



Jersey City CitiBike Data Science Report

20200612

—
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Introduction

Background:

CitiBike is a public bike sharing system currently serving the New York City boroughs of Manhattan, the Bronx, Brooklyn, Queens, and parts of Jersey City, New Jersey. Cyclists have the option of registering for a yearly subscription at the cost of \$95, a weekly subscription for \$25, a 24-hour pass for \$9.95, or they can choose to pay for a single ride at the cost of \$3. With each rental, every cyclist is allowed 45 mins of bicycle use until additional charges are accrued. Typically, cyclists can rent a bike from one of the more than 600 CitiBike stations located around the NYC metropolitan area and return it to another bike station.

Problem:

This project analyzes the most recently published Jersey City Citi Bike data for the first quarter of 2020. The goal is to find the neighborhoods that Citi Bikes are most often used, the average age of current CitiBike users, the top 10 venues in the neighborhoods with the most citi bike traffic, and to cluster the neighborhoods using k-means clustering.

Interests:

This project is designed to target bicycle enthusiasts who are looking to relocate to Jersey City and bicycle businesses that are looking for venues to advertise their products and services. The descriptive characteristics of the individual user data will provide advertisers with an idea of a targeted demographic for advertisements. The location data will provide bike users with an idea of which neighborhoods bikes are more or less readily available and where they can connect and network with fellow biking enthusiasts.

We will focus on the neighborhoods with the highest number of bicycle traffic, a description of the people who use the bike sharing program, and the top 10 venues in the neighborhoods with the most traffic.

Data

Based on our description of the problem, factors that will influence our decisions are:

- The most commonly used Citi Bike Terminals in Jersey City.
- The average age of Citi Bike users.
- The most common venues in the areas with the most Citi Bike traffic.

The following sources will be needed to generate a solution to the given business problem:

- [Part 1: Creating a Data Frame containing real world data of recent Citi Bike usage from NYC Open Data](#): A dataset consisting of CitiBike meta data containing: Trip Duration (seconds), Start Time and Date, Stop Time and Date, Start Station Name, End Station Name, Station ID, Station Lat/Long, Bike ID, User Type (Customer = 24-hour pass or 3-day pass user; Subscriber = Annual Member), Gender (Zero=unknown; 1=male; 2=female), and Year of Birth.
- Part 2: Creating a new data frame of the neighborhoods with the most Citi bike usage, their coordinates, and the 10 ten venues using the foursquare API.

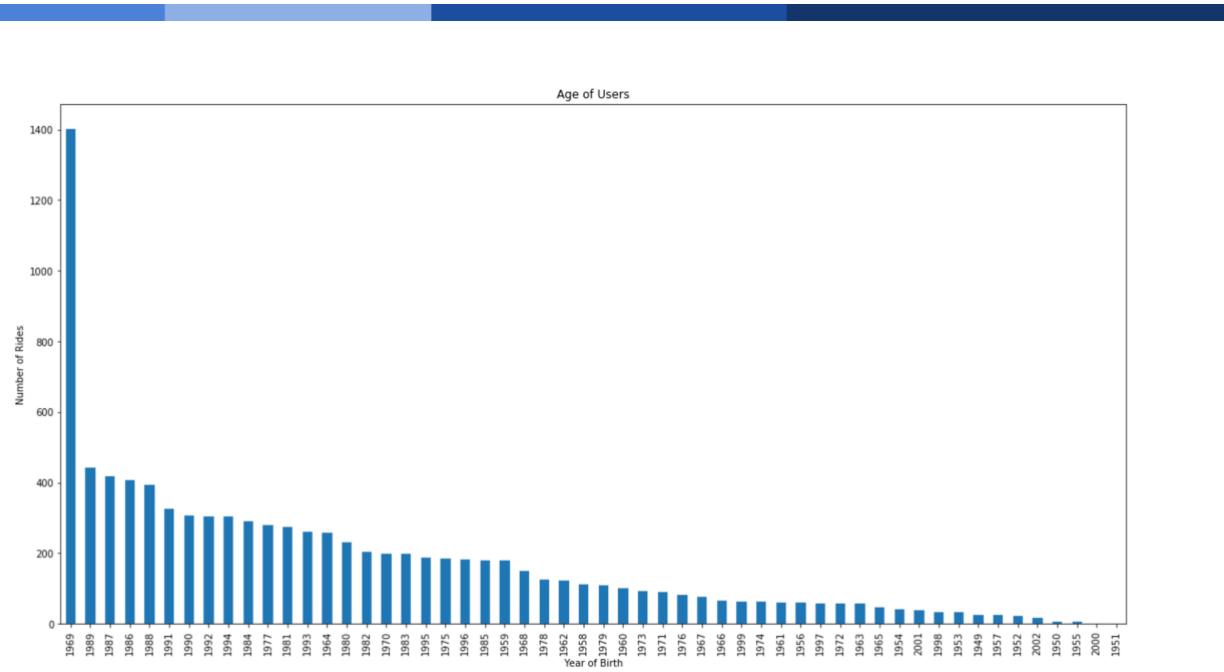
Methodology

Part 1: Examining CikiBike Demographics

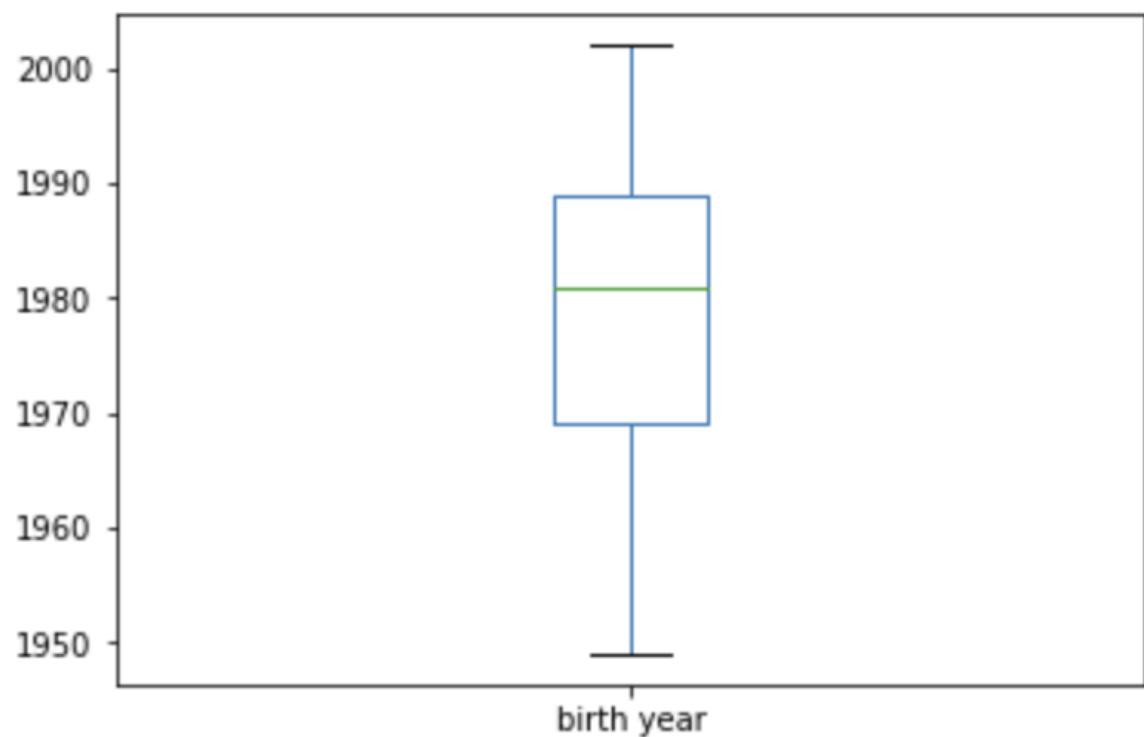
Once the data frame is loaded into the notebook, a quick examination of the data has led to a few quick immediate conclusions about CitiBike usage in Jersey City:

- The average CitiBike ride in Jersey City lasts for a total of 30 minutes.
- The shortest bike ride was roughly one min long, which suggests that there may be some noise in the data from registered bike users or issue with the bike required the user to return it after release.
- The average Citibike user was born in 1979 or is approximately 41 years of age.

	tripduration	start station id	start station latitude	start station longitude	end station id	end station latitude	end station longitude	bikeid	birth year	gender
count	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000	9268.000000
mean	1803.697885	3311.715796	40.722889	-74.047607	3310.644152	40.722583	-74.047348	41840.916487	1979.39167	1.091174
std	14163.286205	187.385051	0.007638	0.012639	186.587133	0.007613	0.012567	2755.454525	11.54151	0.612974
min	63.000000	3184.000000	40.711130	-74.083639	3184.000000	40.711130	-74.083639	15363.000000	1949.00000	0.000000
25%	380.000000	3196.000000	40.716870	-74.055701	3195.000000	40.716870	-74.052478	42196.750000	1969.00000	1.000000
50%	820.500000	3211.000000	40.721651	-74.044247	3211.000000	40.721525	-74.044247	42336.000000	1981.00000	1.000000
75%	1729.250000	3278.000000	40.727596	-74.037683	3277.000000	40.727596	-74.038051	42470.000000	1989.00000	1.000000
max	846382.000000	3792.000000	40.748716	-74.032108	3792.000000	40.810000	-73.955151	42636.000000	2002.00000	2.000000



This visualization shows the distribution of the age of CitiBike users. Cyclists who are about 51 years old use CitiBike more than twice as much as any other age group. However, the data also suggests that Citibike is very popular with millennials. In fact, 8 out of the top 10 age groups are members of this generation, with the top 75 and 50 percentiles having been born in 1989 and 1981 respectively.

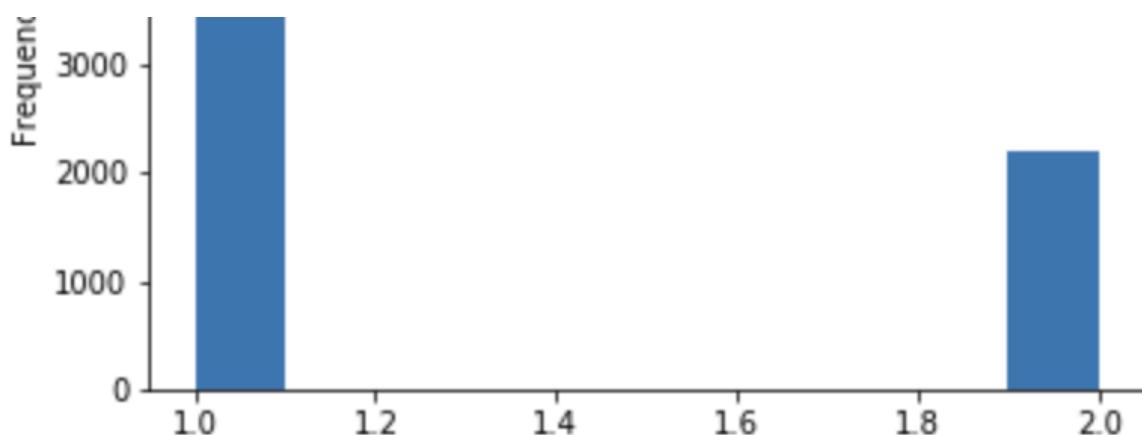


Upon examination of the gender statistics, I found that men used CitiBike during that time period more than twice as much as women have. While Newport Parkway is by far the most popular CitiBike station used in Jersey City, men prefer to rent bikes from the Sip Ave station.

Sip Ave is also not very popular among women cyclists. Beneath the gender distributions are the top 10 venues to each station in the top 5 stations for men and women.

```
n [18]: female['start station name'].value_counts()
```

```
Out[18]: Newport Pkwy                218
          Harborside                  101
          JC Medical Center           92
          Hamilton Park               90
          Grove St PATH                87
```



```
In [35]: female['end station name'].value_counts()
```

```
Out[35]: Newport Pkwy          201
          Harborside            110
          Liberty Light Rail    93
          Hamilton Park         91
          Grove St PATH          89
```

```
In [23]: male['start station name'].value_counts()
```

```
Out[23]: Sip Ave              387
          Newport Pkwy          361
          Marin Light Rail       285
          Harborside             221
          Hamilton Park          220
```

```
In [29]: male['end station name'].value_counts()
```

```
Out[29]: Sip Ave              353
          Newport Pkwy          348
          Grove St PATH          273
          Marin Light Rail       264
          Hamilton Park          224
```

Grove Street Path

	name	categories	lat	lng
0	Krispy Kreme Doughnut	Donut Shop	40.718765	-74.041762
1	Lackawanna Coffee	Coffee Shop	40.718501	-74.043571
2	L'Atelier Du Chocolat	Chocolate Shop	40.719766	-74.041235
3	Taqueria Downtown Catering Co.	Mexican Restaurant	40.720976	-74.042658
4	Latham House	New American Restaurant	40.718701	-74.041798
5	CrossFit Jersey City	Gym	40.719524	-74.043834
6	Grove Street Farmers' Market	Farmers Market	40.719764	-74.042622
7	WORD Jersey City	Bookstore	40.719984	-74.043205
8	Broa	Portuguese Restaurant	40.718589	-74.043527
9	Newark Avenue Pedestrian Plaza	Plaza	40.720729	-74.044363
10	Roman Nose	Italian Restaurant	40.720072	-74.043129
11	Órale! Mexican Kitchen	Mexican Restaurant	40.720478	-74.042872
12	Razza Pizza Artigianale	Pizza Place	40.717708	-74.044101
13	Mathews Food & Drink	American Restaurant	40.720892	-74.042834
14	Tidal Pokē Co.	Poke Place	40.720328	-74.042810

Hamilton Park

	name	categories	lat	lng
0	Hamilton Park	Park	40.727584	-74.045234
1	Milk Sugar Love Creamery & Bakeshop	Ice Cream Shop	40.727792	-74.044128
2	Ed & Mary's	Pub	40.728638	-74.046554
3	Madame Claude Wine	Wine Shop	40.727536	-74.043869
4	Hamilton Pork	BBQ Joint	40.729009	-74.044454
5	The Hamilton Inn	American Restaurant	40.729095	-74.044732
6	Hamilton Health & Fitness	Gym	40.727806	-74.043434
7	Rumba Cubana	Cuban Restaurant	40.727484	-74.043859
8	Hamilton Playground	Playground	40.728178	-74.045300
9	O'Kafe	Café	40.727624	-74.043637
10	Thirsty Quaker	Liquor Store	40.727505	-74.048470
11	The Happiness Center - Jersey City	Yoga Studio	40.726316	-74.047702
12	Guillo's Place	Bar	40.725749	-74.047092
13	Ahri's Kitchen	Korean Restaurant	40.726096	-74.043707
14	Super Buy Rite Wines & Liquor	Wine Shop	40.731109	-74.041374

Harborside

	name	categories	lat	lng
0	Jersey City Waterfront	Waterfront	40.720201	-74.032574
1	DomoDomo	Sushi Restaurant	40.720090	-74.034225
2	Maggie's Farm Espresso	Coffee Shop	40.719591	-74.036658
3	Ample Hills Creamery	Ice Cream Shop	40.720115	-74.035243
4	Jersey City Urby	Residential Building (Apartment / Condo)	40.720237	-74.034989
5	9 Bar Cafe	Café	40.719817	-74.034907
6	Hudson & Co	Gastropub	40.720764	-74.032038
7	Lutze Biergarten	Beer Garden	40.720540	-74.032161
8	CYCLEBAR	Cycle Studio	40.719799	-74.036476
9	Hyatt Regency Jersey City On The Hudson	Hotel	40.717083	-74.032679
10	CAVA	Mediterranean Restaurant	40.716800	-74.035507
11	Monty Hall	Performing Arts Venue	40.716511	-74.036386
12	Ground Connection	Coffee Shop	40.720689	-74.032456
13	Gregory's Coffee	Coffee Shop	40.716530	-74.032976
14	Hybrid Coffee	Coffee Shop	40.716951	-74.032462

Marin Light Rail

	name	categories	lat	lng
0	Jersey City Krank	Gym	40.712745	-74.043412
1	Taqueria Downtown	Taco Place	40.716208	-74.044789
2	Edward's Steakhouse	Steakhouse	40.716276	-74.042649
3	sam a.m.	Café	40.713999	-74.039096
4	La Côte	French Restaurant	40.714093	-74.039723
5	White Star	American Restaurant	40.713279	-74.039793
6	Taqueria Viva Mexico	Taco Place	40.714128	-74.040285
7	Vogue Café	Café	40.716166	-74.042117
8	CoolVines	Wine Shop	40.717339	-74.043989
9	Short Grain	Café	40.717323	-74.042712
10	Dolma	Middle Eastern Restaurant	40.716355	-74.045931
11	Van Vorst Park	Park	40.717240	-74.045443
12	Razza Pizza Artigianale	Pizza Place	40.717708	-74.044101
13	Kanibal & Co.	Boutique	40.716509	-74.039204
14	Amelia's Bistro	American Restaurant	40.714071	-74.039787

Sip Ave

		name	categories	lat	lng
0	Landmark Loew's Jersey Theatre	Indie Movie Theater	40.731967	-74.063941	
1	Boulevard Drinks	Hot Dog Joint	40.731827	-74.064253	
2	Whealth And Co	Café	40.732350	-74.060913	
3	3 Guys From Italy	Pizza Place	40.731689	-74.065005	
4	JSQ Lounge	Cocktail Bar	40.732007	-74.064170	
5	Chipotle Mexican Grill	Mexican Restaurant	40.730643	-74.063656	
6	Toasted Bagels & Deli	Bagel Shop	40.731782	-74.060228	
7	Goodwill	Thrift / Vintage Store	40.732036	-74.067045	
8	7-Eleven	Convenience Store	40.730669	-74.064312	
9	Morgan Seafood Restaurant	Seafood Restaurant	40.731745	-74.068189	
10	Culinary Conference Center - Hudson County Com...	American Restaurant	40.730795	-74.065586	
11	Baskin-Robbins	Ice Cream Shop	40.731091	-74.064645	
12	Blink Fitness	Gym	40.730544	-74.064976	
13	Noodlefan USA	Thai Restaurant	40.731788	-74.066904	
14	VAIBHAV Indian Spice Journey	Indian Restaurant	40.735211	-74.062281	



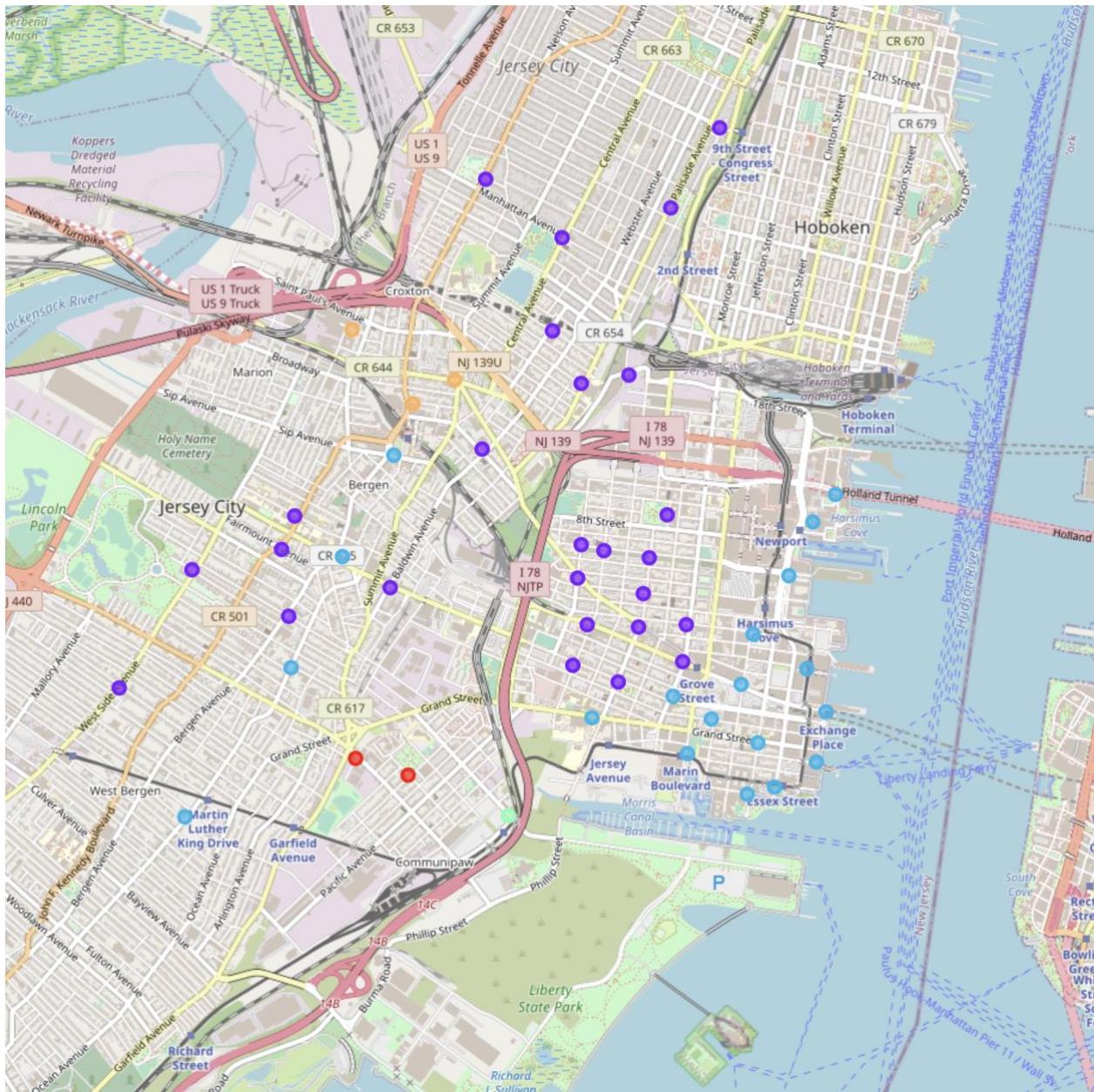
Newport Parkway

	name	categories	lat	lng
0	Newport Boardwalk	Waterfront	40.726893	-74.030643
1	bwè kafe	Café	40.731165	-74.031491
2	Newport Lighthouse Park	Lighthouse	40.726389	-74.030380
3	Canis Minor	Pet Store	40.727501	-74.032132
4	Babo Tea House	Asian Restaurant	40.726748	-74.032342
5	Menya Sandaime	Noodle House	40.728554	-74.034660
6	Caffé Bene	Coffee Shop	40.728612	-74.034591
7	Newport Waterfront	Waterfront	40.725633	-74.034934
8	Chipotle Mexican Grill	Mexican Restaurant	40.726819	-74.035267
9	Newport Green	Park	40.731519	-74.031800

Part 2: Clustering Stations

Below we can see the clustering of the neighborhoods. One hot coding is done on the venues data. One hot coding is a process in which the data is converted into a form that could be provided to the machine learning algorithms. The venues data is then grouped by the station and the average is calculated, finally the top ten venues for each neighborhood is calculated.

To help people find similar stations, we will cluster the stations using K-means clustering, which is a form of unsupervised machine learning algorithm that clusters data based on a predetermined size of clusters. For this project we will use 5 clusters. The purpose of clustering is to target individuals that may use bike stations that are located in similar areas or are used by a similar demographic.



Results:

After Clustering the stations we could examine each cluster. Unfortunately, the stations are labeled by the station ID instead of the actual name of the station. However, we could use the station Id to find the station name or locate what cluster the station is a part of on the map.

The first cluster consists of two stations. The first most common venue here is the pizza restaurant. It's likely that if ads were placed in that pizza restaurant, advertisers could target cyclists who use CitiBikes at those two stations.

Station Id	x	Cluster Labels	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
13957	3268	0	Pizza Place	Pool	Caribbean Restaurant	Fish & Chips Shop	Sandwich Place	Coffee Shop	Dumpling Restaurant	American Restaurant	Hardware Store	Deli / Bodega
203268	3277	0	Pizza Place	Park	Coffee Shop	Fast Food Restaurant	Deli / Bodega	Hardware Store	Pool	Breakfast Spot	Fish & Chips Shop	Chinese Restaurant

First Cluster

The second cluster consists of stations that are similar to Oakland ave. The most common venues in this area are bars. It is likely that this part of the city is residential and full of nightlife venues. Therefore, those venues should be used to advertise to cyclists in this area.

Second Cluster

Station Id	x	Cluster Labels	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
0	3678	1	Bar	American Restaurant	Sandwich Place	Italian Restaurant	Coffee Shop	Ice Cream Shop	Chinese Restaurant	Café	Salon / Barbershop	Other Great Outdoors
121	3207	1	Liquor Store	Dance Studio	Bar	Pizza Place	Pool	Donut Shop	Sandwich Place	Chinese Restaurant	Bus Line	Lake
787	3193	1	Grocery Store	Latin American Restaurant	Park	Other Great Outdoors	Chinese Restaurant	Bar	Rental Car Location	Filipino Restaurant	Fast Food Restaurant	Yoga Studio
892	3211	1	Bar	Pizza Place	Gym / Fitness Center	Coffee Shop	Italian Restaurant	New American Restaurant	Mexican Restaurant	Burger Joint	Gay Bar	Cocktail Bar
2349	3203	1	Fast Food Restaurant	Café	Wine Shop	Deli / Bodega	Ice Cream Shop	Bar	Gourmet Shop	Playground	Pizza Place	Park
3195	3278	1	Bakery	Bar	Burger Joint	Café	Ice Cream Shop	Deli / Bodega	Gym	Grocery Store	Italian Restaurant	Lounge
3809	3679	1	Café	Bar	Sandwich Place	Italian Restaurant	Cajun / Creole Restaurant	Supermarket	Chocolate Shop	Restaurant	Coffee Shop	Jazz Club
4036	3210	1	Italian Restaurant	Latin American Restaurant	Pizza Place	Pharmacy	Ice Cream Shop	Park	Skating Rink	Caribbean Restaurant	Coffee Shop	Colombian Restaurant
4786	3677	1	Pizza Place	Bar	Sandwich Place	Ice Cream Shop	Liquor Store	Donut Shop	Cosmetics Shop	Fast Food Restaurant	Filipino Restaurant	College Quad
4863	3206	1	Café	Restaurant	Pizza Place	Bakery	Sandwich Place	Grocery Store	Coffee Shop	Fast Food Restaurant	Fried Chicken Joint	Spanish Restaurant
6223	3212	1	Playground	Bar	Pizza Place	Donut Shop	Residential Building (Apartment / Condo)	Sandwich Place	Chinese Restaurant	Bus Line	Liquor Store	Pharmacy
7865	3213	1	Café	Pizza Place	Bar	Gym	Taco Place	Gay Bar	New American Restaurant	Farmers Market	Italian Restaurant	American Restaurant
8587	3270	1	Bakery	Bar	Ice Cream Shop	Burger Joint	Gym / Fitness Center	Grocery Store	Deli / Bodega	Café	Pizza Place	Lounge
10237	3191	1	Fast Food Restaurant	Filipino Restaurant	Asian Restaurant	Convenience Store	Ice Cream Shop	Fried Chicken Joint	Pharmacy	Pizza Place	Discount Store	Dive Bar
11375	3186	1	Coffee Shop	Grocery Store	Pizza Place	Gym / Fitness Center	Bar	Ice Cream Shop	Cocktail Bar	Steakhouse	Middle Eastern Restaurant	Pet Store
12159	3225	1	Gym	Chinese Restaurant	Sandwich Place	Bar	Italian Restaurant	Ice Cream Shop	Kitchen Supply Store	Other Great Outdoors	Department Store	Donut Shop
12998	3791	1	Art Gallery	Donut Shop	Gym	Bus Line	Bar	Pizza Place	Convenience Store	Residential Building (Apartment / Condo)	Sandwich Place	Garden
13995	3269	1	Bakery	Bar	Pub	Burger Joint	Deli / Bodega	Pizza Place	Lounge	Italian Restaurant	Yoga Studio	Historic Site
22894	3279	1	Bakery	Bar	Theater	Gym / Fitness Center	Burger Joint	Fried Chicken Joint	Grocery Store	Cuban Restaurant	Convenience Store	Coffee Shop
23251	3273	1	Coffee Shop	Pizza Place	Grocery Store	Gym / Fitness Center	Bar	Italian Restaurant	Café	Deli / Bodega	Pet Store	Cocktail Bar
23699	3272	1	Bar	Deli / Bodega	Pizza Place	Bakery	Gym / Fitness Center	Cocktail Bar	Grocery Store	Cuban Restaurant	Lounge	Italian Restaurant
24433	3209	1	Bakery	Bar	Deli / Bodega	Burger Joint	Theater	Gym	Grocery Store	Lounge	Pizza Place	Italian Restaurant
25929	3483	1	Bakery	Bar	Burger Joint	Fried Chicken Joint	Cuban Restaurant	Dessert Shop	Bubble Tea Shop	New American Restaurant	Seafood Restaurant	Football Stadium
91392	3196	1	Pizza Place	Farmers Market	Liquor Store	Coffee Shop	Pharmacy	Park	Italian Restaurant	Gym	Grocery Store	General Entertainment
106914	3198	1	Gym	Bar	Italian Restaurant	Coffee Shop	Yoga Studio	Café	Cheese Shop	Cycle Studio	Dive Bar	Dog Run
136596	3281	1	Motel	Pizza Place	Bus Line	Park	Donut Shop	Farmers Market	Burger Joint	Breakfast Spot	Bookstore	Fast Food Restaurant

Third Cluster

The third cluster includes Sip ave., which is a popular station used by women. This cluster is located by the waterfront, and is likely a tourist destination. From this area we would be able to see the beautiful skyline of the Financial District across the Hudson River. Advertisers may want to use these venues to target women and tourists.

Station Id_x	Cluster Labels	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	
308	3195	2	Fried Chicken Joint	Fast Food Restaurant	Hot Dog Joint	Indian Restaurant	Bank	Pharmacy	Mobile Phone Shop	Diner	Sandwich Place	Chinese Restaurant
1112	3267	2	American Restaurant	Food Truck	Harbor / Marina	Café	Gym	Spa	Pizza Place	Gourmet Shop	Bar	Liquor Store
1735	3184	2	Food Truck	American Restaurant	Coffee Shop	Café	Scenic Lookout	Liquor Store	Hotel	Gym	Park	Waterfront
4188	3639	2	Coffee Shop	Sandwich Place	American Restaurant	Hotel	Ice Cream Shop	Park	Scenic Lookout	Chinese Restaurant	Residential Building (Apartment / Condo)	Rental Car Location
4541	3185	2	Pizza Place	Coffee Shop	Café	Gym / Fitness Center	Bar	Ice Cream Shop	Middle Eastern Restaurant	Chinese Restaurant	Cocktail Bar	New American Restaurant
5452	3276	2	Café	American Restaurant	Harbor / Marina	Spa	Liquor Store	Food Truck	Coffee Shop	Pizza Place	Park	Steakhouse
6285	3694	2	Food	Supermarket	Cosmetics Shop	Afghan Restaurant	Donut Shop	Light Rail Station	Seafood Restaurant	Chinese Restaurant	Fast Food Restaurant	Discount Store
8454	3214	2	Food Truck	American Restaurant	Sandwich Place	Gym	Café	Spa	Harbor / Marina	Park	Pizza Place	Bar
8707	3681	2	American Restaurant	Café	Coffee Shop	Park	Food Truck	French Restaurant	Waterfront	Gym	Harbor / Marina	Liquor Store
9549	3481	2	Café	American Restaurant	Italian Restaurant	Pizza Place	Gym / Fitness Center	Gym	Coffee Shop	Park	Liquor Store	Spa
10712	3199	2	Waterfront	Mexican Restaurant	Coffee Shop	Mobile Phone Shop	Chinese Restaurant	Restaurant	Pet Store	Park	Noodle House	Ice Cream Shop
15735	3792	2	Coffee Shop	Food Truck	Gym	American Restaurant	Waterfront	Sandwich Place	Café	Hotel	Park	Residential Building (Apartment / Condo)
18027	3205	2	Dessert Shop	Farmers Market	Liquor Store	Chinese Restaurant	Middle Eastern Restaurant	Park	Fried Chicken Joint	Supermarket	Korean Restaurant	Taco Place
18281	3187	2	Coffee Shop	American Restaurant	Pizza Place	Italian Restaurant	Gym / Fitness Center	Ice Cream Shop	Mexican Restaurant	Hotel	Sandwich Place	Chinese Restaurant
18571	3275	2	American Restaurant	Café	Coffee Shop	Pizza Place	Ice Cream Shop	Italian Restaurant	Gym / Fitness Center	Mexican Restaurant	Liquor Store	Sandwich Place
31064	3194	2	Bar	American Restaurant	Sandwich Place	Italian Restaurant	Coffee Shop	Caribbean Restaurant	Chinese Restaurant	Scenic Lookout	Chocolate Shop	Restaurant
33272	3202	2	Cosmetics Shop	Coffee Shop	Hotel	Waterfront	Italian Restaurant	Mexican Restaurant	Ice Cream Shop	Mobile Phone Shop	Boutique	Steakhouse
66387	3638	2	Coffee Shop	Cosmetics Shop	Rental Car Location	Hotel	Ice Cream Shop	Gym	Pet Store	Gym / Fitness Center	Italian Restaurant	Waterfront
96086	3280	2	Fast Food Restaurant	Café	Jazz Club	Cajun / Creole Restaurant	Supermarket	Sandwich Place	Latin American Restaurant	Restaurant	Pizza Place	American Restaurant

Fourth Cluster

The fourth cluster only has one bike station and one major feature, which is a science museum. This location is likely The Liberty Science Center. I would concentrate on placing targeted ads there.

Station Id_x	Cluster Labels	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	
8094	3192	3	Science Museum	Movie Theater	Theme Park	State / Provincial Park	Dumpling Restaurant	Gift Shop	Sandwich Place	Yoga Studio	Food	Flower Shop

The fifth cluster contains a series of Indian Restaurants. This area is likely a community of South Asian residents that immigrated to the United States from India. The ads that should be placed here should have that in consideration.

Fifth Cluster

Station Id,x	Cluster Labels	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	
18521	3201	4	Indian Restaurant	Discount Store	Grocery Store	South Indian Restaurant	Café	Chinese Restaurant	Park	Mexican Restaurant	Coffee Shop	Fast Food Restaurant
120137	3640	4	Indian Restaurant	Café	Fried Chicken Joint	Pizza Place	Fast Food Restaurant	Sandwich Place	South Indian Restaurant	Mobile Phone Shop	Bank	Bakery
182345	3220	4	Indian Restaurant	Dance Studio	Bakery	Fast Food Restaurant	Café	Butcher	North Indian Restaurant	Deli / Bodega	Pharmacy	Pizza Place

Discussion:

The aim of this project was to identify the type of people who are using Citibike in the Jersey City area and provide feedback to interested parties that may be looking to advertise bicycle related products to Citibike users. The typical Citibike user is a male born sometime in the 1980's. He likely uses the Sip Avenue Station and stations in the surrounding areas. Women are less likely to use Citibike, however when they do, they use stations near Newport Parkway and along the Waterfront. For interested parties that are looking to move to Jersey City, they should consider moving to the Oakland Avenue area where there are numerous bars, restaurants, and likely other CitiBike enthusiasts.

Conclusion:

This project helps a person get a better understanding of CitiBike Stations in Jersey City, New Jersey with respect to the demographics of the people who are using the CitiBike program and the common venues that are located around each CitiBike station. It's always best to use technology to understand the institutions and systems that are a part of our everyday life. We could use this information to help people plan for their individual futures and in extension live better lives. The future of this project should examine CitiBike Stations citywide and examine the economic considerations of each neighborhood.