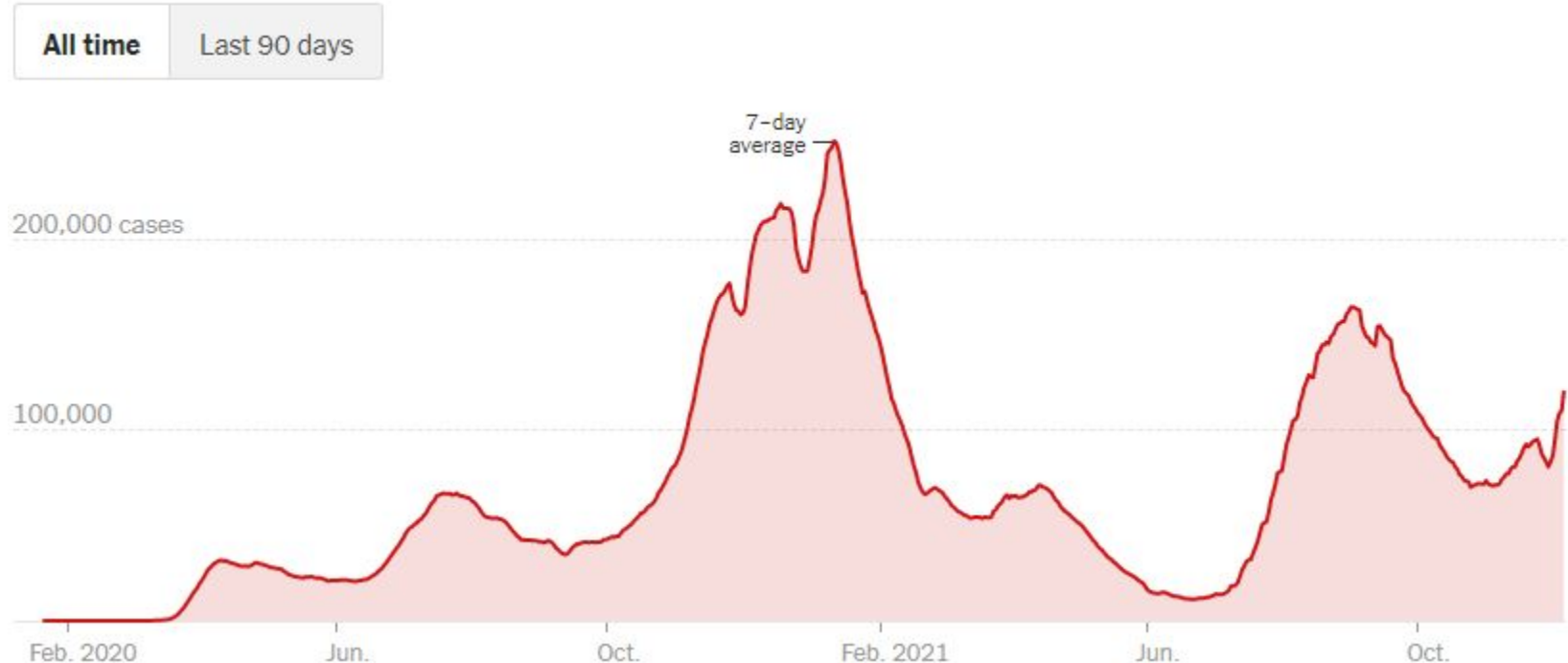


Investigating the Connection Between Mobility and Covid

Aaron Jacobson

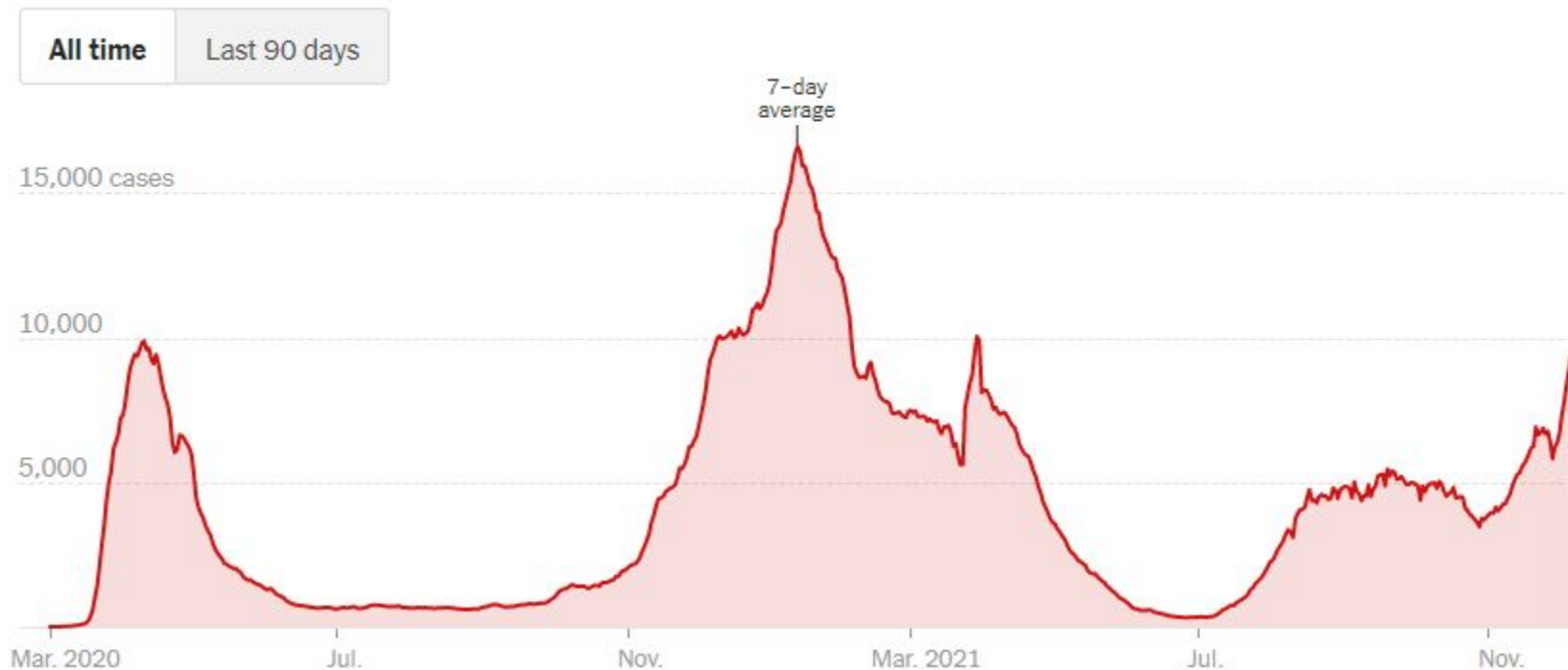
New Covid Cases in the United States

New reported cases



Covid Cases in New York Over Time

New reported cases



Does Covid Spread More In Public Transit?

PBS
NEWS
HOUR

Menu



COVID-19 changed public transportation. Here's how.

By
Justin
Stabley

Opinion

As Seattle slowly reopens, focus on 1 fears, of bus ridership

May 10, 2021 at 2:31 pm | Updated May 10, 2021 at 3:23 pm



E&E NEWS

PUBLIC HEALTH

There Is Little Evidence That Mass Transit Poses a Risk of Coronavirus Outbreaks

A major drop in public transit use coincides with concerns about reducing air pollution that can exacerbate lung conditions

Published online 28 July 2020

Coronavirus: What's the risk of Covid on public transport?

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For Kids

Storm Team 4

Nick Cannon

Pearl Harbor

Amazon Web Services

Putin

People's Choice

Holidays

CORONAVIRUS

Public Transit in Cities Not Huge Contributor in Spread of Respiratory Diseases: Study

The study was conducted amid a concern about the role of public transit use in the spread of COVID-19.

Joselow, Maxine. "There Is Little Evidence That Mass Transit Poses a Risk of Coronavirus Outbreaks." *Scientific American*, Scientific American, 28 July 2020, <https://www.scientificamerican.com/article/there-is-little-evidence-that-mass-transit-poses-a-risk-of-coronavirus-outbreaks/>.

"Coronavirus: What's the Risk of Covid on Public Transport?" BBC News, BBC, 21 May 2021, <https://www.bbc.com/news/health-51736185>.

NBC New York. "Public Transit in Cities Not Huge Contributor in Spread of Respiratory Diseases: Study." NBC New York, NBC New York, 3 Dec. 2020, <https://www.nbcnewyork.com/news/coronavirus/public-transit-in-cities-not-huge-contributor-in-spread-of-respiratory-diseases-study-finds/2759012/>.

Hudson, Alex. "As Seattle Slowly Reopens, Focus on the Facts, Not Fears, of Bus Ridership." *The Seattle Times*, The Seattle Times Company, 10 May 2021, <https://www.seattletimes.com/opinion/as-seattle-slowly-reopens-focus-on-the-facts-not-fears-of-bus-ridership/>.

Stabley, Justin, and Vignesh Ramachandran. "Covid-19 Changed Public Transportation. Here's How." PBS, Public Broadcasting Service, 10 June 2021, <https://www.pbs.org/newshour/nation/public-transit-post-pandemic>.

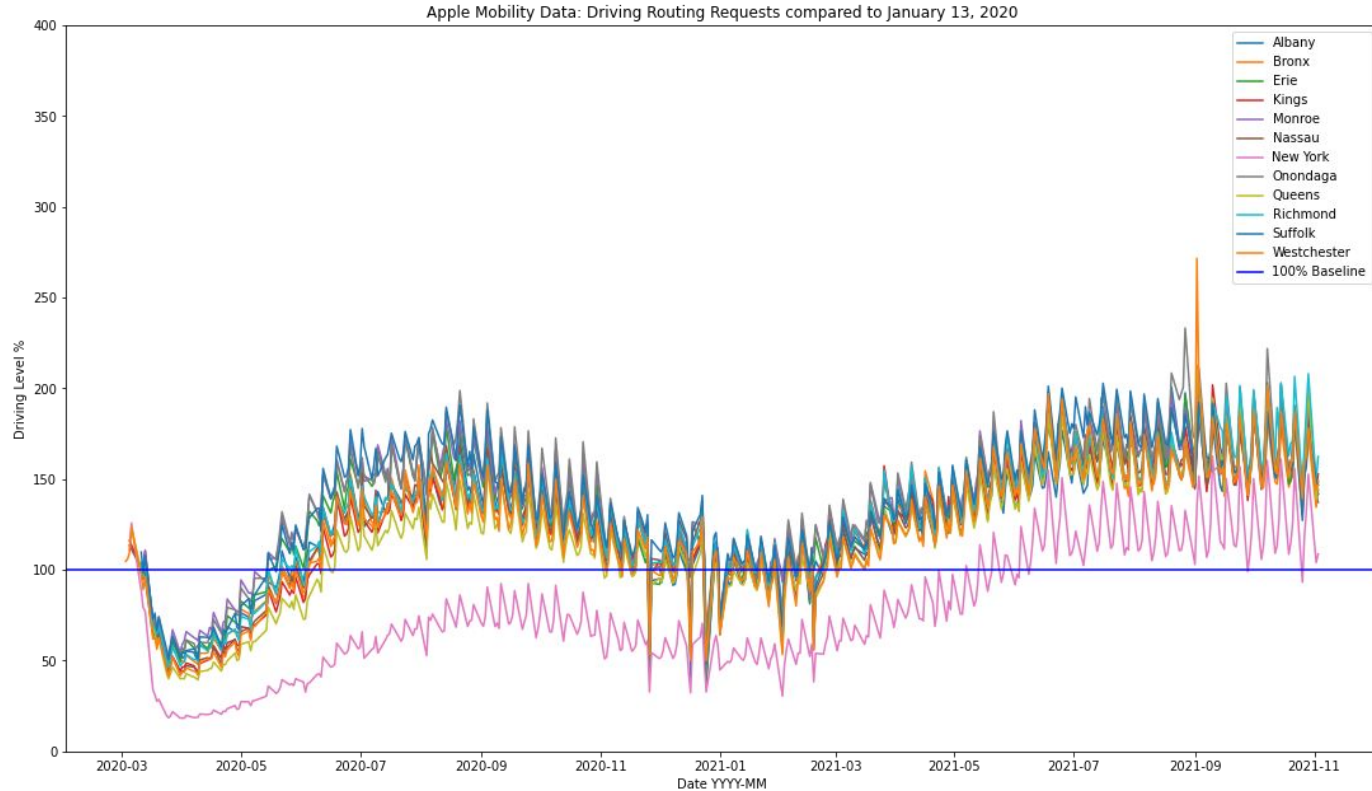
Mobility Data Issues

1. Mobility data has a strong day of the week effect
2. New York transit is different

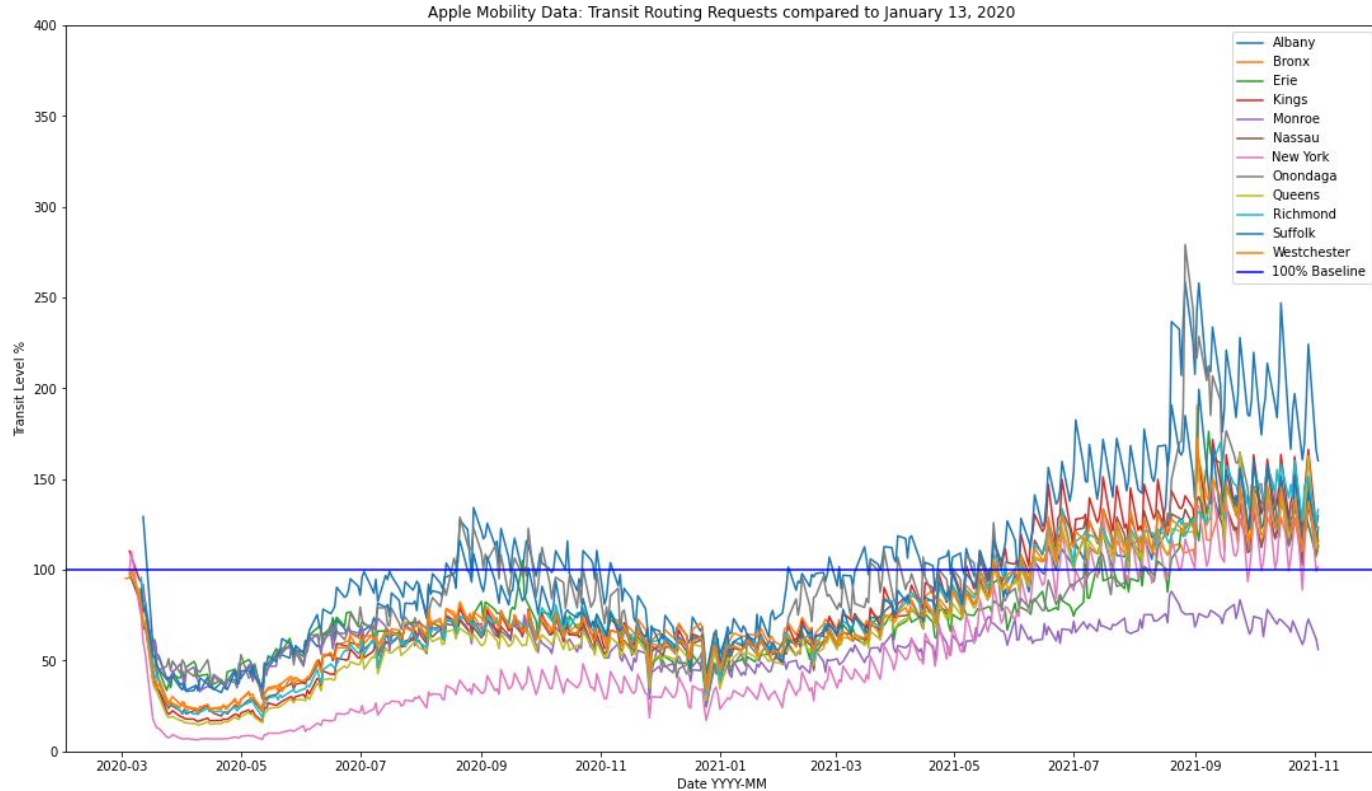
Covid Data Issues

1. Data shows positive tests, regardless of test positivity
2. Positive tests aren't reported consistently throughout the week
3. New York's patterns with Covid are unlike most of the country

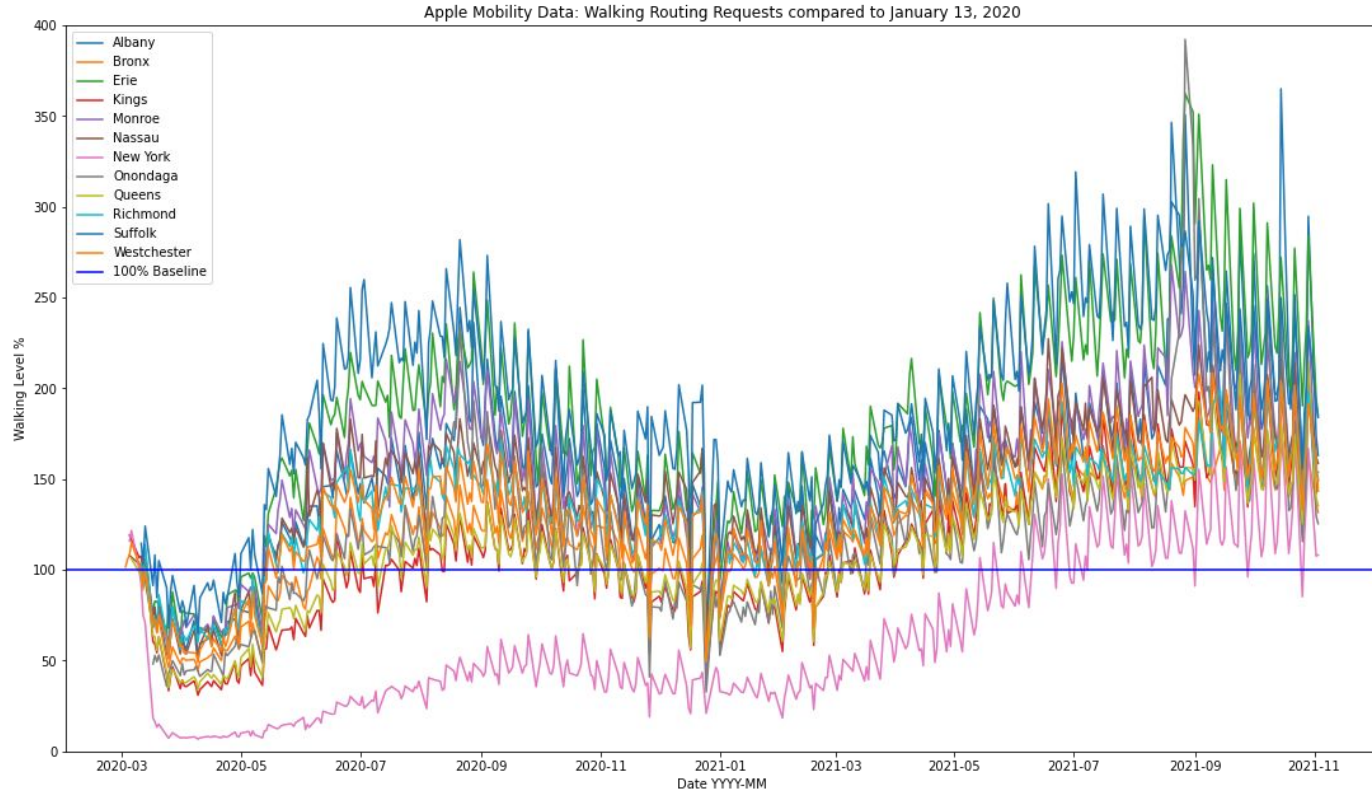
Driving Mobility By County Over Time



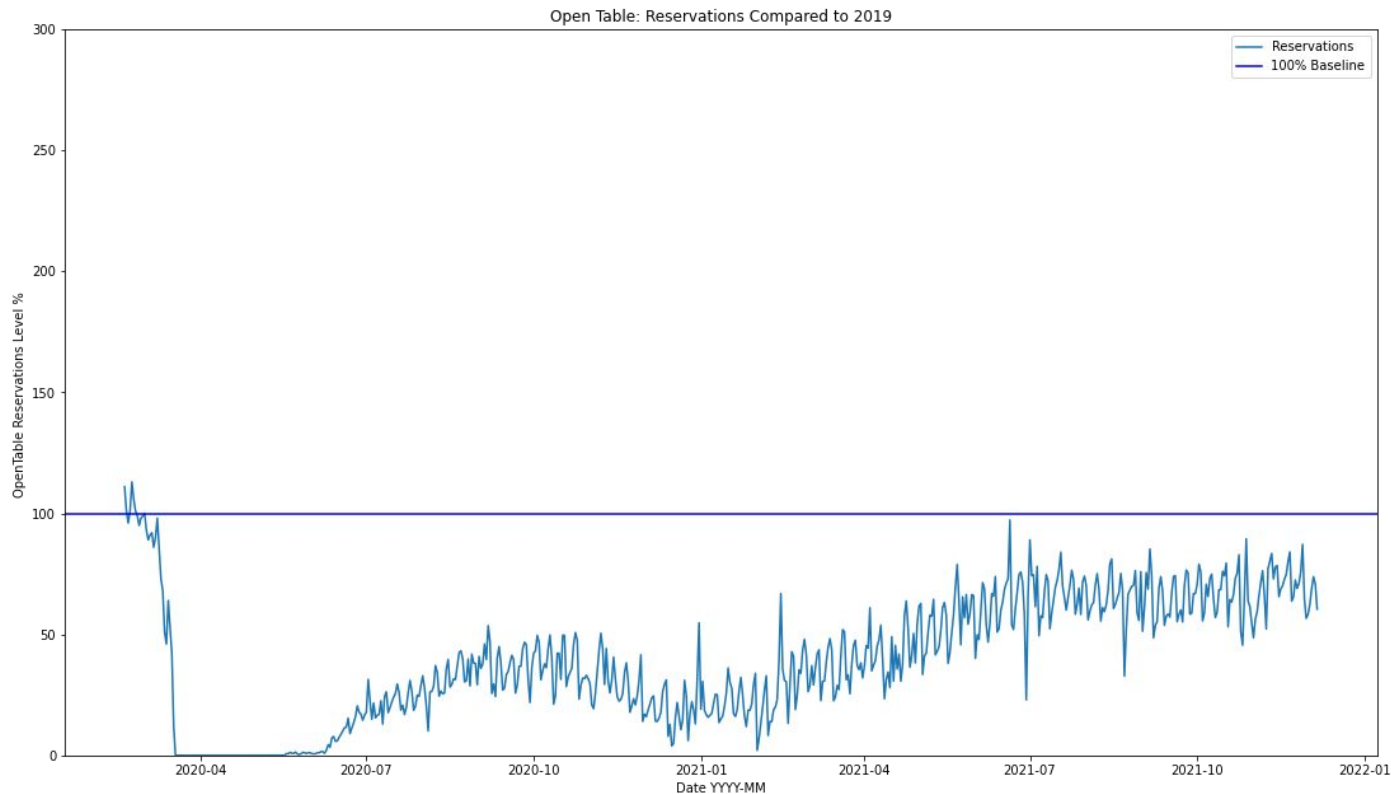
Transit Mobility By County Over Time



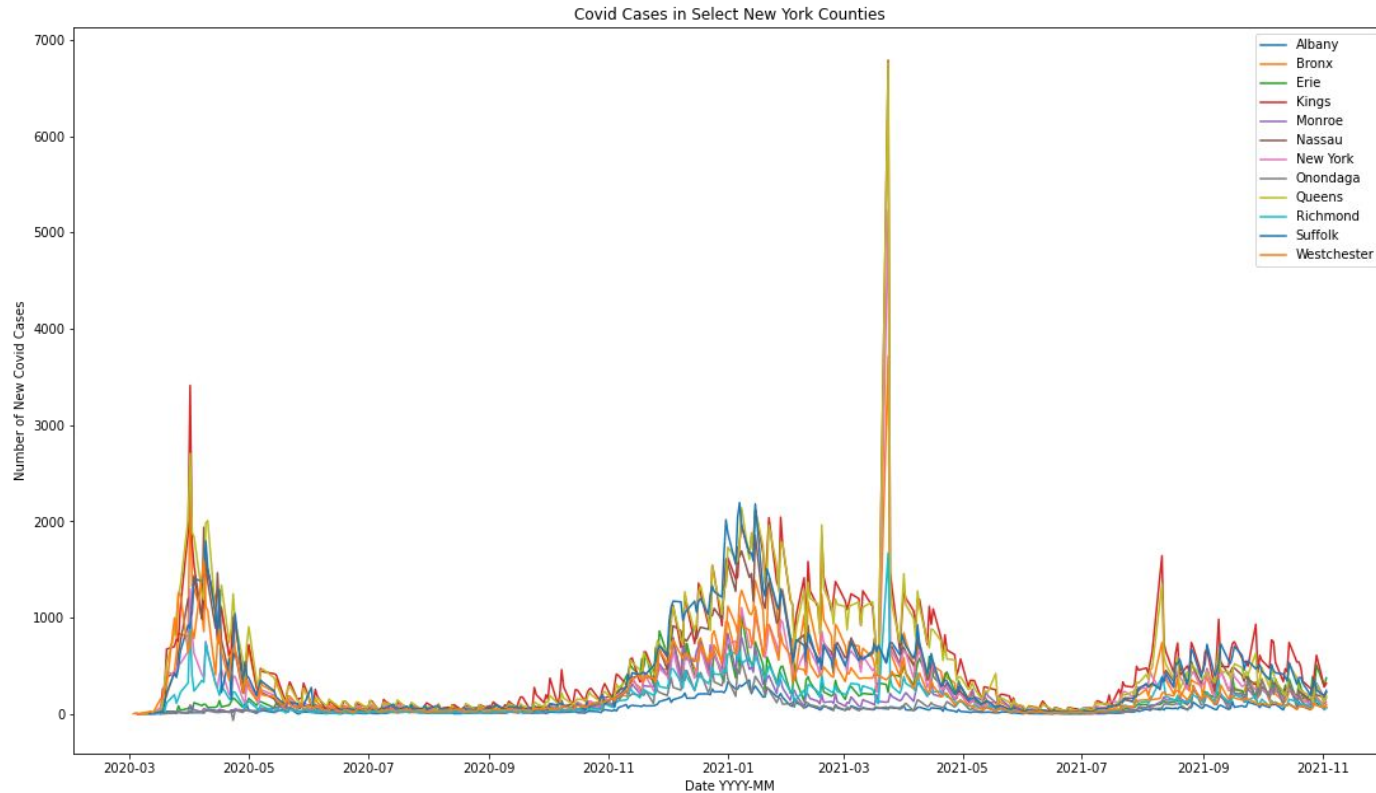
Walking Mobility By County Over Time



Opentable Reservations in New York State Over Time



Covid Cases By County Over Time



Regression Tables

- Not quite statistically significant correlation between higher transit levels and increasing new case counts
- Statistically significant correlation between higher driving levels and decreasing new case counts
- Statistically significant correlation between higher walking levels and increasing new case counts
- Statistically significant correlation between higher restaurant table reservation levels and higher new case counts.

Dep. Variable:	Cases_Change%	R-squared:	0.038
Model:	OLS	Adj. R-squared:	0.037
Method:	Least Squares	F-statistic:	37.93
Date:	Tue, 07 Dec 2021	Prob (F-statistic):	3.32e-31
Time:	15:37:28	Log-Likelihood:	610.96
No. Observations:	4083	AIC:	-1212.
Df Residuals:	4078	BIC:	-1180.
Df Model:	4		
Covariance Type:	HC3		

	coef	std err	z	P> z	[0.025	0.975]
const	0.1712	0.025	6.975	0.000	0.123	0.219
Transit_Level	0.0002	0.000	1.446	0.148	-6.59e-05	0.000
Driving_Level	-0.0019	0.000	-5.241	0.000	-0.003	-0.001
Walking_Level	0.0002	5.42e-05	3.453	0.001	8.1e-05	0.000
Table_Level	0.0017	0.001	2.135	0.033	0.000	0.003

Omnibus:	9954.932	Durbin-Watson:	1.025
Prob(Omnibus):	0.000	Jarque-Bera (JB):	140781379.067
Skew:	25.216	Prob(JB):	0.00
Kurtosis:	911.281	Cond. No.	808.