



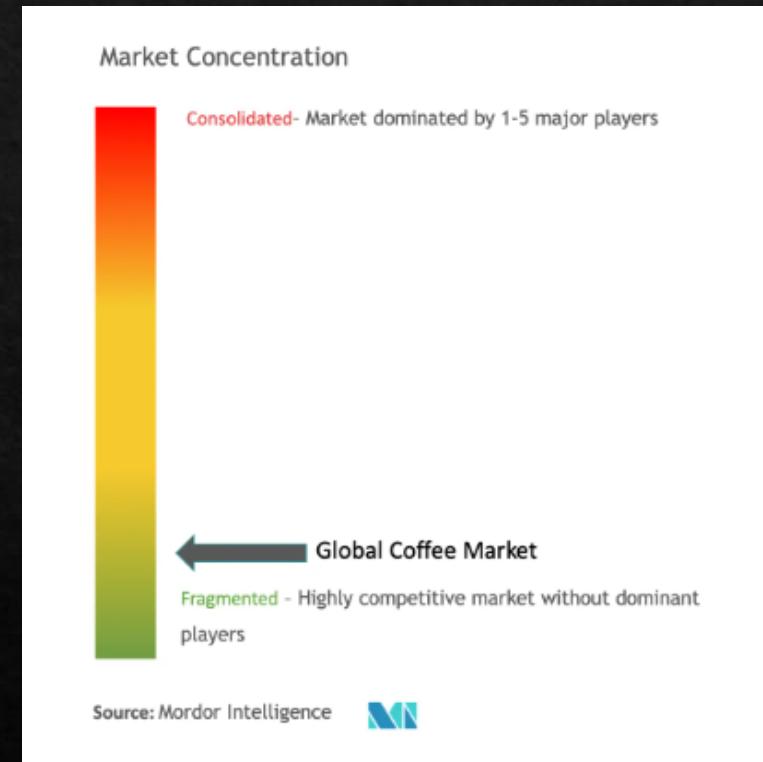
# Battle of the Neighbourhoods

Coffee Stops

Sam Hyland - 03/08/21

# An Opportunity in the Market

- ❖ Coffee consumption has risen year on year for the past decade.
- ❖ Coffee chain giants have grown ascendant in the market.
- ❖ Starbucks, Costa, Dunkin Donuts, Luckin.
- ❖ “Highly competitive market” = new coffee distribution channels sought after.



# The Proposal

An automated coffee vendor unattached to any brick and mortar premises with minimal staffing

## Traditional Retail Coffee

- ❖ High costs – staff wages and large number of store leases.
- ❖ Local dominance – key markets typically held by a National Champion (Starbucks, Tim Hortons, Doutor).
- ❖ Confined ability to diversify – limited avenues to innovate within the coffee chain model.

## Automated Vendor

- ❖ Low staffing costs – only maintenance needed.
- ❖ Pop-up store license – greater flexibility in site selection and movement for pilot project.
- ❖ Existing technology – multiple recent advancements in machine based coffee to produce high quality coffee without the associated skill level.

# The Target Persona

- ❖ Initial analysis focused on capital cities of 4 Scandinavian countries (Norway, Sweden, Finland, Denmark) - biggest coffee drinkers in the world ([Coffee Nations](#)).



Oslo



Stockholm



Helsinki



Copenhagen

- ❖ Target audience = University Student.
- ❖ High consumption of coffee, price sensitive.

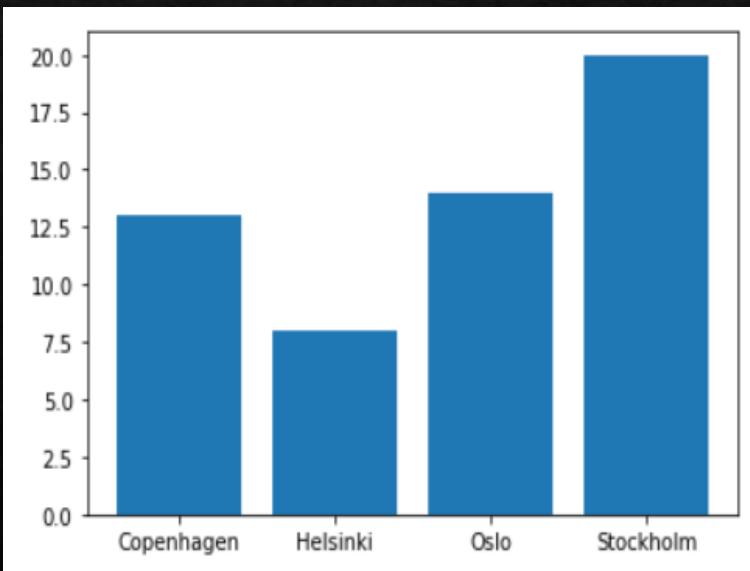
# Data - Acquisition and Cleaning

- ❖ Data on local universities within the city districts was gathered from [Unipage](#).
- ❖ Location data (Latitude and Longitude) for each of the universities was gathered via an API from <https://positionstack.com>.
- ❖ Venue data (venue category and location data) was gathered via <https://foursquare.com>.
- ❖ Universities that could not be matched to a location were dropped.
- ❖ The final result was 244 rows with 9 features.

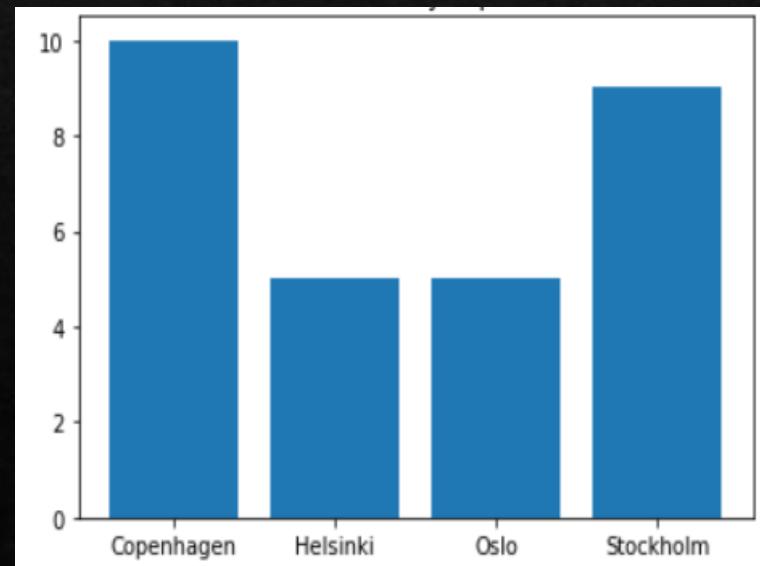
# Analysis - Methodology

- ❖ Significant dropoff for universities with matching locations (24 of 55 with no match).
- ❖ Could be a linguistics issue or an underlying gap in PositionStack data.

University Population pre-Location API



University Population post-Location API

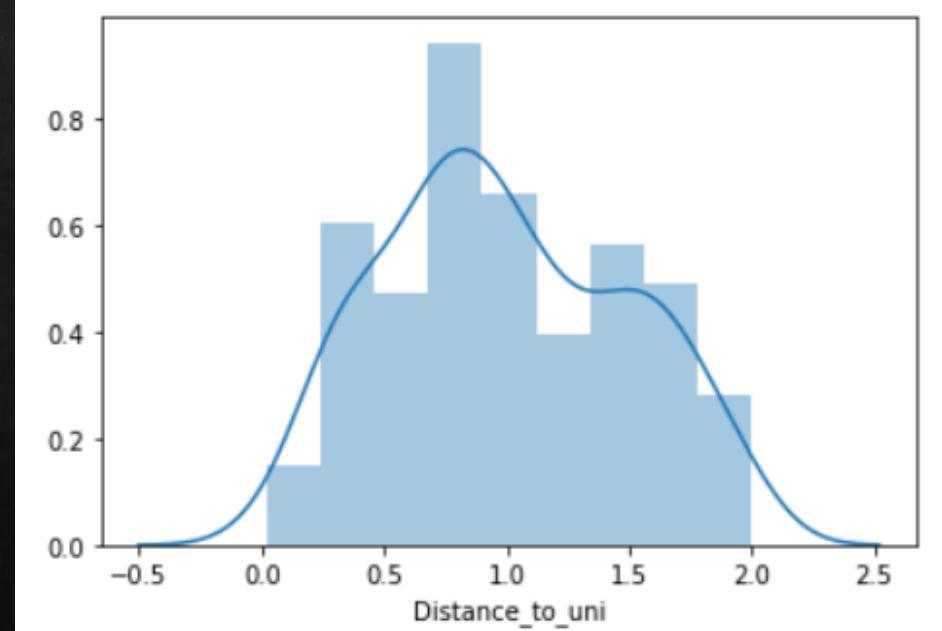


# Analysis - Methodology

## Venue Findings

- ❖ A limit of 10 venues and a 2km radius was set for the Venue search.
- ❖ Venues were restricted to “Cafés” and “Coffee Shops” only.
- ❖ Each university location had an average of about 8 venues with most typically falling between .5 and 1.5 km.

Density Distribution of Venues  
Distances to University

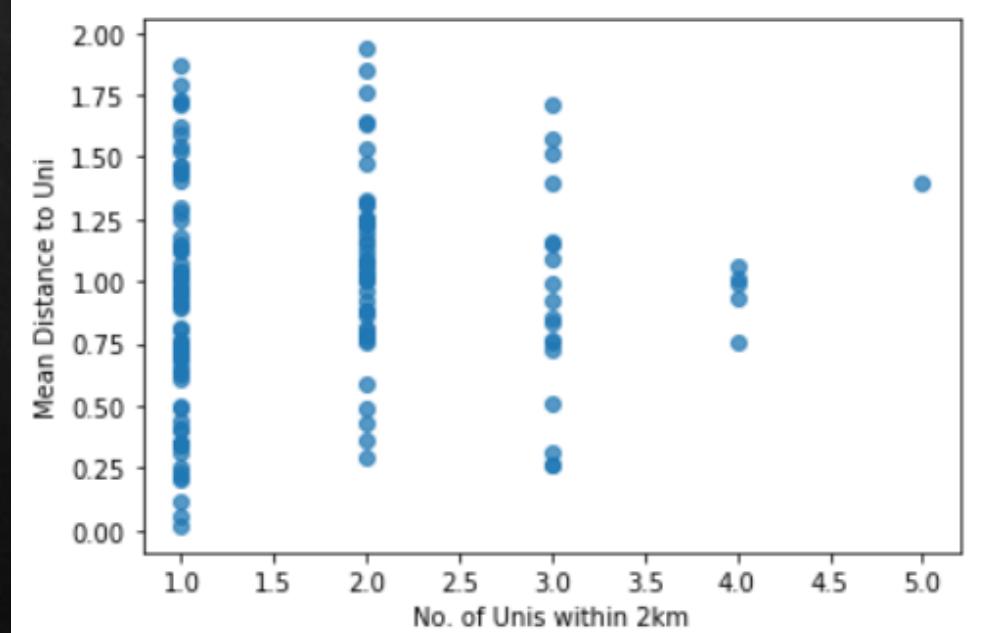


# High Density Venues

## Cross Referencing Universities

- ❖ Multiple universities were found in close proximity to one another resulting in duplicate venues.
- ❖ These venues could then be counted to indicate the number of universities a particular venue was within “walking distance”(2km).
- ❖ Most venues were only in range of one university with only a handful falling in range of 4 or more.

Mean Distance vs Number of Proximate Universities



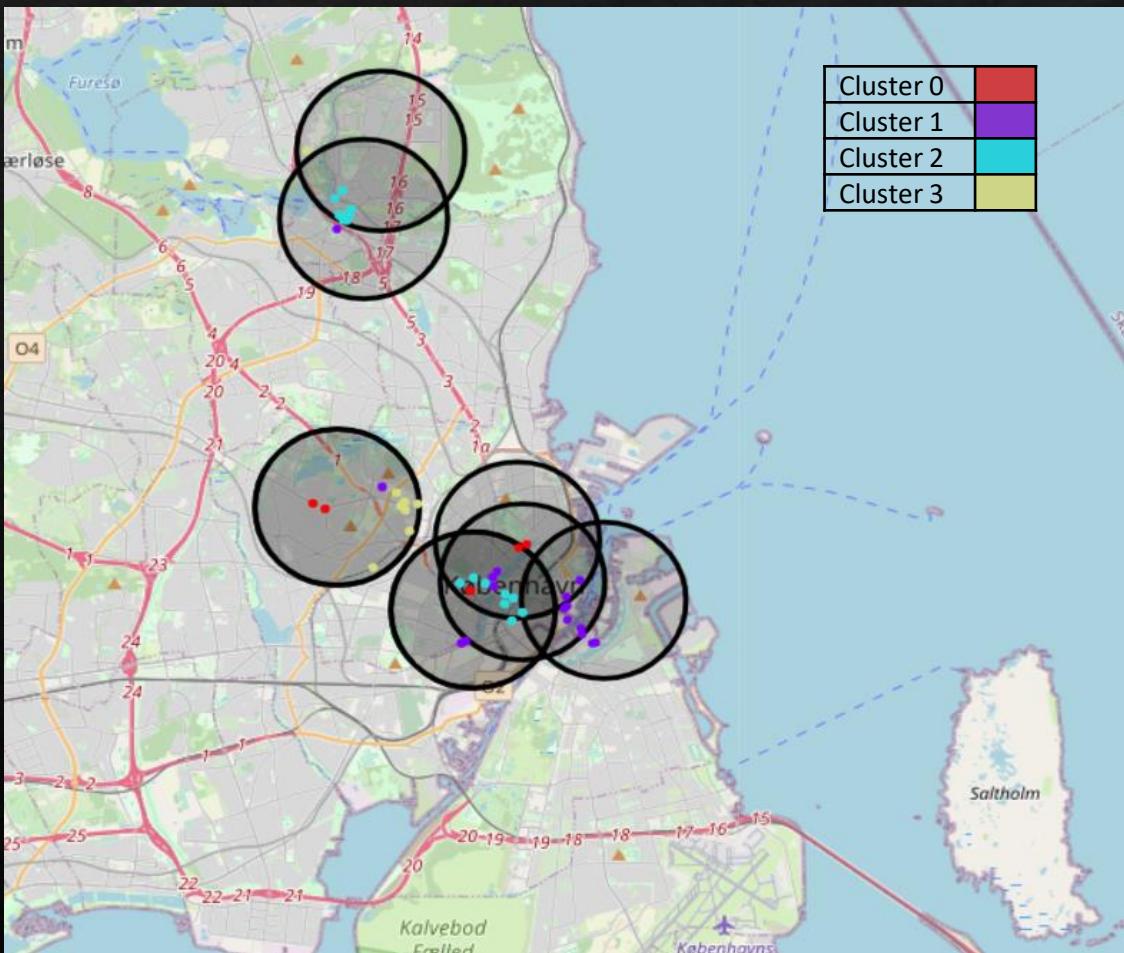
# Clustering Results

Cluster Label	Number of Venues	Mean Distance	<2km Unis	Lowest Distance	Highest Distance
0	39	.35km	1.87	.348km	.366km
1	65	.90km	1.4	.886km	.922km
2	92	1.02km	2.87	.606km	1.421km
3	48	1.59km	1.92	1.575km	1.606km

- ❖ Cluster 0 identified as extremely proximate venues (Low Mean Distance).
- ❖ Cluster 1 identified as middle banding venues for less dense universities (Low <2km Unis).
- ❖ Cluster 2 identified as high university density venues (Large <2km Unis).
- ❖ Cluster 3 identified as outer orbit banding (high Mean Distance, low inter-distance range).

# Mapping Results - Denmark

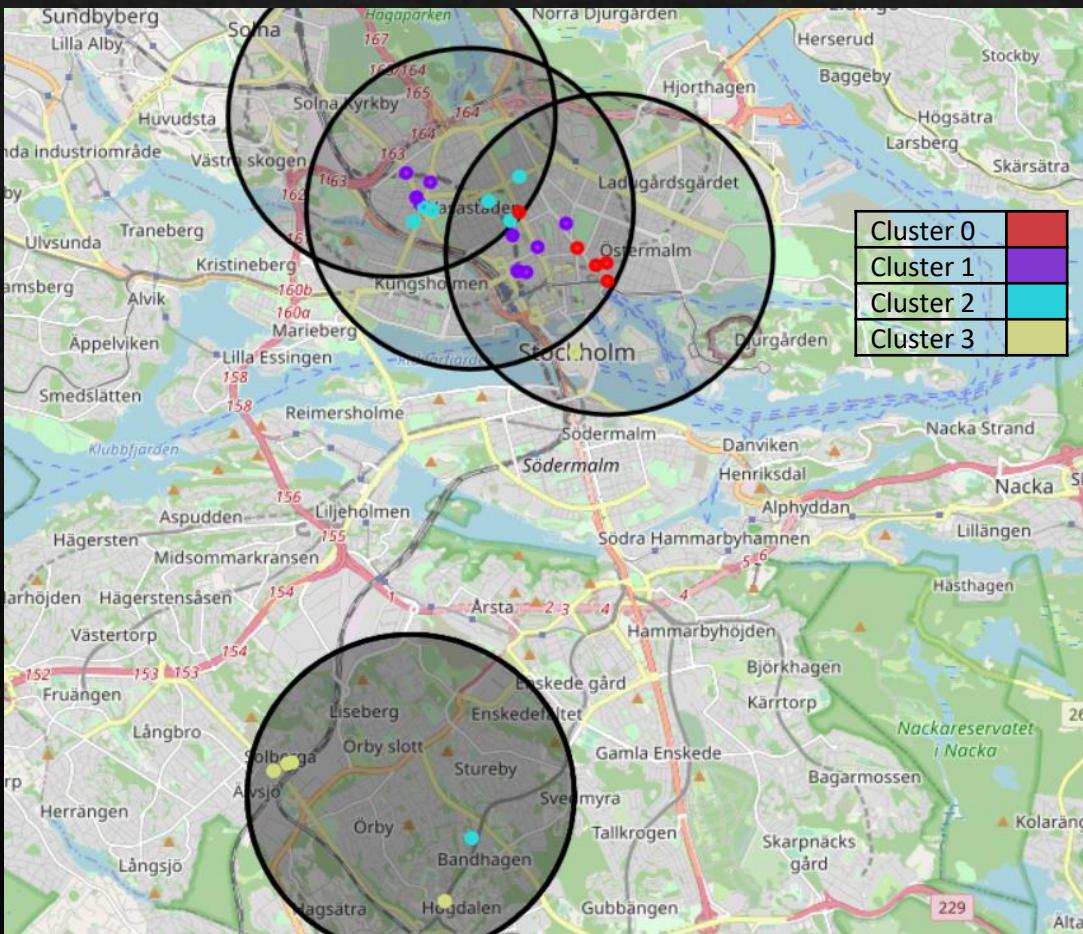
Copenhagen



- ❖ Copenhagen held a fairly disparate layout with a close central cluster of universities in the south and a small pocket further North away from the centre of the city.
- ❖ There were a large number of Cluster 1 and Cluster 2 venues visible by the purple and turquoise dots respectively.

# Mapping Results - Sweden

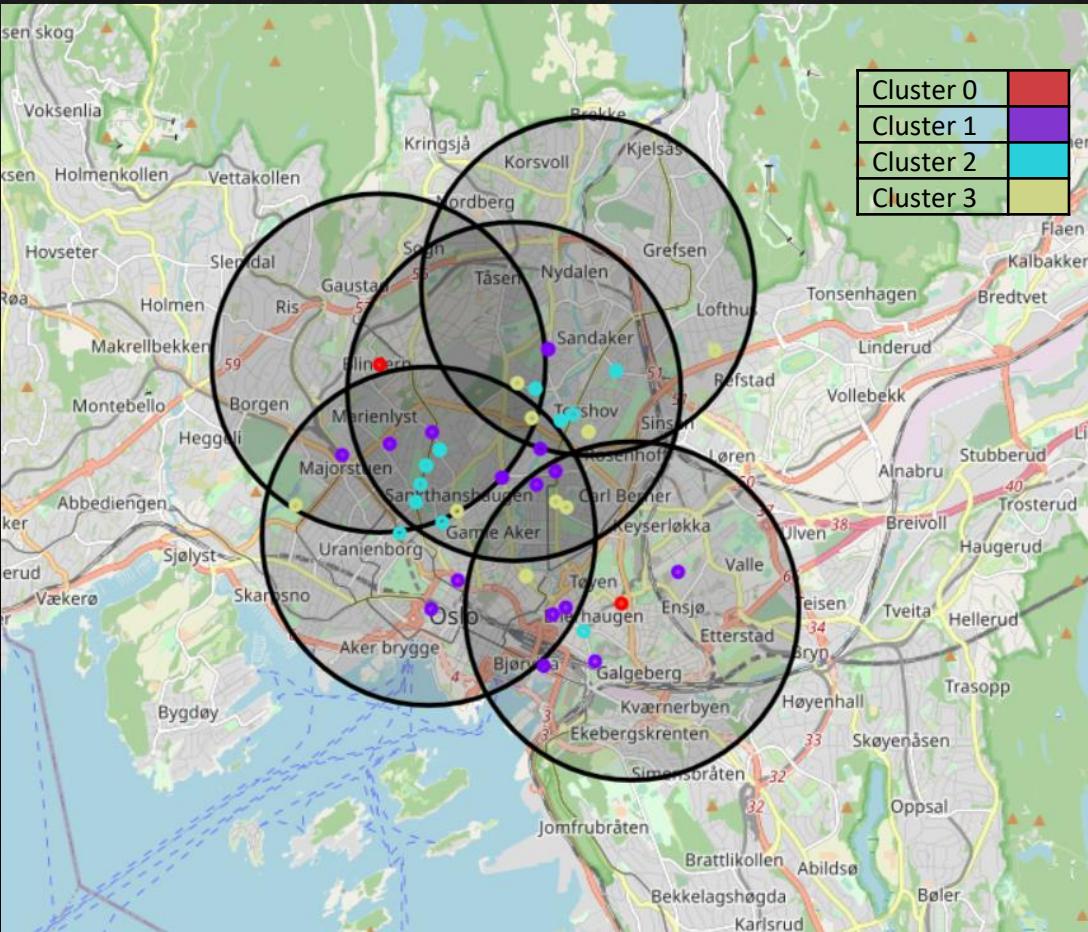
Stockholm



- ❖ Stockholm possessed very few university locations in its central area with a cluster in the North and a small area in the south.
- ❖ The area in the South was found to be 3 universities all located on the same campus and thus given the same coordinates.
- ❖ Low number of venues, densely populated in the North.

# Mapping Results - Norway

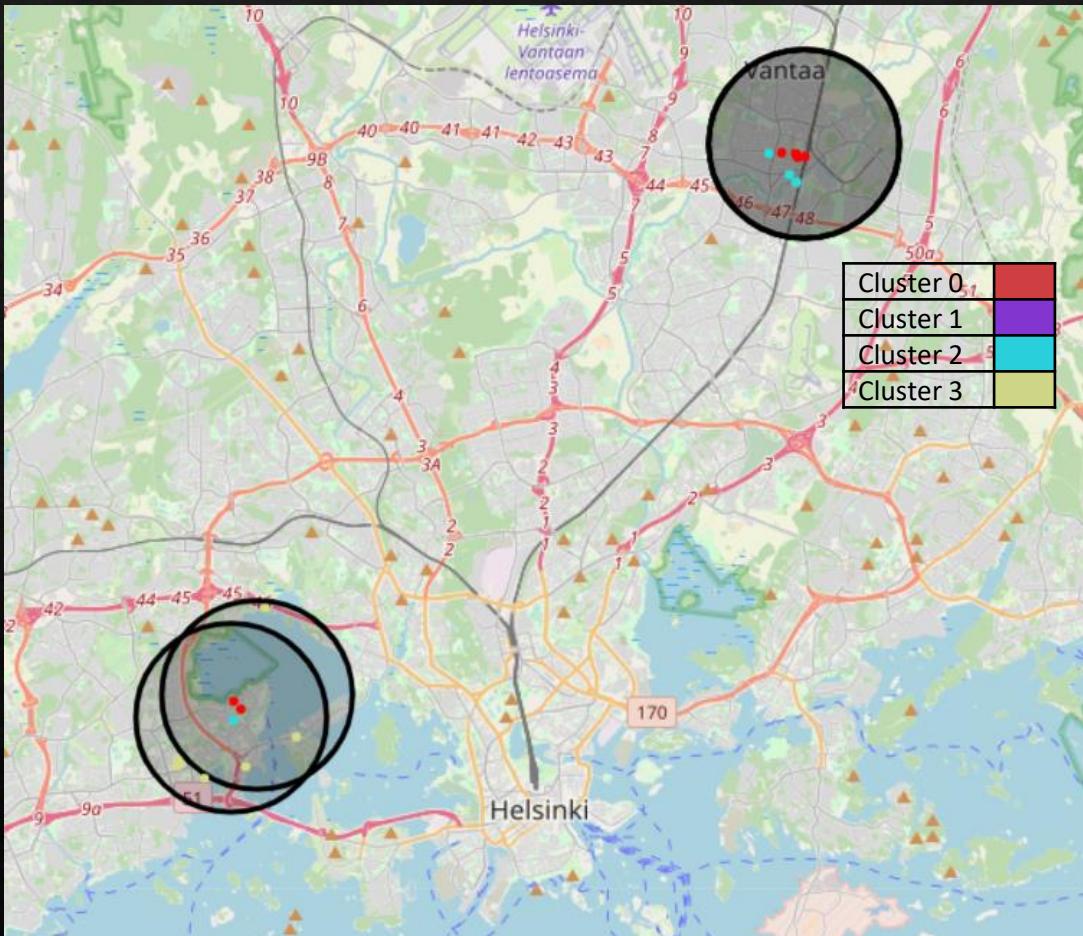
Oslo



- ❖ Oslo was highly centralized with all universities falling within 5km of each other.
- ❖ Very few Cluster 0 venues with most venues found within a central strand of the city between all the universities – likely a shopping or high street district.
- ❖ Large areas of open space in North and Northwest.

# Mapping Results - Finland

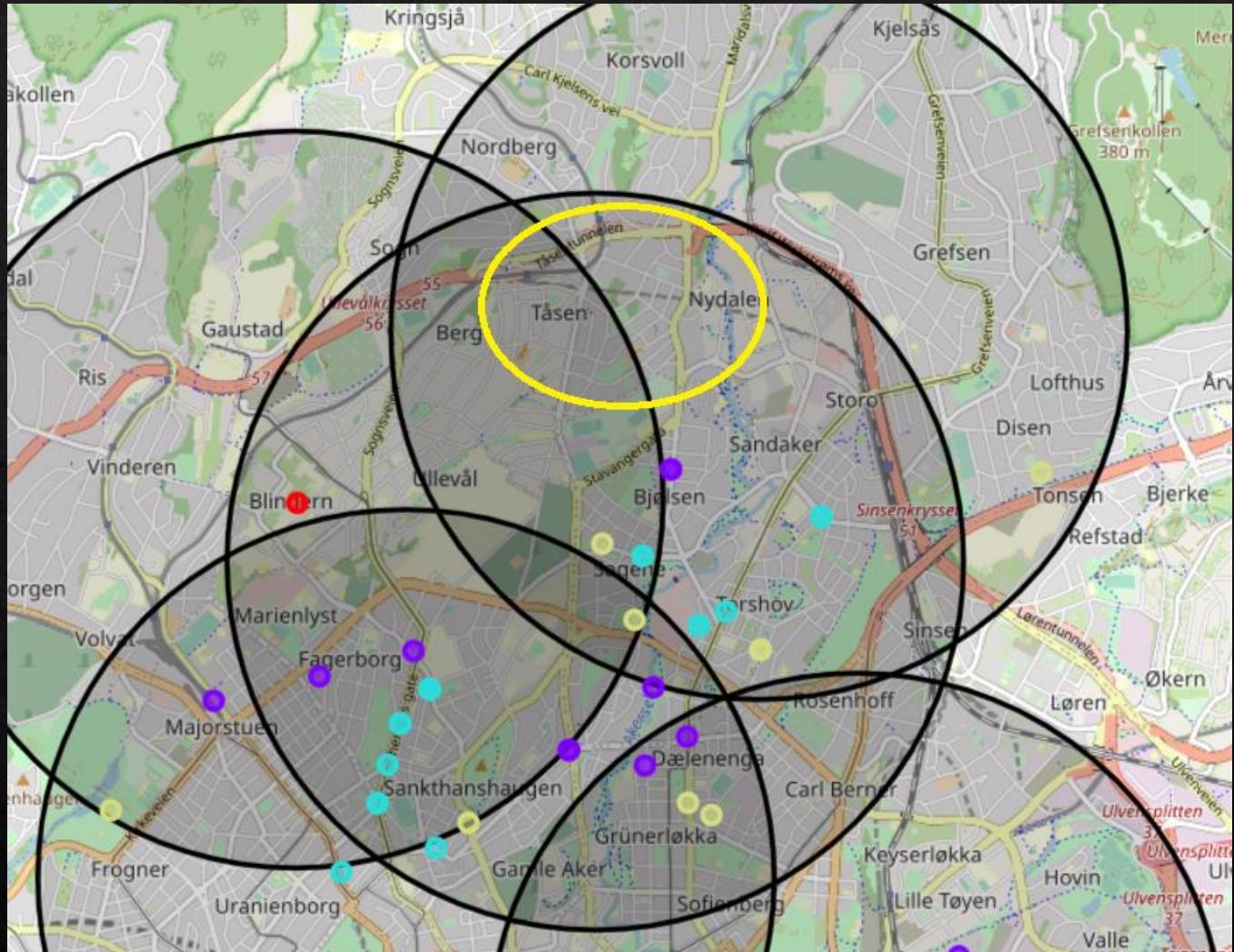
Helsinki



- ❖ Helsinki was extremely disparate – losing a number of universities to the PositionStack location check.
- ❖ Two notable hubs – both away from the city centre and both dominated by a grouping of Cluster 0 venues.
- ❖ Southeastern hub likely on the one campus is also coastal resulting in more limited land availability around those universities.

# Recommendation

- ❖ Oslo provides the best combination of factors:
  - ❖ Low number of Cluster 0 venues (close proximity).
  - ❖ Large number of Cluster 3 venues (highly distant).
  - ❖ Large areas of open space within range of multiple competitors with few direct competitors.
- ❖ A candidate location of high potential has been indicated within the yellow circle.



# Concluding Remarks

- ❖ Insightful but brief glimpse into the potential of the 4 city locations for hosting the coffee vendor pilot project.
- ❖ Possible areas of improvement:
  - ❖ Incomplete location data – more reliable geolocator or translation exercise needed to capture more universities.
  - ❖ Parameters set on venues could be expanded by including certain restaurants or convenience stores within the venue category.
  - ❖ Other focal points besides universities could also be used to expand the range of the analysis and better inform the model.