

New York vs San Francisco

September 24, 2020



The Battle of
Neighborhoods

Coursera
Capstone



Battle of Neighborhoods



Study Objectives

- Compare two cities to determine where the venue scene is more diverse
- Check which venues are missing in each respective city in comparison with the second

Data used for the study

**New York City
neighborhoods
data**

Data from the
previous Lab
session

Foursquare API

Extract the list
of venues for
New York and
San Francisco.

**San Francisco
neighborhoods
data**

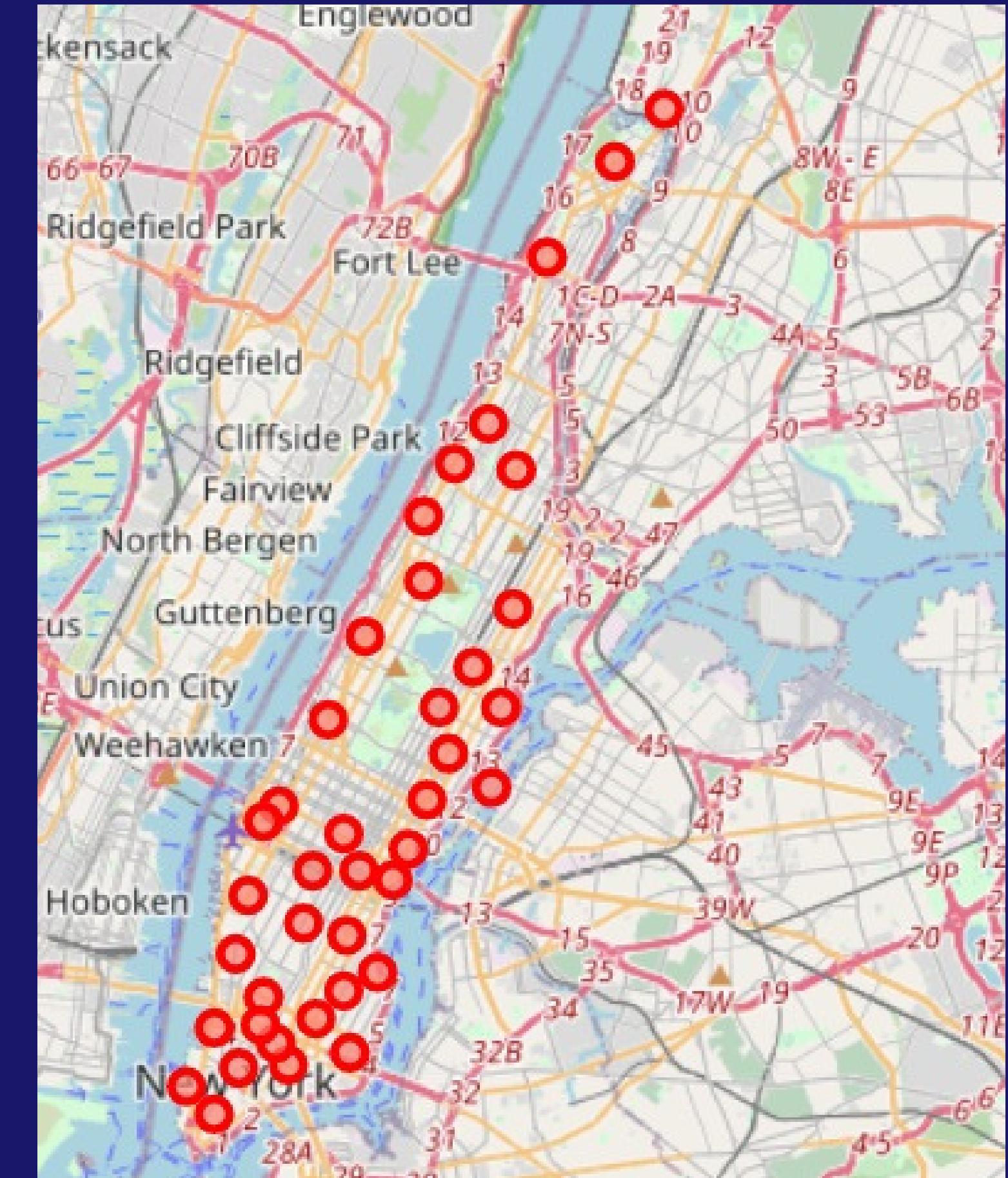
Source:
<http://www.helthysf.org/bdi/outcomes/zipmap.htm>

**Python libraries
to extract geo
coordinates**

Geopy
Geocoder
Geopandas

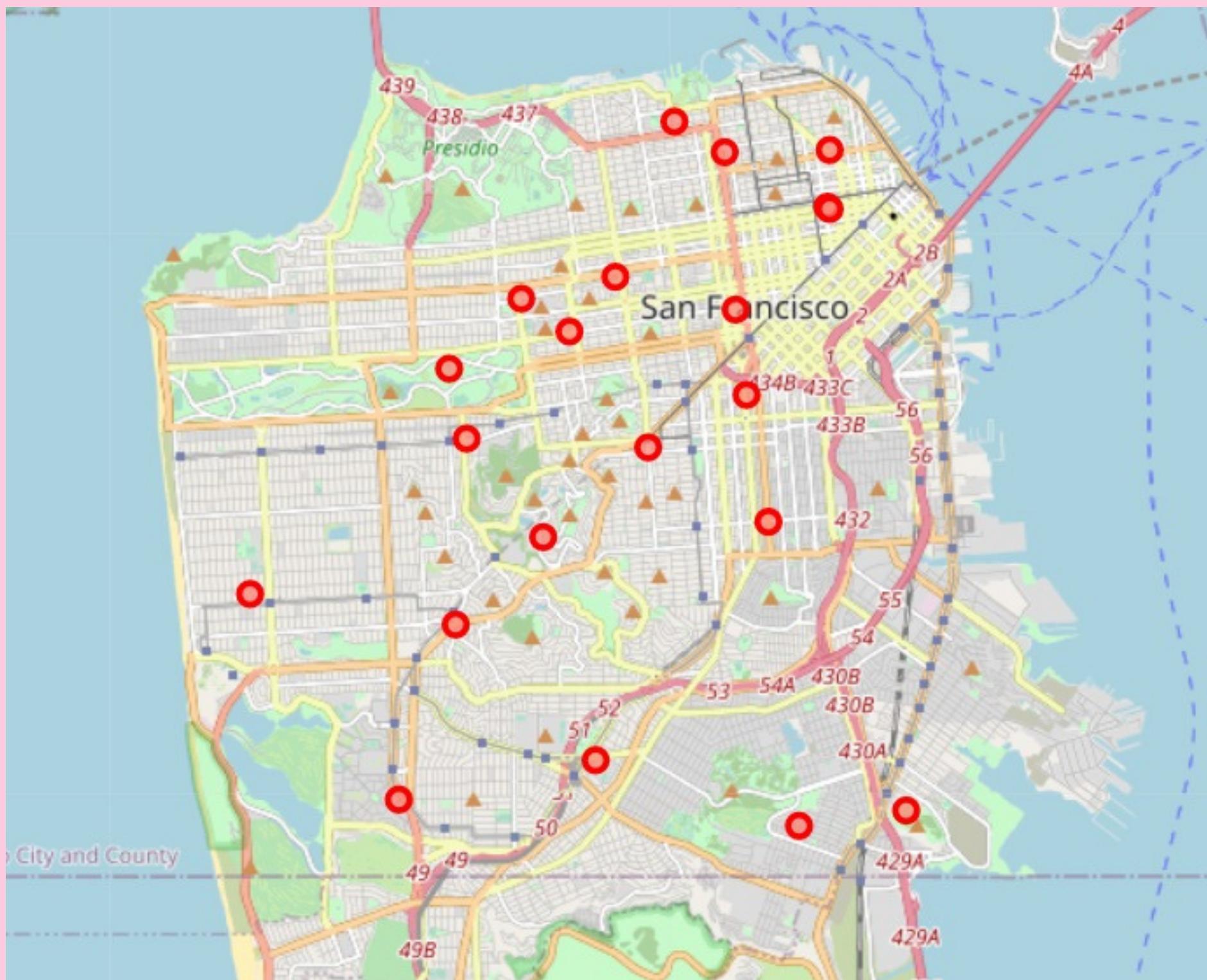
Manhattan Neighborhoods

Analysed 40 neighborhoods in
Manhattan, New York

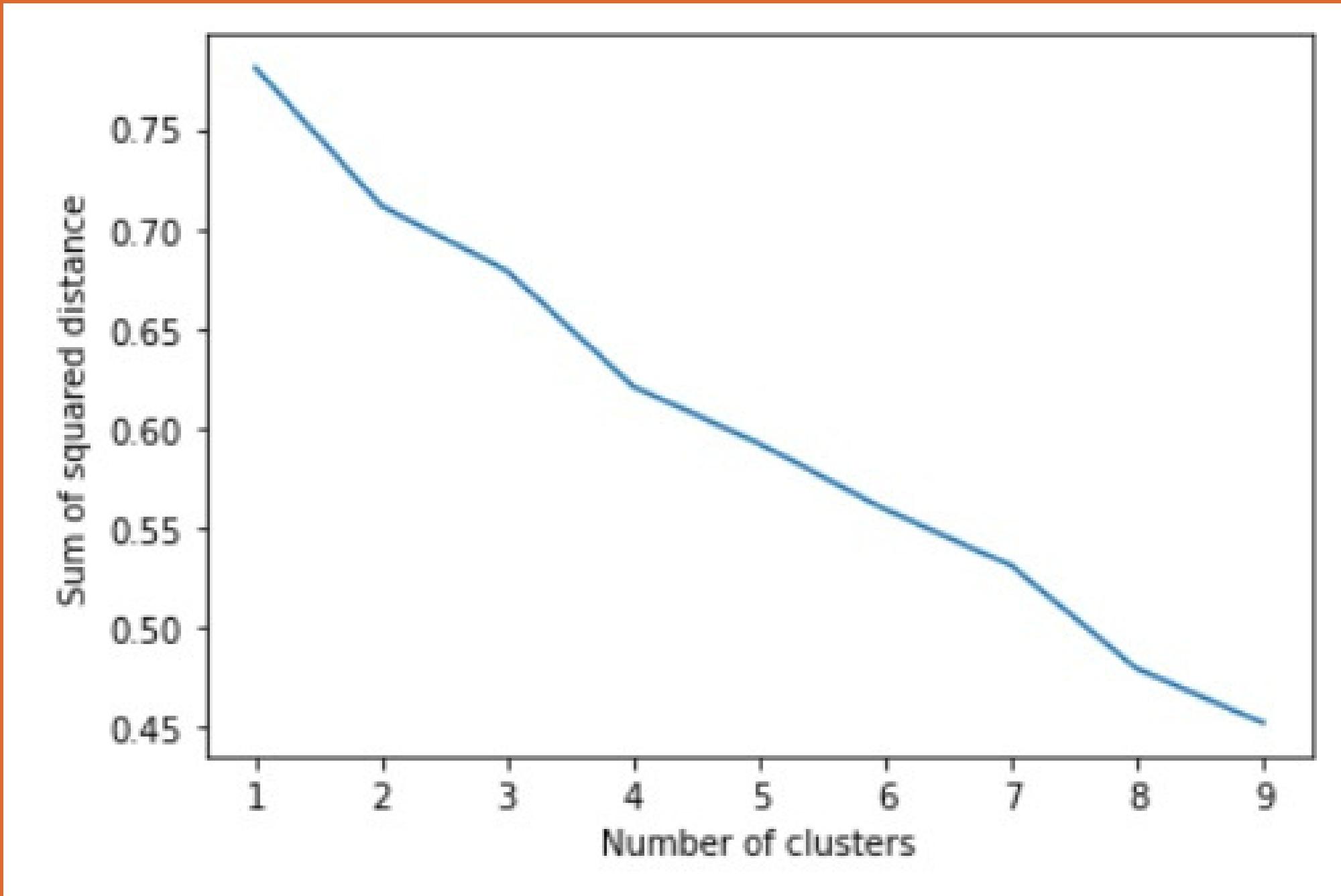


San Francisco Neighborhoods

Analysed 21 neighborhoods in
San Francisco



Elbow Method



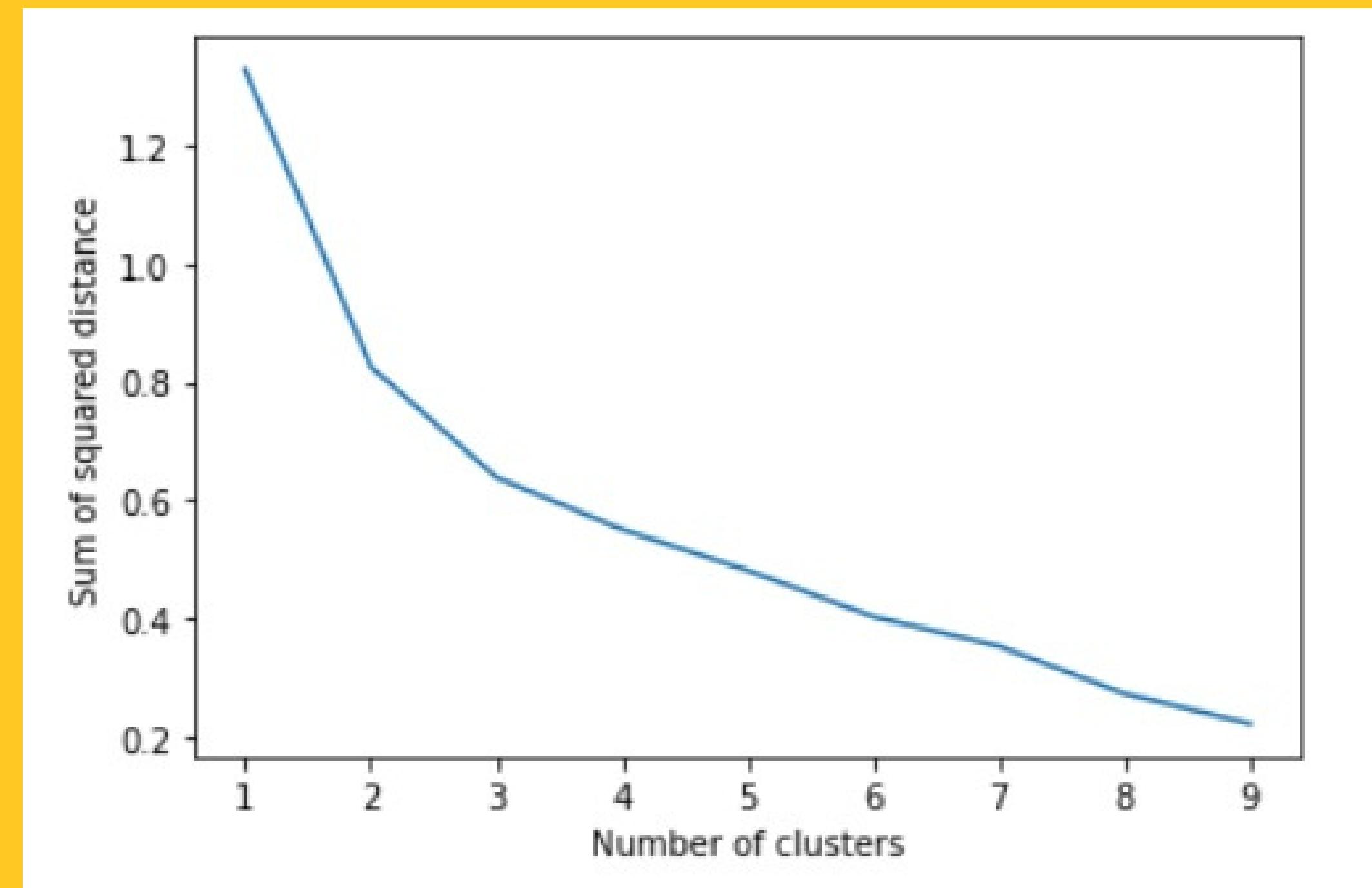
Clustering Neighborhoods in Manhattan

Based on the Elbow Method, we determine that we can use **k = 7**

Clustering Neighborhoods in SF

Based on the Elbow Method, we determine that we can use **k = 3**

Elbow Method

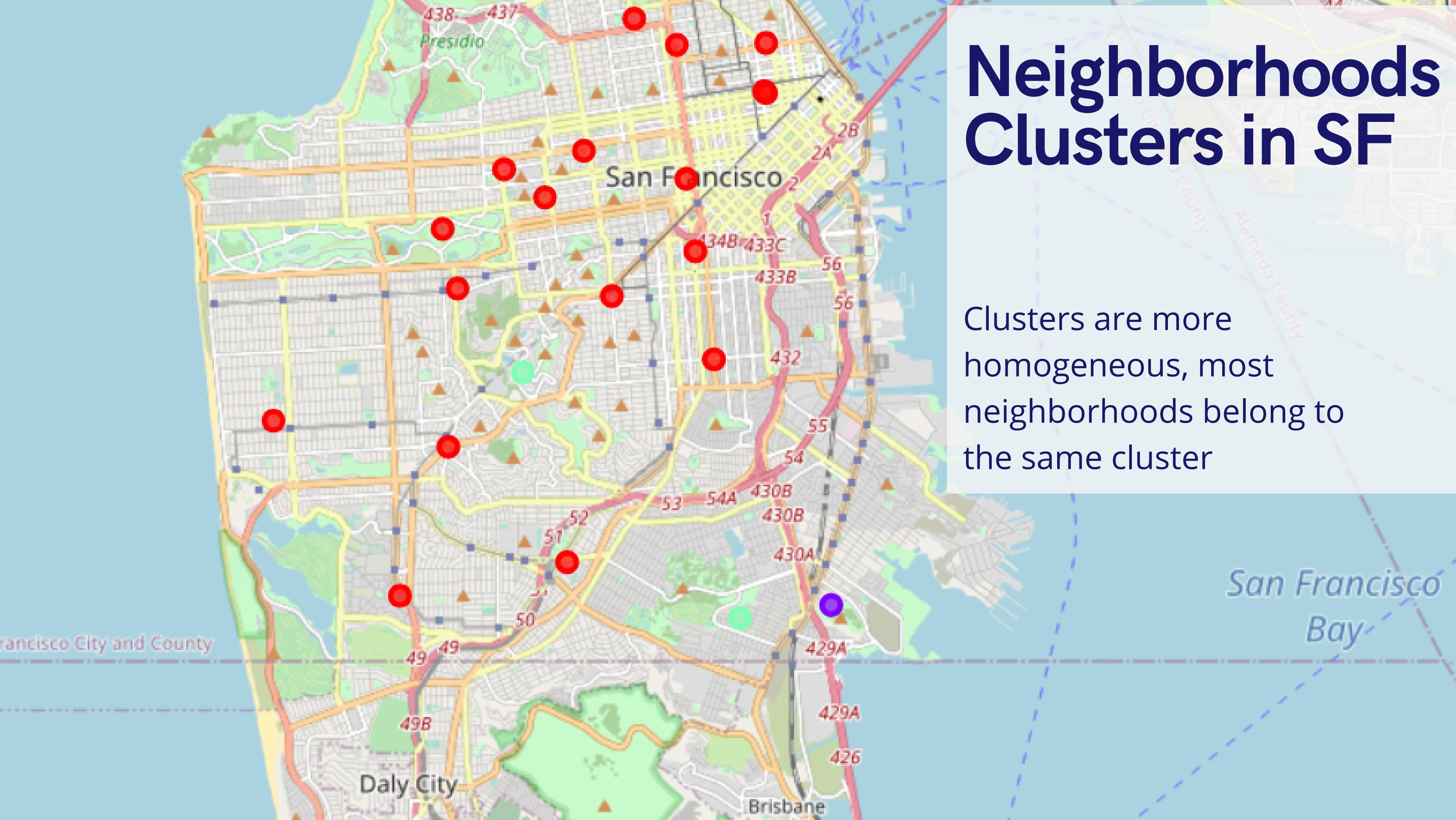


Neighborhoods Clusters in Manhattan

Clusters are diverse

Neighborhoods Clusters in SF

Clusters are more homogeneous, most neighborhoods belong to the same cluster



The most common venues in Manhattan



The most common venues in SF

Venues present in SF and missing in Manhattan:

'Science Museum', 'Bus Stop', 'Church', 'Light Rail Station', 'Field', 'Brewery', 'Motel', 'Road', 'Neighborhood', 'College Gym', 'Lake', 'Comic Shop', 'Track', 'Storage Facility', 'Planetarium', 'Street Food Gathering', 'Sicilian Restaurant', 'Skating Rink', 'Tanning Salon', 'Tuscan Restaurant', 'Souvlaki Shop', 'ATM', 'Physical Therapist', 'Cultural Center', 'Car Wash', 'Business Service', 'Bus Line', 'Burmese Restaurant', 'Botanical Garden', 'Aquarium', 'Gluten-free Restaurant', 'Parking', 'Pakistani Restaurant', 'Nabe Restaurant', 'Music Store', 'Mountain', 'Motorcycle Shop', 'Metro Station', 'Marijuana Dispensary', 'Hill', 'Herbs & Spices Store'



Venues present in SF and missing in Manhattan:

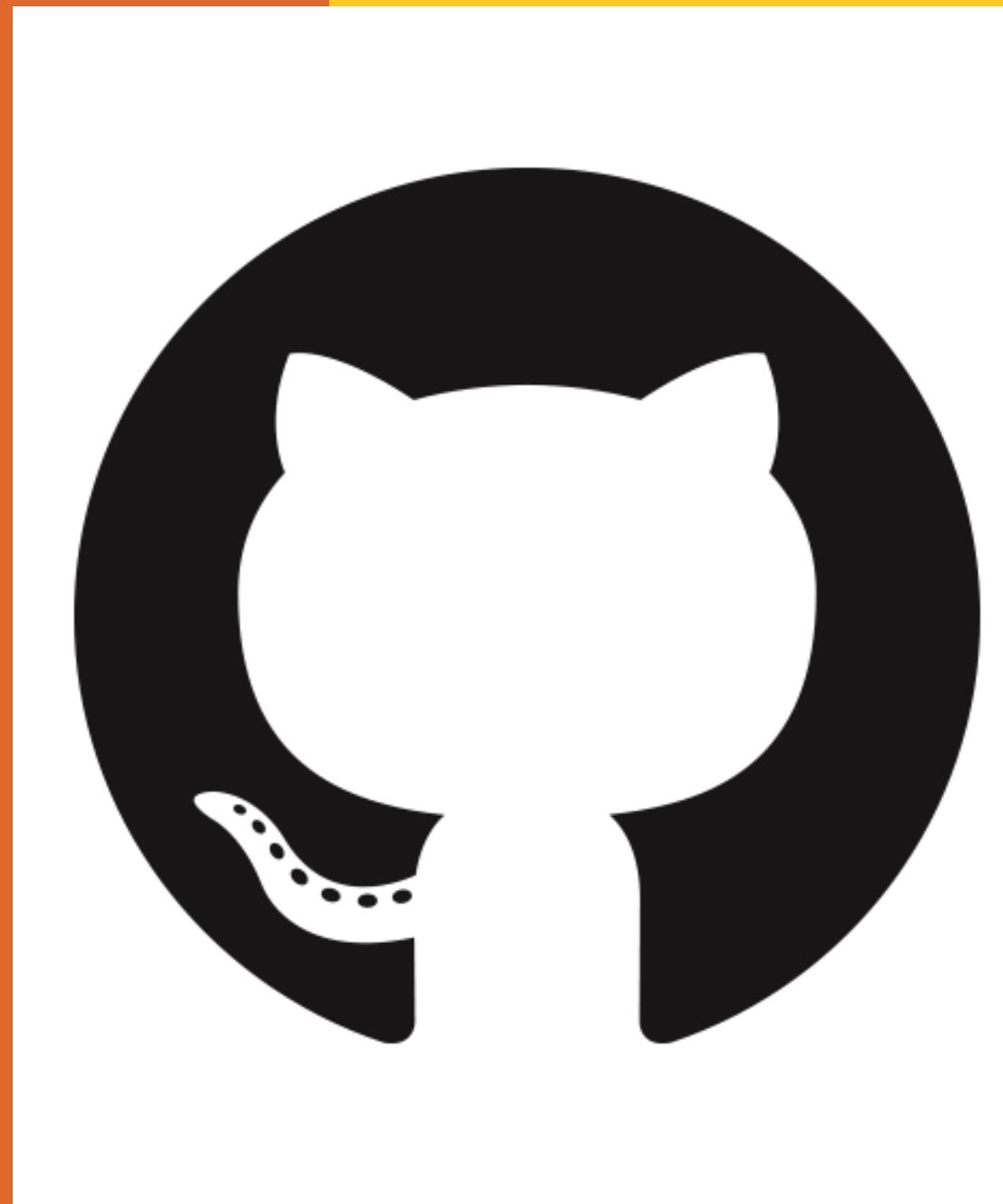
'Speakeasy', 'Caribbean Restaurant', 'Cuban Restaurant', 'Fried Chicken Joint', 'Food Court', 'Snack Place', 'Turkish Restaurant', 'Hotpot Restaurant', 'Boat or Ferry', 'Rock Club', 'Smoke Shop', 'Filipino Restaurant', 'School', 'Memorial Site', 'Residential Building (Apartment / Condo)', 'Hawaiian Restaurant', 'Australian Restaurant', 'Tattoo Parlor', 'Supplement Shop', 'Malay Restaurant', 'Office', 'Pet Café', 'Pet Service', 'Video Game Store', 'Tailor Shop', 'Bike Rental / Bike Share', 'Sea Market', 'Bistro', 'Bridal Shop', 'Bridge', 'Discount Store', 'Design Studio', 'Club House', 'Israeli Restaurant', 'Kebab Restaurant', 'Catering School', 'Shopping Mall', 'Bike Trail', 'Skate Park', 'Soup Place', 'Soccer Field', 'Japanese Restaurant', 'Caterer', 'College Theater', 'Record Shop', 'Paella Restaurant', 'Cimbrian', 'Sports Club', 'Sports Bar', 'Chinese Restaurant', 'Library', 'Karaoke Bar', 'Wings Joint', 'Hobby Shop', 'Deli', 'Bookstore', 'Used Bookstore', 'Athletics & Sports', 'Basketball Court', 'Germanches', 'Gymnastics', 'Gym', 'Swimming Pool', 'Tennis Stadium', 'Theme Restaurant', 'South Indian Restaurant', 'Cafus', 'Check Cleaning Service', 'Tech Startup', 'Waterfront', 'Tourist Information Center', 'Volleyball Court', 'Cajun / Creole Restaurant', 'Cafeteria', 'Shop Club', 'Board Shop', 'Veterinarian', 'Venezuelan Restaurant', 'Baby Store', 'Auditorium', 'Social Club', 'Kosher Restaurant', 'Soba Restaurant', 'Moroccan Restaurant', 'Outdoors & Recreation', 'North Indian Restaurant', 'General Entertainment', 'Non-Profit', 'Golf Course', 'Gym Pool', 'Gymnastics Gym', 'Habu or Manta', 'Meeting Toget', 'Molecular Gastronomy Restaurant', 'Food Stand', 'High School', 'Hospital', 'Medical Center', 'Leather Goods Store', 'Gaming Cafe', 'Financial or Legal Service', 'College Academic Building', 'Laundry Service', 'College Arts Building', 'College Bookstore', 'College Cafeteria', 'Comfort Food Restaurant', 'Community Center', 'Scandinavian Restaurant', 'Coworking Space', 'Czech Restaurant', 'River', 'Rest Area', 'Resort', 'Drugstore', 'Duty-free Shop', 'Empanada Restaurant', 'Pier', 'Pie Shop', 'Piano Bar', 'Daycare'

Results

- There are more neighborhood clusters in Manhattan
- Most neighborhoods in San Francisco belong to one large cluster (18 out of 21)
- Many venue categories are unique for Manhattan and are missing in SF



MANHATTAN IS
THE WINNER



Thank you!

You can submit questions or
comments to:

**[https://github.com/galinamf
/Coursera_Capstone](https://github.com/galinamf/Coursera_Capstone)**