

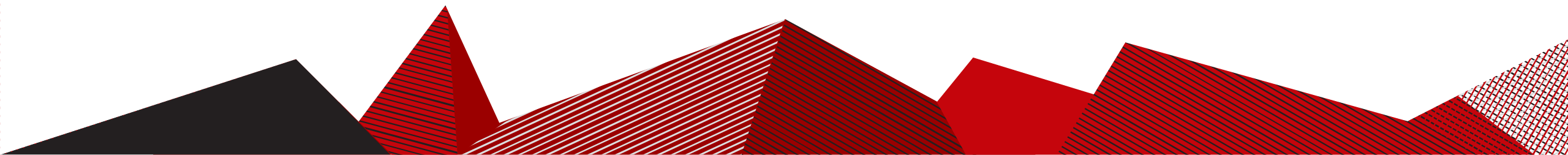


Yelp Data Analysis

GENBUS 760 - Team White

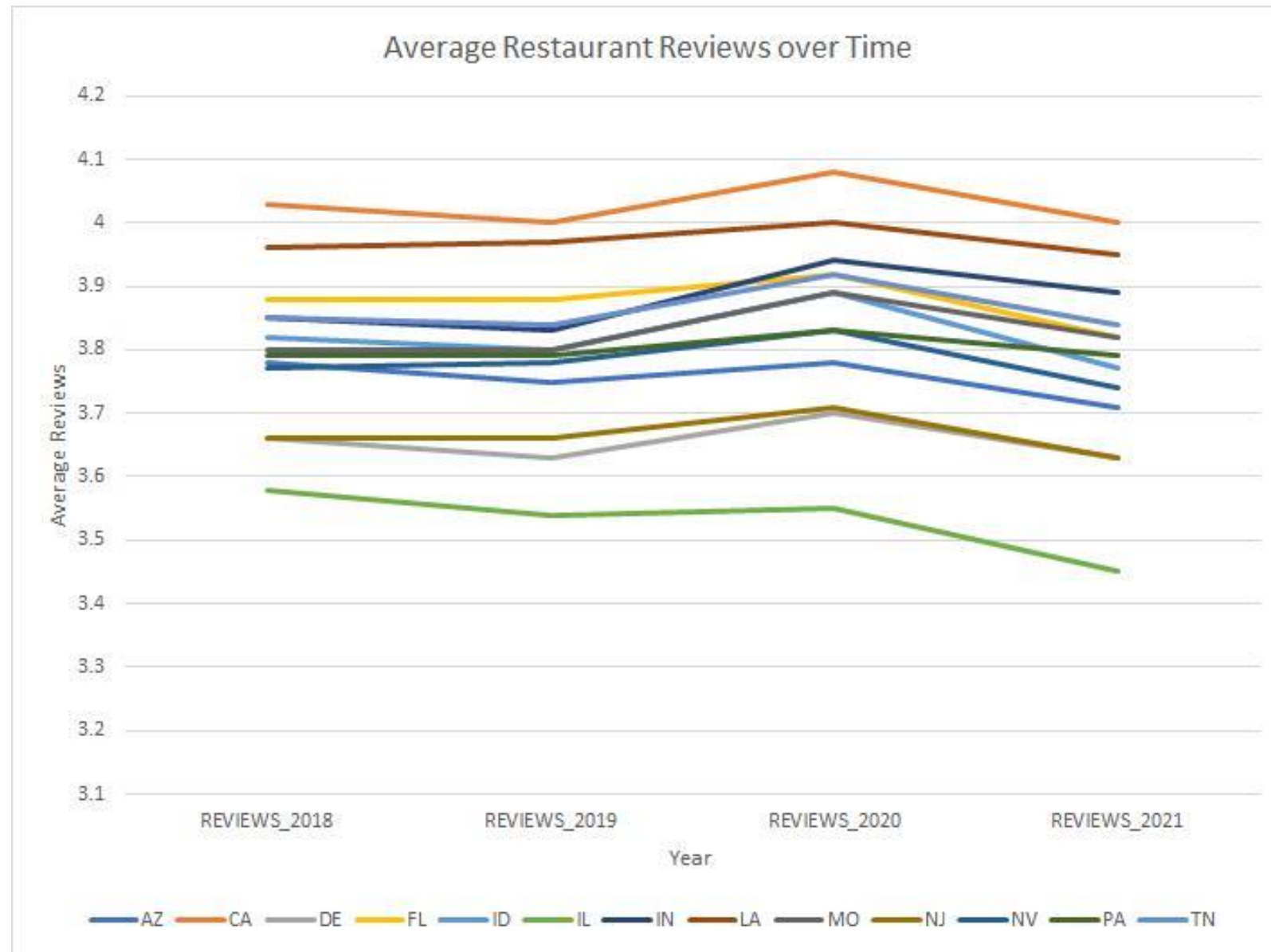
Hypothesis

- We anticipate Yelp Stars to be higher during and post-Covid than pre-Covid
- We also anticipate Yelp Stars to be higher in states with higher amounts of cases
- Customers give better reviews to restaurants that stayed open during lockdown periods and were more loyal customers post-vaccine



Analysis Part 1

- We computed yearly average reviews, by state, utilizing the Stars column from Reviews table
- Over time restaurant reviews decreased



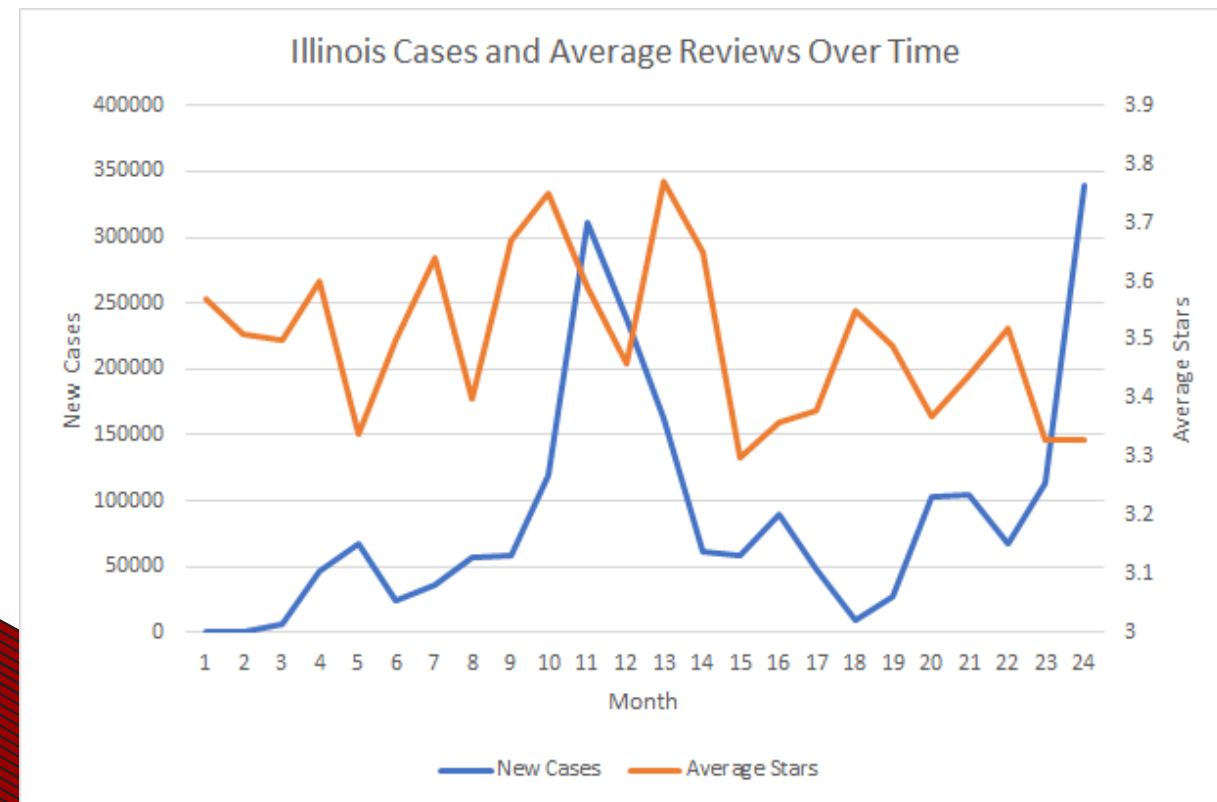
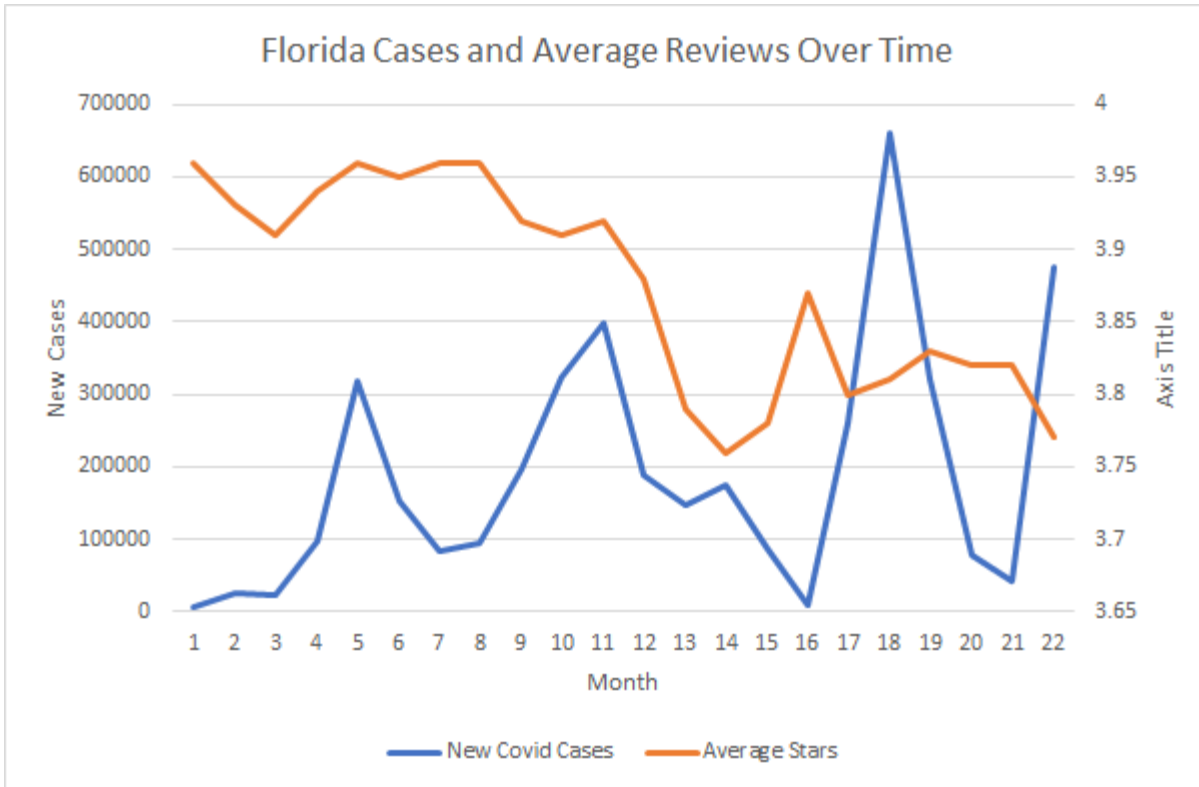
Analysis Part 2

- We then took new Covid cases with Restaurant Star reviews to find average star by review per month for each state.

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-- New cases each month must be calculated, this is done by adding a column with the previous months cases and subtracting them out.
-- For 24 months, from 01-2020 to 12-2021, new covid cases and the average restaurant rating were compared for each state
-- Months were replaced by a count to prevent issues when rolling over the year
SELECT cbm.state, MONTH(cbm.date) AS Month, YEAR(cbm.date) AS Year, MAX(cbm.CASE_COUNT_TOTAL) AS EOM_Count,
LAG(MAX(cbm.CASE_COUNT_TOTAL),1,0) OVER (PARTITION BY cbm.state ORDER BY cbm.state, YEAR(DATE), MONTH(DATE)) AS Last_Month,
EOM_Count - Last_Month AS New_Cases, ROUND(AVG(rbm.stars),2) AS Average_Stars
FROM Cases_By_State CBM
INNER JOIN Reviews_By_Month RBM
ON cbm.state = rbm.state AND month = rbm.review_month AND year = rbm.review_year -- Making sure we get the reviews for a particular
state, month, and year
WHERE Year != 2022 -- We are only including case data from 2020 and 2021
GROUP By cbm.state, Month, Year|
ORDER BY cbm.state, Year, Month;
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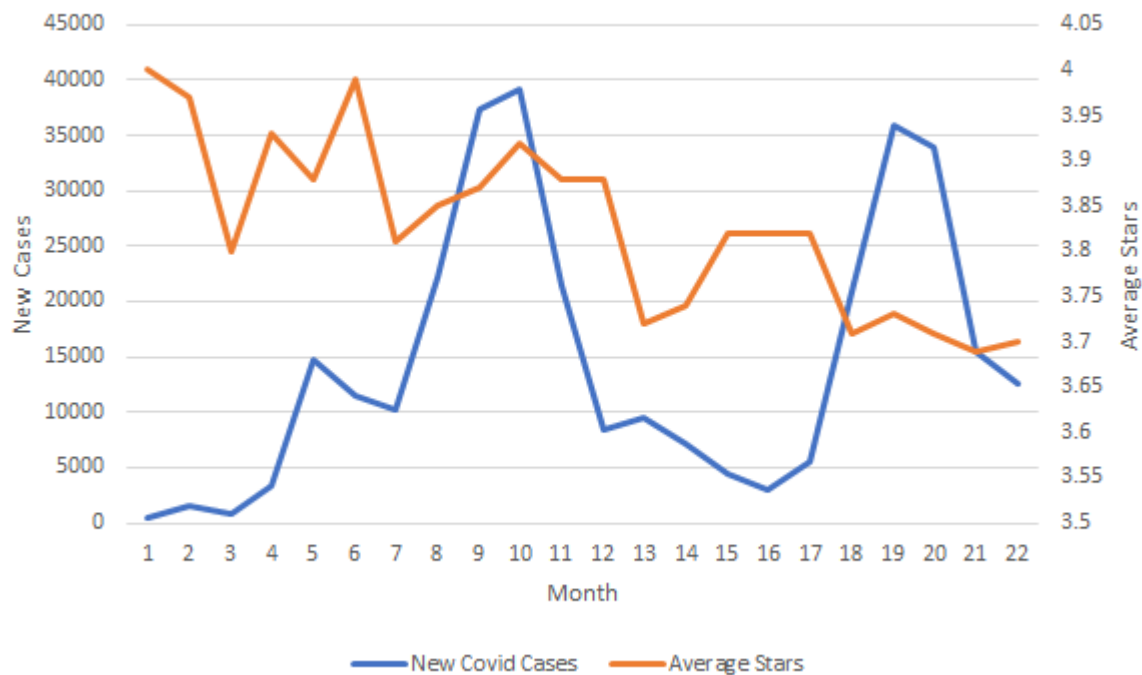
Results

- Cases increased over time until about the time vaccines rolled out (Early 2021)
- Yelp Stars started to decline around the end of 2020, start of 2021.
- Local residence are entering higher Yelp reviews, once travel bans are lifted and people feel comfortable traveling, Yelp stars started to decrease.

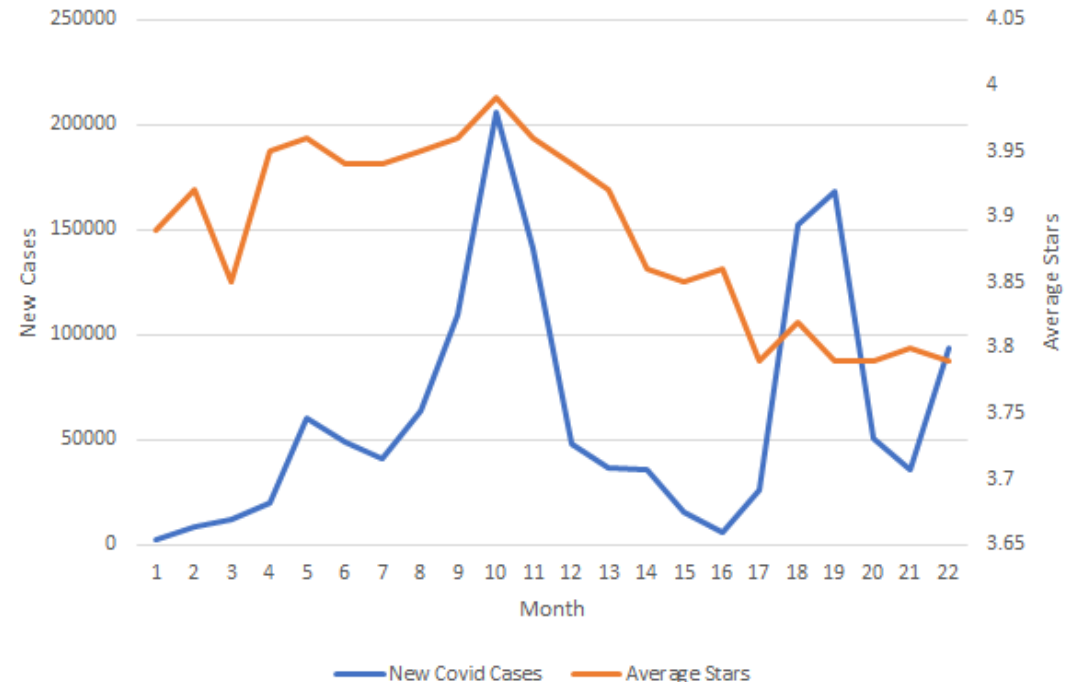


Results

Idaho Cases and Average Reviews Over Time



Tennessee Cases and Average Reviews Over Time



Conclusion

- Customers seem more inclined to give a high review to the restaurants that stayed open during lockdown times.
- We theorize that service innovations during the pandemic resulted in higher reviews. Supply chain and labor issues post Covid seem to have led to lower stars on Yelp reviews.
- Data incomplete – hard to correlate stars and covid cases. There was an increase in review stars from 2019 to 2020, but more data is needed to tie Covid cases to Yelp stars. Additional state data might help our story.

