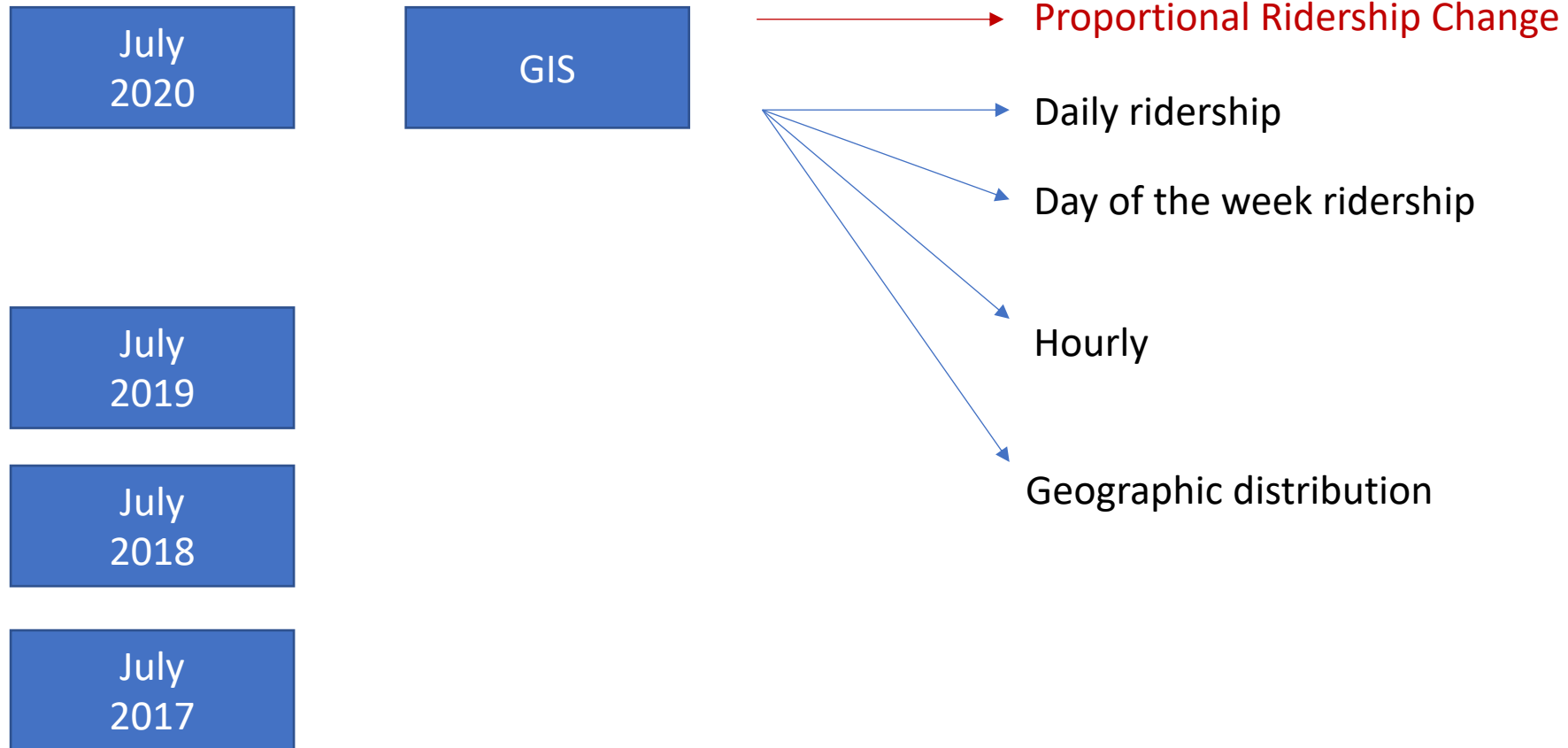


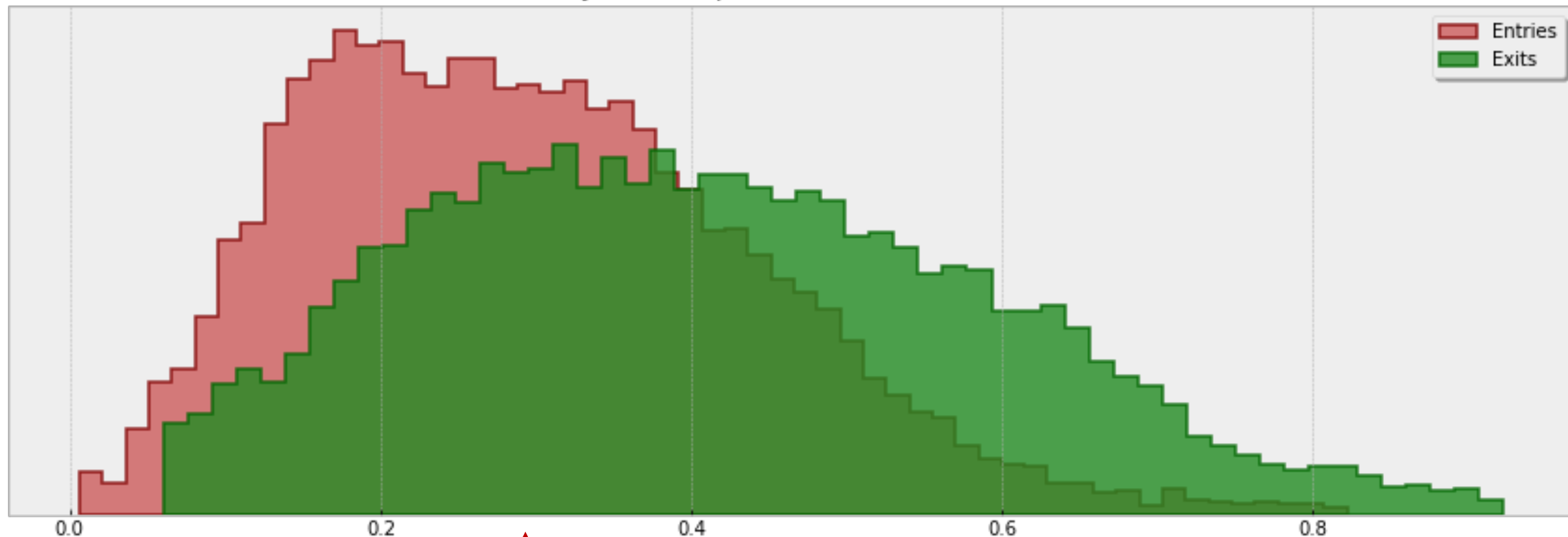
Heterogeneity in Public Transit Usage During a Pandemic: The case of NYC

Given the research on infection transmission and social proximity, MTA trains and stations are a likely source of virus propagation. As such, a better understanding of MTA usage during an outbreak can help determine if and how ridership policies, such as limiting hours of operation or instituting daily maximums, may complement existing policy to slow the spread of the virus.



3,558,944 observations of 5,116 turnstyles across 426 station complexes clustered in 4-hour daily time-blocks

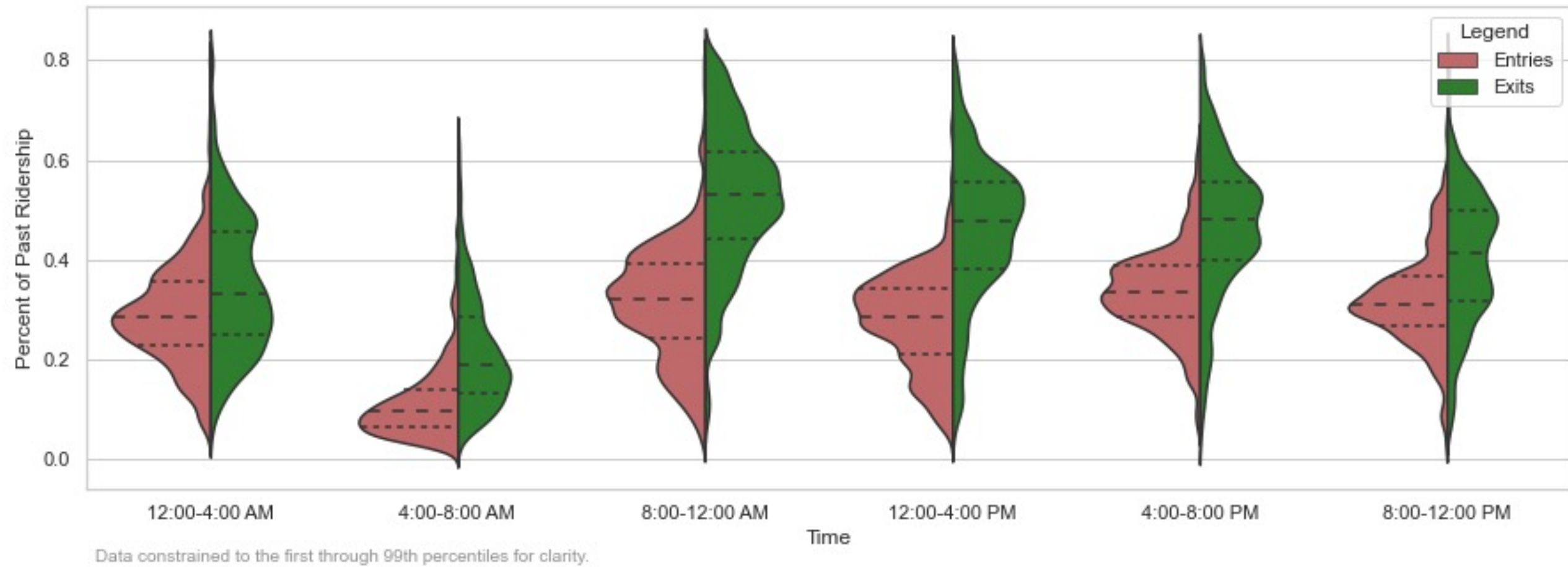
MTA Daily Ridership as a Fraction of Past Volume



Data constrained to the first through 99th percentiles for clarity.

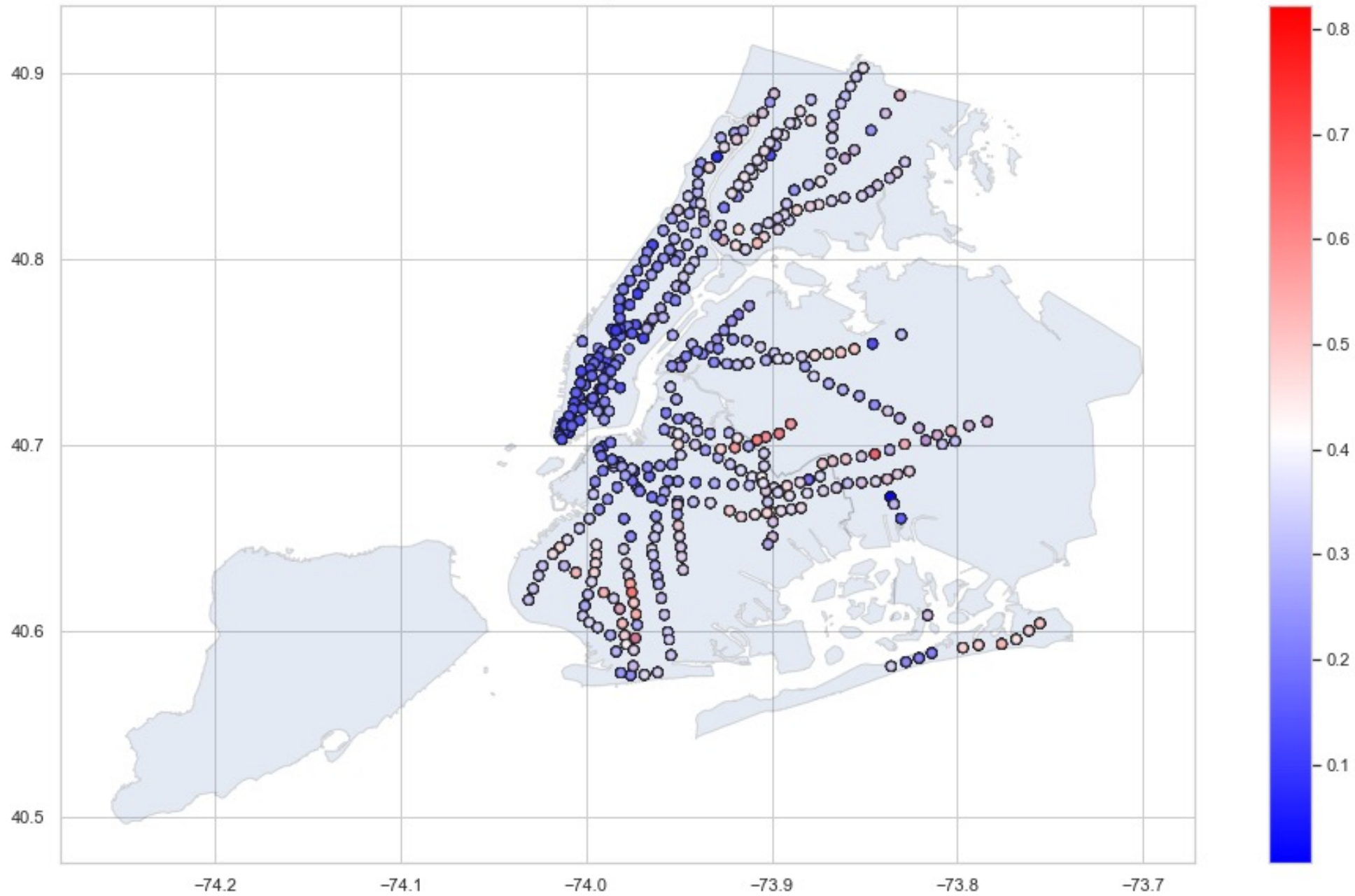
Median drop in ridership is 28%

Median drop in ridership is 39%



Bandwidth available in the 4:00 - 8:00 AM block.
Fare reductions could incentivize people to take an earlier commute

Daily Entries



4/2/21

Peter Goff

Data constrained to the first through 99th percentiles for clarity.

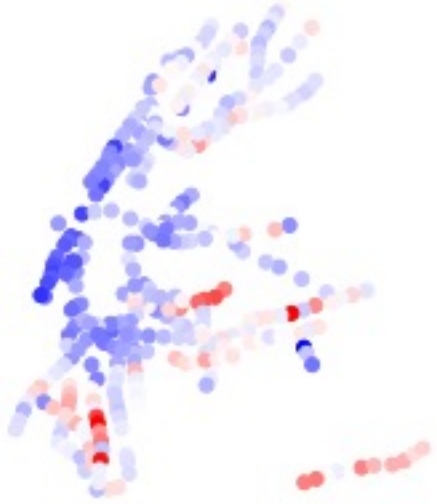
Meaningful heterogeneity in ridership decline? Yes.

Actionable implications for health and transportation policy? Yes.

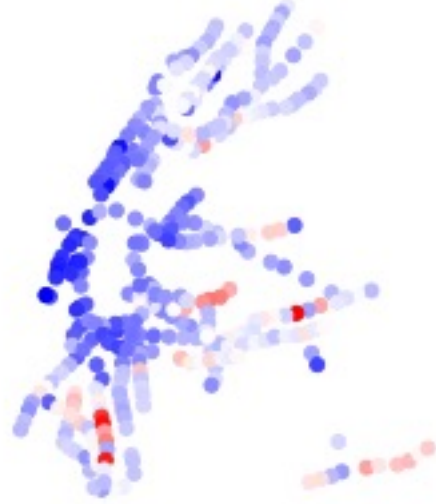
Where to go next?

- Reconciling entry with exits
- Integrating weather data

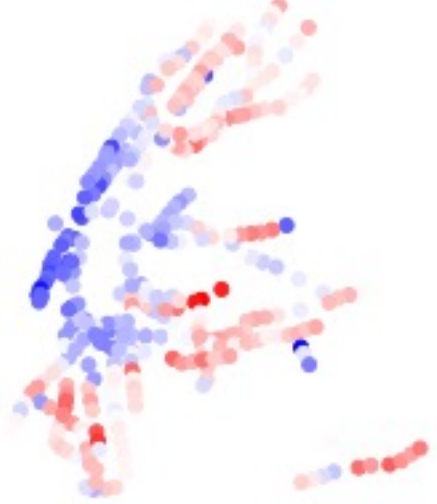
Monday



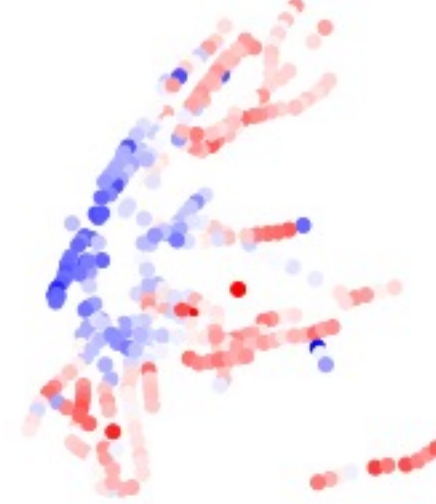
Tuesday



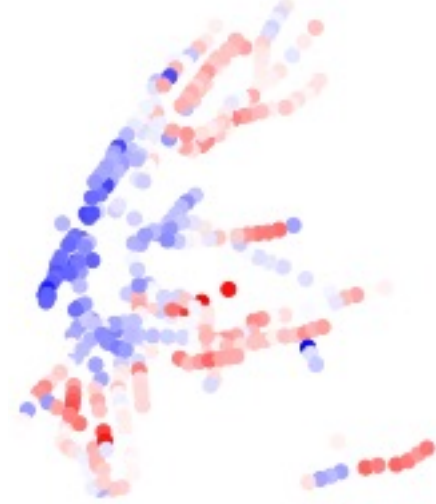
Wednesday



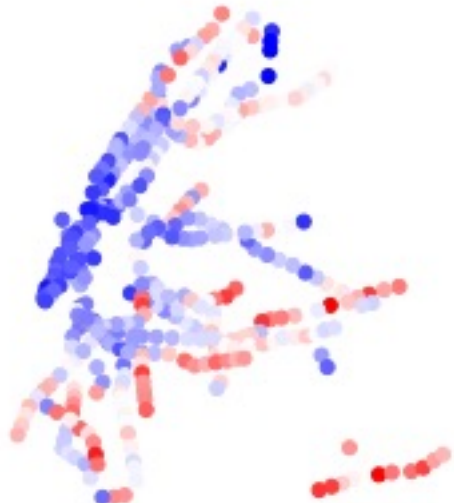
Thursday



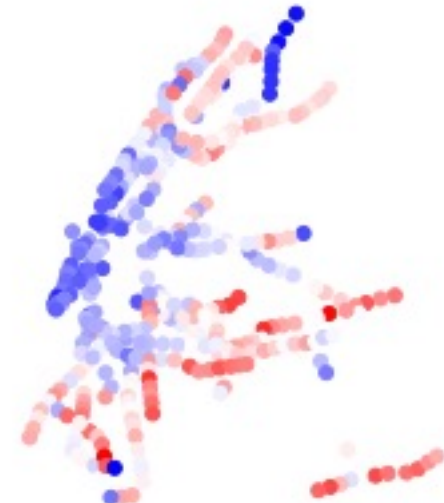
Friday



Sunday



Saturday



Smallest reductions occur later in the week,
on the more remote areas of the system.

