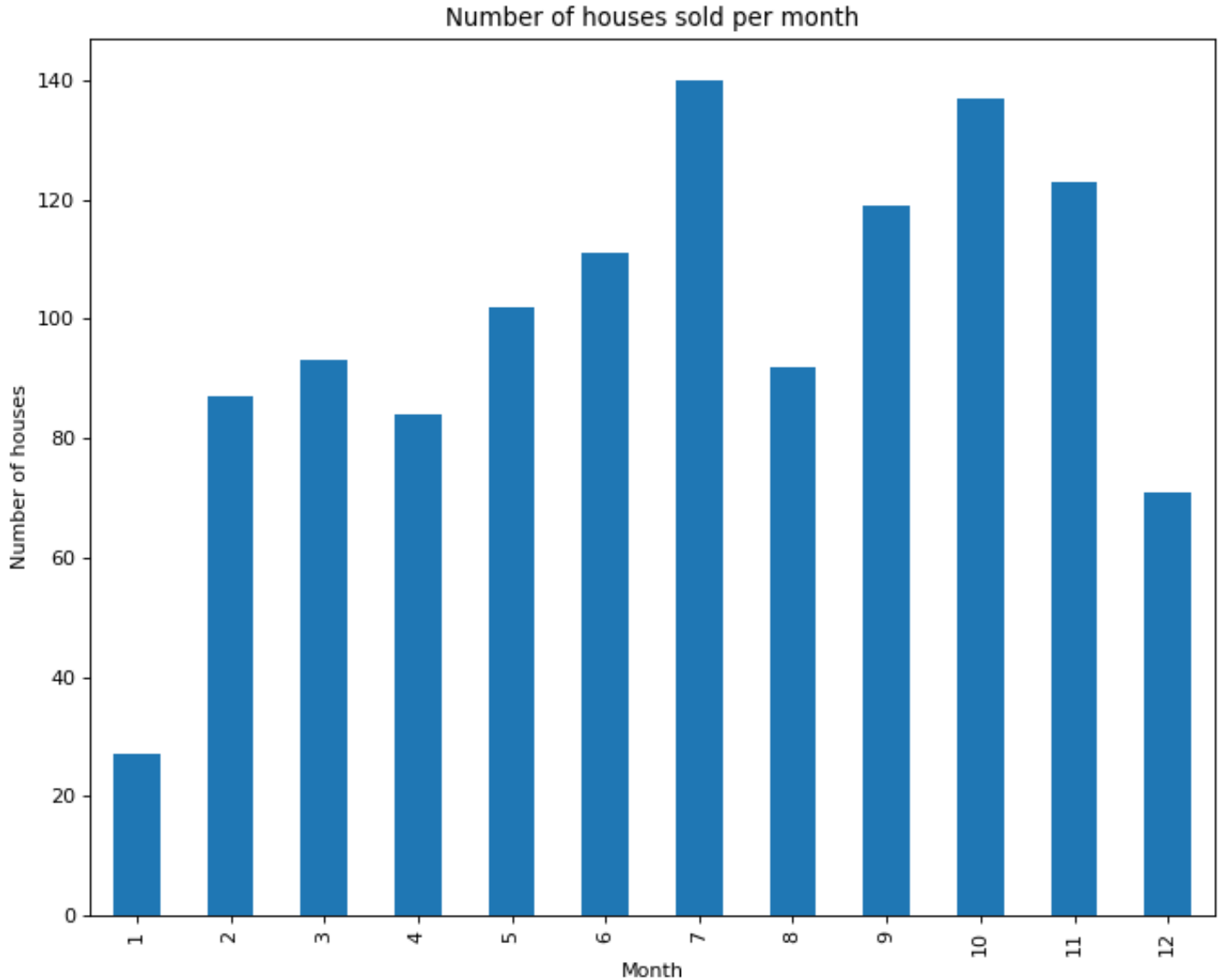
INTRODUCTION

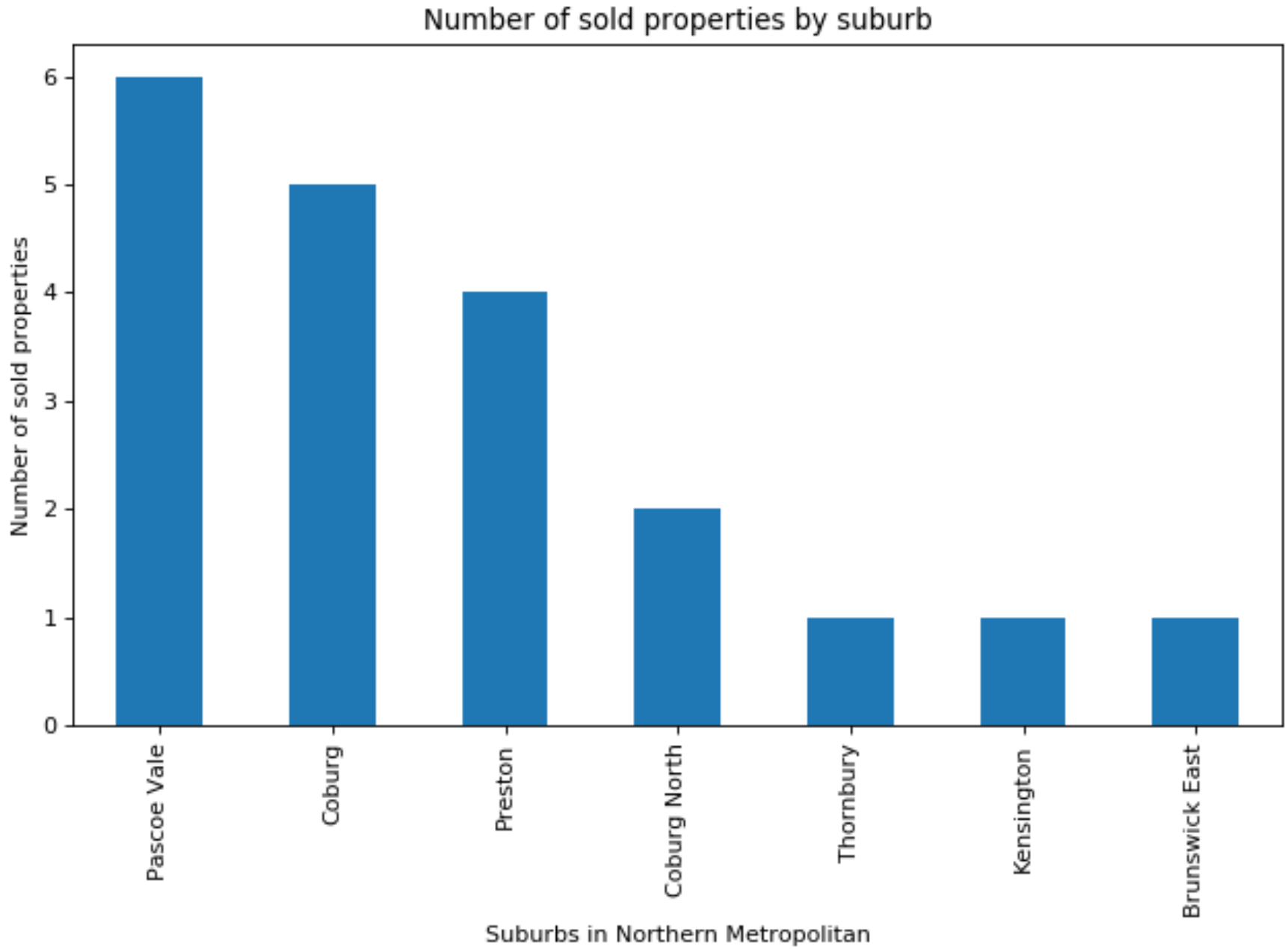
- Lottery winner won $1 million to buy large family home
- Budget $800k - $1m
- Family of 4: husband and 2 children
- Works in CBD
- Free standing home, 4 BR, 2 garage, large.
- Compare different Victorian regions re price, distance to CBD, schools, shopping, transport
- Purpose: to use data to inform her investment decision

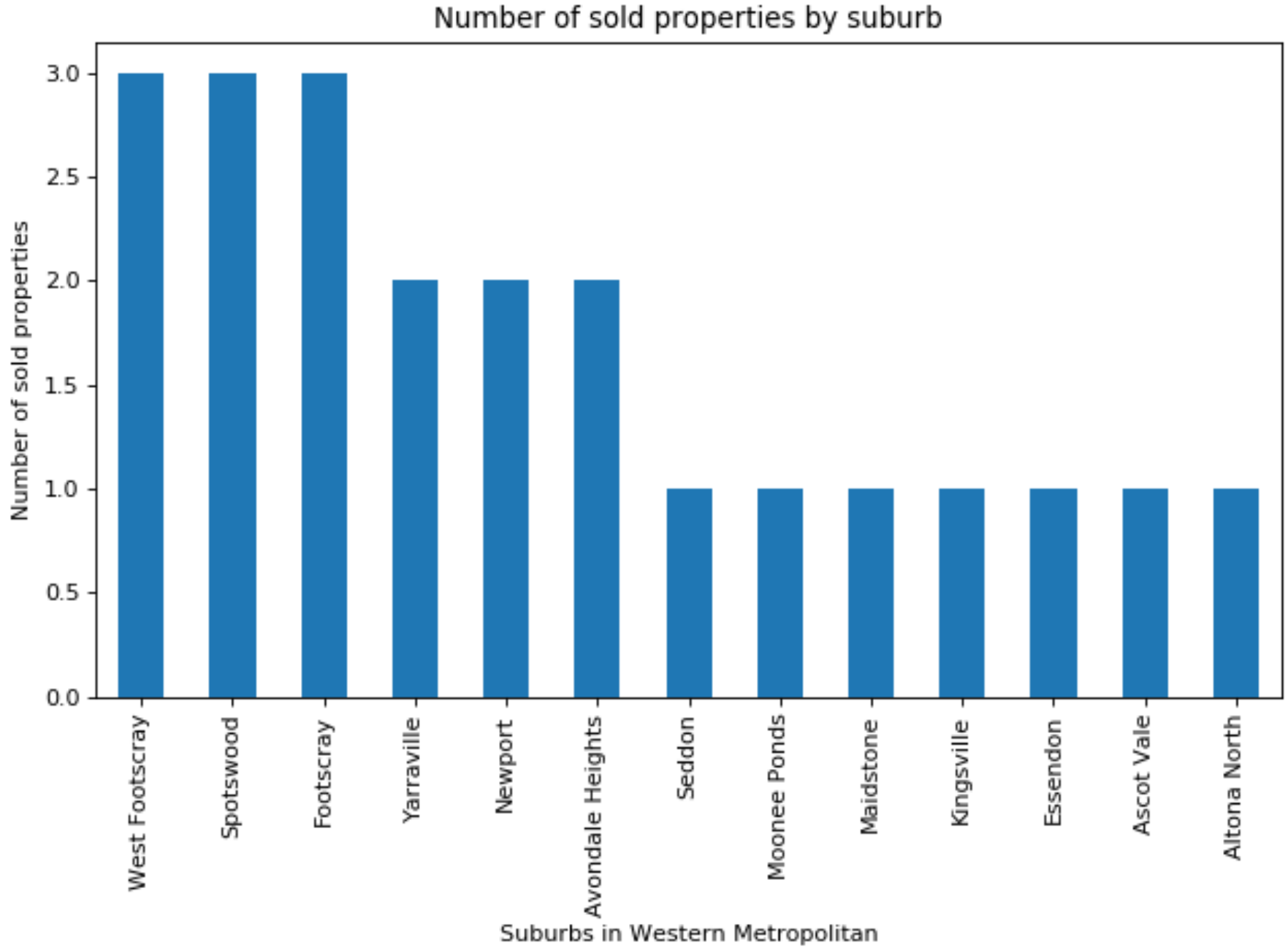

Decompose the Ask
Identify Data Sources
Define Strategy and Metrics
Build Data Retrieval Plan
Retrieve the Data
Assemble and Clean
Analyze or Trends
Acknowledge Limitations
Make the Call or Tell the Story

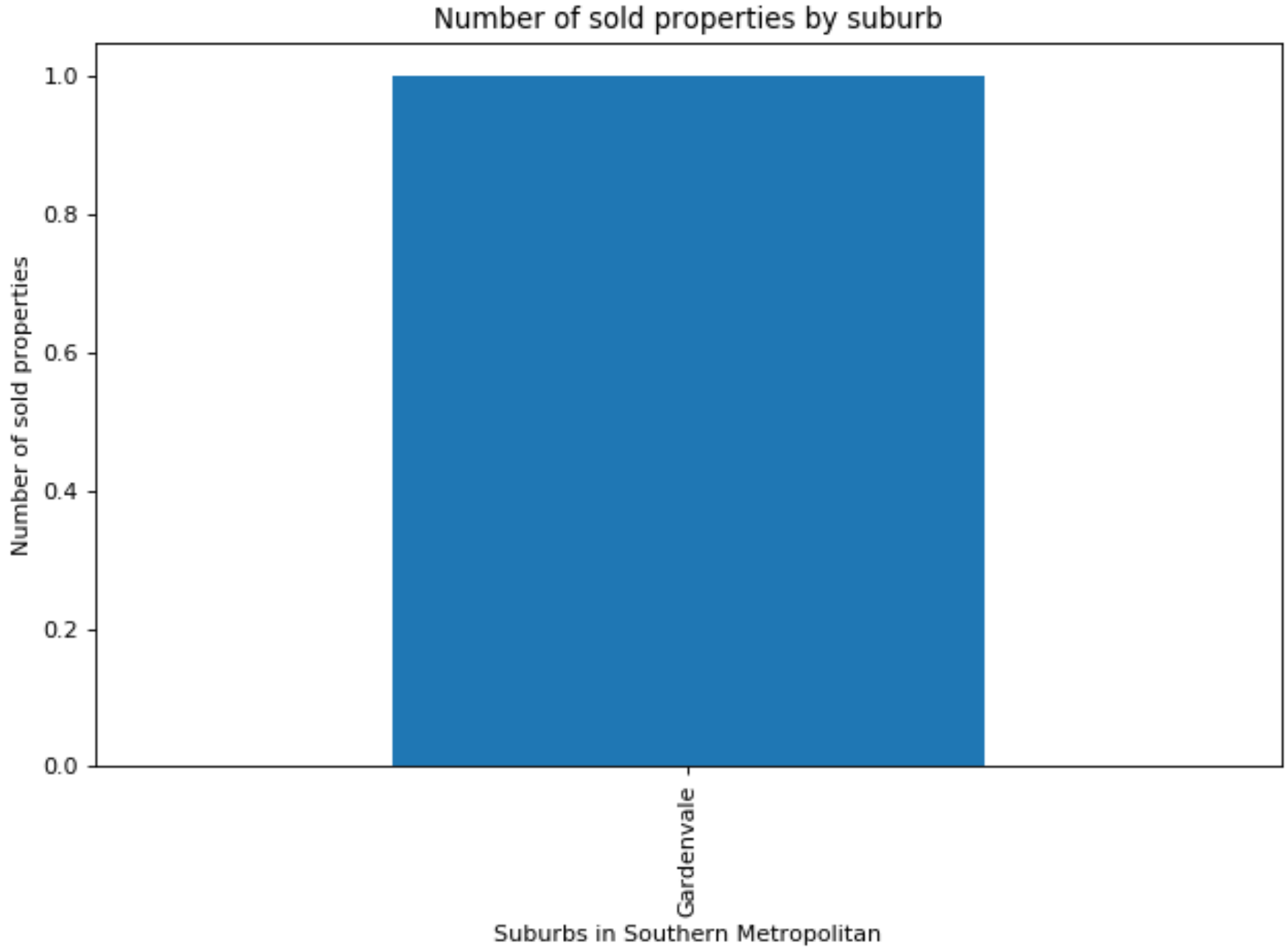
CLEANING DATA

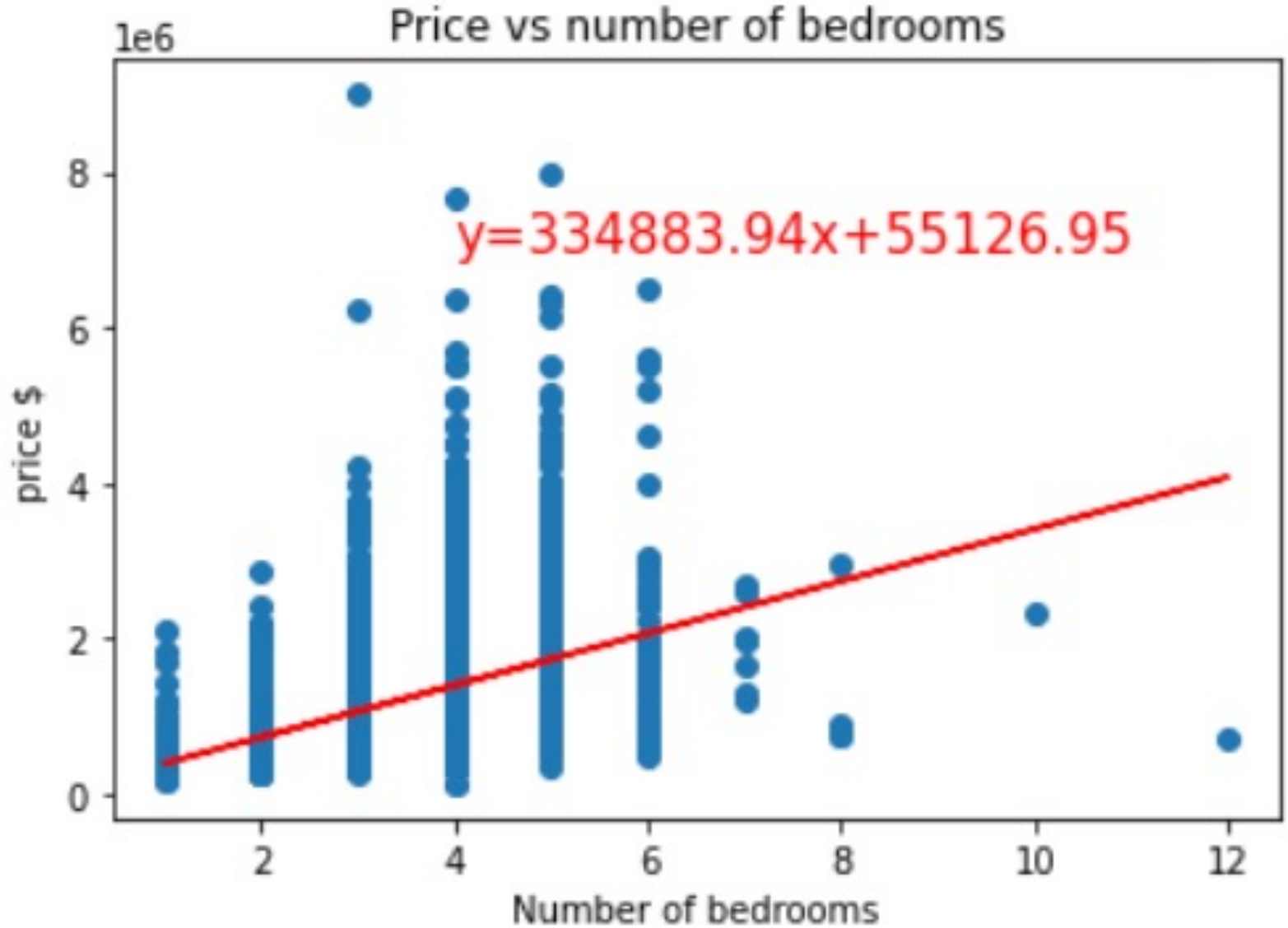
VISUALISATIONS


Number of houses sold per month
Number of houses
0
20
40
60
80
100
120
140
1
2
3
4
5
6
7
8
9
10
11
12
Month

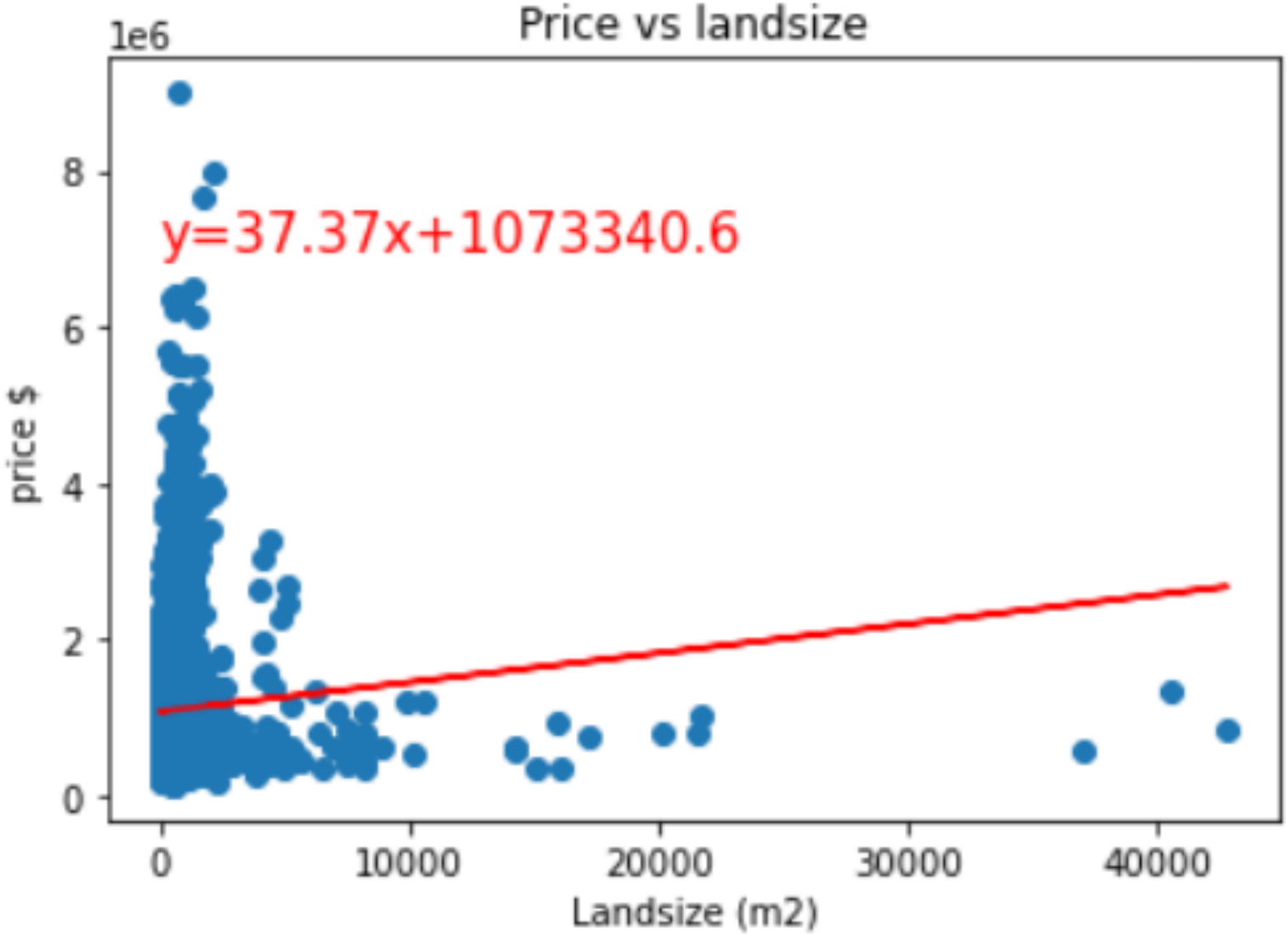

Number of sold properties by suburb
Number of sold properties
0
1
2
3
4
5
6
Pascoe Vale
Coburg
Preston
Coburg North
Thornbury
Kensington
Brunswick East
Suburbs in Northern Metropolitan


Number of sold properties by suburb
Number of sold properties
3.0
2.5
2.0
1.5
1.0
0.5
0.0
West Footscray
Spotswood
Footscray
Yarraville
Newport
Avondale Heights
Seddon
Moonee Ponds
Maidstone
Kingsville
Essendon
Ascot Vale
Altona North
Suburbs in Western Metropolitan

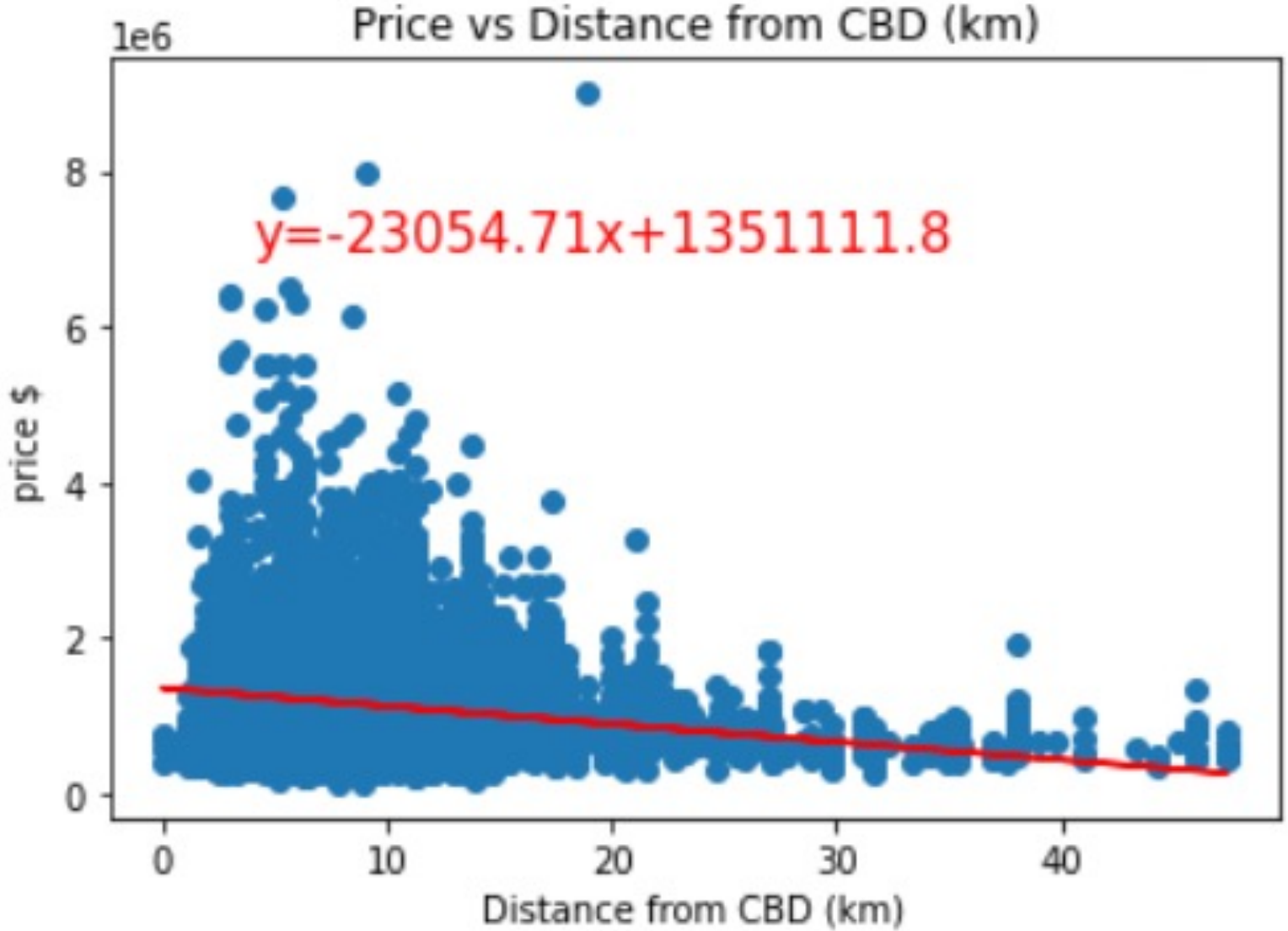

Number of sold properties by suburb
Number of sold properties
1.0
0.8
0.6
0.4
0.2
0.0
Gardenvale
Suburbs in Southern Metropolitan



the correlation between both factor is : 0.48

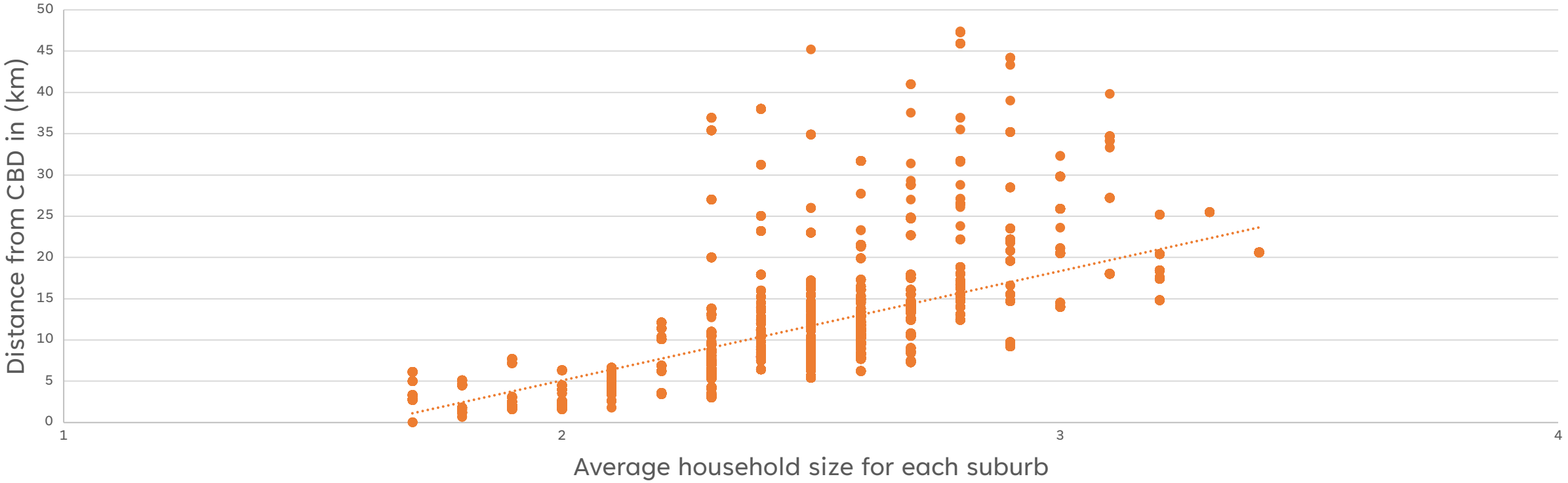


the correlation between both factor is : 0.06

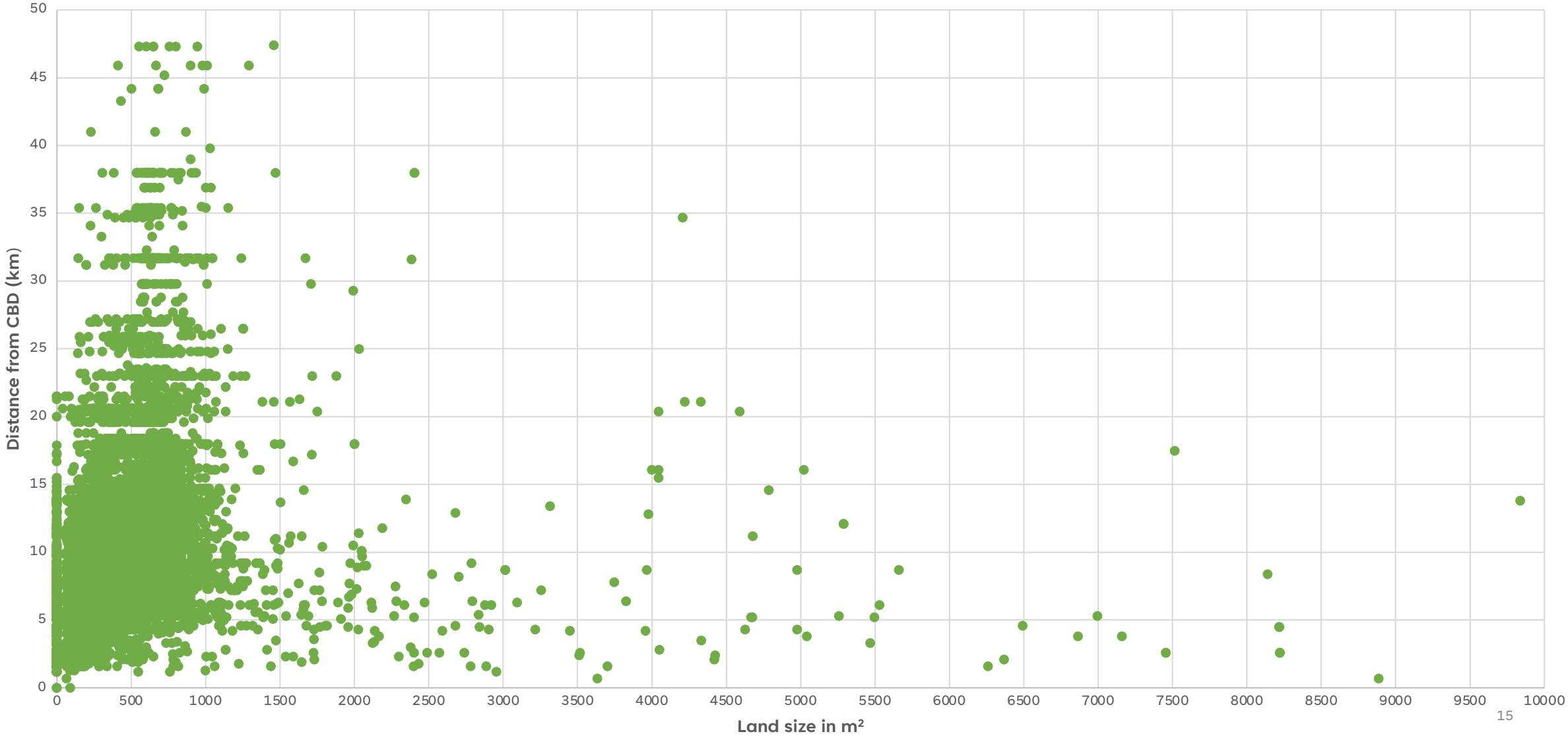


the correlation between both factor is : -0.23

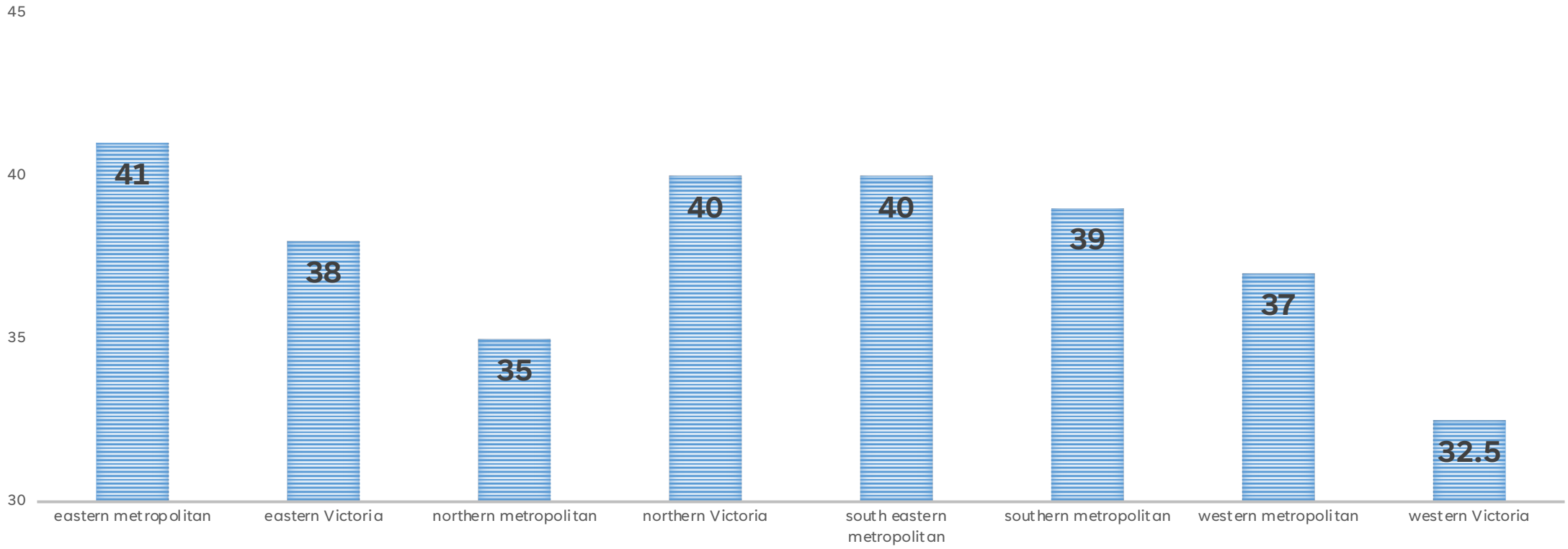
Household size vs distance from CBD



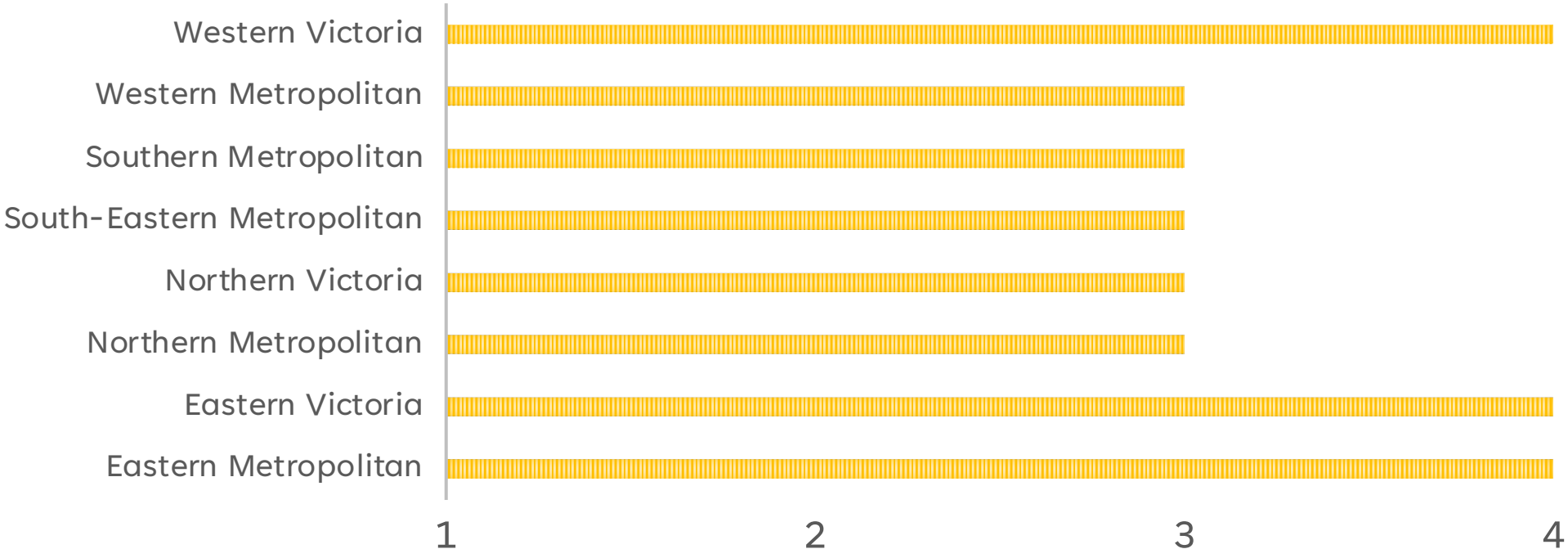
LAND SIZE VS DISTANCE FROM CBD



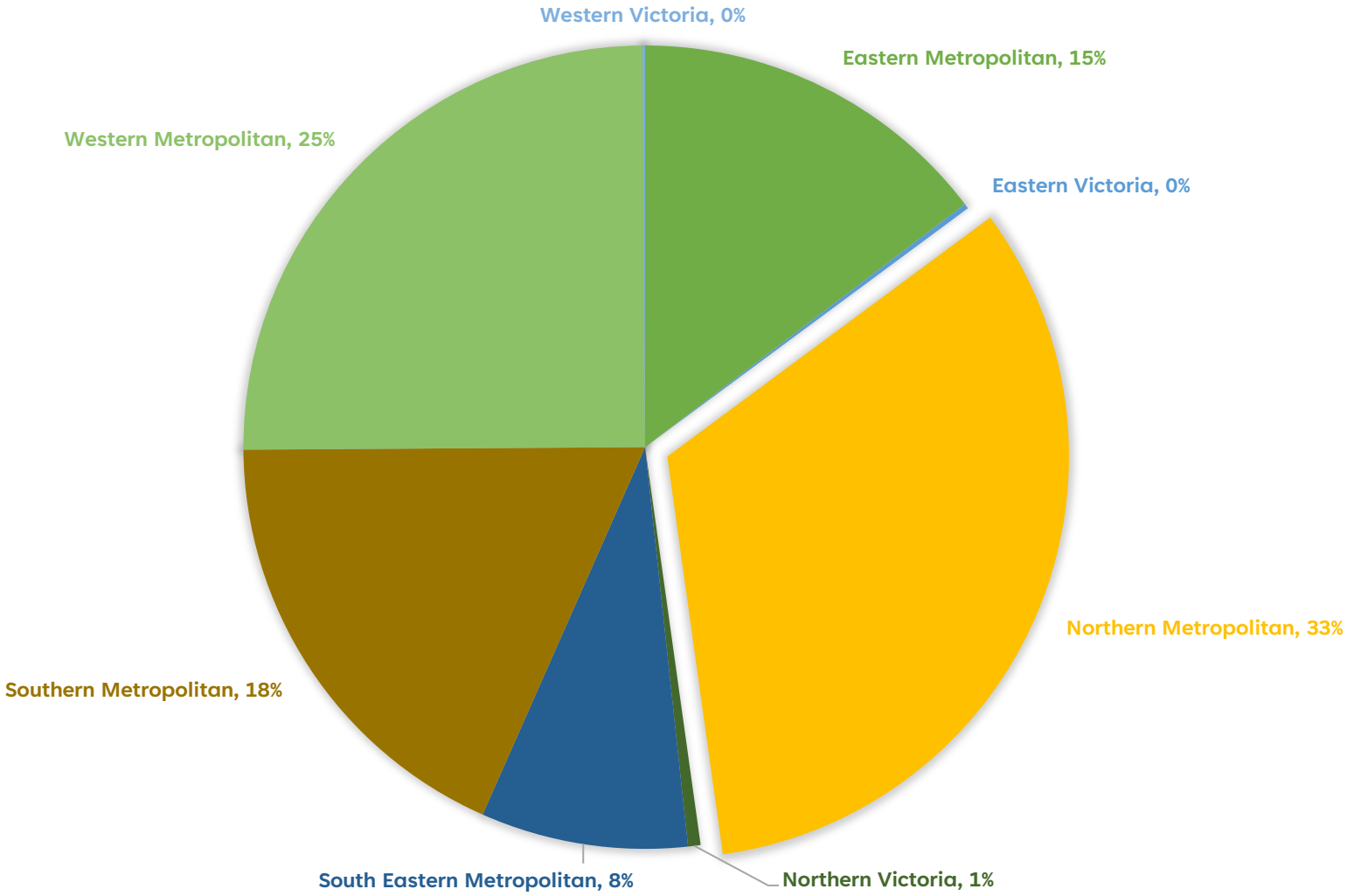
MEDIAN AGE PER REGION



MEDIAN BEDROOMS PER REGION



PROPORTION OF REGIONS WITH PROPERTIES SOLD $800K-$1M



PLOTTING THE MAPS

Using Geoapify we wanted to look at 3x of amenities to help determine the best location to purchase a property:

- Schools
- Shopping Centre's
- Transport

The foundation code created was to bring back the below details with a filter of av 15km radius from Melbourne CBD.

- Facility Name
- Facility Address
- Facility Postcode
- Distance to the CBD
- Latitude and Longitude

SCHOOL MAP

Additional filters in place for schools:

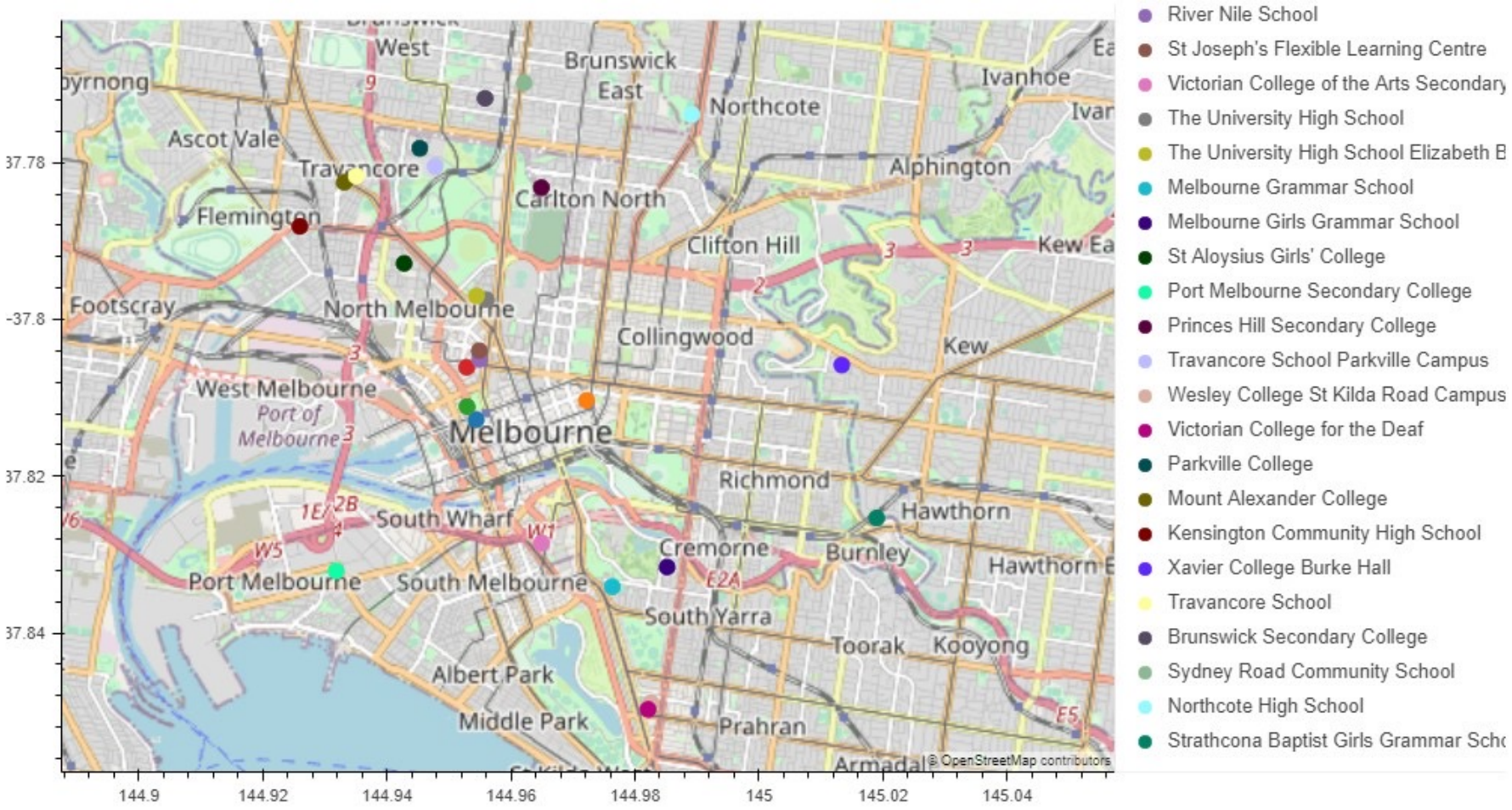
School Type – I wanted to show all options, e.g. public, private, as this may also be taken into consideration for the buyer.

School Grades - with a further filter to remove schools that only cater up to year 6.

Once the school grades filter was performed, we had a smaller, more precise list of options

	school name	address	postcode	latitude	longitude	distance from CBD	school type	school grades
0	Ozford College	310 King Street, Melbourne VIC 3000, Australia	3000	-37.812797	144.954404	787	private	10-12
1	Holmes Grammar School	185 Spring Street, Melbourne VIC 3000, Australia	3000	-37.810321	144.972187	905	private	11-12
2	Haileybury College City Campus	383 King Street, West Melbourne VIC 3003, Aust...	3003	-37.811119	144.952924	931	private	0-12
3	Simonds Catholic College (St Mary's 7–10 Campus)	273 Victoria Street, West Melbourne VIC 3051, ...	3051	-37.806108	144.952881	1201	religious	7-12
4	River Nile School	117 Capel Street, North Melbourne VIC 3050, Au...	3050	-37.805078	144.954952	1246	private	11-12
5	St Joseph's Flexible Learning Centre	385 Queensberry Street, North Melbourne VIC 30...	3050	-37.803974	144.954902	1306	private	7-12
6	Victorian College of the Arts Secondary School	55-65 Miles Street, Southbank VIC 3006, Australia	3006	-37.828521	144.964938	1558	public	7-12
7	The University High School	77 Story Street, Parkville VIC 3050, Australia	3050	-37.797459	144.956064	1868	public	7-12
8	The University High School Elizabeth Blackburn...	77 Story Street, Parkville VIC 3050, Australia	3050	-37.796998	144.954471	2035	public	7-12
9	Melbourne Grammar School	1-47 Domain Road, Melbourne VIC 3004, Australia	3004	-37.834087	144.976354	2254	private	7-12
10	Melbourne Girls Grammar School	62-90 Anderson Street, South Yarra VIC 3141, A...	3141	-37.831581	144.985192	2618	private	5-12
11	St Aloysius Girls' College	31-55 Curran Street, North Melbourne VIC 3051,...	3051	-37.792855	144.942778	2909	religious	7-12
12	Port Melbourne Secondary College	477 Graham Street, Port Melbourne VIC 3207, Au...	3207	-37.832084	144.931833	3351	public	7-12
13	Princes Hill Secondary College	47 Arnold Street, Princes Hill VIC 3054, Austr...	3054	-37.783189	144.964915	3382	N/A	7-12
14	Travancore School Parkville Campus	35 Poplar Road, Parkville VIC 3052, Australia	3052	-37.780461	144.947790	3984	public	6-12
15	Wesley College St Kilda Road Campus	577 St Kilda Road, Melbourne VIC 3004, Australia	3004	-37.848863	144.982586	4027	private	0-12
16	Victorian College for the Deaf	597 St Kilda Road, Melbourne VIC 3004, Australia	3004	-37.849725	144.982118	4154	public	0-12

SCHOOL MAP


River Nile School
St Joseph's Flexible Learning Centre
Victorian College of the Arts Secondary
The University High School
The University High School Elizabeth B
Melbourne Grammar School
Melbourne Girls Grammar School
St Aloysius Girls' College
Port Melbourne Secondary College
Princes Hill Secondary College
Travancore School Parkville Campus
Wesley College St Kilda Road Campus
Victorian College for the Deaf
Parkville College
Mount Alexander College
Kensington Community High School
Xavier College Burke Hall
Travancore School
Brunswick Secondary College
Sydney Road Community School
Northcote High School
Strathcona Baptist Girls Grammar Scho
West
Brunswick East
Northcote
Ivanhoe
Ascot Vale
Travancore
Flemington
Carlton North
Alphington
Clifton Hill
Kew
Footscray
North Melbourne
Collingwood
West Melbourne
Port of Melbourne
Melbourne
Richmond
Hawthorn
South Wharf
Cremorne
Burnley
Port Melbourne
South Melbourne
South Yarra
Toorak
Kooyong
Albert Park
Middle Park
Prahran
Armadale
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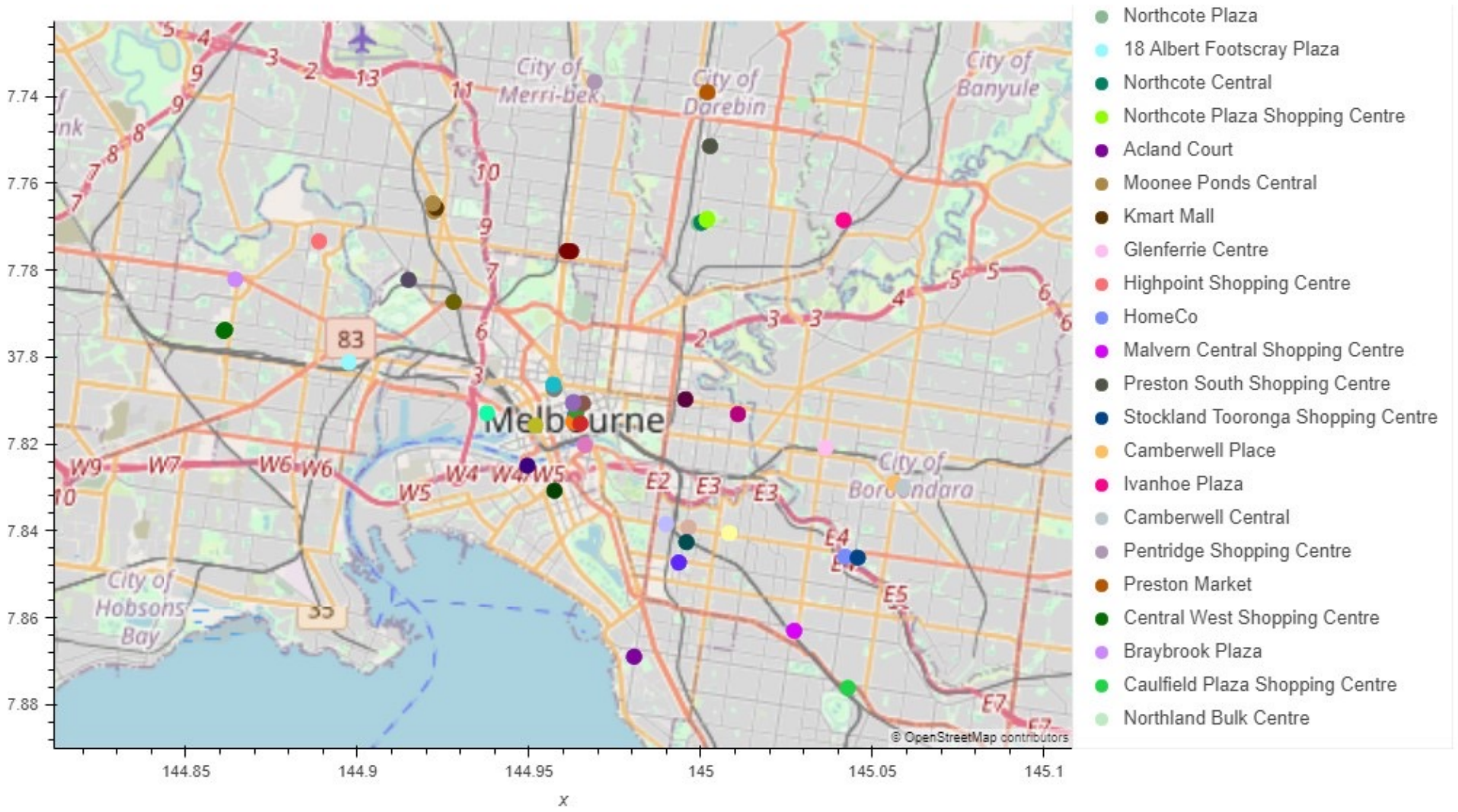
-37.78
-37.8
37.82
37.84
144.9
144.92
144.94
144.96
144.98
145
145.02
145.04

SHOPPING MAP



TRANSPORT MAP

HOUSING SALE MAP

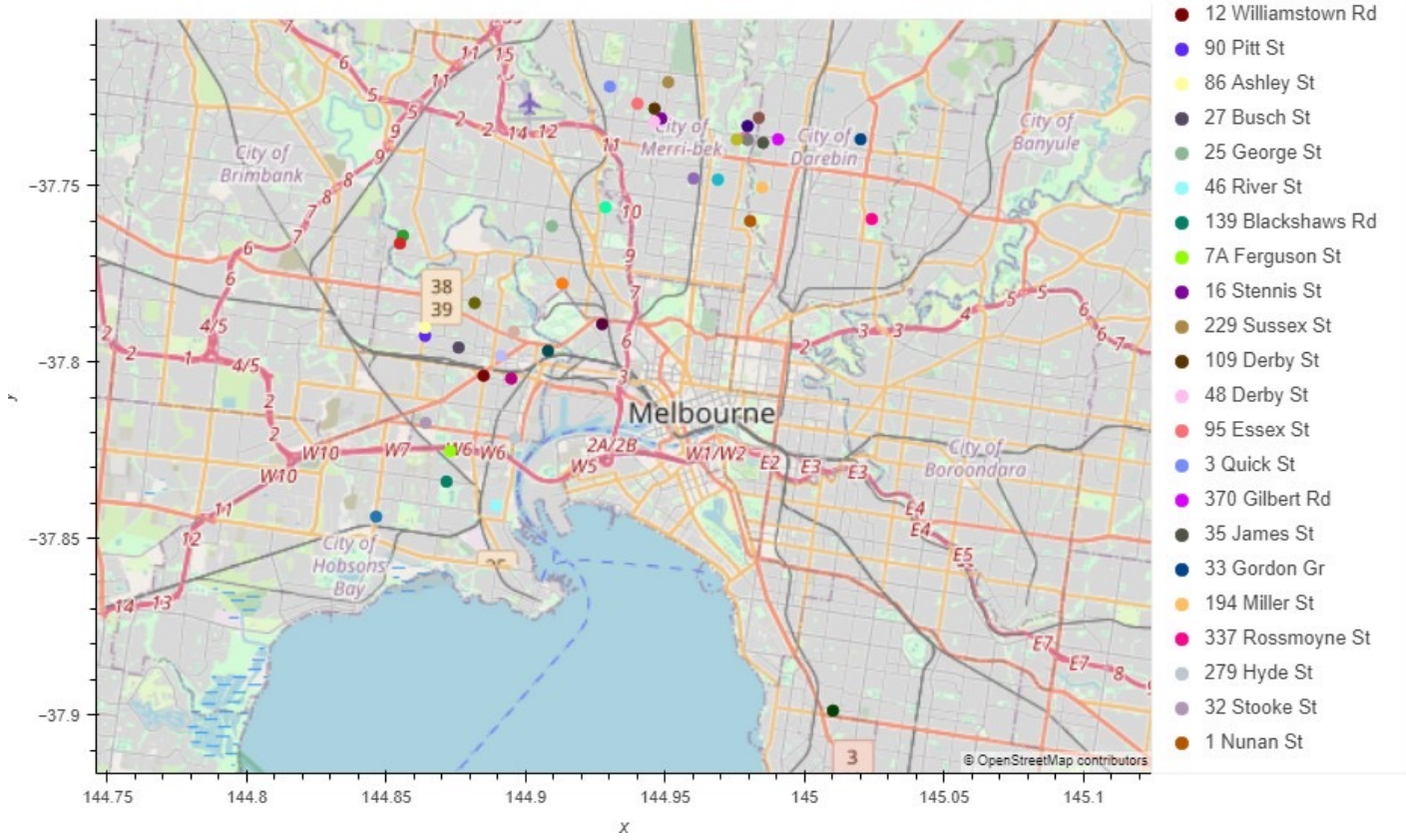
Using the sales data csv file, I generated a map plotting the location of where these sales happened.

From this new DataFrame, I copied only the columns that might be useful for the plotting:

- Address
- Suburb
- Postcode
- Rooms
- Bathrooms
- Carparks
- Latitude
- Longitude
- Price
- Type
- Distance

I then filtered the data so that only those sales that met below criteria set by the lottery winner:

- Distance from CBD 10km
- Number of Bedrooms 4
- Number of Bathrooms 2
- Number of carparks – more than 1



FINDINGS, CONCLUSIONS