The effect of Covid-19 on scooter usage in Austin, Texas

Motivations

Data & Methods

Preliminary Results

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The Data Incubator
A Pragmatic Institute Company

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Motivations

How does Covid-19 affect scooter usage in Austin, Texas?

Audience

- Operators – How to maximize revenue?
- Investors – Are scooters a good investment?
- Policy makers – How to optimize mobility?

Why Austin?

- Early scooter adopter
- High scooter usage capacity
- Year-round comfortable weather
- Scooters remain active during Covid-19
- The city collects and shares trip data

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Data & Methods

Main dataset:
Austin's micromobility trip log (9,701,345 trips – 1,914 MB)

Additional data sources:

- Texas's COVID-19 daily cases by county
- U.S. Census Bureau (ACS 2019 + TIGER)
- City of Austin built environment shapefiles
- Open Street Map
- Weather database

Descriptive statistics

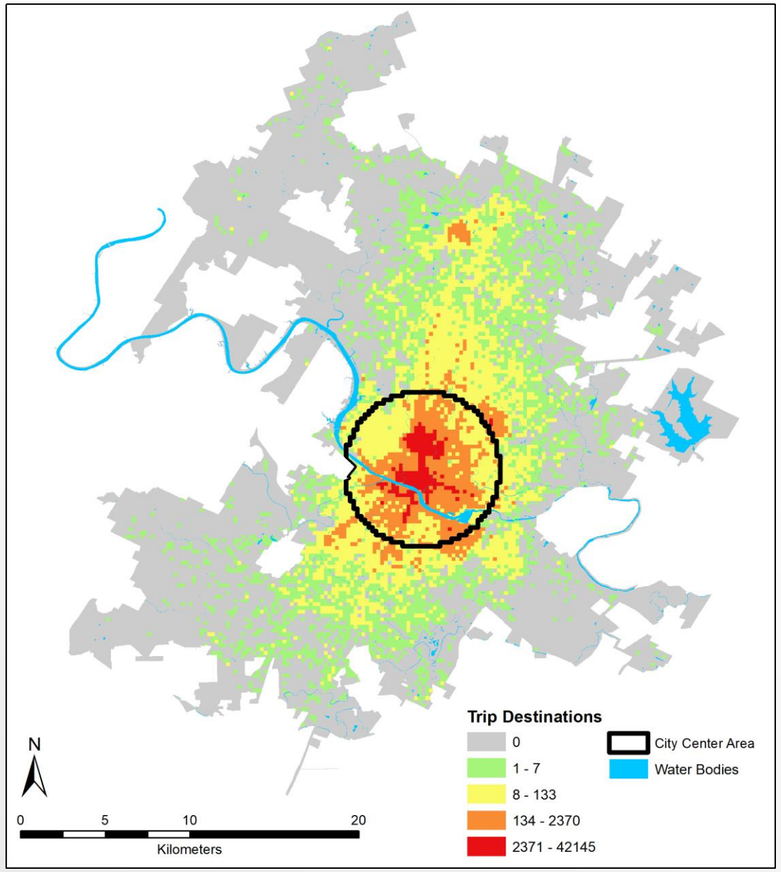
- Change in total trips
- Change in trip characteristics

Spatial analysis

- Change in trip distribution
- Change in trip patterns
- Computing spatial attributes

Machine learning

- Random forest to determine variables
- Time series regression analysis to create a predictive model



Caspi, O., Smart, M.J., Noland, R.B., (2020) Spatial associations of dockless shared e-scooter usage. *Transportation Research Part D: Transport and Environment 86*, 102396. https://doi.org/10.1016/j.trd.2020.102396

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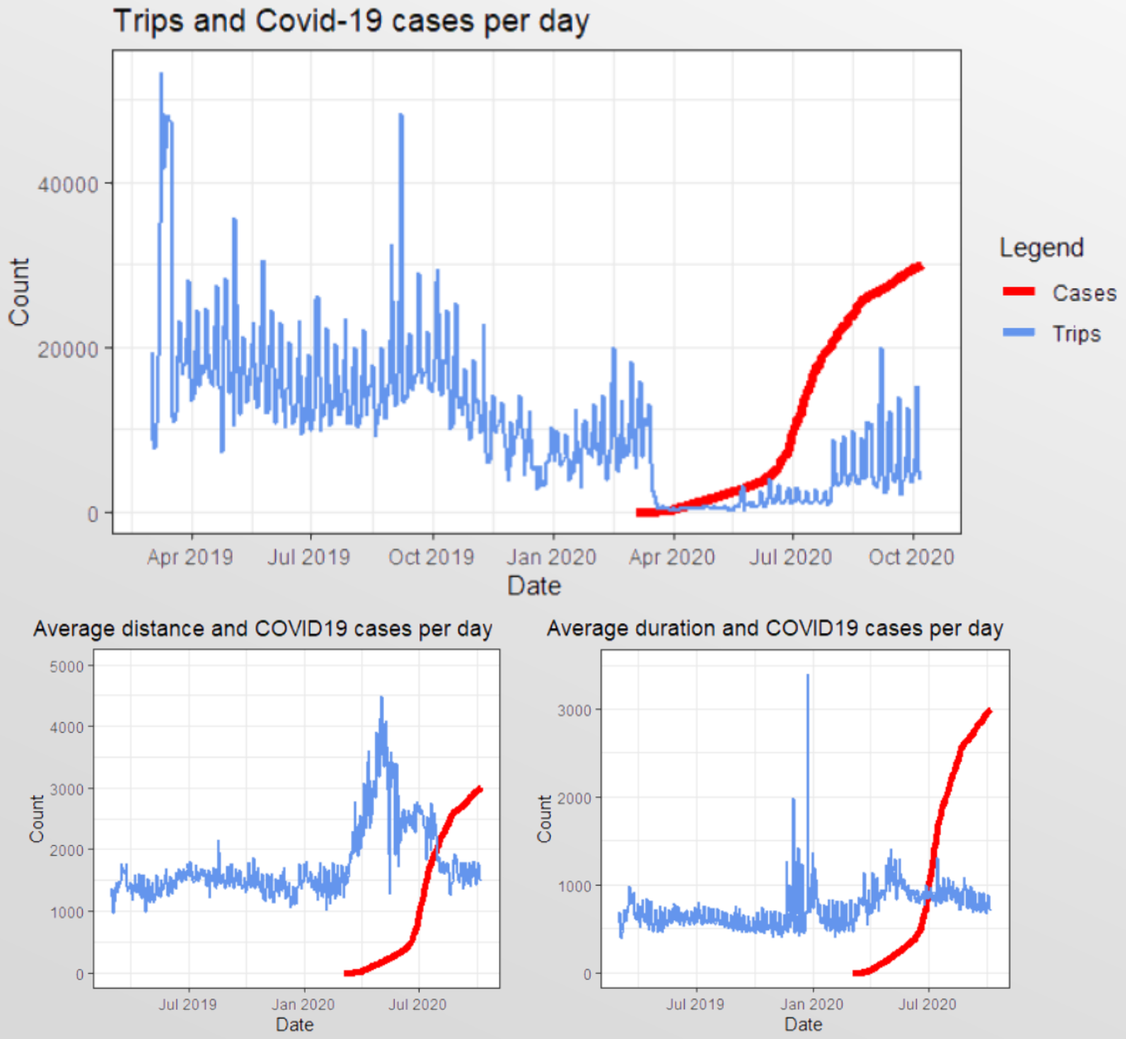
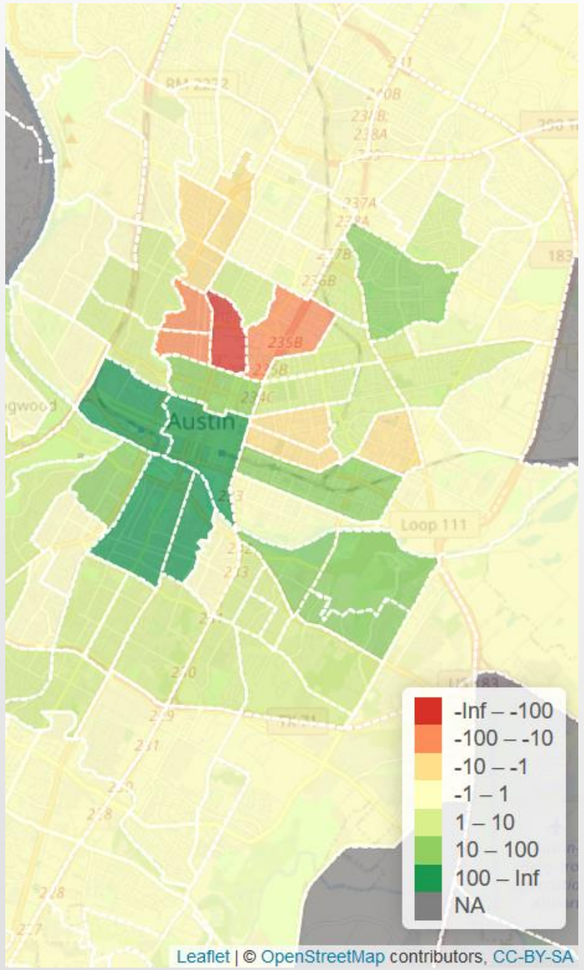
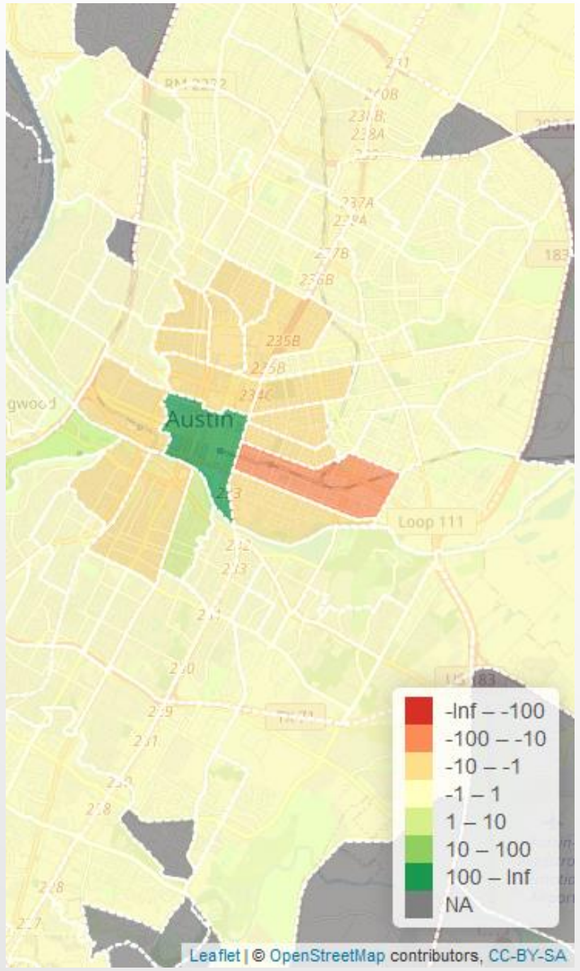
Preliminary Results



Change in daily trip departures March – September 2020



Change in daily trip destinations from central tract March – September 2020



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