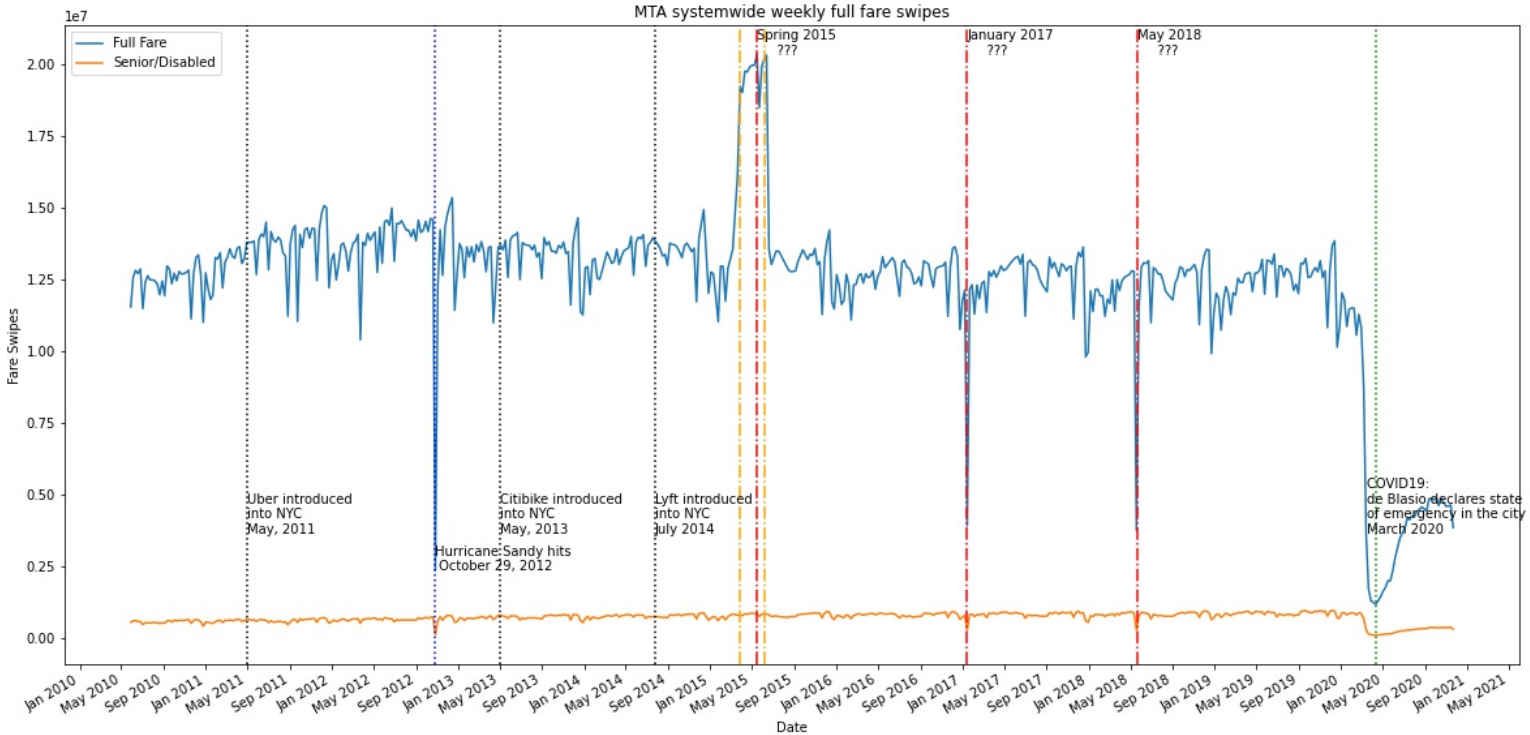
Trends in NYC Subway Ridership

Sophia Nolas

AMS 561

May 2nd 2021

Overall idea and Significance



What are the general trends in subway ridership in the past decade in NYC?

Team expertise level and what you learned

expertise level: MATLAB, C++, SQL (some languages, but no direct experience with data visualization)
what I learned: Python Pandas modules; data visualization

Techniques and Tools used

1. Pandas Dataframe
2. Plot
3. Datetime Object Type

	From Date	To Date	Remote Station ID	Station	Full Fare	Senior Citizen / Disabled	7 Day ADA Farecard Access System Unlimited	30 Day ADA Farecard Access System Unlimited	Joint Rail Road Ticket	7 Day Unlimited	...	LIB Special Senior	Rail Road Unlimited No Trade	Transit Check Metrocard Annual Metrocard	Mail and Ride Easy Pay Express	Mai Unlir
0	2021-08-06	2021-07-31	R001	WHITEHALL STREET	27946	1824	242	376	8	11958	...	539	162	0	717	
1	2021-08-06	2021-07-31	R003	CYPRESS HILLS	1323	134	3	13	0	817	...	12	19	0	11	
2	2021-08-06	2021-07-31	R004	75TH STREET & ELDERTS LANE	4241	321	15	43	0	2029	...	14	31	0	28	
3	2021-08-06	2021-07-31	R005	85TH STREET & FOREST PKWAY	4418	389	29	30	1	1999	...	13	25	0	40	
4	2021-08-06	2021-07-31	R006	WOODHAVEN BOULEVARD	4193	315	27	55	0	2946	...	36	14	0	25	

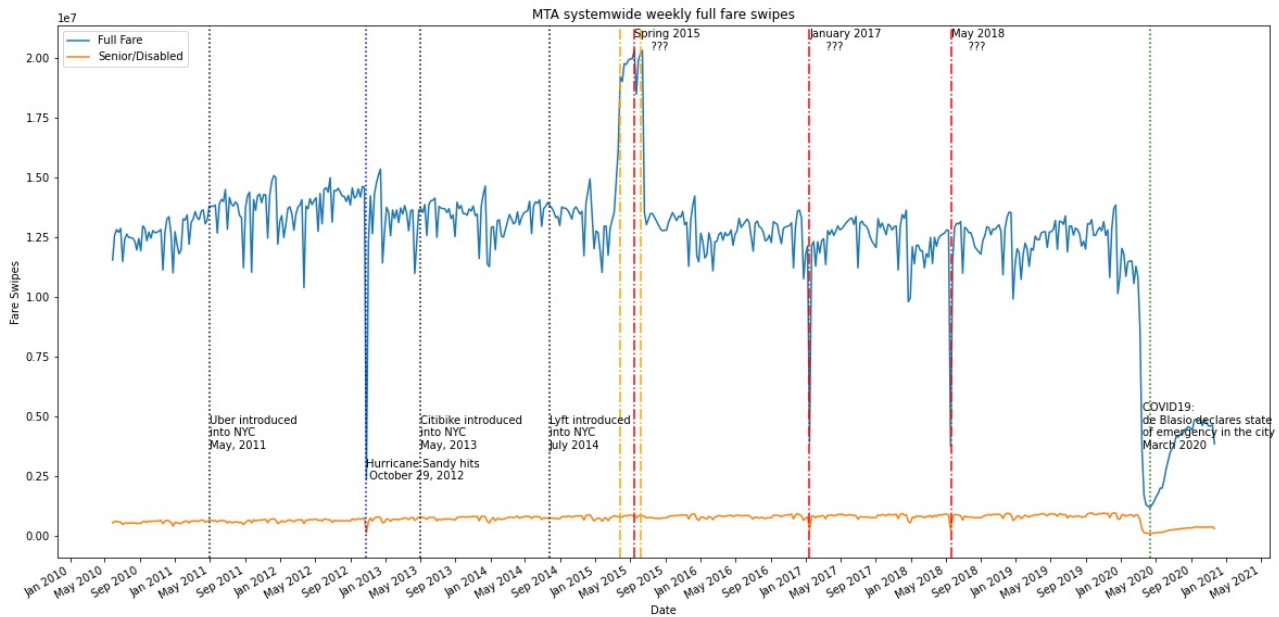
What did I do?

1. Access the data from public database
2. Data Wrangling
3. Create visualizations
4. Follow up on questions the visualizations raise
5. Draw Conclusions; where to go next?

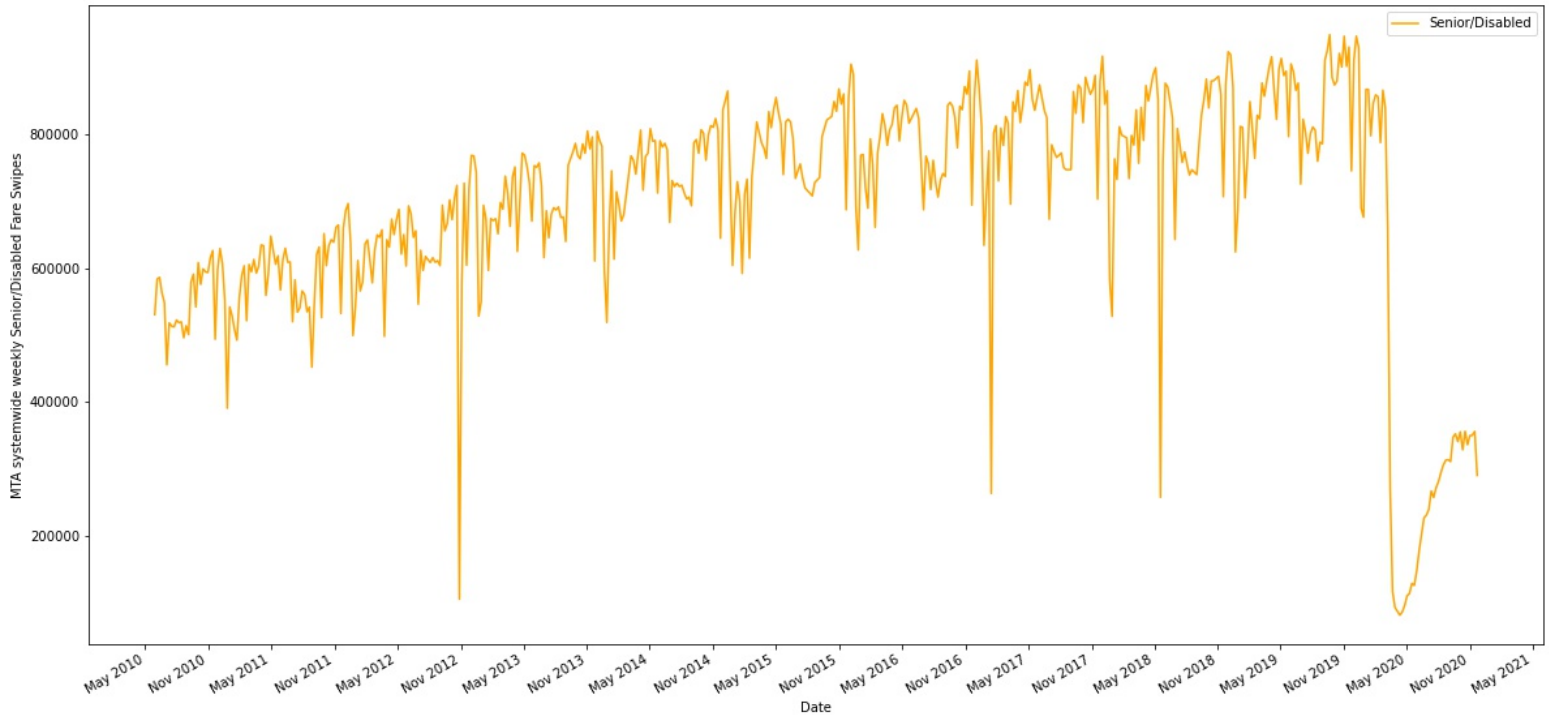
Outcomes and Results

Trends I observed in subway ridership in the decade 2010-2021.

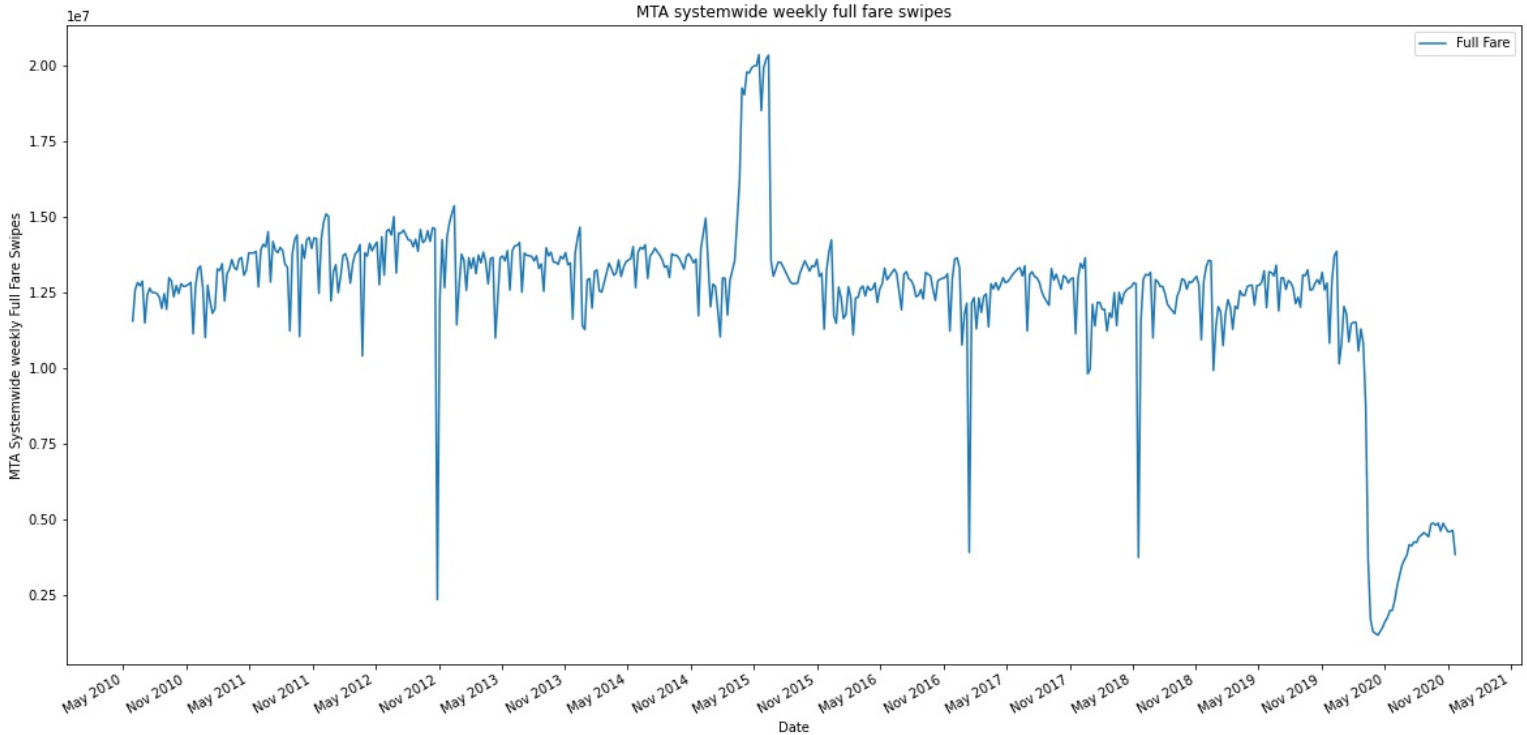
1. Periodic Fluctuations
2. Natural Disasters
3. Lyft, Uber, Citibike?
4. slight decrease in full fare, slight increase in senior/disabled fare



Data Visualizations



Data Visualizations



Conclusions

Focus on:

1. System resiliency to natural disasters/emergencies
2. Consistent use
3. Increase accessibility