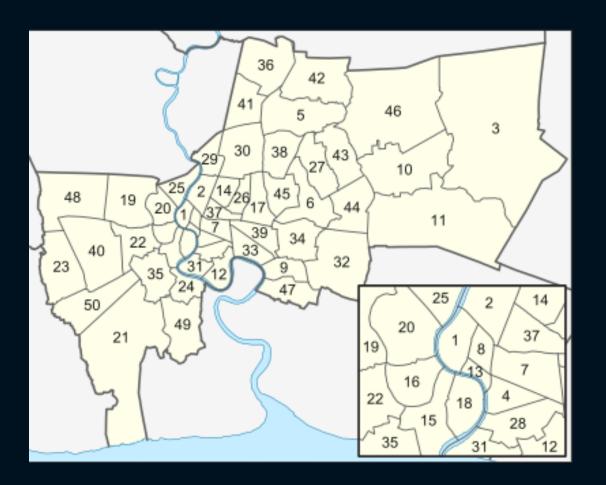


## Know Bangkok.

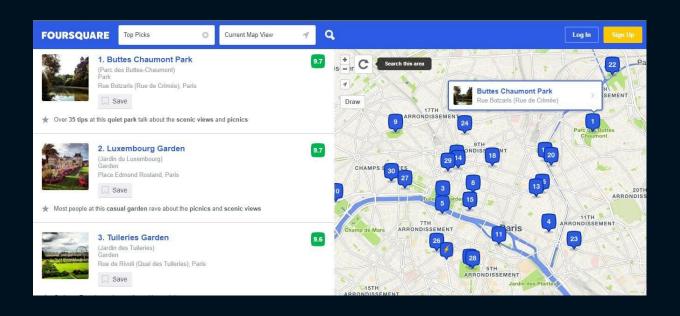
Bangkok's fifty districts serve as administrative subdivisions under the authority of the BMA. Thirty-five of these districts lie to the east of the Chao Phraya, while fifteen are on the western bank, known as the Thonburi side of the city.



### Background

In fact, Thailand remains one of the top-10 countries to retire abroad, receiving high scores over the past few years in International Living's Annual Global Retirement Index—most notably for its top-notch healthcare, inexpensive housing, and friendly residents. These all combine to make it a great choice for retiring overseas. Bangkok, Thailand capital city, is a large Asian city with a cosmopolitan culture and everything you'd expect, and more, than any other major city in the world. Getting around is increasingly easy if you're willing to go public and take short hops on motorbike taxis.



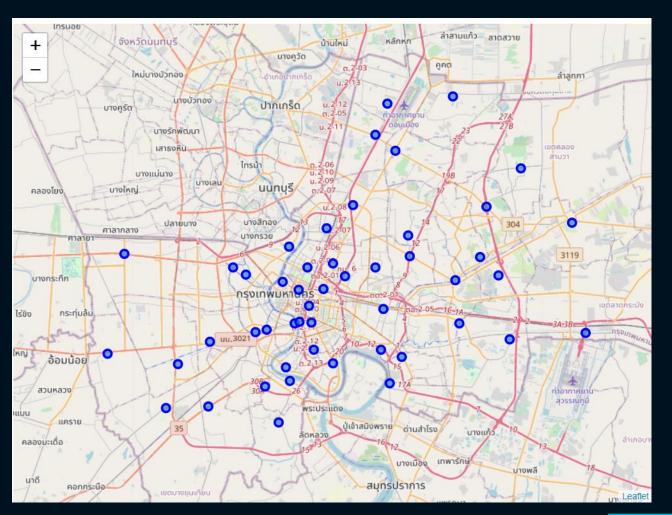


## Data acquisition

Foursquare API

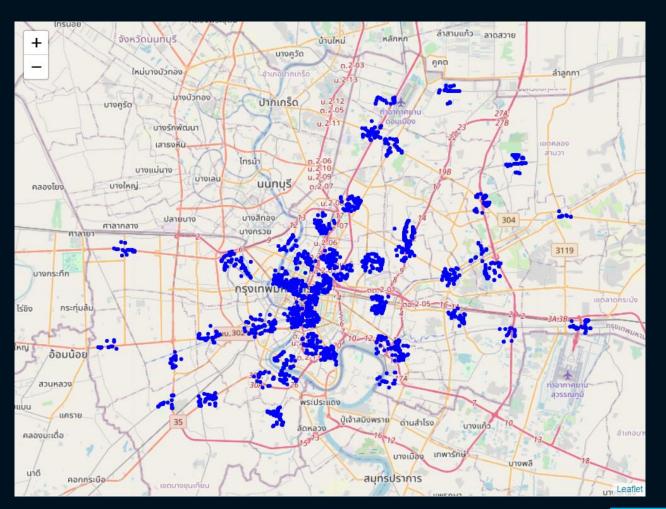
## Explore the area

Map show centre of each district



## Explore the area

Map show venue of each district



#### 1.7 1.6 1.5 1.4 1.3 1.2 1.1 1.0 0.9 # K

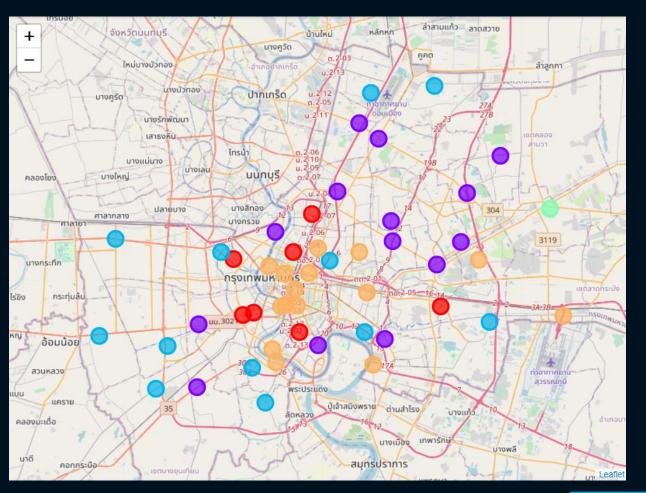
### Clustering approach

#### Best K(number of cluster) is 5.

Iterate data through function that return set of inertia from the K-means algorithm and use elbow method plot. The plot show best K is 5.

# Display map labels

Map show venue of each district



First 2 common is restaurant, population close to mean (113421.4)

Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Popu- lation
0	Bang Sue	Noodle House	Thai Restaurant	Convenience Store	Train Station	Ice Cream Shop	Coffee Shop	Hotpot Restaurant	Restaurant	Asian Restaurant	Fast Food Restaurant	132234
0	Bangkok Noi	Noodle House	Som Tum Restaurant	Asian Restaurant	Café	Convenience Store	Steakhouse	Bus Stop	Market	Thai Restaurant	Park	117793
0	Bangkok Yai	Noodle House	Asian Restaurant	Coffee Shop	Convenience Store	Dessert Shop	Seafood Restaurant	Farmers Market	Train Station	BBQ Joint	Photography Studio	72321
0	Dusit	Noodle House	Thai Restaurant	Convenience Store	Asian Restaurant	Palace	Café	Chinese Restaurant	Som Tum Restaurant	Coffee Shop	Italian Restaurant	107655
0	Sathon	Noodle House	Asian Restaurant	Convenience Store	Chinese Restaurant	Dessert Shop	Café	Thai Restaurant	Bar	Bakery	Seafood Restaurant	84916
0	Suan Luang	Noodle House	Coffee Shop	Convenience Store	Asian Restaurant	Som Tum Restaurant	Thai Restaurant	Massage Studio	Shopping Mall	Clothing Store	Café	115658
0	Thon Buri	Noodle House	Convenience Store	Thai Restaurant	Asian Restaurant	Train Station	Seafood Restaurant	Café	Supermarket	Dessert Shop	Coffee Shop	119708

## First 1 common is mostly coffee shop, population mostly more than mean (113421.4)

Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Popu- lation
1	Bang Kapi	Coffee Shop	Som Tum Restaurant	Japanese Restaurant	Fast Food Restaurant	Noodle House	Clothing Store	Convenience Store	Ramen Restaurant	Thai Restaurant	Steakhouse	148465
1	Bang Khen	Convenience Store	Fast Food Restaurant	Coffee Shop	Hotpot Restaurant	Bookstore	Asian Restaurant	Pub	Thai Restaurant	Supermarket	Som Tum Restaurant	189539
1	Bang Khun Thian	Thai Restaurant	Coffee Shop	Restaurant	Ice Cream Shop	Japanese Restaurant	Dessert Shop	Hotpot Restaurant	Pizza Place	Clothing Store	Seafood Restaurant	165491
1	Bang Phlat	Coffee Shop	Convenience Store	Fast Food Restaurant	Restaurant	Ramen Restaurant	Department Store	Café	Cocktail Bar	Seafood Restaurant	Ice Cream Shop	99273
1	Bueng Kum	Coffee Shop	Convenience Store	Café	Supermarket	Park	Thai Restaurant	Flea Market	Bakery	Market	Steakhouse	145830
1	Chatuchak	Coffee Shop	Thai Restaurant	Fast Food Restaurant	Japanese Restaurant	Noodle House	Flea Market	Fried Chicken Joint	Wine Bar	Ramen Restaurant	Gym / Fitness Center	160906
1	Khan Na Yao	Coffee Shop	Japanese Restaurant	Ice Cream Shop	Noodle House	Café	Thai Restaurant	Som Tum Restaurant	Convenience Store	Steakhouse	Bakery	88678

#### Very similar to cluster 1

Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	Most Common Venue	Popu- lation
2	Bang Bon	Noodle House	Convenience Store	Thai Restaurant	Coffee Shop	Café	Japanese Restaurant	Asian Restaurant	Chinese Restaurant	Bar	Som Tum Restaurant	105161
2	Bang Khae	Convenience Store	Noodle House	Japanese Restaurant	Shopping Mall	Coffee Shop	Miscellaneous Shop	Shop & Service	Steakhouse	Bar	Fast Food Restaurant	191781
2	Chom Thong	Thai Restaurant	Convenience Store	Asian Restaurant	Dog Run	Coffee Shop	Bus Stop	Bar	Flea Market	Grocery Store	Gourmet Shop	158005
2	Din Daeng	Convenience Store	Thai Restaurant	Noodle House	Park	Sports Club	Gift Shop	Asian Restaurant	Dessert Shop	Soccer Field	Seafood Restaurant	130220
2	Don Mueang	Convenience Store	Noodle House	Hotel	Bus Station	Rest Area	Chinese Restaurant	Buffet	Seafood Restaurant	Food	Grocery Store	166261
2	Khlong Toei	Convenience Store	Coffee Shop	Bar	Burger Joint	Bakery	Canal	Pier	Shopping Mall	Food Truck	Noodle House	109041
2	Nong Khaem	Convenience Store	Thai Restaurant	Market	Noodle House	Bar	Bus Stop	Som Tum Restaurant	Chinese Restaurant	Frozen Yogurt Shop	Fried Chicken Joint	150218

#### Min Buri district maybe transportation and living area

Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Popu- lation
3	Min Buri	Intersection	Restaurant	Noodle House	Coffee Shop	Thai Restaurant	Department Store	Bus Station	English Restaurant	Electronics Store	Gaming Cafe	137251

#### This cluster mostly low population

Cluster Labels	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Popu- lation
4	Bang Kho Laem	Coffee Shop	Convenience Store	Noodle House	Thai Restaurant	Chinese Restaurant	Seafood Restaurant	Asian Restaurant	Pub	Hotel	Vietnamese Restaurant	94956
4	Bang Na	Thai Restaurant	Noodle House	Café	Coffee Shop	Asian Restaurant	Convenience Store	Resort	Seafood Restaurant	Supermarket	Restaurant	95912
4	Bang Rak	Noodle House	Thai Restaurant	Hotel	Chinese Restaurant	Café	Seafood Restaurant	Coffee Shop	Bar	Shopping Mall	Spa	45875
4	Huai Khwang	Thai Restaurant	Convenience Store	Noodle House	Japanese Restaurant	Dessert Shop	Hotel	Asian Restaurant	Hotpot Restaurant	Café	Seafood Restaurant	78175
4	Khlong San	Coffee Shop	Café	Thai Restaurant	Chinese Restaurant	Noodle House	Dessert Shop	Art Gallery	Spa	Hotel	Hotel Bar	76446
4	Lat Krabang	Thai Restaurant	Hotel	Noodle House	Som Tum Restaurant	Convenience Store	Café	Pizza Place	Deli / Bodega	Shabu- Shabu Restaurant	Food & Drink Shop	163175
		Noodle	Asian	Seafood		Thai	Dessert	Coffee	Ice Cream		Gym /	

#### Conclusion

In the beginning, I was expecting to identify areas with hospitals, parks or other facilities needed by the elderly. But what we find is that most of them are restaurants and noodles!! This may be because the proportions of restaurants to other locations are too high. Besides Bangkok There are also large and interesting provinces such as Phuket, Chiang Mai, Chonburi that offer both convenience and Thai identity.