

Connecting Citi Bike to the MTA Network

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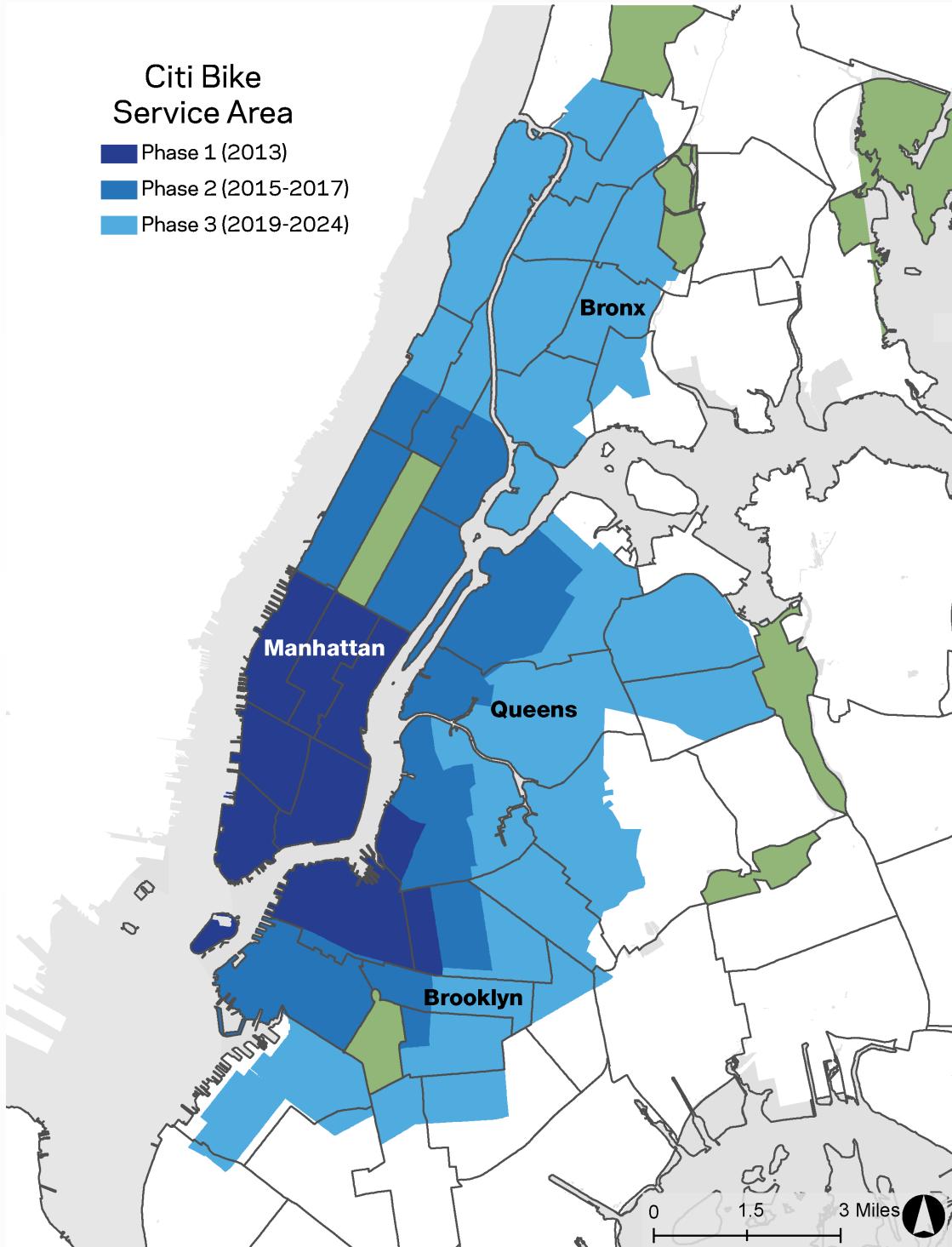
Background

Citi Bike is expanding in 3 boroughs:
Queens, the Bronx and Brooklyn.



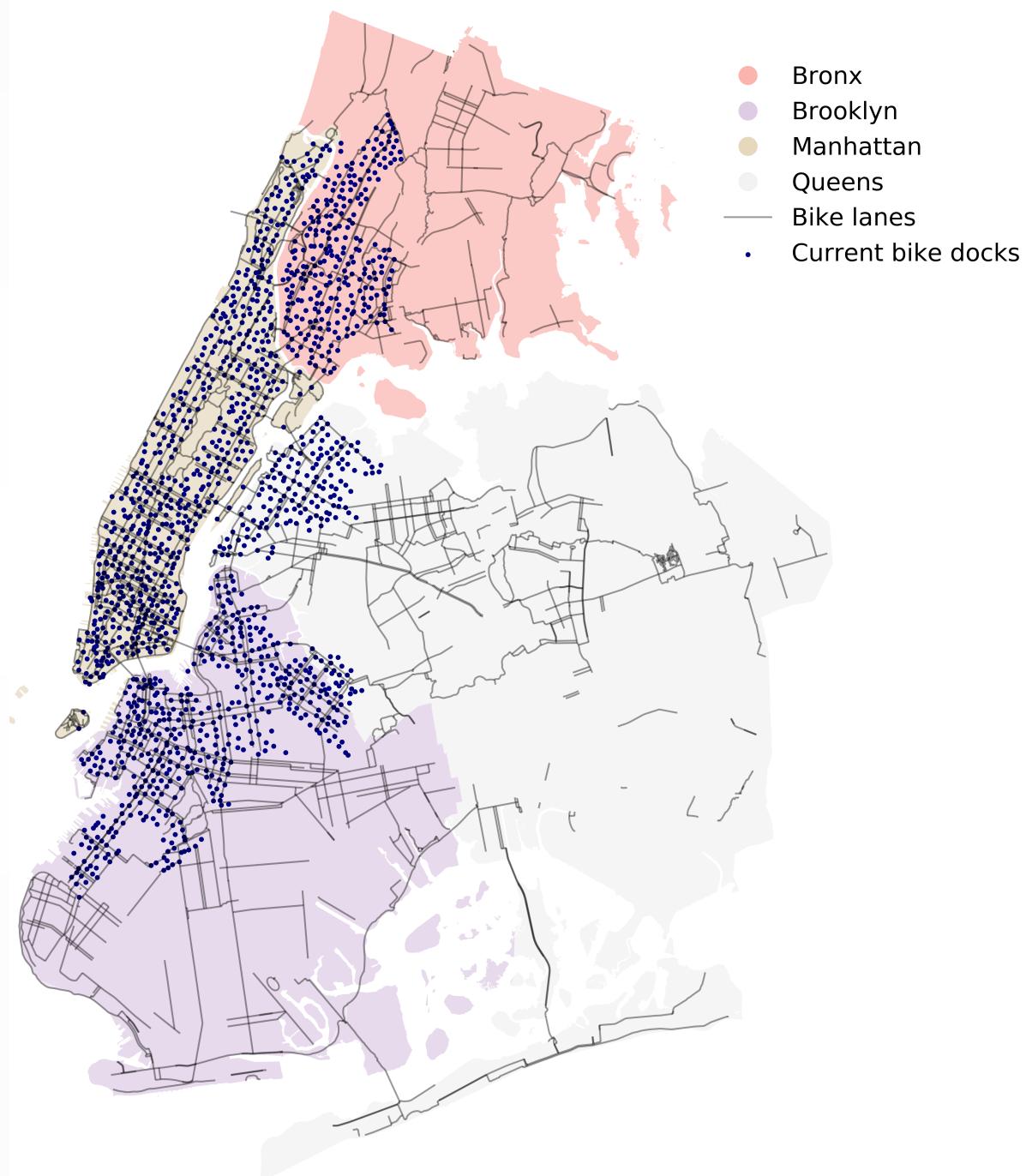
Citi Bike
Service Area

- Phase 1 (2013)
- Phase 2 (2015-2017)
- Phase 3 (2019-2024)



Background

Could public transit data help Citi Bike determine where to place new docks?



Methodology

“First/last mile problem”

- Commuters could be better connected from their final transit point to their destination (and vice versa)
- Bikeshare service could help bridge this gap
- Citi Bike can bring on new members and increase rental volume by placing new docks near busy transit stations



Methodology

Filtering MTA Stations

For regular commuters likely to try Citi Bike

Turnstile Entries/Exits:

May - July 2019

Weekdays

Evening peak hours

Station traffic patterns:

Mon-Fri >> Sat-Sun

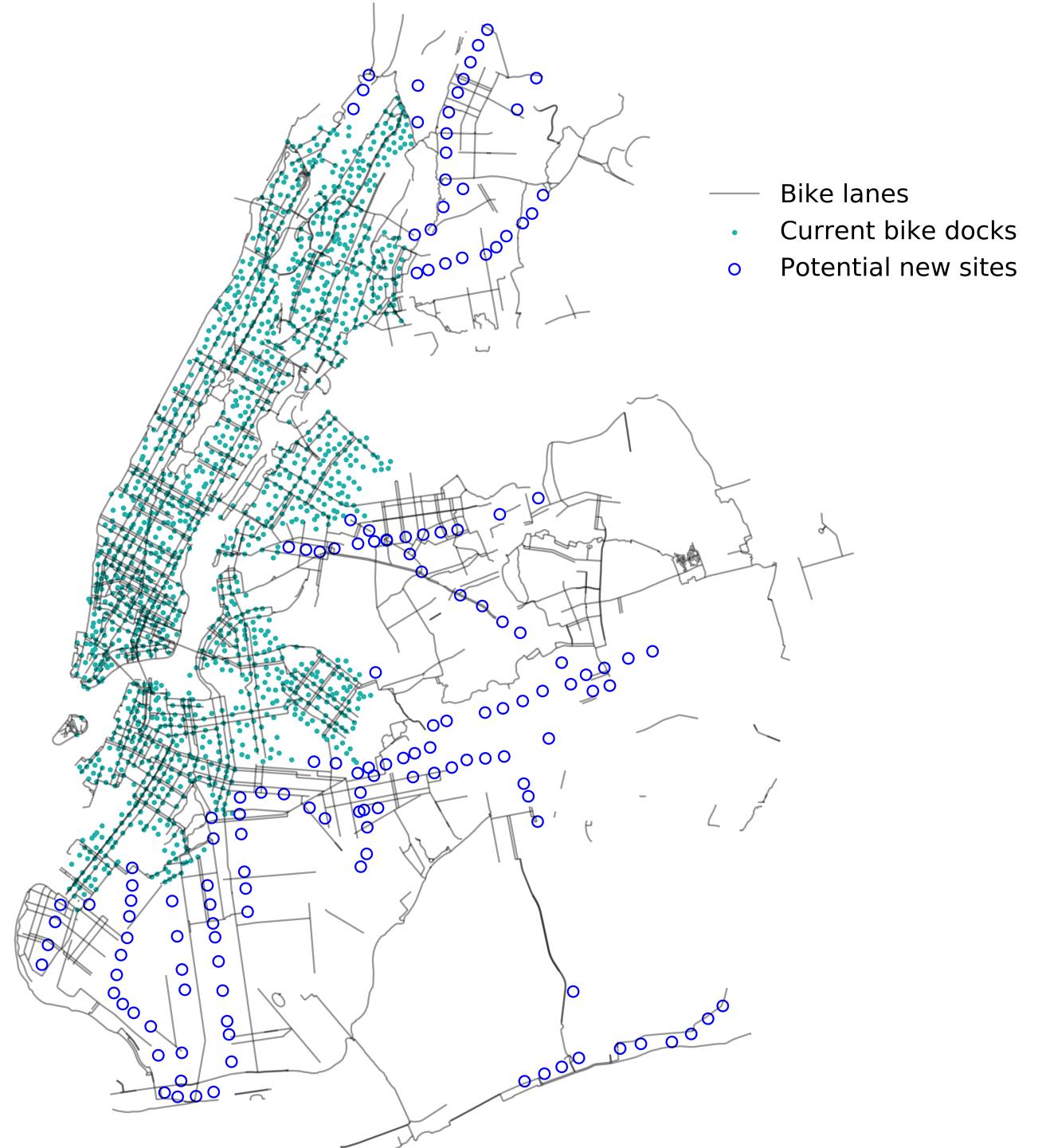
Cumulative entries recorded daily:

4 am - 8 am - 12 pm - 4 pm - 8 pm - 12 am

Methodology

Filtering MTA Stations

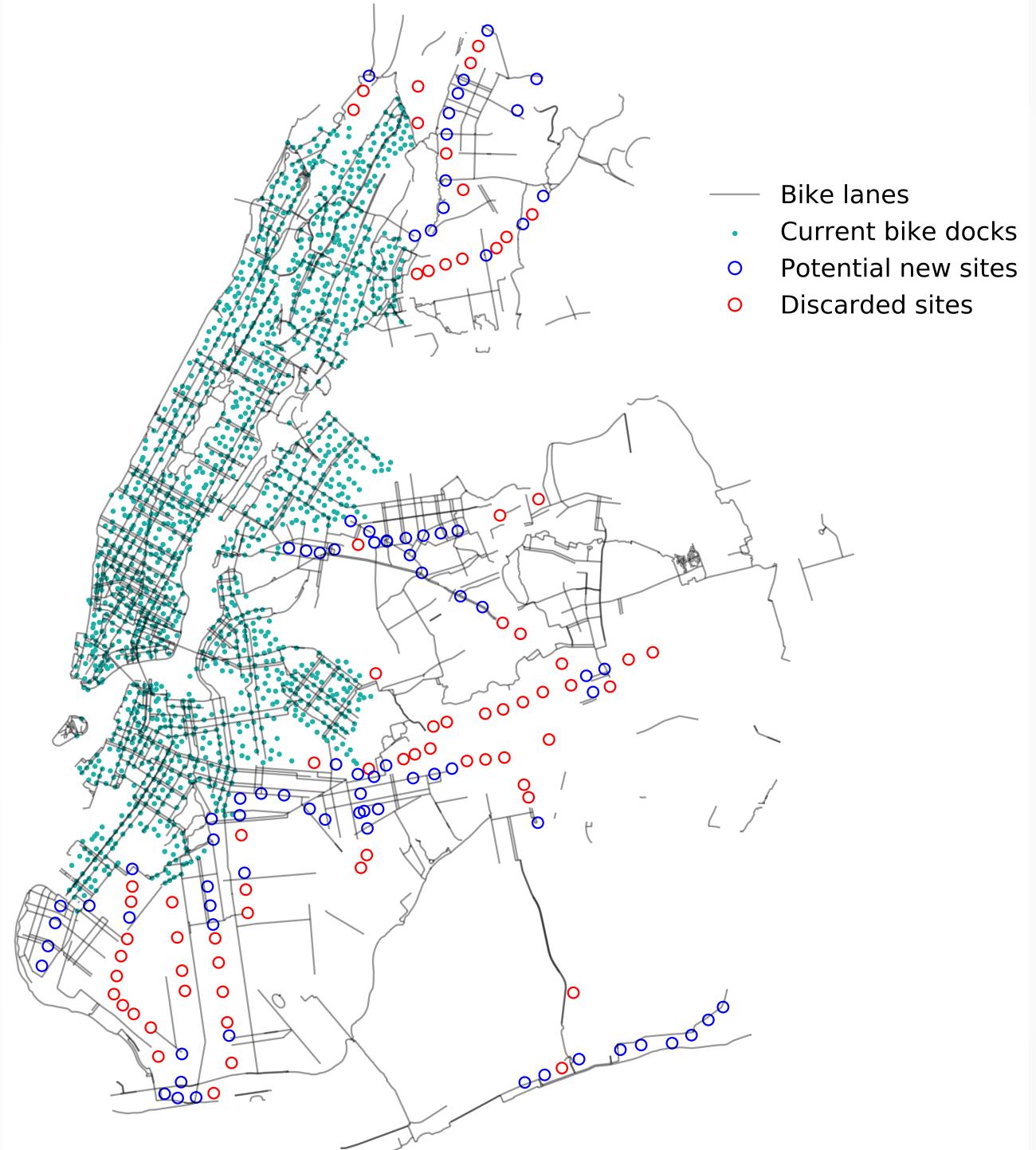
For stations near bike lanes and
outside of current network



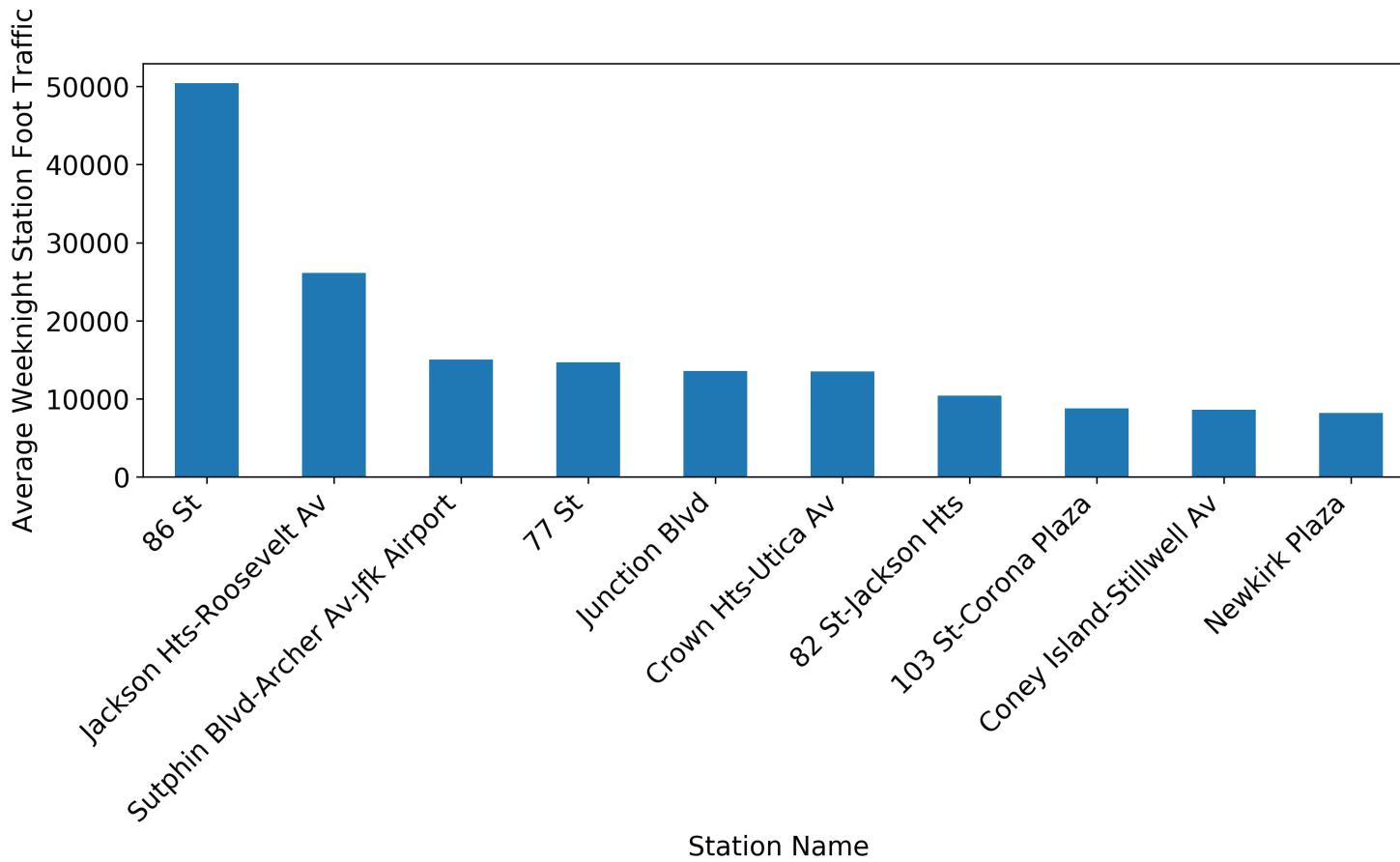
Methodology

Filtering MTA Stations

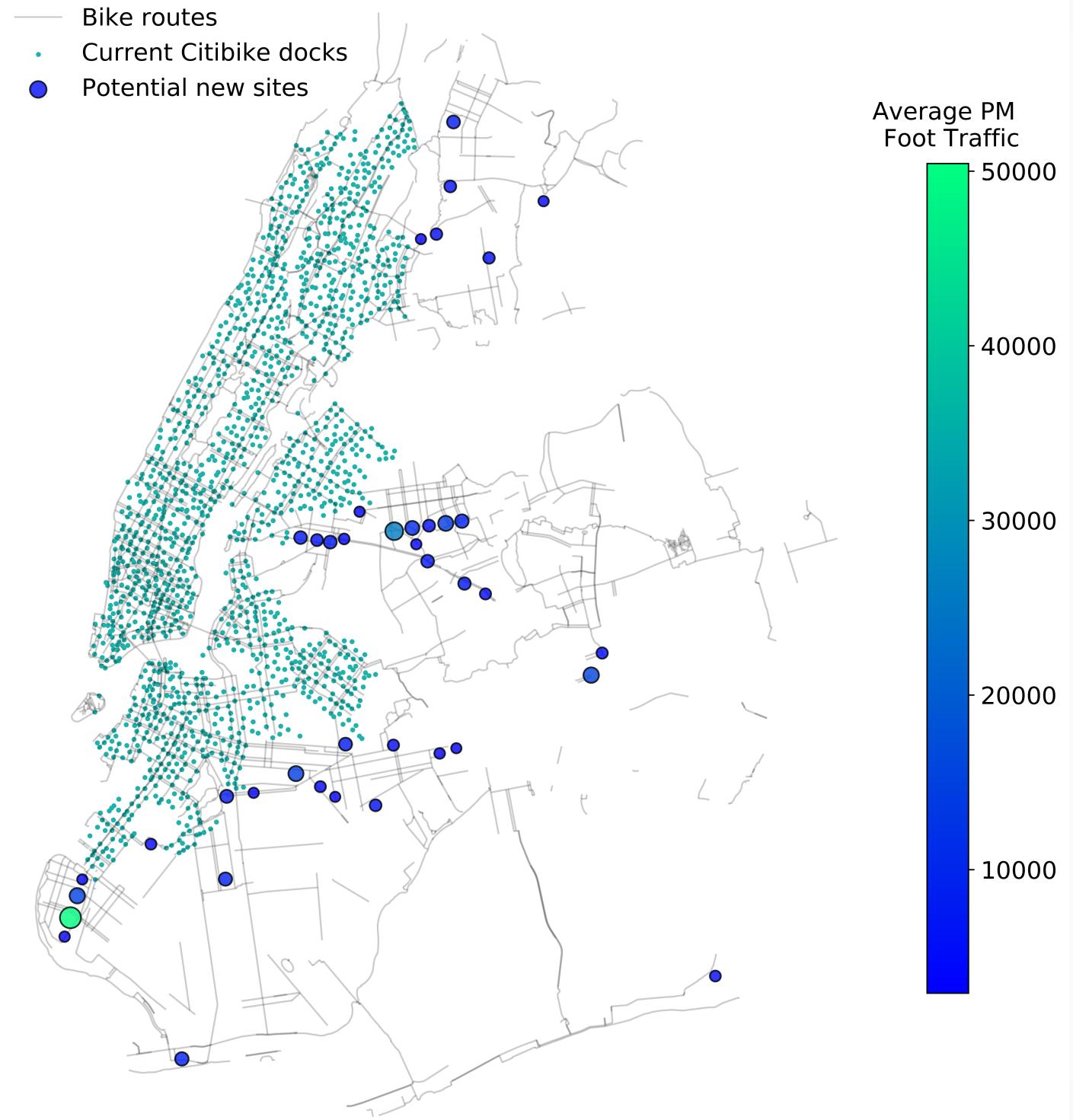
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Results

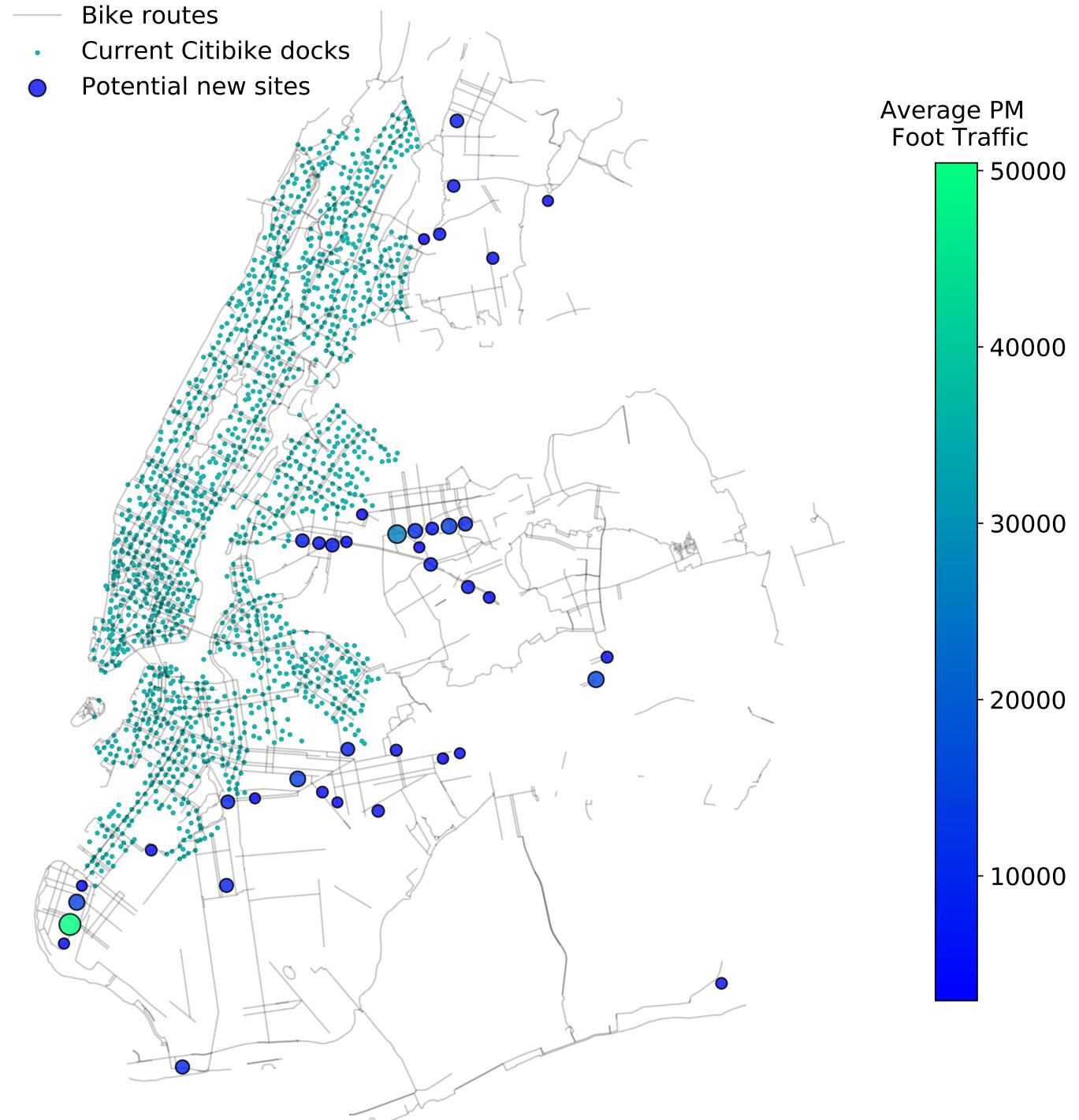


Results



Conclusions

- From commuter traffic patterns, it would make sense for Citi Bike to expand into Crown Heights, Jackson Heights and the Bronx as planned
- Station recommendations here can serve as “hubs” or suggest where demand is highest, while docks will need to cover a larger region
- Lack of bike lanes may become a limitation



Future Work

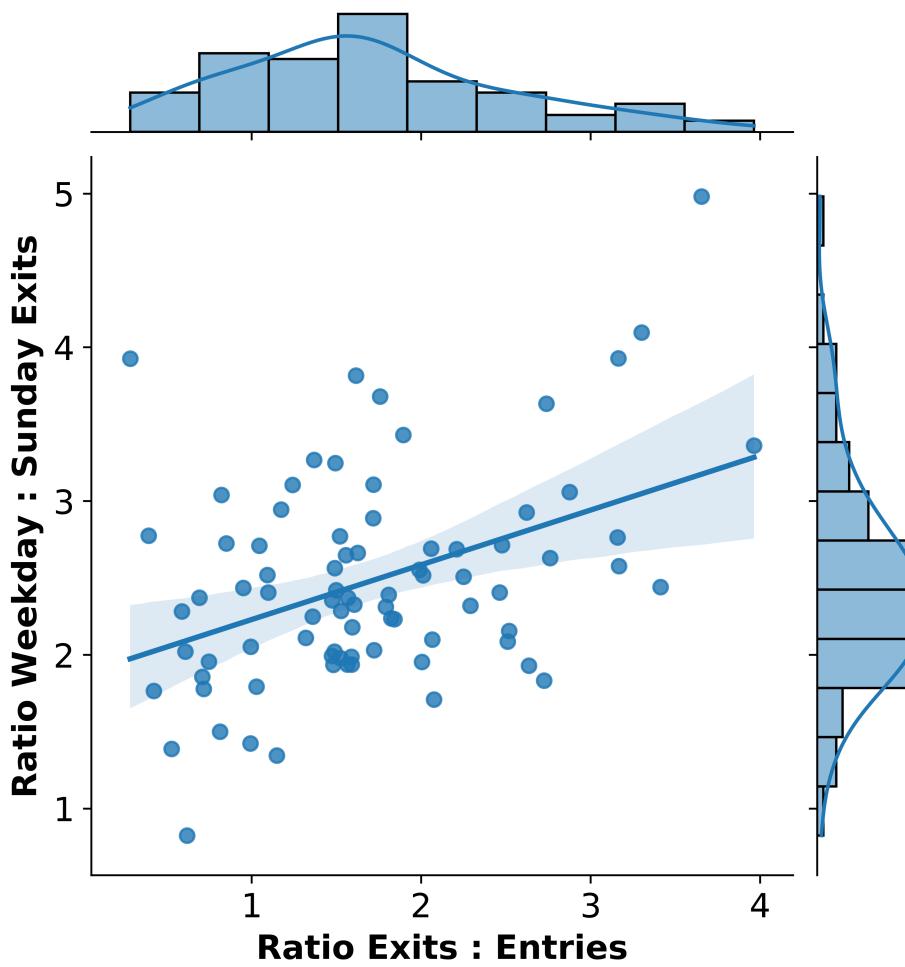
- Interactive plotting, to combine station traffic and geographical info
- The recommended MTA sites can be combined with more fine-grained recommendations from potential users who submitted comments
- Exploring Citi Bike's individual trip data would provide lots more information on how bike commuting relates to train commuting:
 - frequency of bike trip connections with terminal MTA stations
 - any relationship between bike usage and train station crowding
 - number of regular bike commuters versus occasional riders
 - evaluating if ridership decreases with transit connectivity

Thank you!

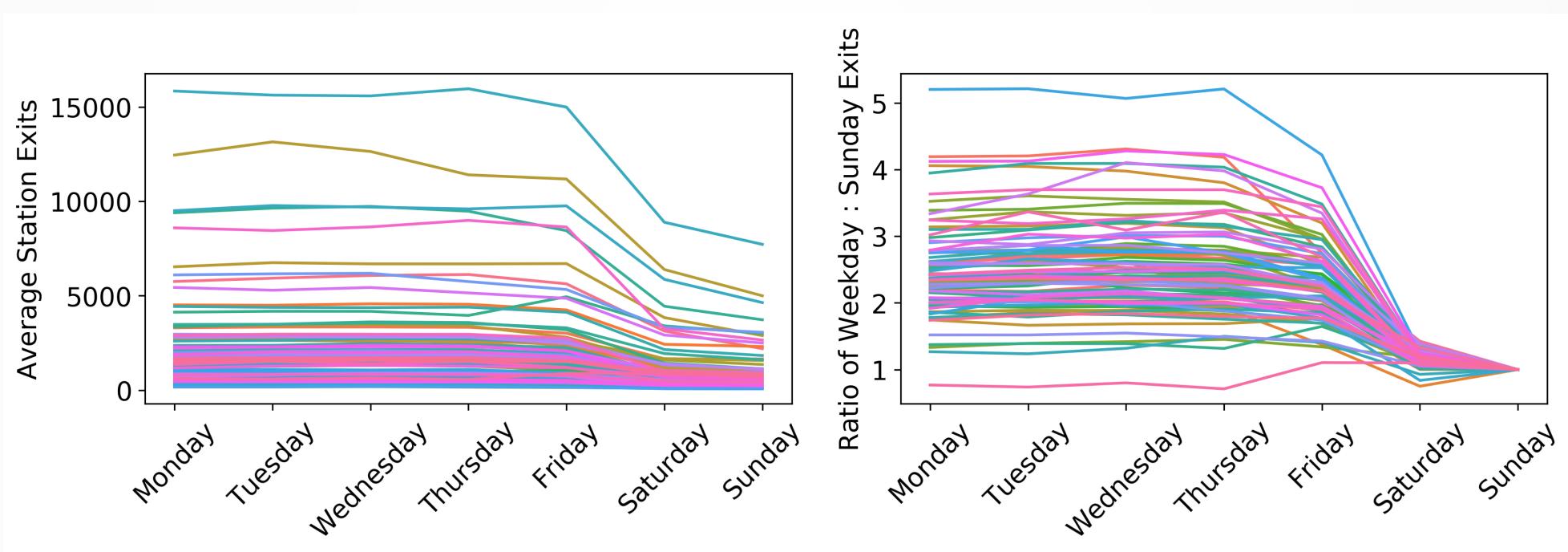


Please get in touch with any questions:
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Appendix



Appendix



Appendix

Avg volume of exits vs. entries during weekday peak hours

