Opening a Shopping Mall in Los Angeles

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Introduction

There are plenty of malls in Los Angeles. However, there will never be enough of them. If someone with a lot of money wants to open a new shopping mall in L.A., data science should come in to help.

So what is an ideal location for Los Angeles to open a new shopping mall? This will be the problem we stick to in the following process of exploring.

DATA

1. Neighbourhood information of the greater Los Angeles area.

2. 2.Geographical information (latitude and longitude) of the greater Los Angeles area.

3. 3.Venue data of the greater Los Angeles area.

DATA

The Los Angeles government offered a list of zip codes of L.A.(http://file.lacounty.gov/SDSInter/lac/1031552_MasterZipCodes.pdf) from where we are able to extract L.A. neighbourhood information. For Geographical information (latitude and longitude) we can get it from Python package and for venue data we are able to get it from Foursquare API according to the methods

Map of L.A.
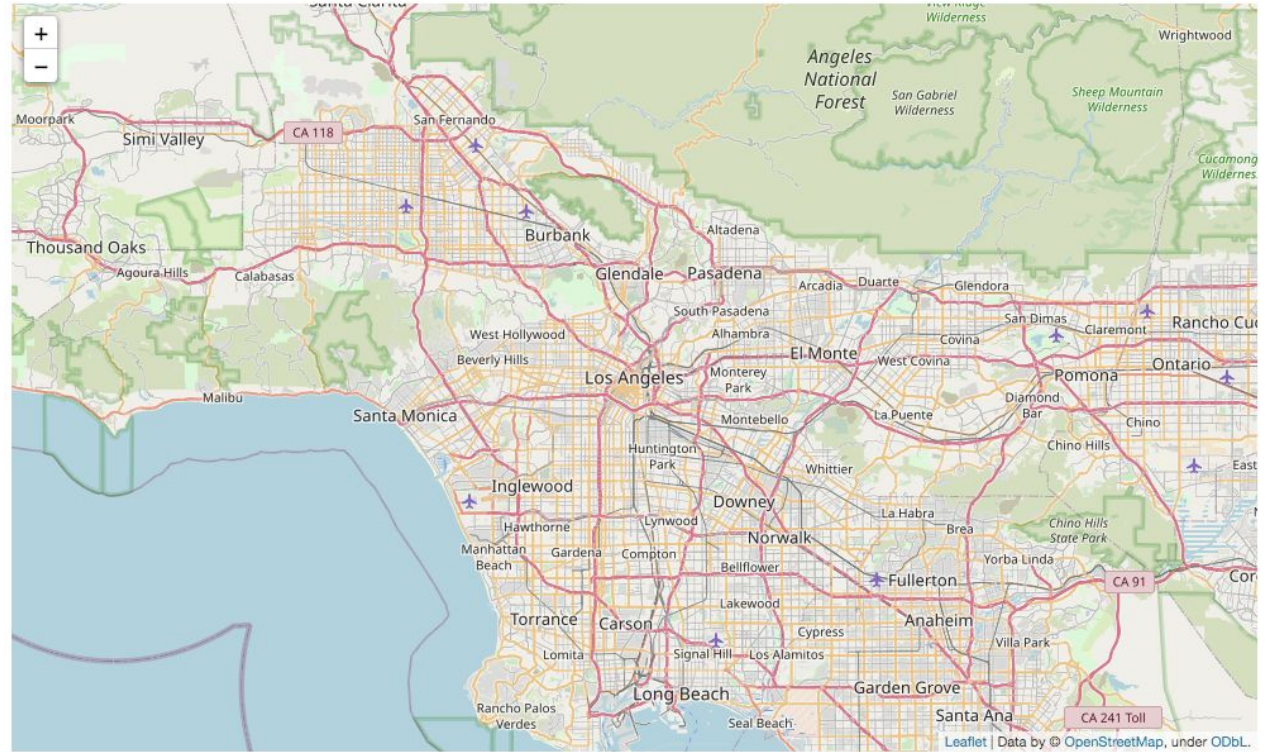
Get Coordinates

	Neighborhood	Latitude	Longitude
0	Angelino Heights	34.070290	-118.254800
1	Angeles Mesa	2.421100	-76.917380
2	Angelus Vista	34.087575	-118.267156
3	Arleta	34.249050	-118.433490
4	Arlington Heights	34.039890	-118.325160

Map with Neighbourhoods
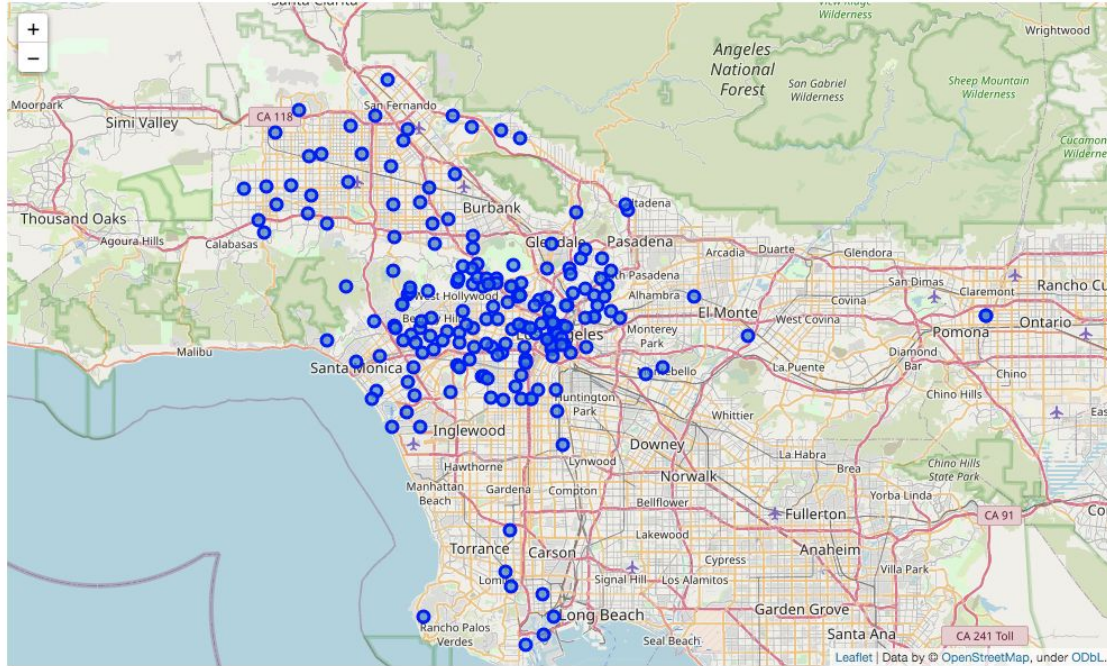
Get Venues Using Foursquare API

Neighborhood	Latitude	Longitude	VenueName	VenueLatitude	VenueLongitude	VenueCategory
Angelino Heights	23	23	23	23	23	23
Angelus Vista	10	10	10	10	10	10
Arleta	4	4	4	4	4	4
Arlington Heights	12	12	12	12	12	12
Arts District	44	44	44	44	44	44
Atwater Village	37	37	37	37	37	37
Baldwin Hills	12	12	12	12	12	12
Baldwin Hills/Crenshaw	41	41	41	41	41	41
Baldwin Village	7	7	7	7	7	7
Baldwin Vista	7	7	7	7	7	7

Venue Info

	Neighborhoods	Shopping Mall
0	Angelino Heights	0.0
1	Angelus Vista	0.0
2	Arleta	0.0
3	Arlington Heights	0.0
4	Arts District	0.0

	Neighborhoods	ATM	Acai House	Accessories Store	Adult Boutique	Alternative Healer	American Restaurant	Antique Shop	Arcade	Argentinian Restaurant	Art Gallery	Art Museum	Arts & Crafts Store	Arts & Entertainment	Restau
0	Angelino Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Angelino Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Angelino Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	Angelino Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	Angelino Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	

Clustering

	Neighborhood	Shopping Mall	Cluster Labels	Latitude	Longitude
0	Angelino Heights	0.0	0	34.07029	-118.25480
123	Panorama City	0.0	0	34.22302	-118.44875
124	Park La Brea	0.0	0	34.06257	-118.35774
125	Picfair Village	0.0	0	34.04500	-118.36528
126	Pico Robertson	0.0	0	34.05575	-118.38000
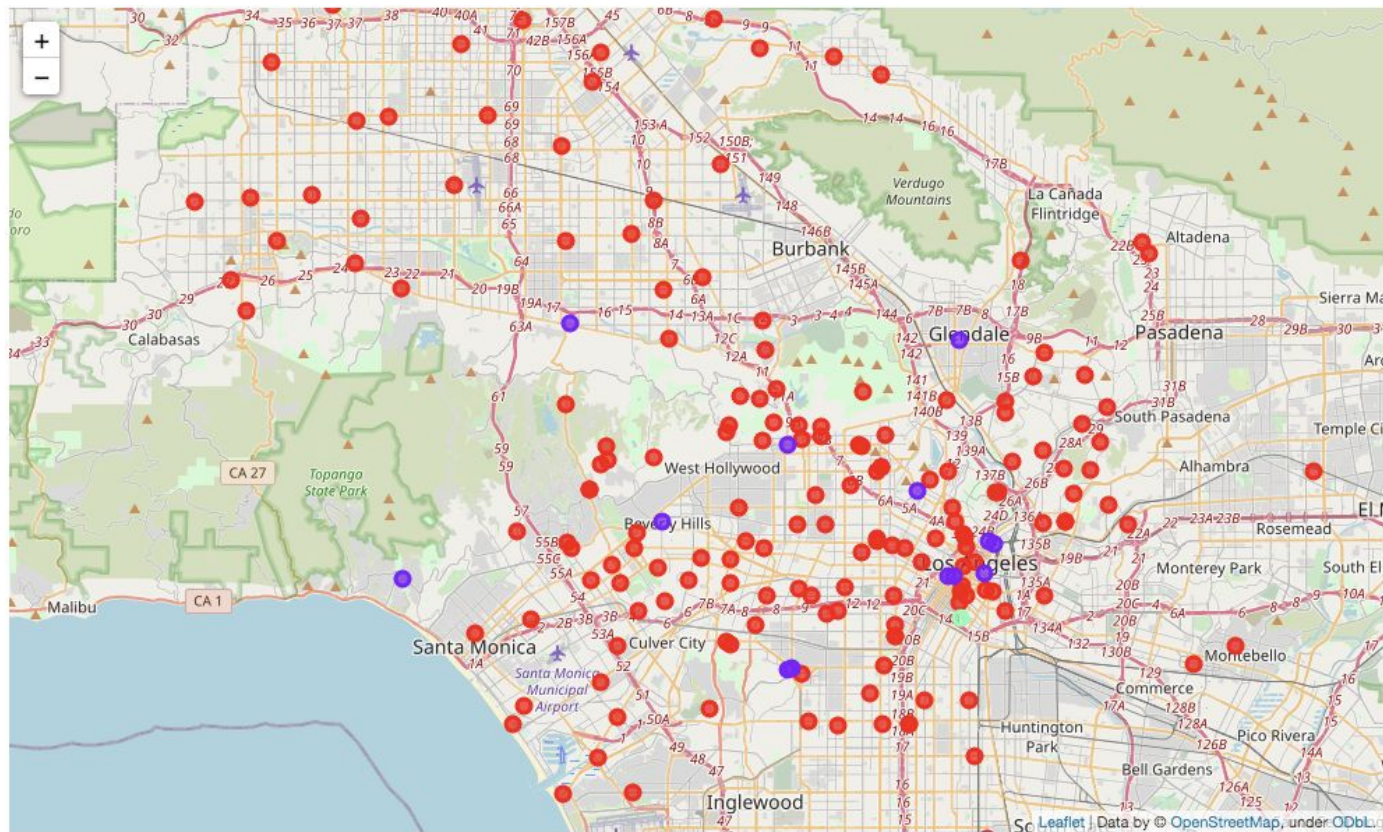
Conclusion

Cluster 1 has lower density of shopping malls, thus opening a new shopping mall will be a better choice as cluster 2 may have already had enough malls.

Thank you!