Relocation Assistance

Have a dog and need to relocate to Seattle?

Power of Data Science

SEATTLE
Dog Friendly
Neighborhoods

Introduction

A dog friendly neighborhood in Seattle should have all the following within a 500-meter radius.

This list comes from [FourSquare](#) venue categories:

- Pet Service - 5032897c91d4c4b30a586d69

- Pet Store - 52f2ab2ebcbc57f1066b8b2a

- Dog Run - 4bf58dd8d48988d1e5941735

- Veterinarian - 4d954af4a243a5684765b473

116 Neighborhoods

- 116 Neighborhoods in Seattle have been identified as a possible neighborhood for recommendation.

- Latitude and Longitude has been retrieved using geopy for all 116.

- Neighborhood, Latitude and Longitude has been merged.

- Neighborhood, Latitude and Longitude data has been used to successfully extract our venue categories.

74 Pet Service Locations

Actual data from FourSquare that was rendered on to the map in the background as a marker with a popup.

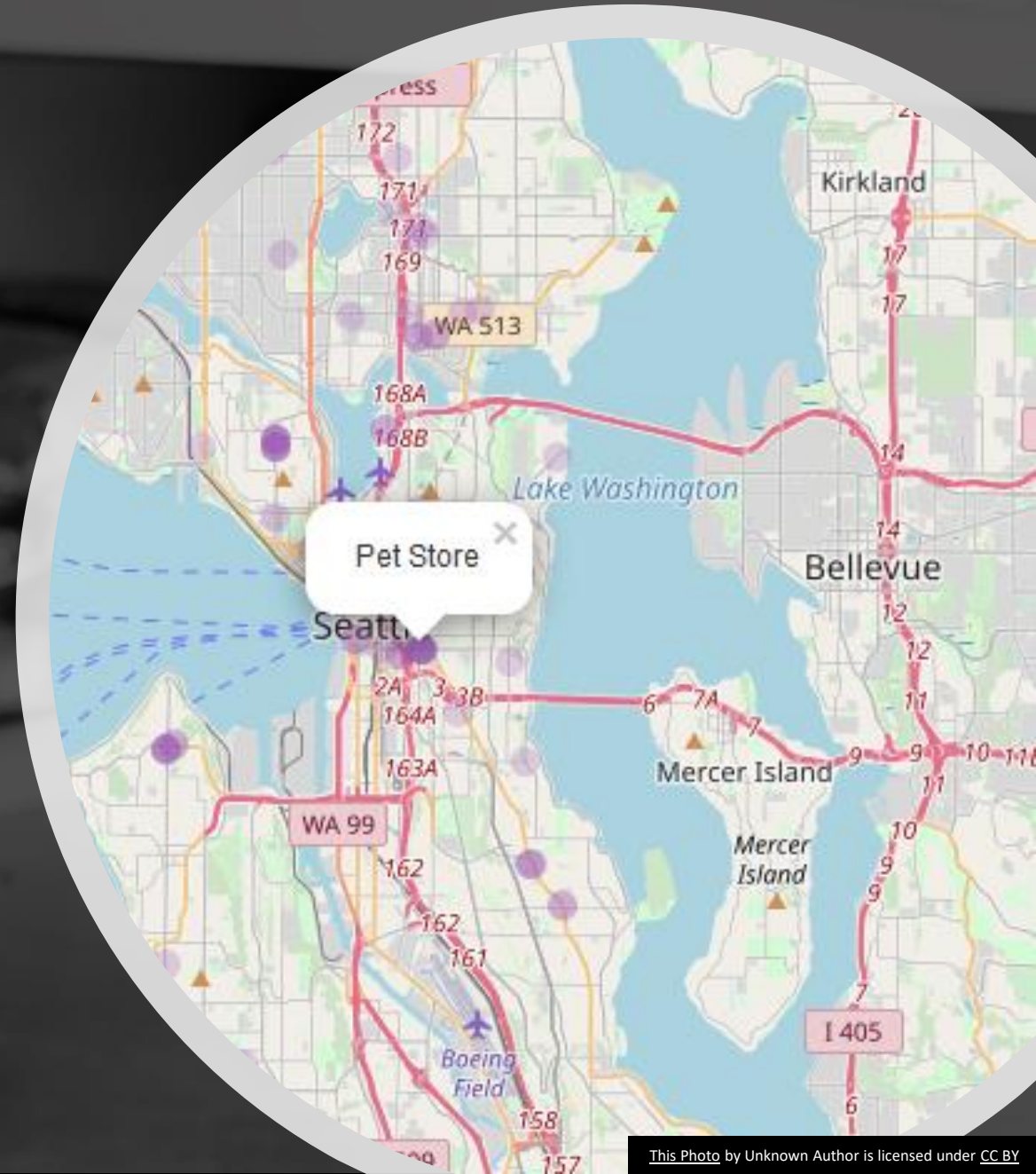| Pet Service	Latitude	Longitude
• Banfield Pet Hospital	47.724264	-122.343051
• PetSmart	47.724262	-122.343035
• Crown Hill Walk	47.698297	-122.375948
• Rocket Dog	47.695282	-122.371681
• Urban Animal	47.611723	-122.321370

88 Pet Store Locations

Pet Store has the largest dataset of all categories.

On our map you can observe the greatest concentration is around downtown and North Seattle.
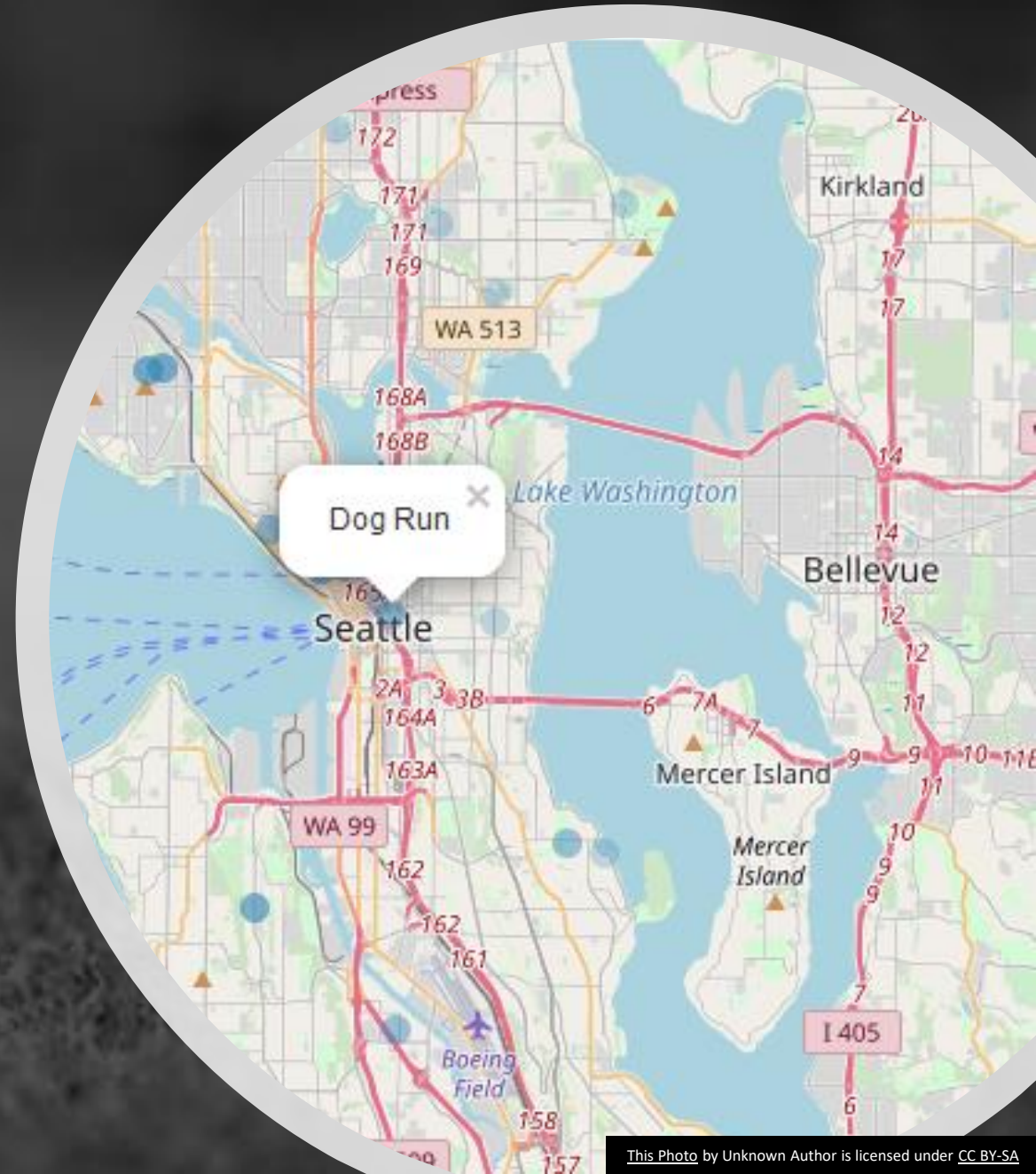
Most Popular:

- Petco

- PetSmart

- Mud Bay

49 Dog Run Locations

Amazon will allow you to bring your canine companion to work and is considered a dog friendly company.

On our map you can observe the dog run is often found around greener locations on the map.

- Meridian Off Leash Park

- Dogwood Indoor Dog Park

- Denny Park Off Leash Dog Area

- Amazon Doppler Dog Run

46 Veterinarian Locations

The veterinarian category has the least amount of locations in Seattle.
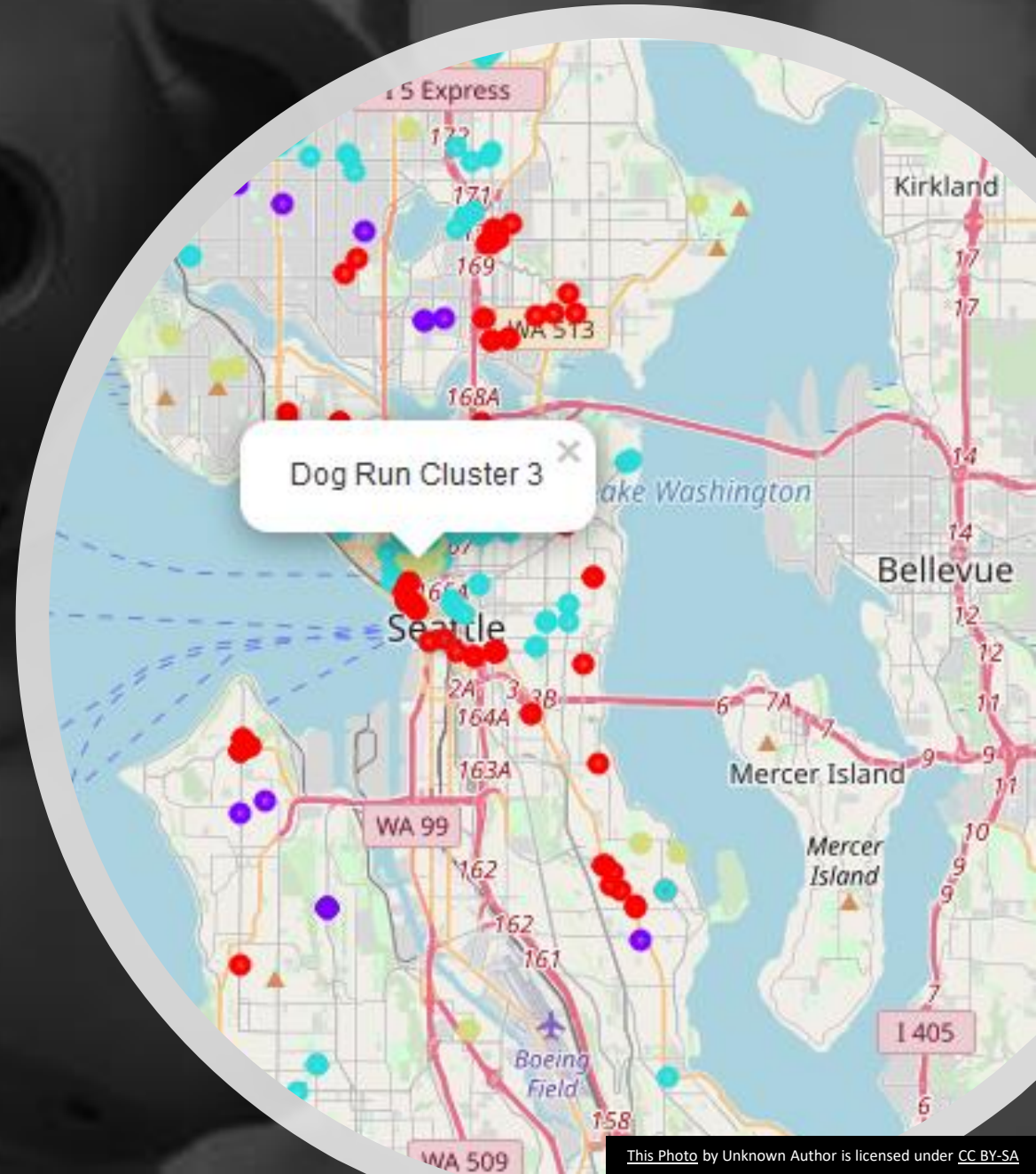
- North Seattle Veterinary Clinic

- Maple Leaf Vet Care

- Lake Union Veterinary Clinic

- Banfield Pet Hospital

- Crown Hill Vet

K Means Cluster Map

Unsupervised Machine Learning

- The k-means is a partition our observations into k clusters which is on our map.

- The k-means cluster map shows that downtown and around Belltown has a tight clustering.

- A tight clustering group is an indication that an area on the map has a high probability of making the recommendation of a dog friendly neighborhood.

- You can use both this method and the map overlay method to determine Belltown and Denny Triangle which are our top 2 dog friendly neighborhoods.

Dog Run Cluster 3

257 Venue Records

The FourSquare data had to be processed 4 times and consolidated for use in the map in the background.

Data on the k-means map will change each time you run it.

I found that concentration on the map in the background is like the k-means map.
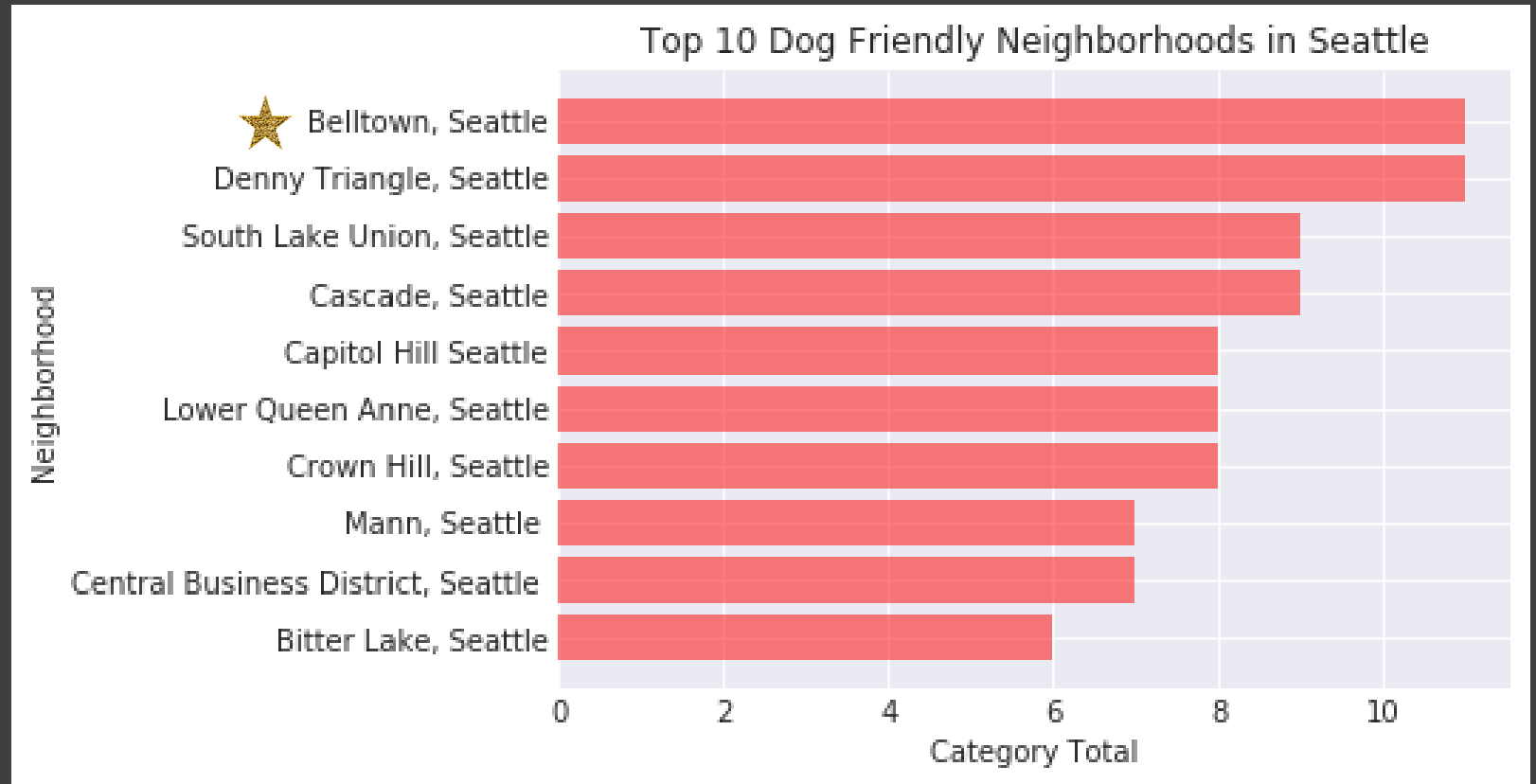
- Pet Service

- Pet Store

- Dog Run

- Veterinarian

Horizontal Bar Chart

Top 10 Dog Friendly Neighborhoods

Top 10 Dog Friendly Neighborhoods in Seattle

Category Analysis

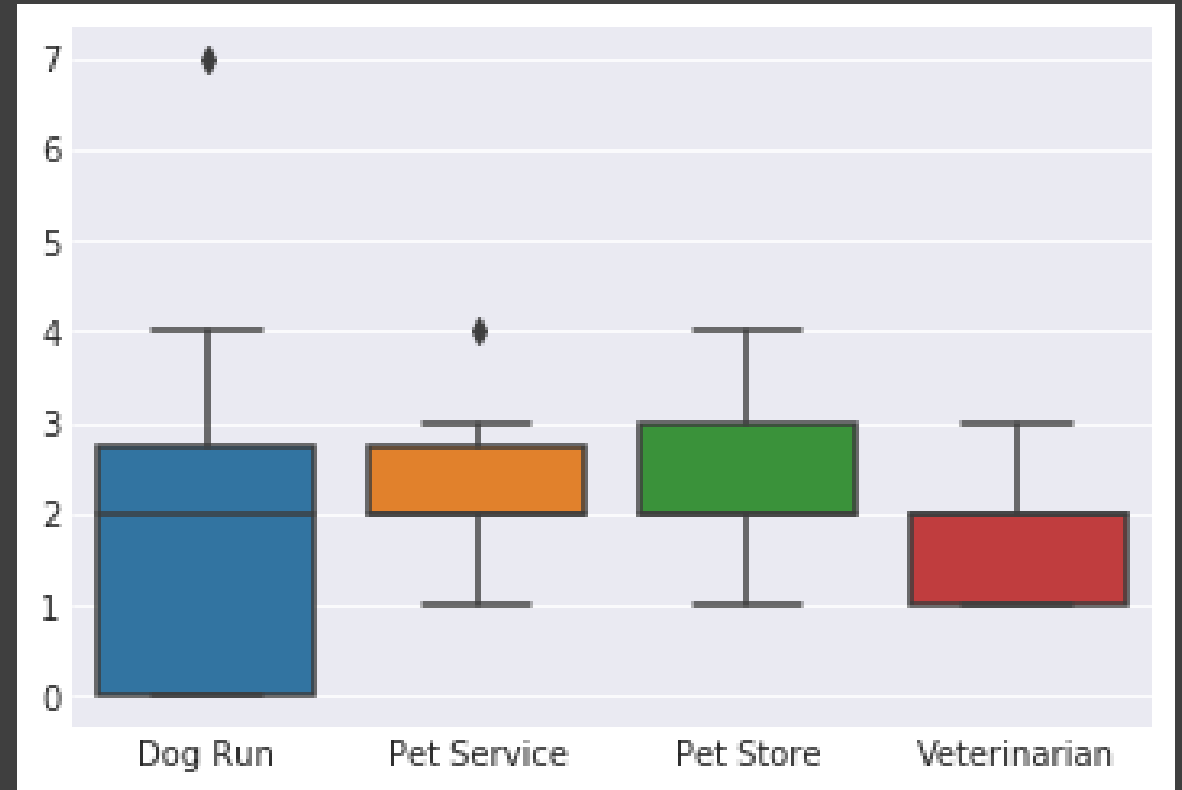Minimum value of the boxplot for the Dog Run category is 0 and has the greatest outlier with 7.

Minimum for the rest of the category was 1 and only 1 other outlier for the Pet Service category which was 4 in the Crown Hill neighborhood which has the most Pet Services available.

Median observation line is 2 which is another way of saying on average a neighborhood in the top ten can be expected to have around 2 locations within a 500-meter radius of each category.

Maximum observation is at 4 for the Dog Run and Pet Store category.

Pet Store and Veterinarian category has a maximum observation of 3.

Boxplot

Neighborhood	Dog Run	Pet Service	Pet Store	Veterinarian	Total	1	2	3	4
Belltown, Seattle	4	2	3	2	11	X	X	X	X
Denny Triangle, Seattle	7	1	2	1	11	X	X	X	X
South Lake Union, Seattle	2	3	3	1	9	X	X	X	X
Cascade, Seattle	3	2	2	2	9	X	X	X	X
Capitol Hill Seattle	2	2	2	2	8	X	X	X	X
Lower Queen Anne, Seattle	2	3	1	2	8	X	X	X	X
Crown Hill, Seattle	0	4	2	2	8		X	X	X
Mann, Seattle	0	2	4	1	7		X	X	X
Central Business District, Seattle	0	2	4	1	7		X	X	X
Bitter Lake, Seattle	0	2	1	3	6		X	X	X

Top 10 Dog Friendly Neighborhood Matrix

Conclusion

6 dog friendly neighborhoods in Seattle were located with all 4 categories within a 500-meter radius.

6 of the neighborhoods in Seattle that were identified from the 116 is 5%.

I would advise to increase the radius for the nearby search to increase the number of neighborhoods that meet the category requirement.

I would recommend the top 6 neighborhoods to the relocation assistance company and to a dog owner.

I would suggest a dog owner be provided with a matrix to help them decide with the other 4.