Jersey City Bike Program During 2020/2021 Pandemic

In this analysis we explore the usage of bicycles pertaining to the CityByke program during the pandemic events in Jersey. We focus in the Jersey City area only for the time frame January 2020 – April 2021.

The following map in the dashboard shows the most popular stations at any given time in the analyzed period.
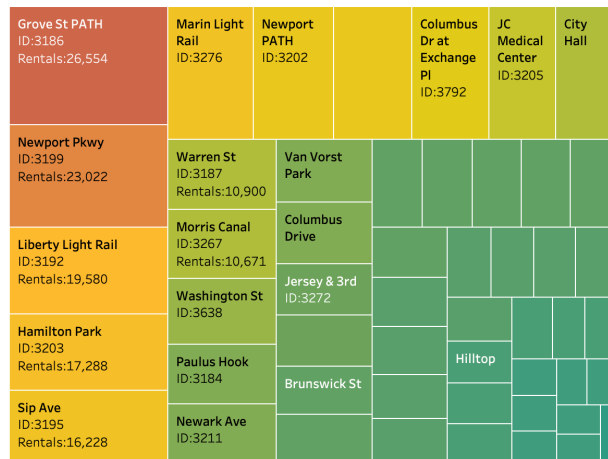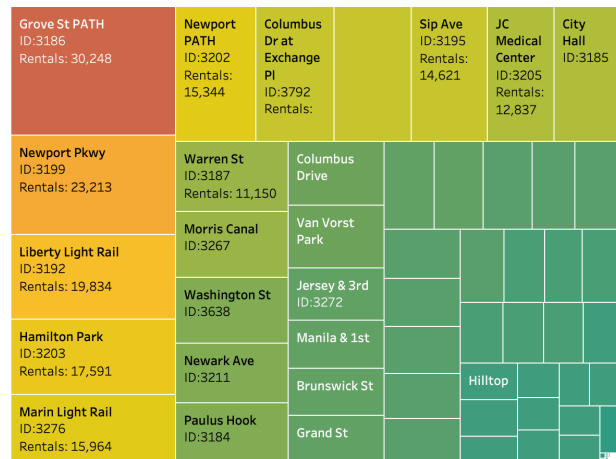
Jersey City CityBike Program

One of the things to notice is that the bulk of rentals happen in central Jersey City, specifically most rentals and returns occur at Grove St Path station with just a few of them returning bicycles in Manhattan. A possible explanation is tourist staying in Jersey and commuting to Manhattan. The next visualization shows most popular stations across the considered timeframe.
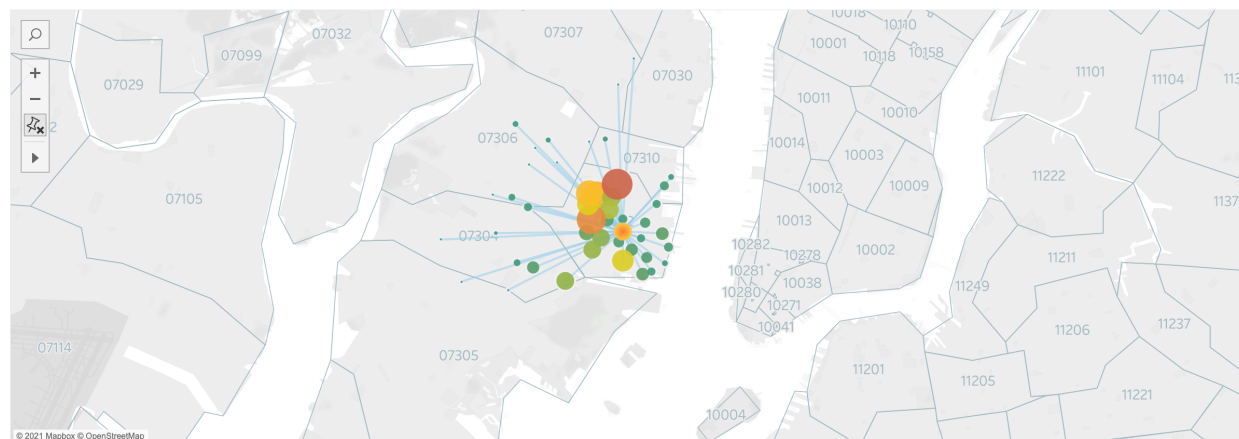
Popular Start Stations 01/2020 - 04/2021

Grove St PATH ID:3186 Rentals:26,554	**Marin Light Rail** ID:3276	**Newport PATH** ID:3202	**Columbus Dr at Exchange Pl** ID:3792	**JC Medical Center** ID:3205	**City Hall**
Newport Pkwy ID:3199 Rentals:23,022	**Warren St** ID:3187 Rentals:10,900	**Van Vorst Park**			
Liberty Light Rail ID:3192 Rentals:19,580	**Morris Canal** ID:3267 Rentals:10,671	**Columbus Drive**			
	Washington St ID:3638	**Jersey & 3rd** ID:3272			
Hamilton Park ID:3203 Rentals:17,288	**Paulus Hook** ID:3184			**Hilltop**	
Sip Ave ID:3195 Rentals:16,228	**Newark Ave** ID:3211	**Brunswick St**			

Popular End Stations 01/2020 - 04/2021

Grove St PATH ID:3186 Rentals: 30,248	**Newport PATH** ID:3202 Rentals: 15,344	**Columbus Dr at Exchange Pl** ID:3792 Rentals:	**Sip Ave** ID:3195 Rentals: 14,621	**JC Medical Center** ID:3205 Rentals: 12,837	**City Hall** ID:3185
Newport Pkwy ID:3199 Rentals: 23,213	**Warren St** ID:3187 Rentals: 11,150	**Columbus Drive**			
Liberty Light Rail ID:3192 Rentals: 19,834	**Morris Canal** ID:3267	**Van Vorst Park**			
	Washington St ID:3638	**Jersey & 3rd** ID:3272			
Hamilton Park ID:3203 Rentals: 17,591	**Newark Ave** ID:3211	**Manila & 1st**			
Marin Light Rail ID:3276 Rentals: 15,964	**Paulus Hook** ID:3184	**Brunswick St**		**Hilltop**	
		Grand St			

TOTAL RENTALS
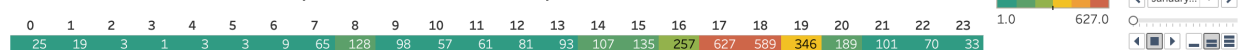
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For the most popular station we can observe which stations are the most popular return points. One of the most popular returning points is the Hamilton Park station. This information could potentially be used to plan restocking of Grove St PATH station over periods of time with high activity.
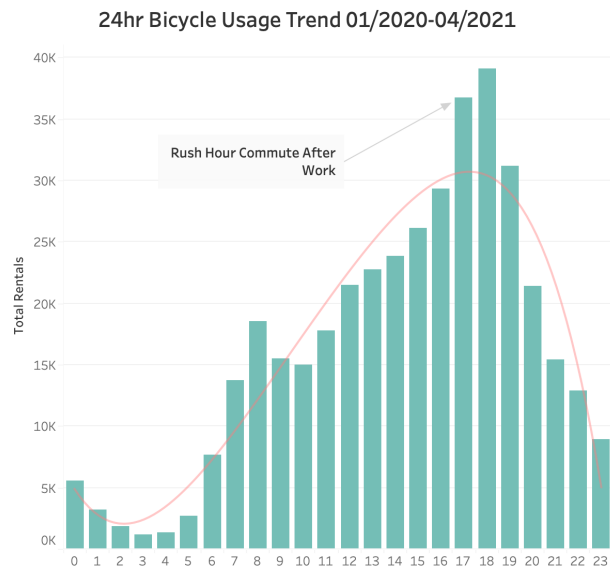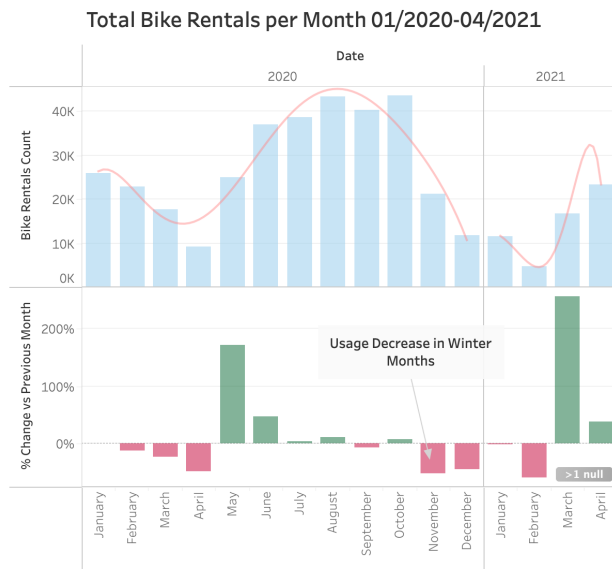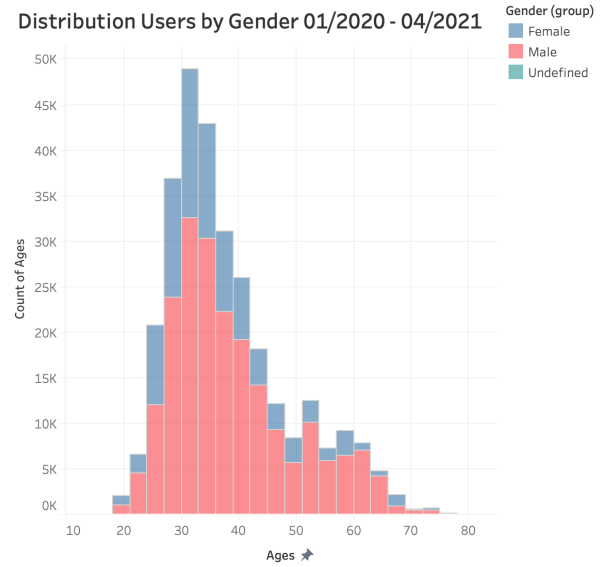
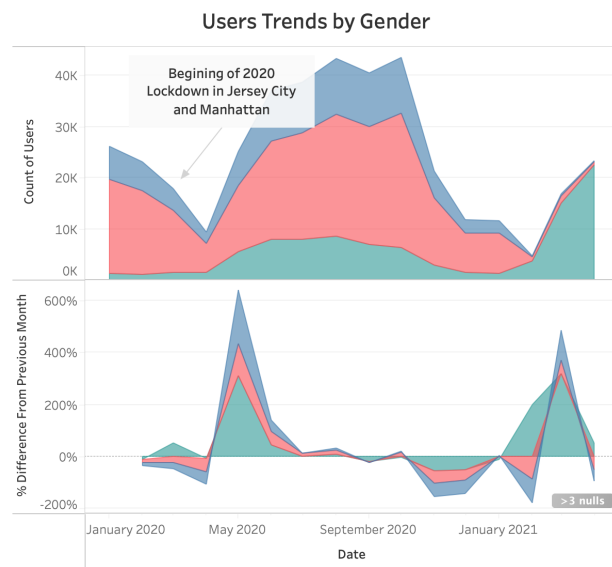## Typical Destinations for Grove St Station Rentals

Popular Rental Times for Top Station Id: 3186

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
25	19	3	1	3	3	9	65	128	98	57	61	81	93	107	135	257	627	589	346	189	101	70	33

Total Rentals: 1.0 — 627.0   Month of Date: January...

In the previous visualization we can also observe that high activity times happen from 16:00 to 20:00 which are peak hours for commuting after work. We can take a closer look at usages times in the following visualization per month and hour.

Total Bike Rentals per Month 01/2020-04/2021

24hr Bicycle Usage Trend 01/2020-04/2021

One of the things to notice is that usage decreases during winter months which is expected. Now, during spring it is expected to start ramping up, as shown in the data from 2021; however, when we take a look at this at the February-March 202 timeframe, we see a significant decrease. This corresponds with the lockdown in the Jersey City/Manhattan area at the beginning of the COVID-19 pandemic.

Users Trends by Gender

Distribution Users by Gender 01/2020 - 04/2021

Finally, at least in the Jersey City area, there is a higher number of female users in the program which might be due to safer bicycle driving conditions in comparison to Manhattan. Additionally, towards the beginning of 2021, the number of undefined users increased. These two phenomena will have to be confirmed by analysis data from Manhattan over a longer period of time.