

Rtist



Crystal Hariga, Vicky Ke, Erta Wei

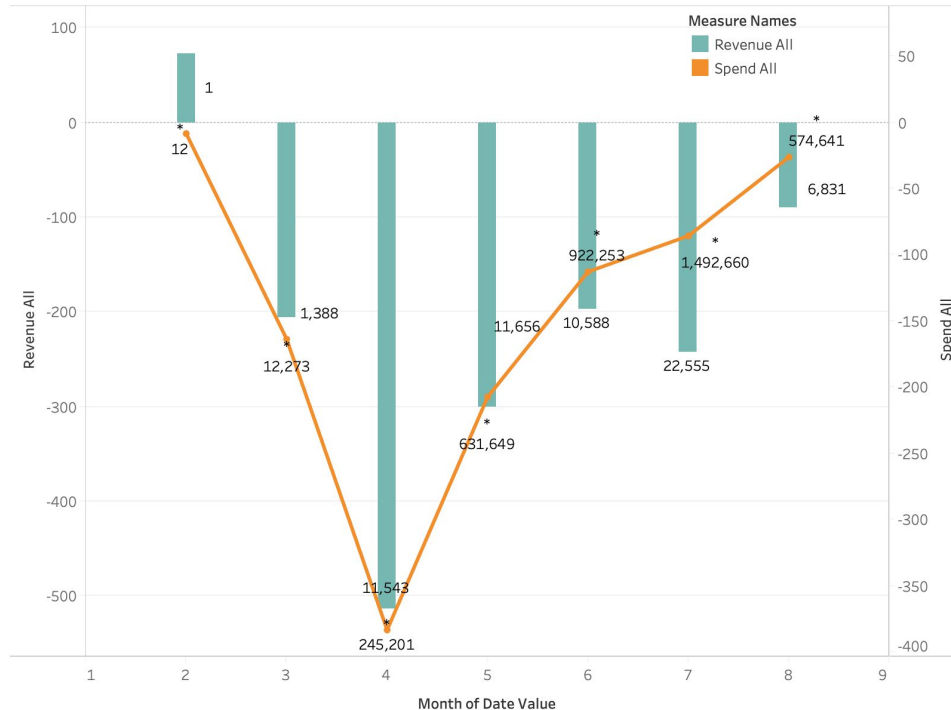
**Where should YOU
start a small business
during a COVID-19
crisis?**



Data Quality

- **Null values:** Filtered all
- **Change data type:** date value - date format; state value - geo format
- **Pivoting:** pivoted the header to categorical values
- **Aggregating:** Grouped the categorical data, and calculated the means based on the categorical data
- **Incomplete August data:** Not using August data to draw conclusion, but see the overall trendency

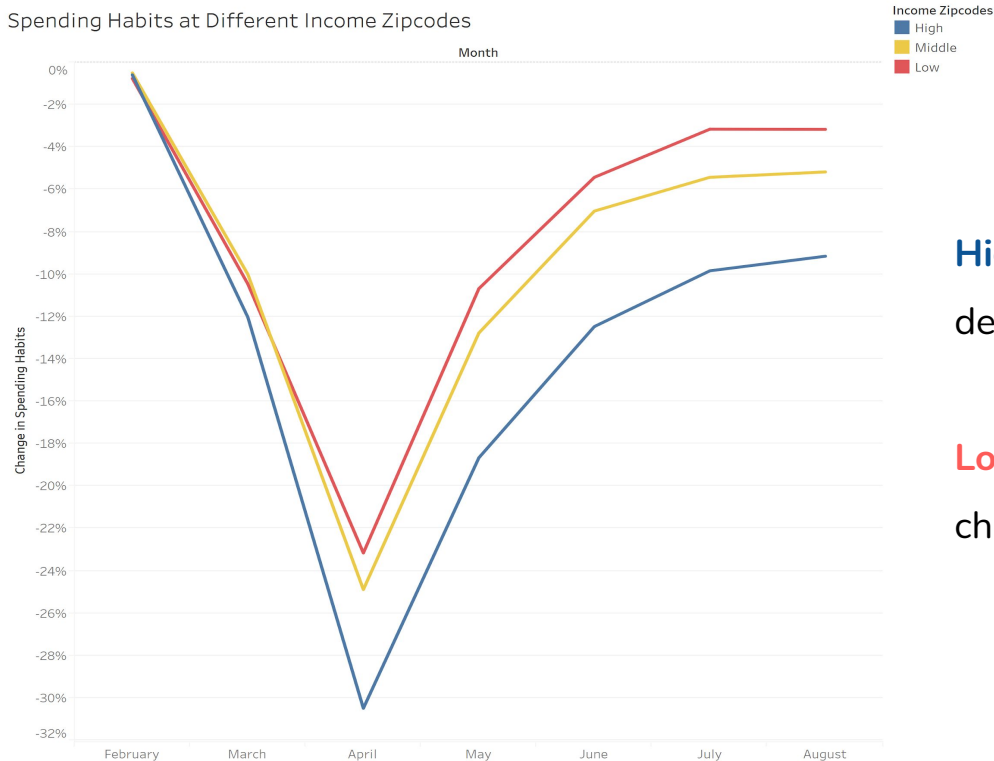
Revenue and Spending Change Against COVID-19



Though the total number of case rate is **increasing**, revenue and spending are **resuming**.

Spending Habits

Spending Habits at Different Income Zipcodes



High income zipcodes have the highest decrease in spending

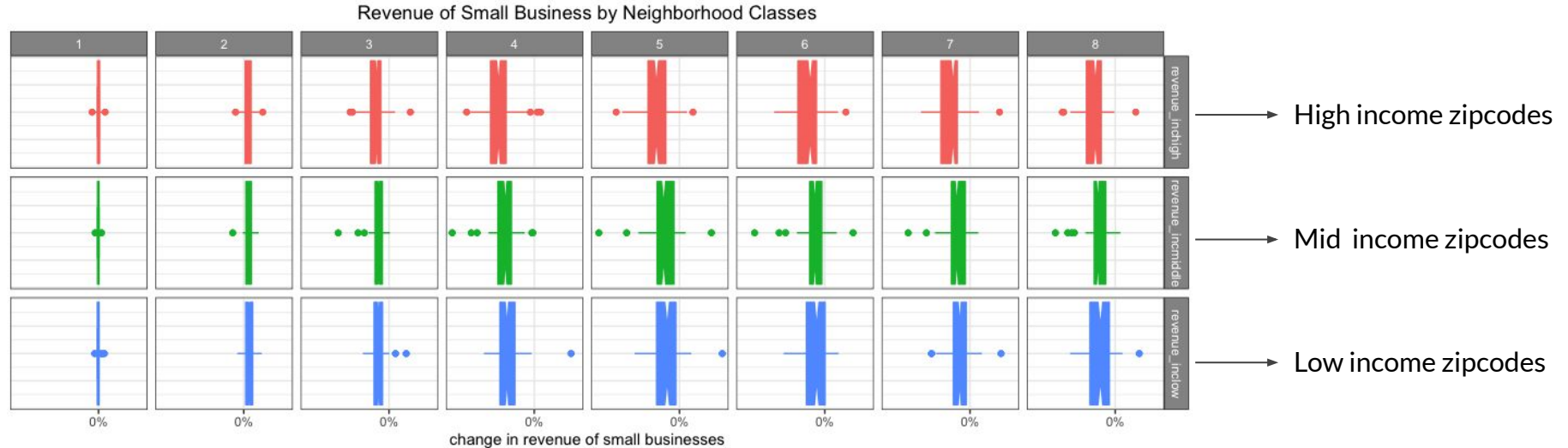
Low income zipcodes have the least change

Spending Habits v.s. Revenue Change



Positive linear relationship between **change in revenue** and **change in spending**

Small Business Revenue by Income Zipcodes



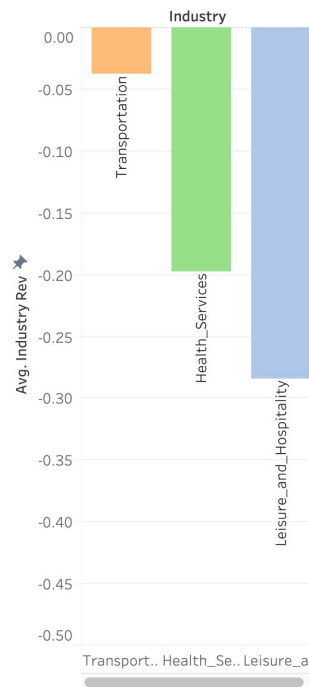
Low income locations have the least revenue decrease compare to other location



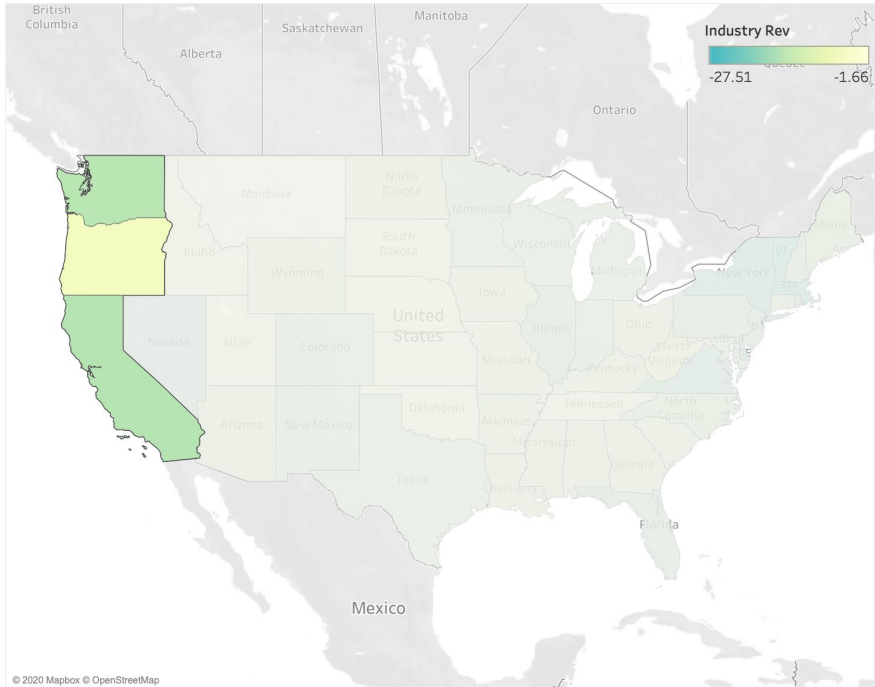
Small Business Revenue in Geo View by Industry

West Coast

Industry Revenue Changes



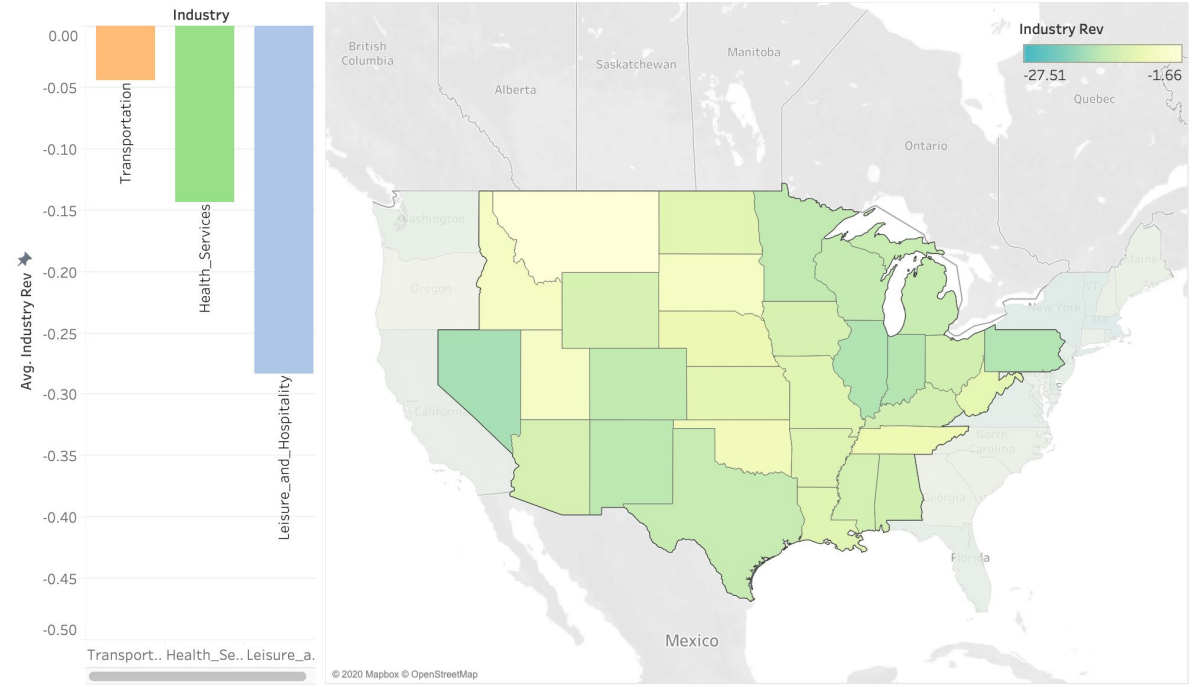
Industry Revenue Changes in Geo View



Small Business Revenue in Geo View by Industry

Industry Revenue Changes Industry Revenue Changes in Geo View

Central

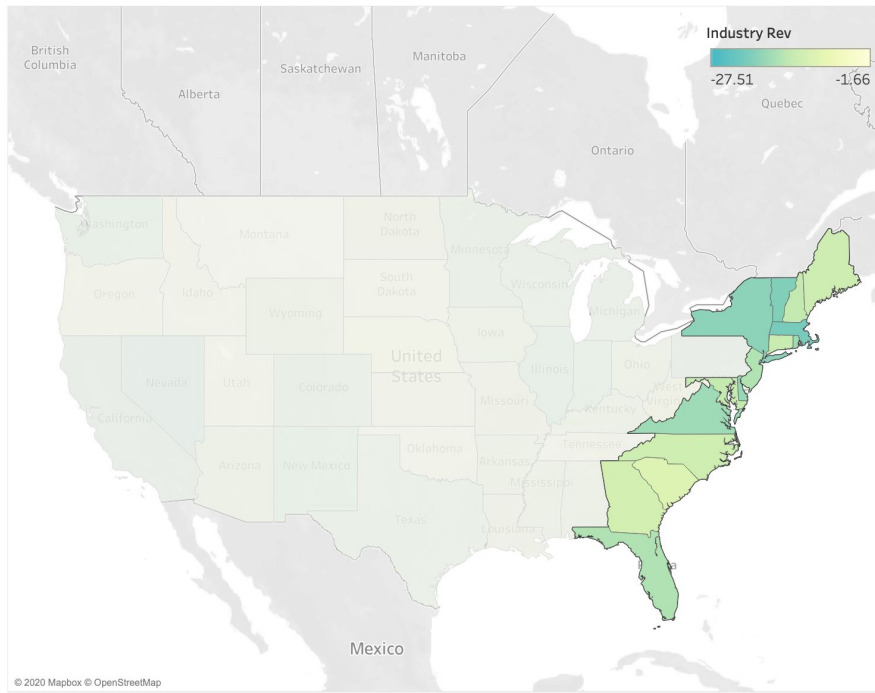
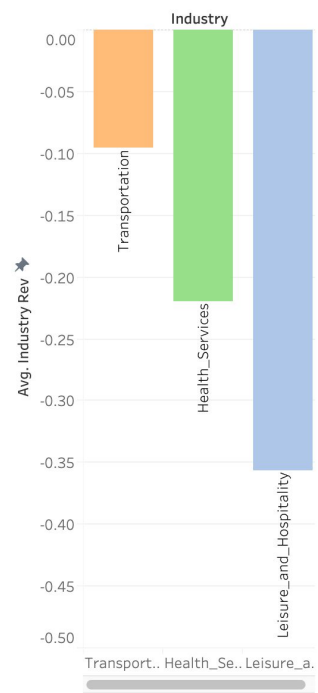


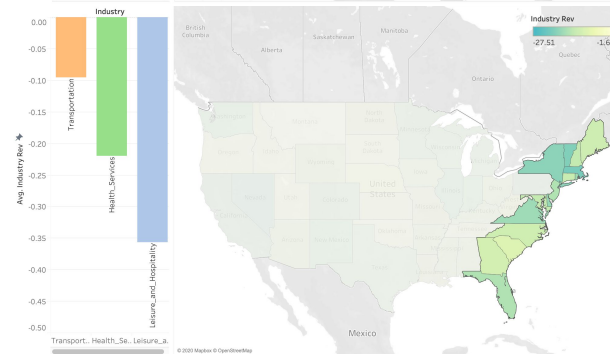
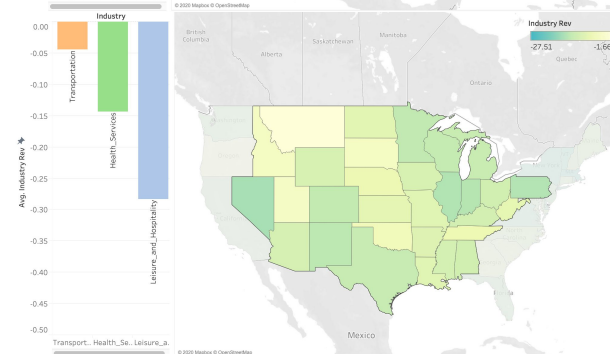
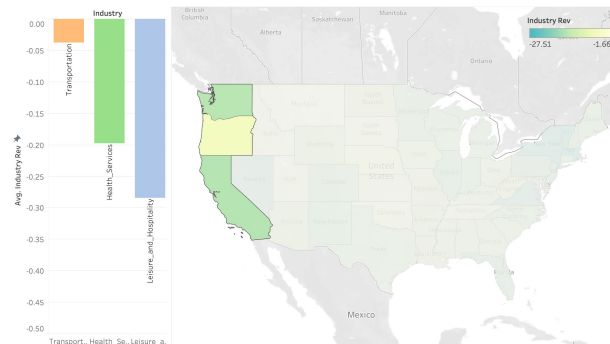


Small Business Revenue in Geo View by Industry

Industry Revenue Changes Industry Revenue Changes in Geo View

East Coast



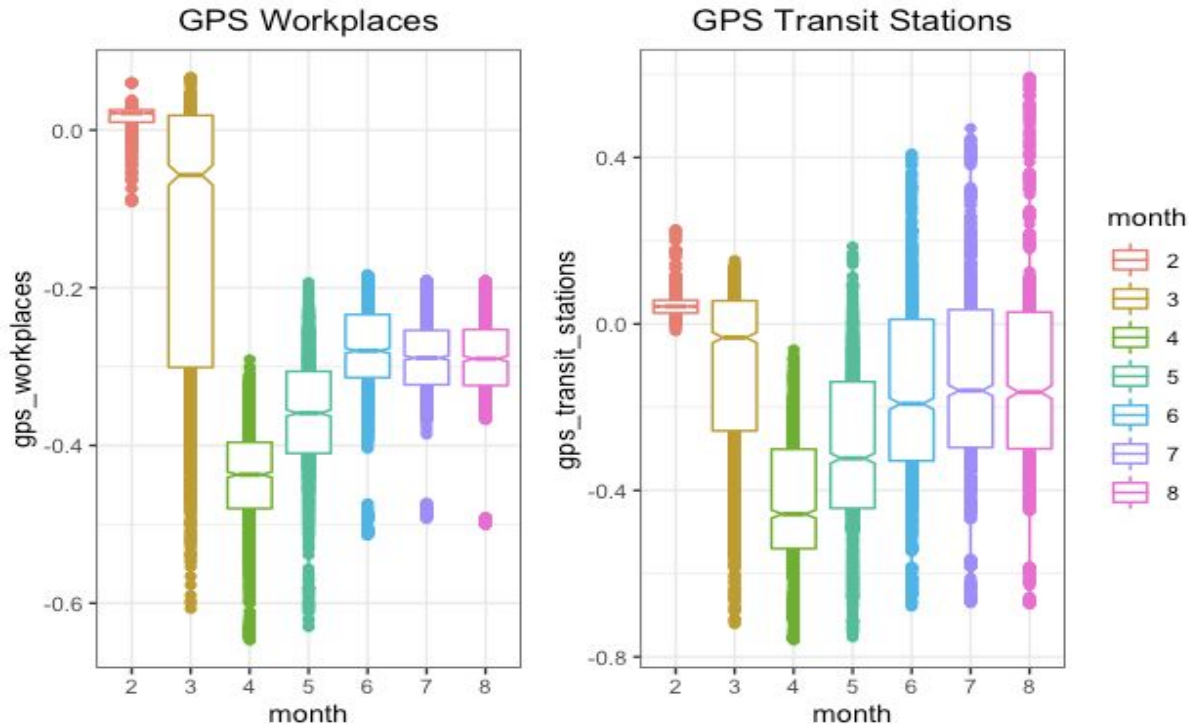


Small Business Revenue in Geo View by Industry

Key Takeaways:

- Revenue decreasing:
Transportation < Health Services < Leisure and Hospitality
- Avoid opening small businesses in east coast
- Recommend to open small businesses in transportation service industry in west coast and central areas.
- It's okay to consider open small business in health service in central areas only , but do not recommend

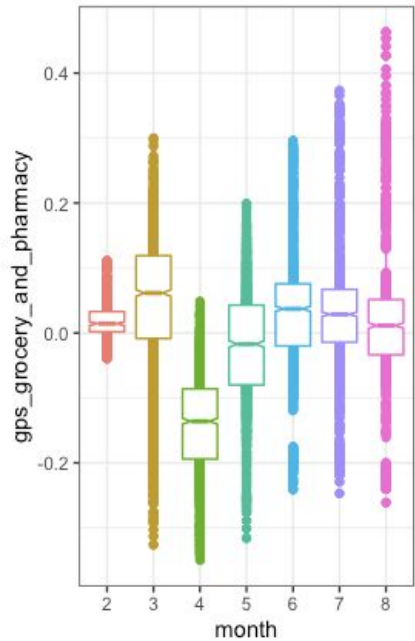
Do People Go to Work?



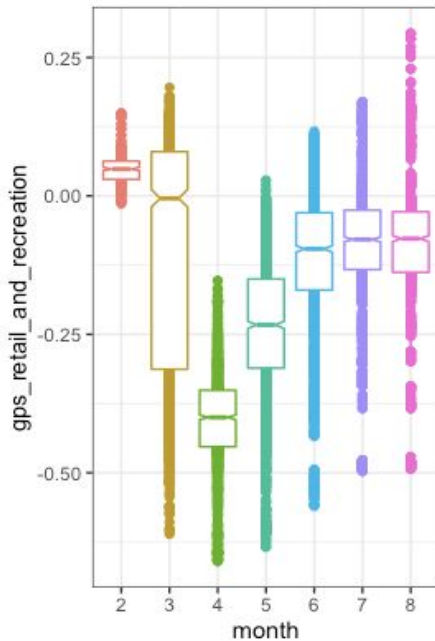
- People are **not** commuting to workplaces.
- The mobility at transit stations is resuming.

Where People Go?

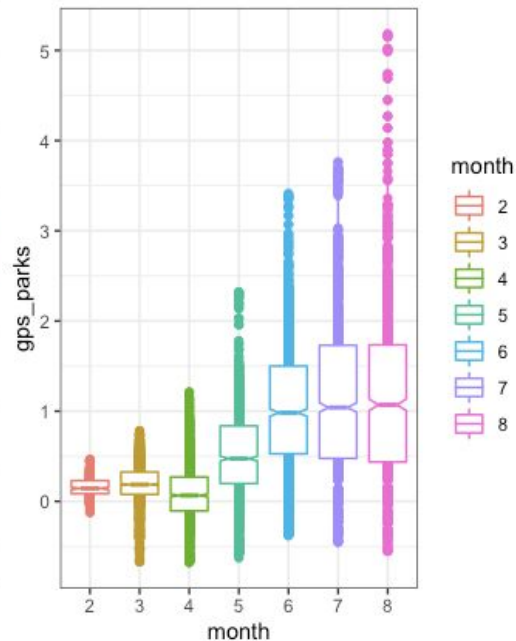
GPS Grocery and Pharmacy



GPS Retail and Recreation



GPS Parks



- Go to grocery and pharmacy **regularly**.
- **Not** fancy retail and recreation places
- Parks are **popular**

Good to be near grocery/pharmacy places and parks.



Conclusion

The ideal location for you to start a small business:

- 1) In states with lower new COVID case rates, such as Ohio, Utah
- 2) A place in the lower-income area; in west coast and central area
- 3) Near parks, transit stations, grocery stores and pharmacies.
- 4) In the transportation supersector, including trade and utilities; and make their products and services available to stay home consumers, such as offering delivery.
- 5) Moving to businesses online needs strategic plans - give alternatives on pickup, delivery, return, and cancellation.

Q & A