

Number of Trips

19,766,285

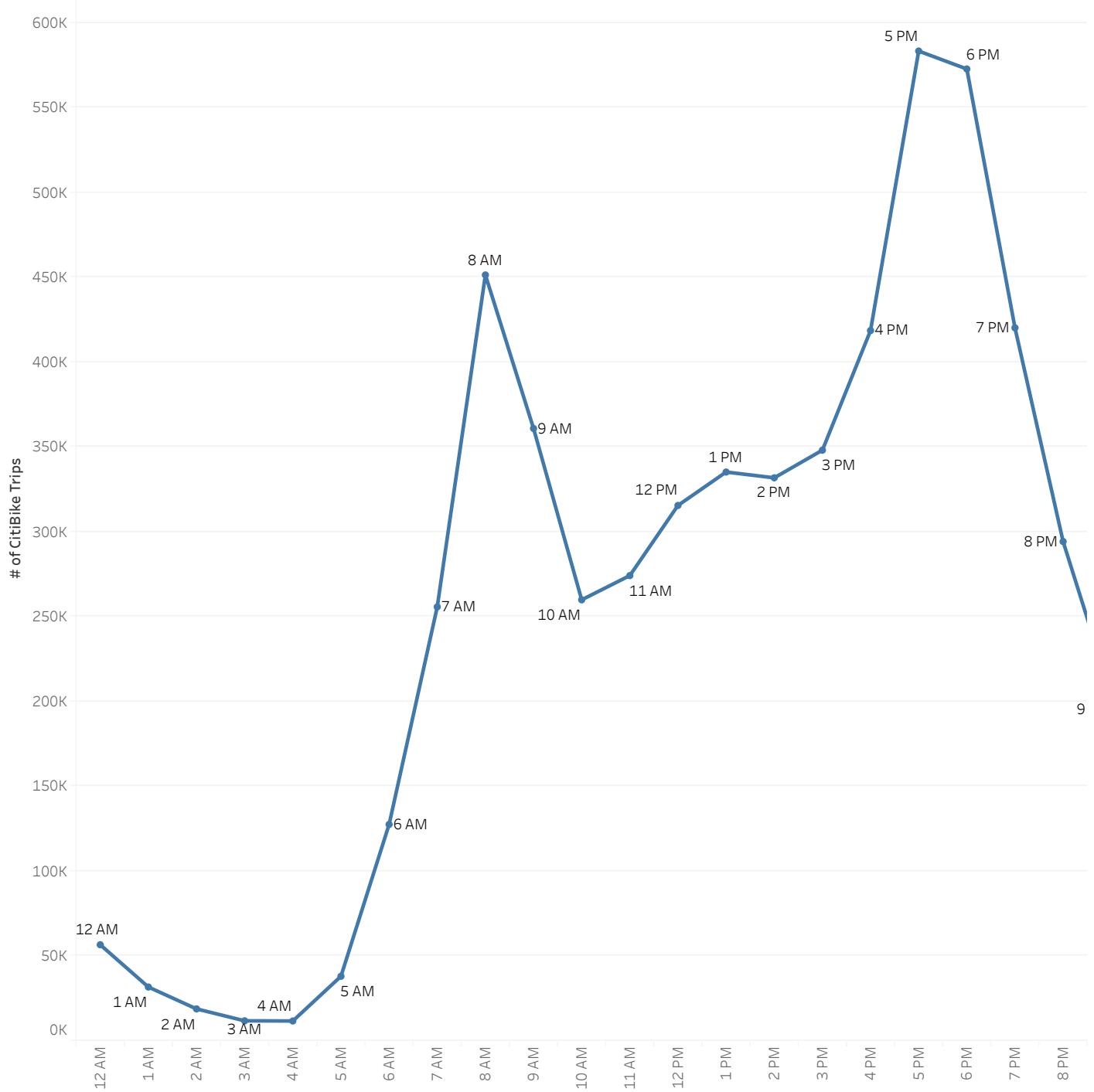
Sum of # of CitiBike Trips.

Ridership_Growth

	2017	2018
	September	September
# of CitiBike Trips	1,911,217	1,916,906
YoY % Growth		0.30%

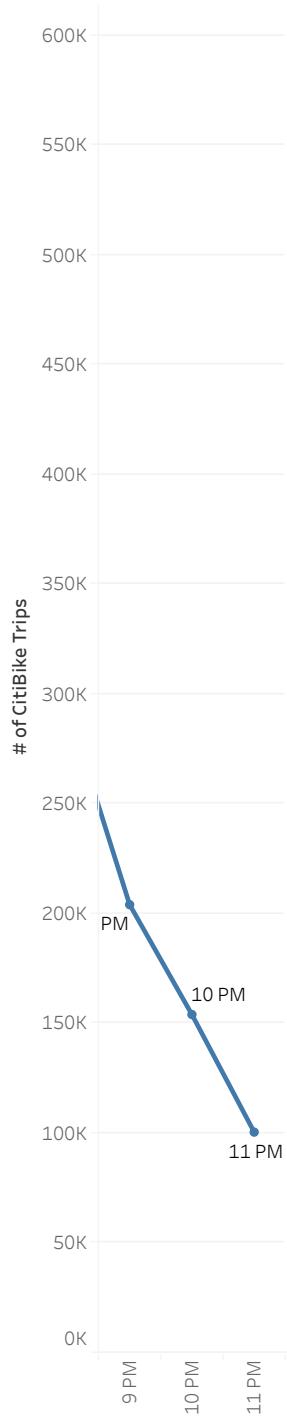
YoY % Growth and # of CitiBike Trips broken down by Starttime Year and Starttime Month. The view is filtered on Exclusions (MONTH(Starttime),YEAR(Starttime)), which keeps 2 members.

Peak Hour During Summer Months (June-August)



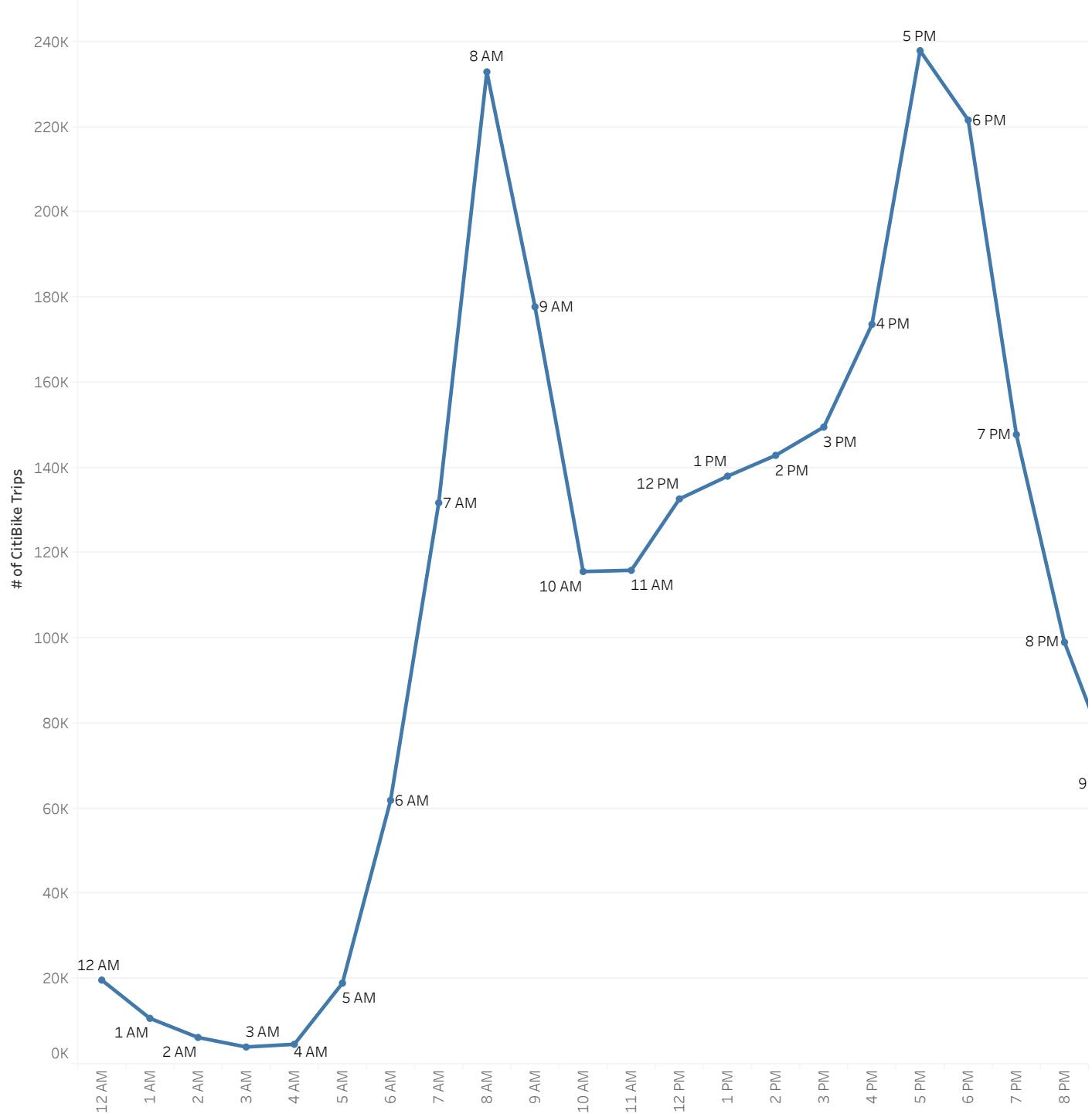
The trend of sum of # of CitiBike Trips for Starttime Hour. The marks are labeled by Starttime Hour. The data is filtered on Summer Months, which keeps 3 members.

Peak Hour During Summer Months (June-August)



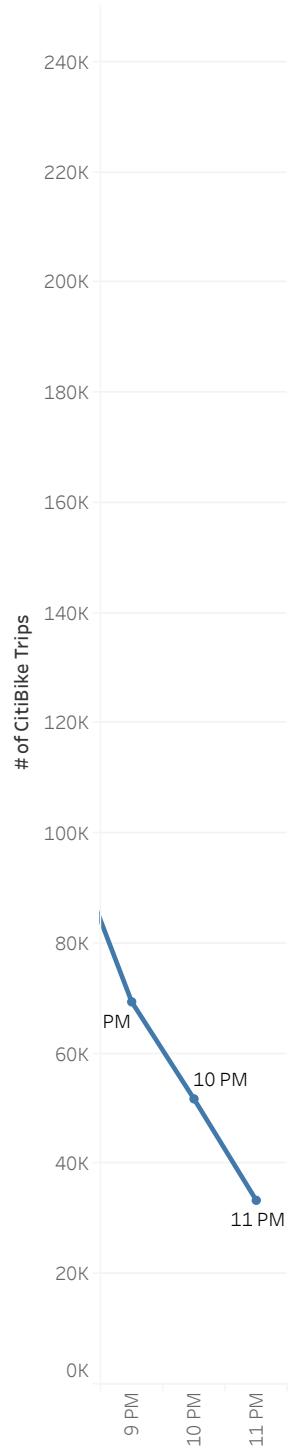
The trend of sum of # of CitiBike Trips for Starttime Hour. The marks are labeled by Starttime Hour. The data is filtered on Summer Months, which keeps 3 members.

Peak Hour During Summer Months (December - February)



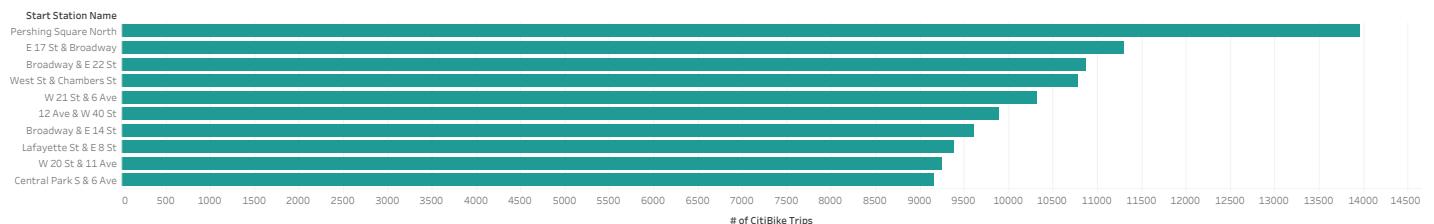
The trend of sum of # of CitiBike Trips for Starttime Hour. The marks are labeled by Starttime Hour. The data is filtered on Winter Months, which keeps 3 members.

Peak Hour During Summer Months (December - February)



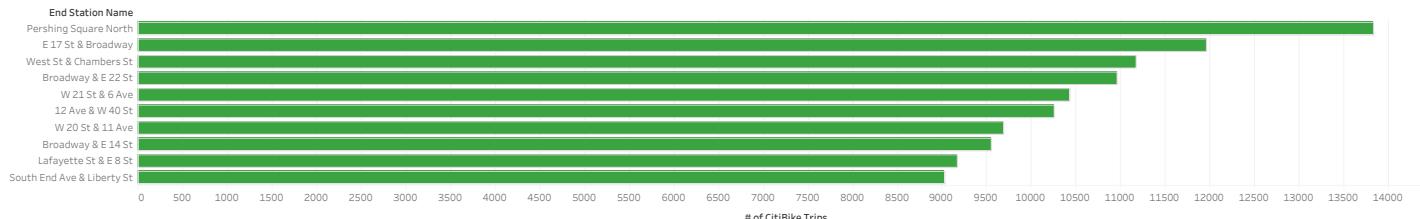
The trend of sum of # of CitiBike Trips for Starttime Hour. The marks are labeled by Starttime Hour. The data is filtered on Winter Months, which keeps 3 members.

Top 10 Starting Stations in Sept-2018



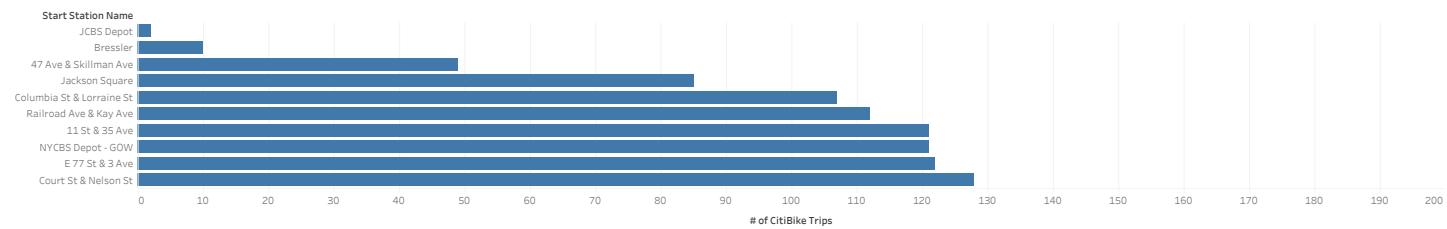
Sum of # of CitiBike Trips for each Start Station Name. The data is filtered on Starttime Year and Starttime Month. The Starttime Year filter keeps 2018. The Starttime Month filter keeps September. The view is filtered on Start Station Name, which keeps 10 members.

Top 10 Starting Stations in Sept-2018

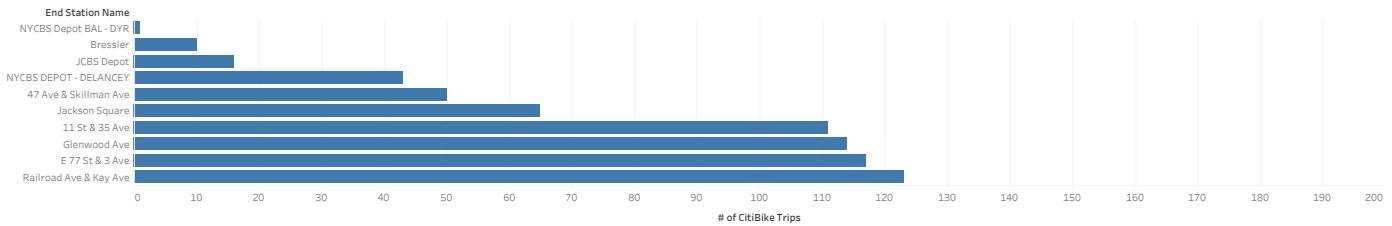


Sum of # of CitiBike Trips for each End Station Name. Details are shown for End Station Name. The data is filtered on Starttime Year and Starttime Month. The Starttime Year filter keeps 2018. The Starttime Month filter keeps September. The view is filtered on End Station Name, which keeps 10 members.

Bottom 10 Startting Stations in Sept-2018

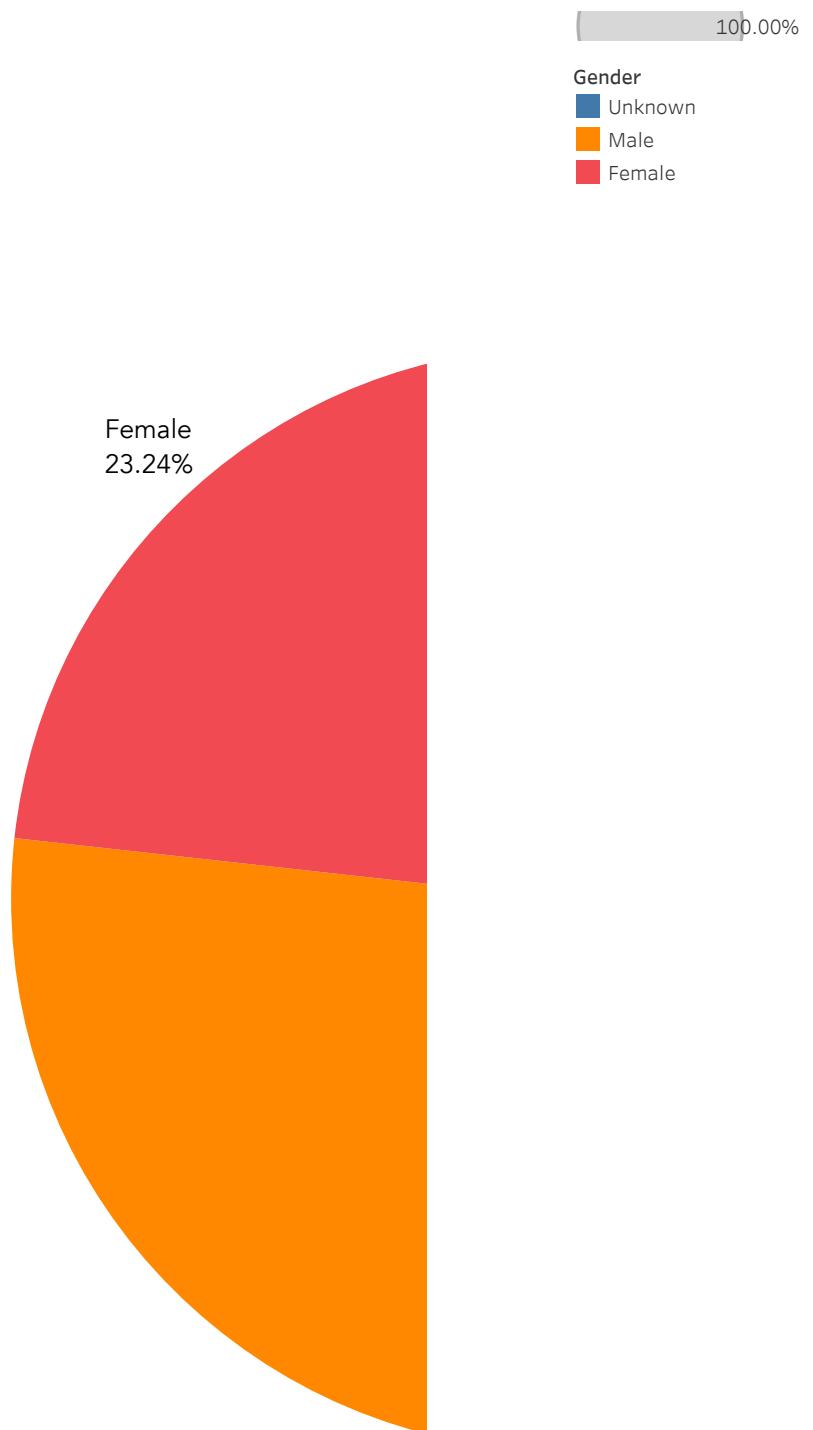


Bottom 10 Ending Stations in Sept-2018



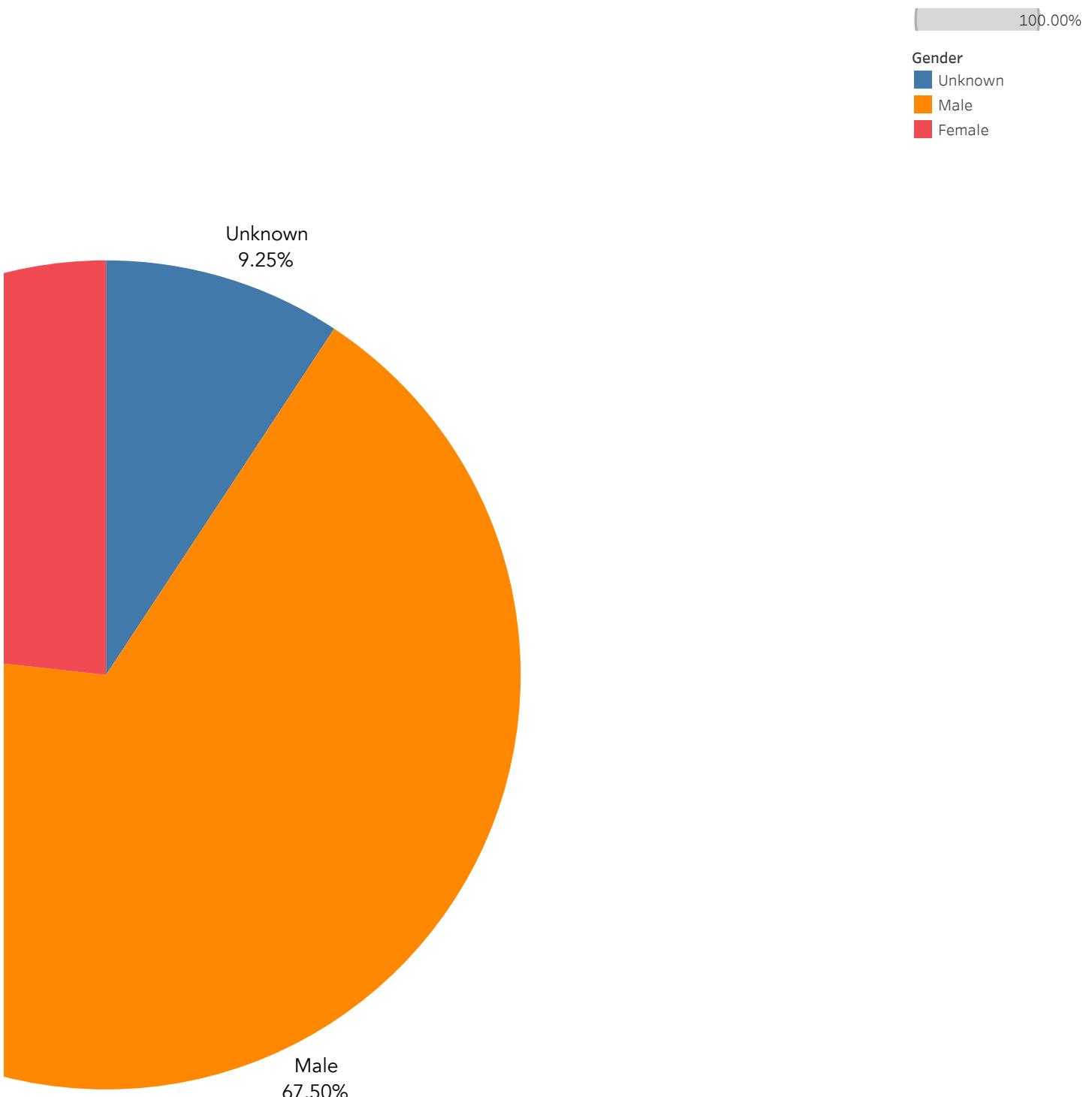
Sum of # of CitiBike Trips for each End Station Name. The data is filtered on Starttime Year and Starttime Month. The Starttime Year filter keeps 2018. The Starttime Month filter keeps September. The view is filtered on End Station Name, which keeps 10 members.

Gender Breakdown



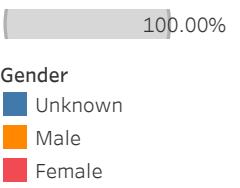
Gender and % of Total # of CitiBike Trips. Color shows details about Gender. Size shows % of Total # of CitiBike Trips. The marks are labeled by Gender and % of Total # of CitiBike Trips. Percents are based on the whole table .

Gender Breakdown



Gender and % of Total # of CitiBike Trips. Color shows details about Gender. Size shows % of Total # of CitiBike Trips. The marks are labeled by Gender and % of Total # of CitiBike Trips. Percents are based on the whole table .

Gender Breakdown



Gender and % of Total # of CitiBike Trips. Color shows details about Gender. Size shows % of Total # of CitiBike Trips. The marks are labeled by Gender and % of Total # of CitiBike Trips. Percents are based on the whole table .

Female_Growth

		2017	
		September	
		Unknown	Male
# of CitiBike Trips		217,988	1,241,888
YoY % Growth			451,341

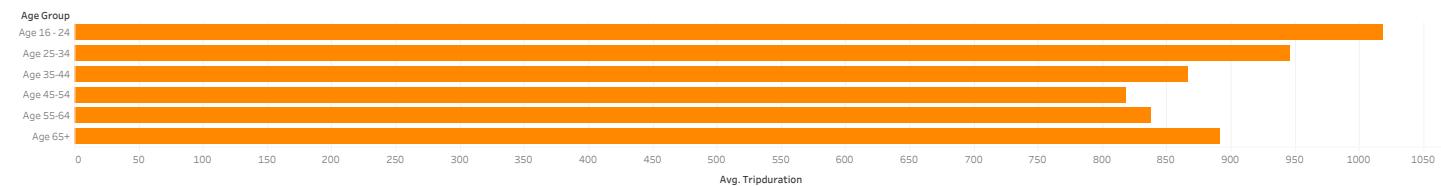
of CitiBike Trips and YoY % Growth broken down by Starttime Year, Starttime Month and Gender. The view is filtered on Exclusions (MONTH(Starttime),YEAR(Starttime)), which keeps 2 members.

Female_Growth

	2018		
	September		
	Unknown	Male	Female
# of CitiBike Trips	176,261	1,268,754	471,891
YoY % Growth	-19.14%	2.16%	4.55%

of CitiBike Trips and YoY % Growth broken down by Starttime Year, Starttime Month and Gender. The view is filtered on Exclusions (MONTH(Starttime),YEAR(Starttime)), which keeps 2 members.

Trip Duration By Age

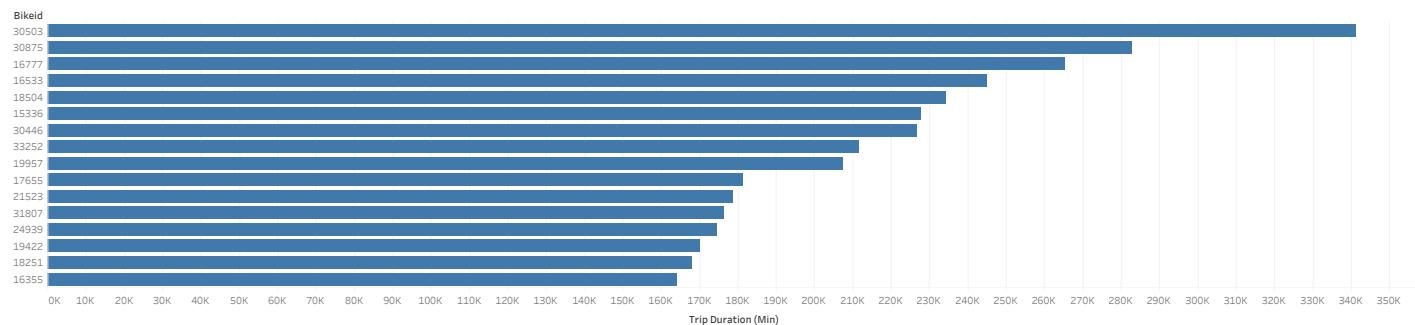


Average Distance in
Miles

1.301

Average of Distance.

Trip Duration (in Minutes) By BikeID



Sum of Trip Duration (Min) for each Bikeid. The view is filtered on Bikeid, which keeps 16 of 15,269 members.

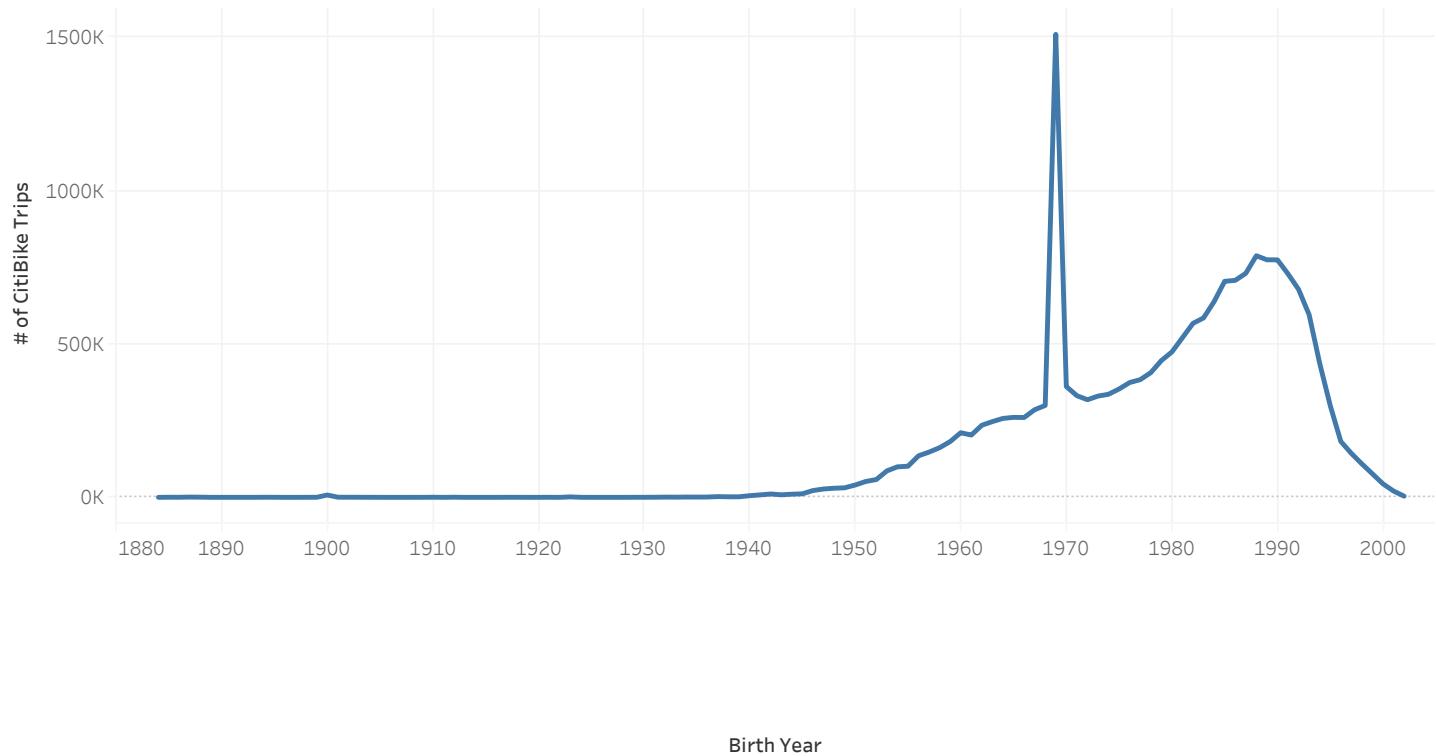
bike_map_ss



dynamic_map - October 2017

Map based on Start Station Longitude and Start Station Latitude. Size shows count of Start Station Name. The marks are labeled by count of Start Station Name. Details are shown for Start Station Name. The view is filtered on Start Station Name and count of Start Station Name. The Start Station Name filter keeps 10 members. The count of Start Station Name filter ranges from 0 to 175,660 and keeps Null values.

Unexpected Phenomena #1: Citibike Subscriber Birth Year



The trend of sum of # of CitiBike Trips for Birth Year.

Unexpected Phenomena #2: Female Ridership Subscriber Percentage

Age Group	Gender	Usertype	
Age 16 - 24	Male	Customer	9.40%
		Subscriber	90.60%
	Female	Customer	14.91%
		Subscriber	85.09%
Age 25-34	Male	Customer	3.72%
		Subscriber	96.28%
	Female	Customer	6.48%
		Subscriber	93.52%
Age 35-44	Male	Customer	2.47%
		Subscriber	97.53%
	Female	Customer	4.25%
		Subscriber	95.75%
Age 45-54	Male	Customer	2.02%
		Subscriber	97.98%
	Female	Customer	3.38%
		Subscriber	96.62%
Age 55-64	Male	Customer	1.28%
		Subscriber	98.72%
	Female	Customer	2.25%
		Subscriber	97.75%
Age 65+	Male	Customer	0.99%
		Subscriber	99.01%
	Female	Customer	1.44%
		Subscriber	98.56%

% of Total # of CitiBike Trips broken down by Age Group, Gender and Usertype. The view is filtered on Age Group and Gender. The Age Group filter excludes 49.0 and Unknown. The Gender filter keeps Male and Female.

Citibike Tableau Challenge

How Many Trips Have been Recorded?	How has total ridership grown in the past year?	What are the peak hours during summer months?	What are the peak hours during winter months?	What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting sta..
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19,766,285

of Trips of CitiBike between
September 2017 through September 2018.

This is a combined dataset of Manhattan and Jersey City raw data.

Source: <https://www.citibikenyc.com/system-data>

Citibike Tableau Challenge

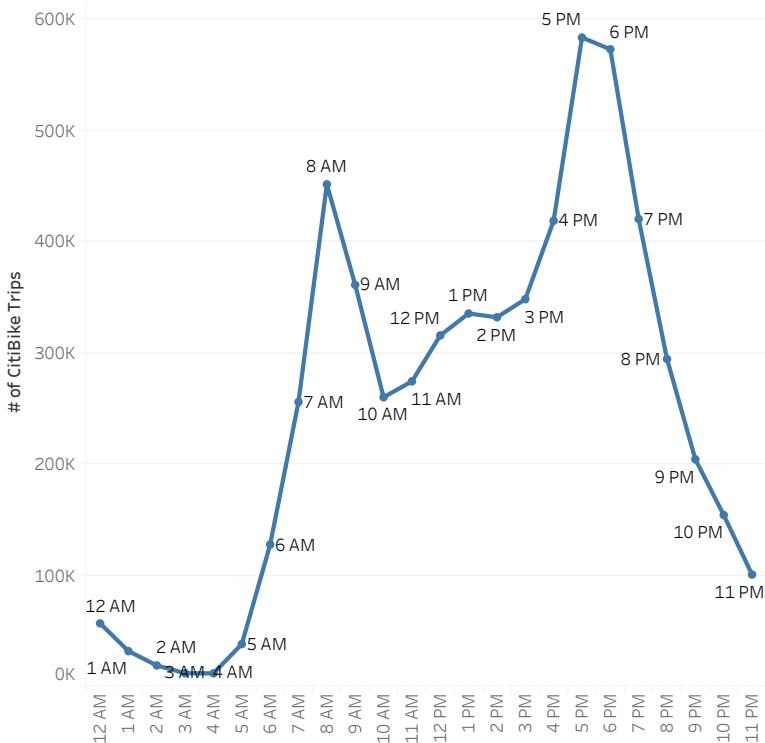
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	2017 September	2018 September
# of CitiBike Trips	1,911,217	1,916,906
YoY % Growth		0.30%

Compared to the previous year's September, the ridership has stayed pretty much consistant, grown by 0.30%

Citibike Tableau Challenge

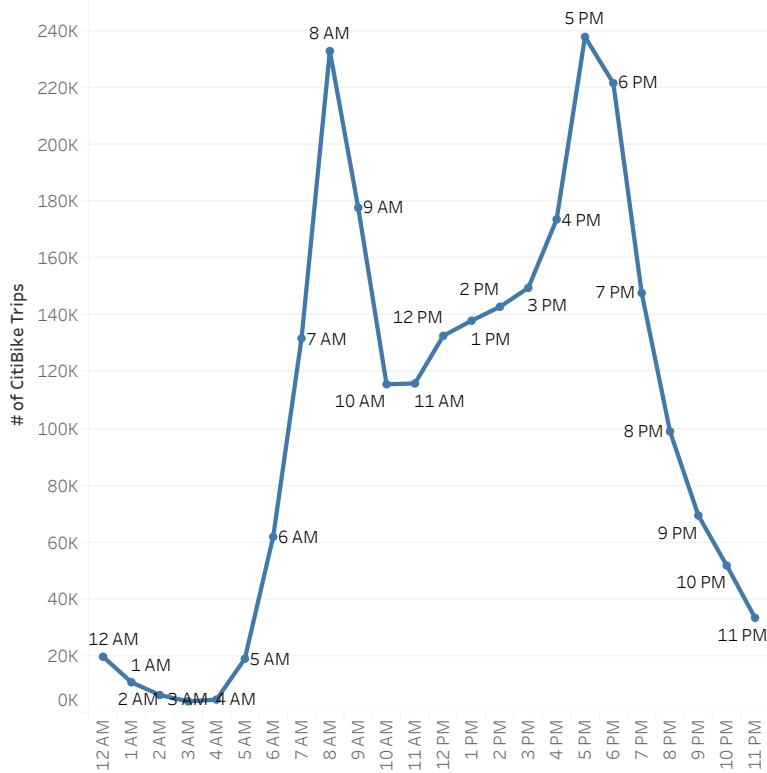
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Peak Hour during Summer Months
(June - August) is 8AM and 5PM

Citibike Tableau Challenge

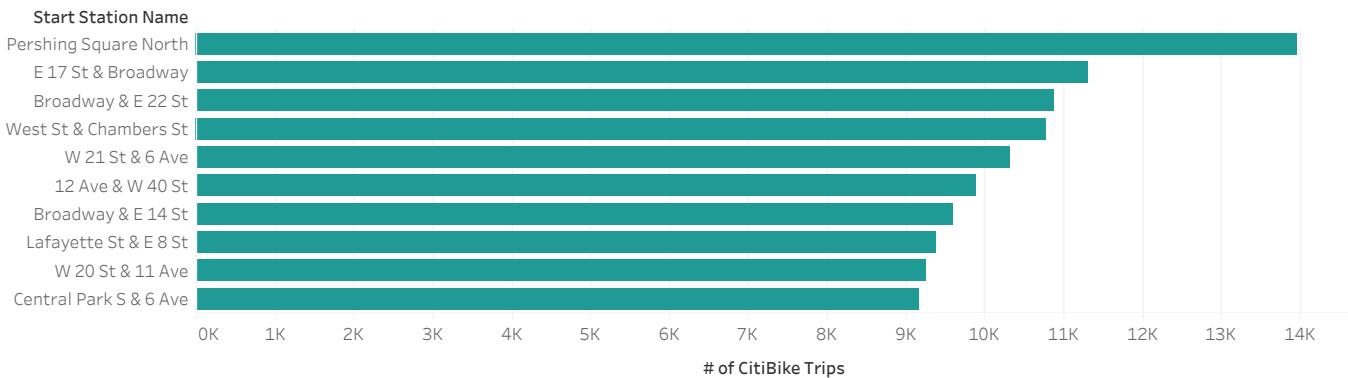
How Many Trips Have been Recorded?	How has total ridership grown in the past year?	What are the peak hours during summer months?	What are the peak hours during winter months?	What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting stations?
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Peak Hour During Winter Months (December - February) is 8AM and 5PM, but with much less overall volume compared to summer months

Citibike Tableau Challenge

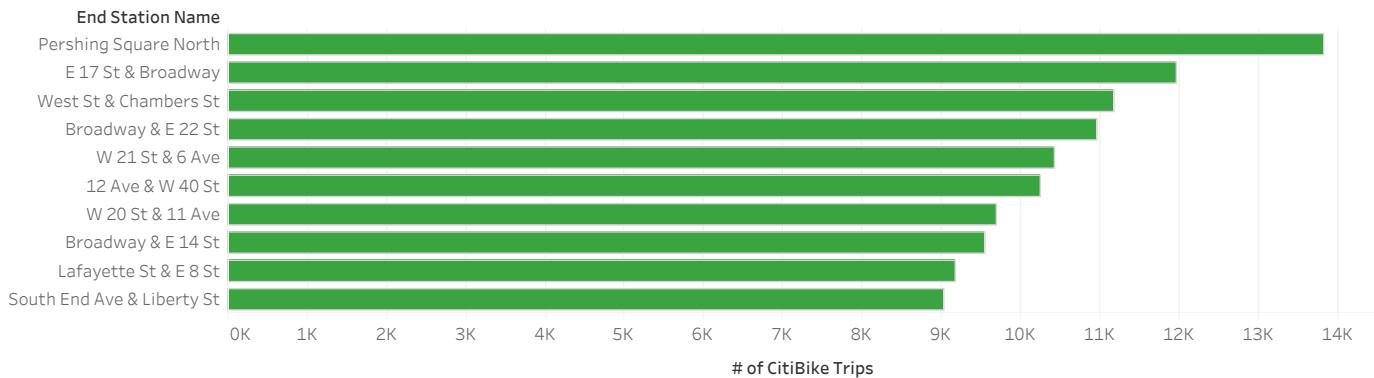
How has total ridership grown in the past year?	What are the peak hours during summer months?	What are the peak hours during winter months?	What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting stations?	What are the bottom 10 ending stations?
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Based on the data, we can observe that top 10 stations are located across Manhattan.

Citibike Tableau Challenge

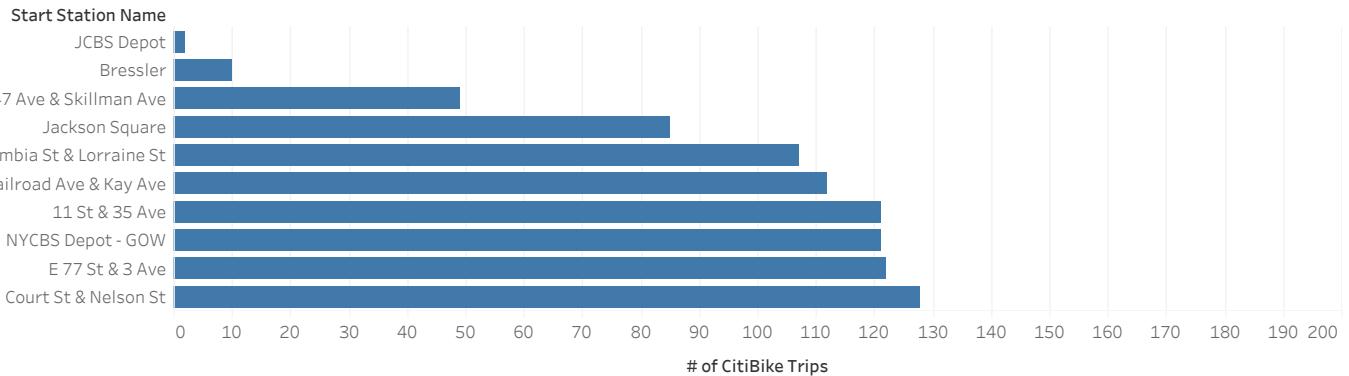
What are the peak hours during summer months?	What are the peak hours during winter months?	What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting stations?	What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?
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Top Ending Stations resembles the list of top startting staitons.
We can make an assumptiton that a lot of citizens use Citibike and return the bike at the station they started the journey.

Citibike Tableau Challenge

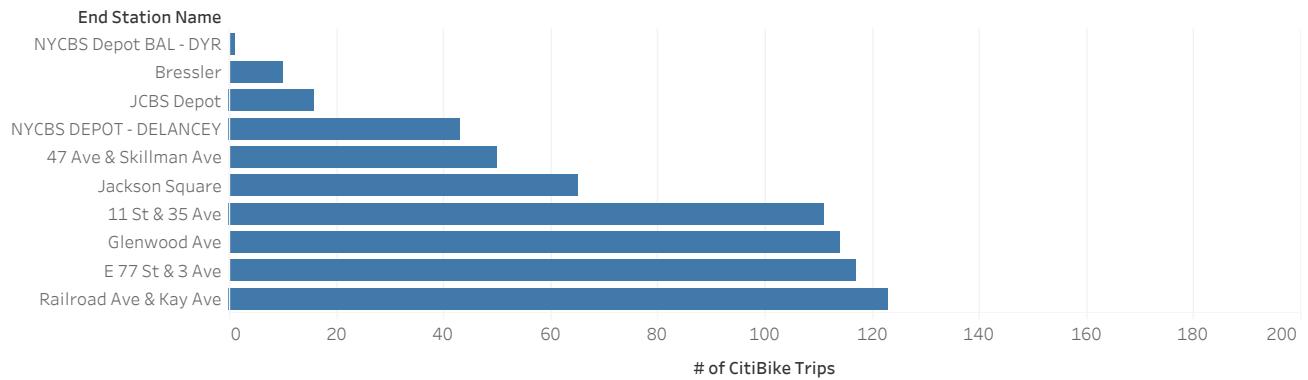
What are the peak hours during winter months?	What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting stations?	What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?	Has has Female Ridership grown Year-To-Year?
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We can observe from the data that the majority of unpopular stations are located outside of Manhattan.

Citibike Tableau Challenge

What are the top 10 starting stations?	What are the top 10 ending stations?	What are the bottom 10 starting stations?	What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?	Has has Female Ridership grown Year-To-Year?	How does the average trip duration change by..
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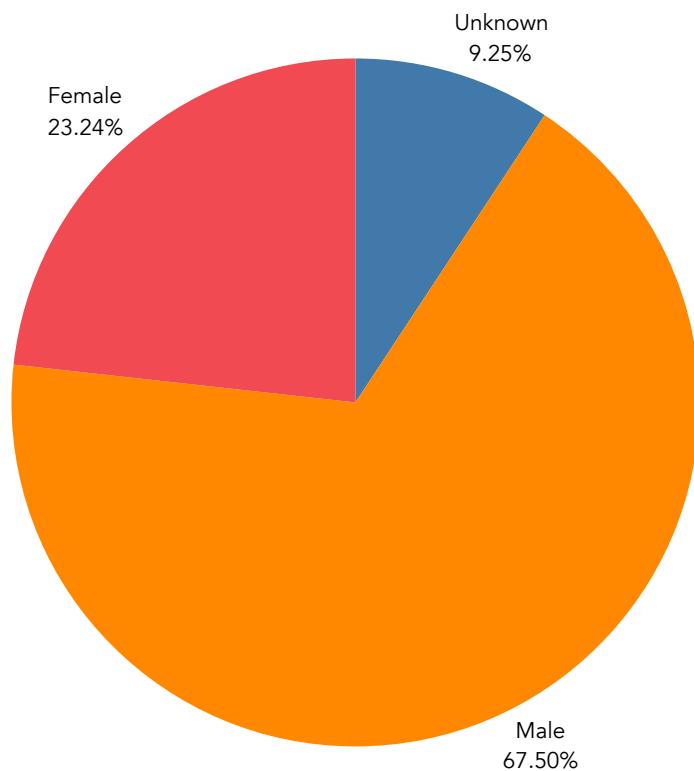


We can observe from the data that the majority of unpopular stations are located outside of Manhattan.

Citibike Tableau Challenge

What are the top 10 ending stations?	What are the bottom 10 starting stations?	What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?	Has has Female Ridership grown Year-To-Year?	How does the average trip duration change by age?	What is avg Distance in Miles that a bike is ridden?
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Gender
Unknown
Male
Female



Citibike Tableau Challenge

What are the bottom 10 starting stations?	What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?	Has has Female Ridership grown Year-To-Year?	How does the average trip duration change by age?	What is avg Distance in Miles that a bike is ridden?	Which Bike (by BikeID) is most likely due for repair?
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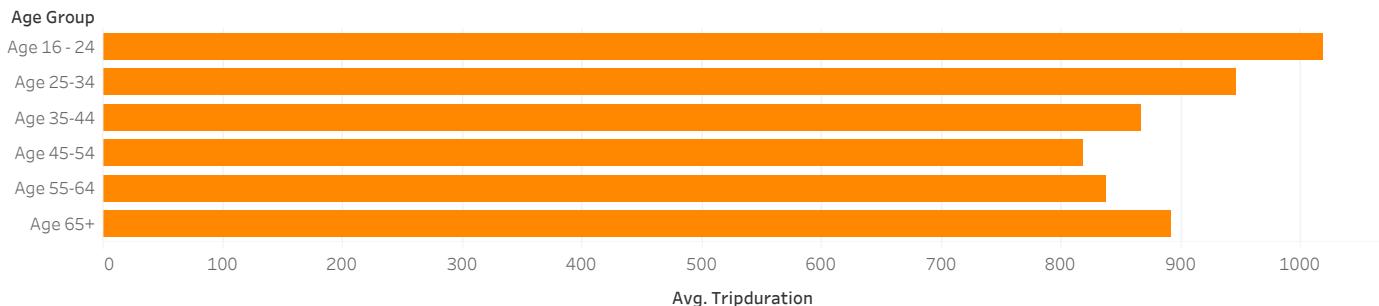
	2017			2018		
	September	Unknown	Male	September	Unknown	Male
# of CitiBike Trips	217,988	1,241,888	451,341	176,261	1,268,754	471,891
YoY % Growth				-19.14%	2.16%	4.55%

Compared to September 2017, ridership for both genders have grown in a year (September 2018). The growth of female ridership has outperformed the growth of male ridership. However, since the "Unknown" gender suffered a decline, it is hard to conclude whether the female ridership has actually grown, or the program is getting better at capturing gender data compared to previous year.

As a result, it would be premature to conclude that female outreach campaign has been successful.

Citibike Tableau Challenge

What are the bottom 10 ending stations?	Gender Breakdown current (Sept-2018) participants?	Has has Female Ridership grown Year-To-Year?	How does the average trip duration change by age?	What is avg Distance in Miles that a bike is ridden?	Which Bike (by BikeID) is most likely due for repair?	Most Popular Starting Stations w/ Zip Code Data Over..
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- 1) I have created a new field called "Rider Age (Estimated)" by subtracting the existing variable called "Birth Year" from the current year of 2018.
- 2) Based on the "Rider Age" dimension, I have created 6 distinguishing Age Group and excluded "Null" values. This categorization of age group follows what various industry uses for market research purposes.
- 3) Observing the bar graph, it is interesting that the avg Trip Duration (in second) declines as you age, and starts back to increase after retirement age when people begin to ride bikes for leisure.

Citibike Tableau Challenge

Gender Breakdown current (Sept-20..	Has has Female Ridership grown Year-To-Year?	How does the average trip duration change by age?	What is avg Distance in Miles that a bike is ridden?	Which Bike (by BikeID) is most likely due for repair?	Most Popular Starting Stations w/ Zip Code Data Overlay	Dynamic Map of Top Station Over Sept 2017 - Sept 2018
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1.301

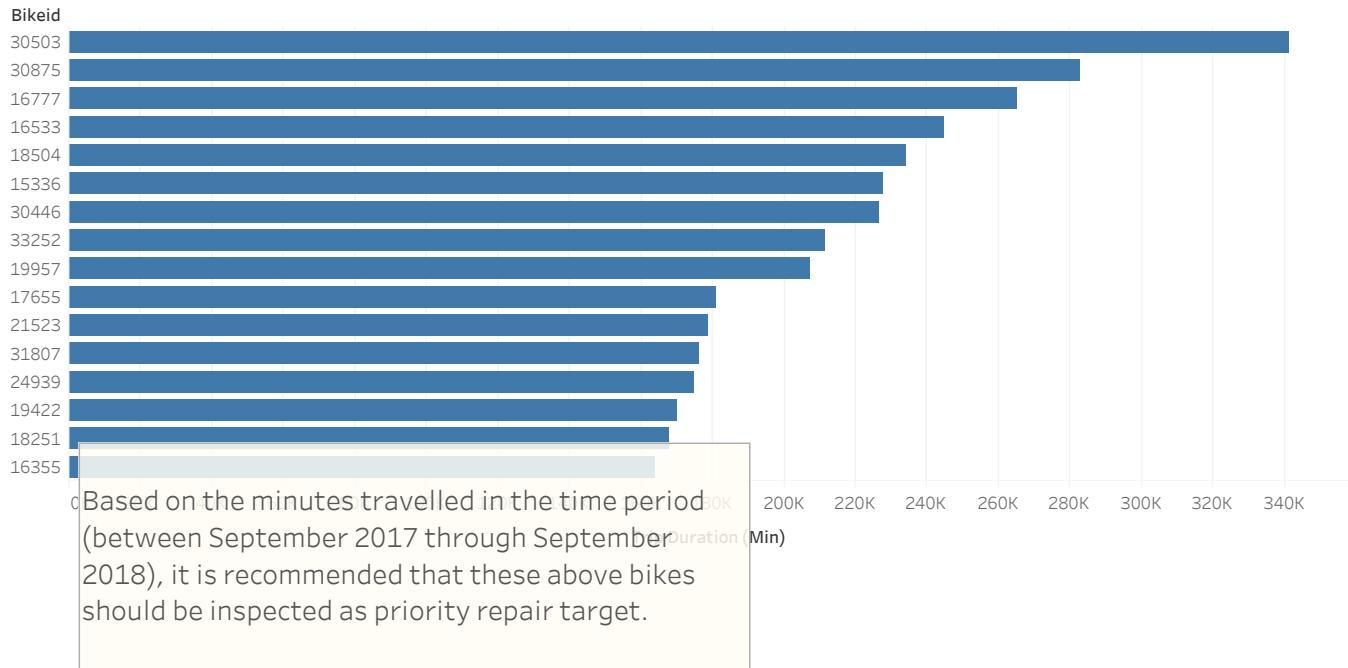
Average distance in miles that a bike is ridden in 1.3 Mile

Distance Equation:

```
3959 * ACOS  
(  
SIN(RADIANS([Start Station Latitude])) * SIN(RADIANS([End Station Latitude])) +  
COS(RADIANS([Start Station Latitude])) * COS(RADIANS([End Station Latitude])) * COS(RADIANS([End Station  
Longitude]) - RADIANS([Start Station Longitude]))  
)
```

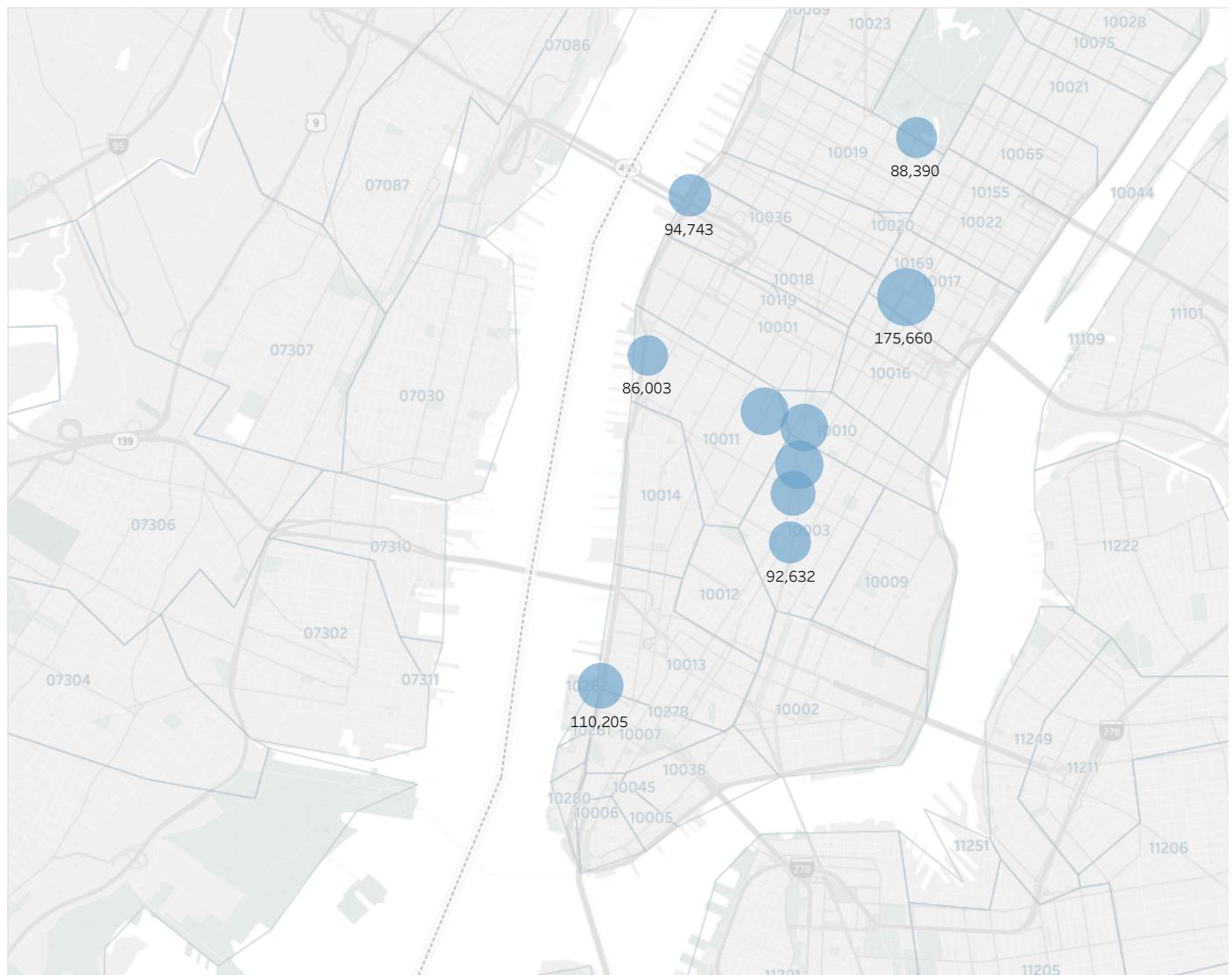
Citibike Tableau Challenge

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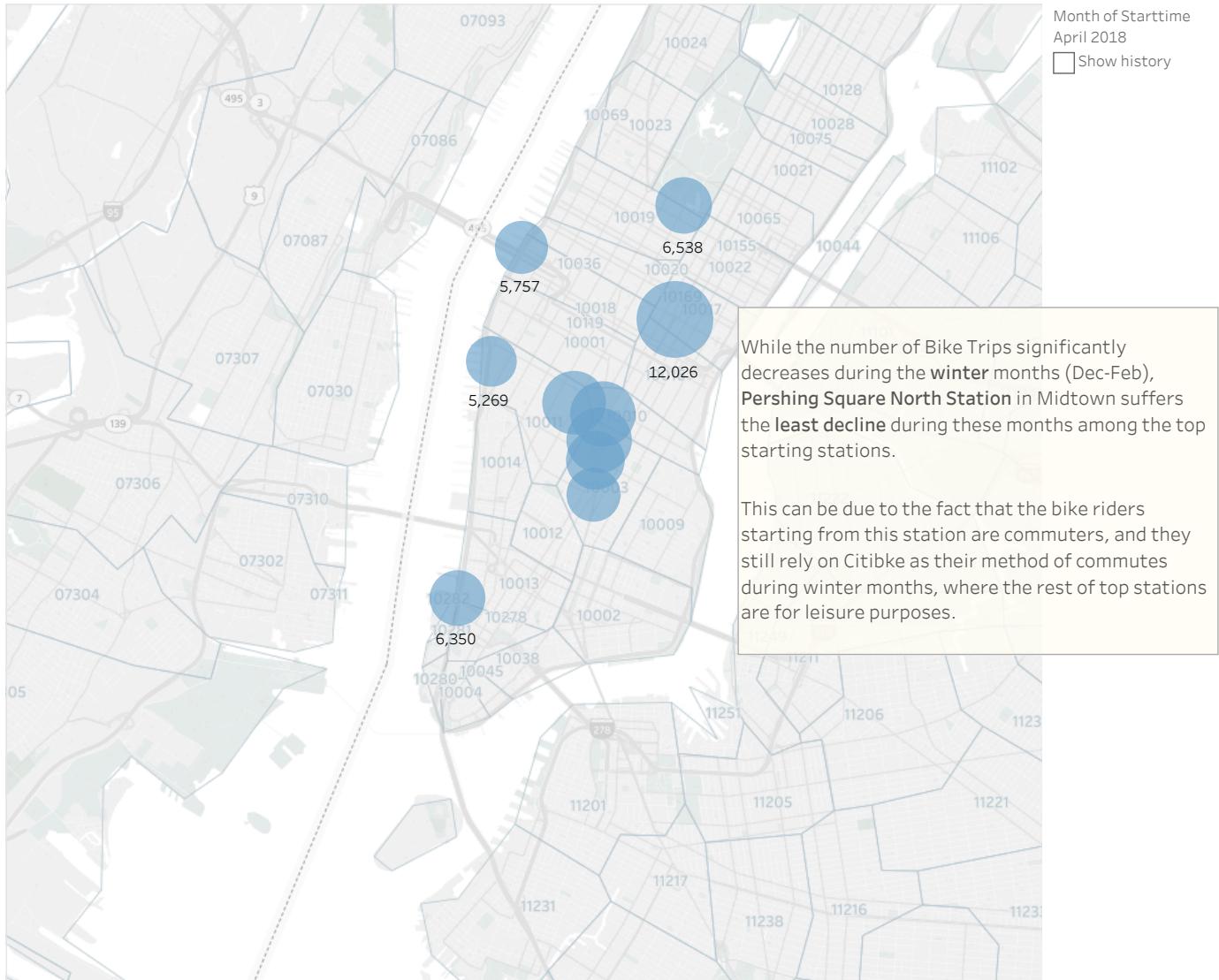
Citibike Tableau Challenge

How does the average trip duration change ..	What is avg Distance in Miles that a bike is ridden?	Which Bike (by BikeID) is most likely due for repair?	Most Popular Starting Stations w/ Zip Code Data Overlay	Dynamic Map of Top Station Over Sept 2017 - Sept 2018	Unexpected Phenomena #1: Ridership Birth Year	Unexpected #2: Female Customer Age 16-24
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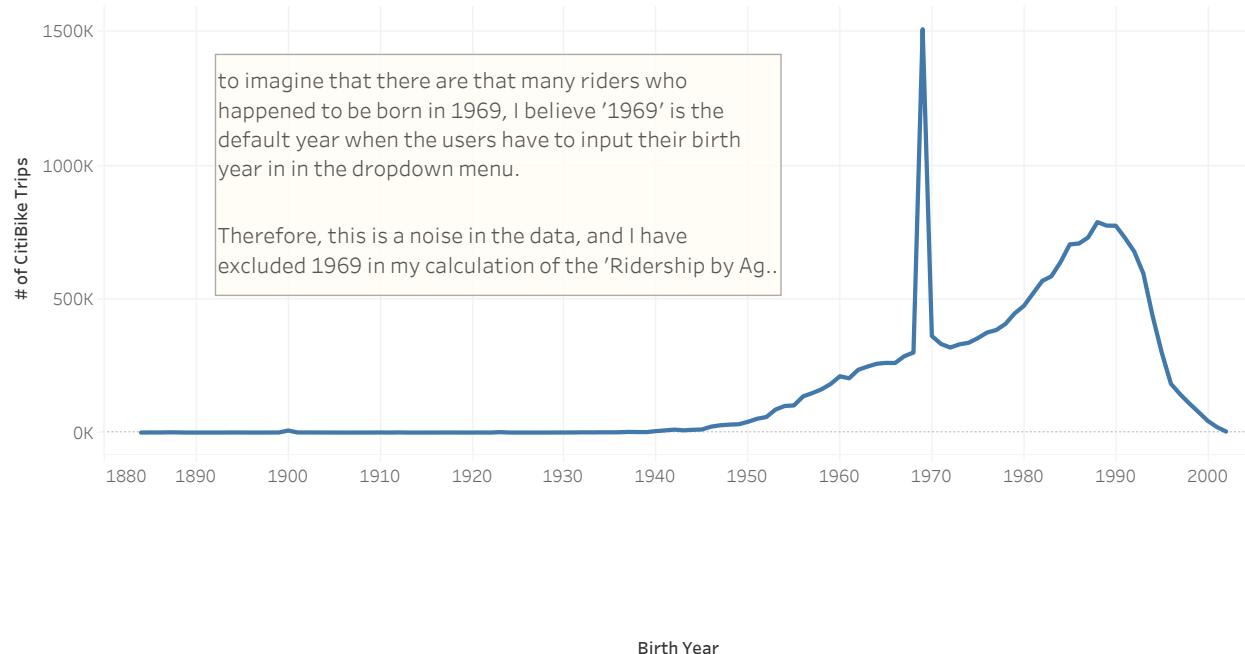
Citibike Tableau Challenge

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Citibike Tableau Challenge

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Citibike Tableau Challenge

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		Subscriber	90.60%
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		Subscriber	85.09%
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		Subscriber	96.28%
	Female	Customer	6.48%
		Subscriber	93.52%
Age 35-44	Male	Customer	2.47%
		Subscriber	97.53%
	Female	Customer	4.25%
		Subscriber	95.75%
Age 45-54	Male	Customer	2.02%
		Subscriber	97.98%
	Female	Customer	3.38%
		Subscriber	96.62%
Age 55-64	Male	Customer	1.28%
		Subscriber	98.72%
	Female	Customer	2.25%
		Subscriber	97.75%
Age 65+	Male	Customer	0.99%
		Subscriber	99.01%
	Female	Customer	1.44%
		Subscriber	98.56%

Highlight Gender
No items highlighted

Highlight Usertype
No items highlighted

Highlight Age Group
No items highlighted

Female Age Group 16-24 has the highest share of "Customer" in all age groups and genders. In the assignment, it was mentioned there was a gender outreach campaign to boost Female ridership. If the campaign was mainly focused to target younger female audience, this phenomena might be the impact of the outreach campaign.