



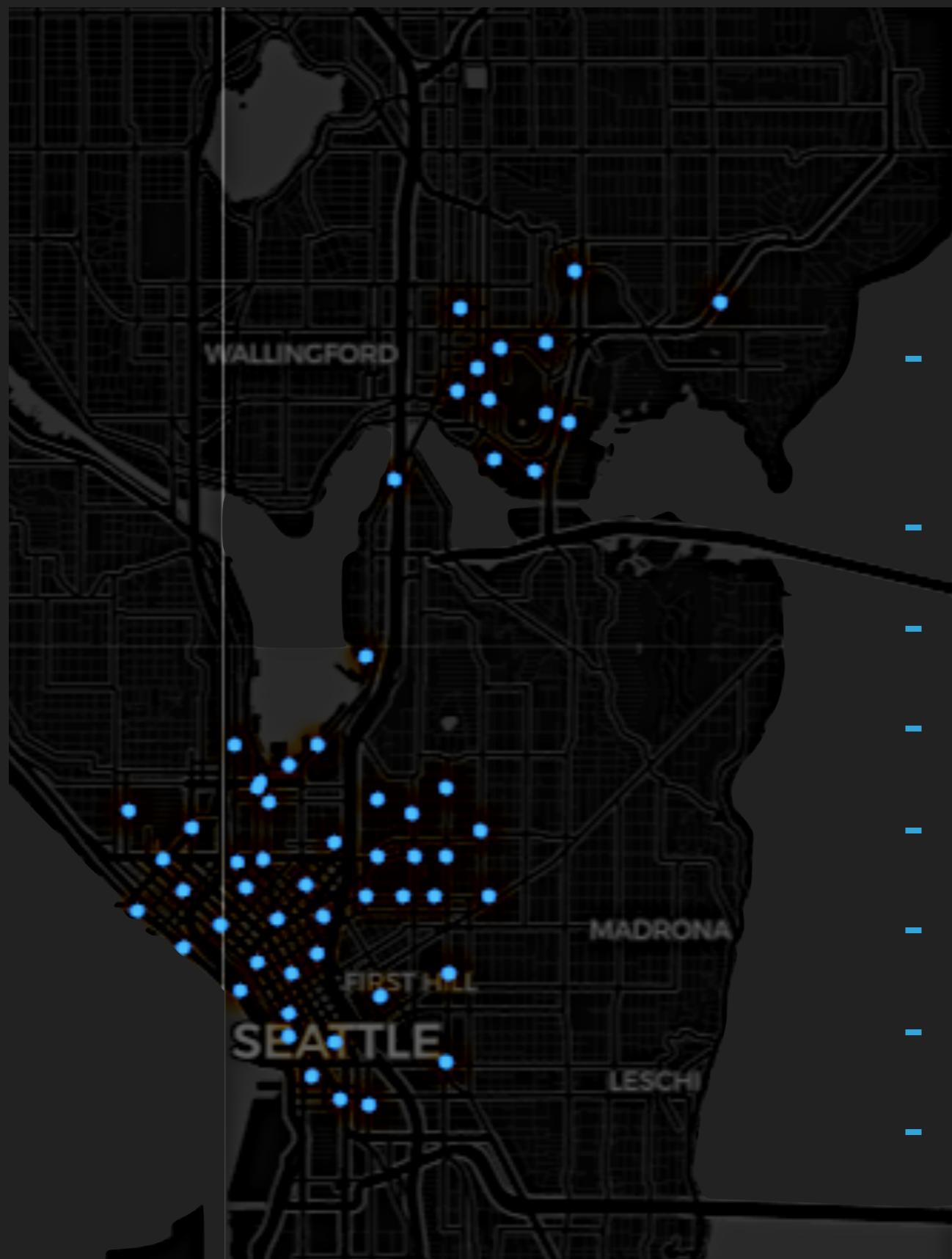
Credit: <https://twitter.com/cyclepronto>

# CAPSTONE

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# PRONTO BIKE SHARING

# SEATTLE

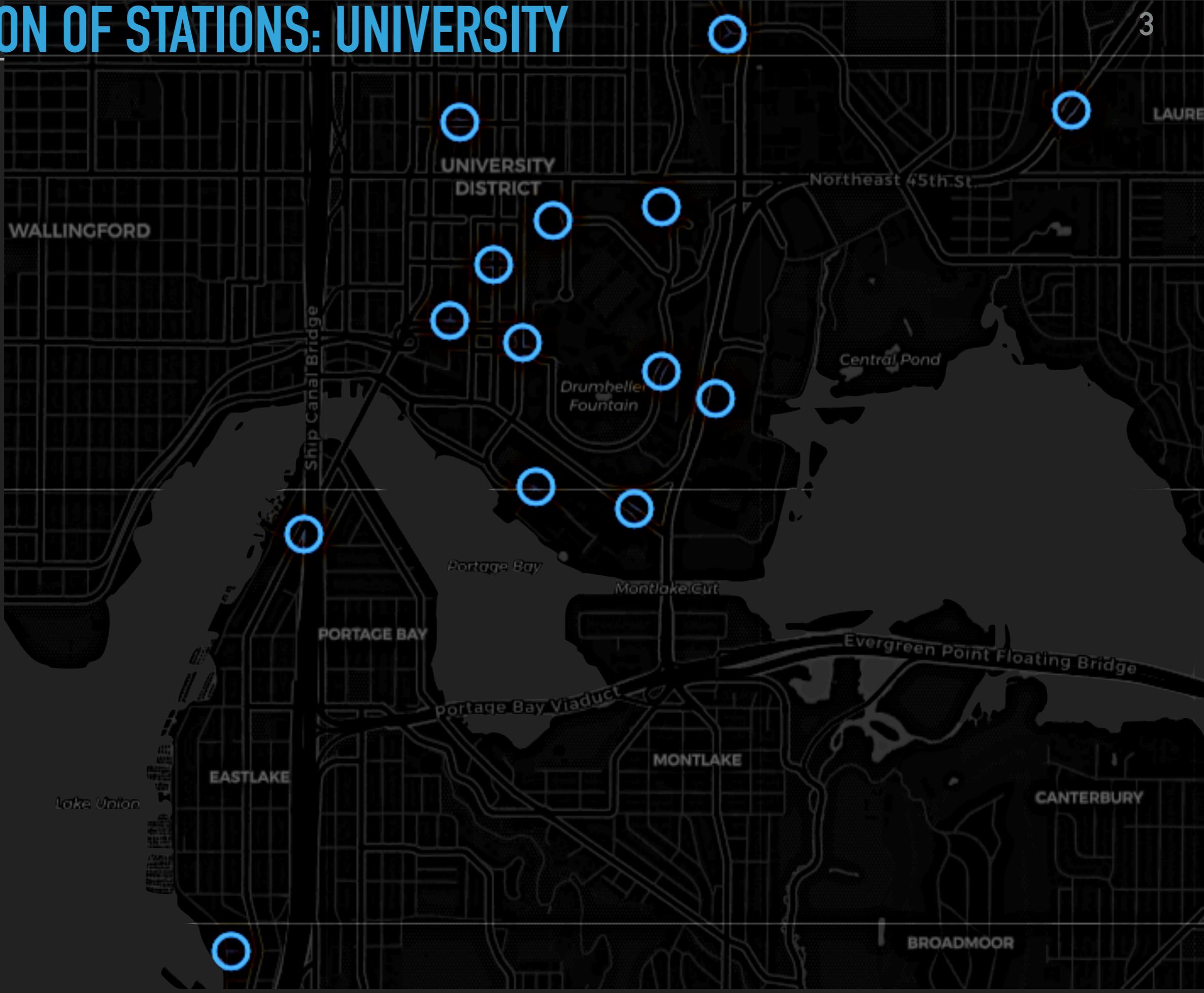


## OVERVIEW

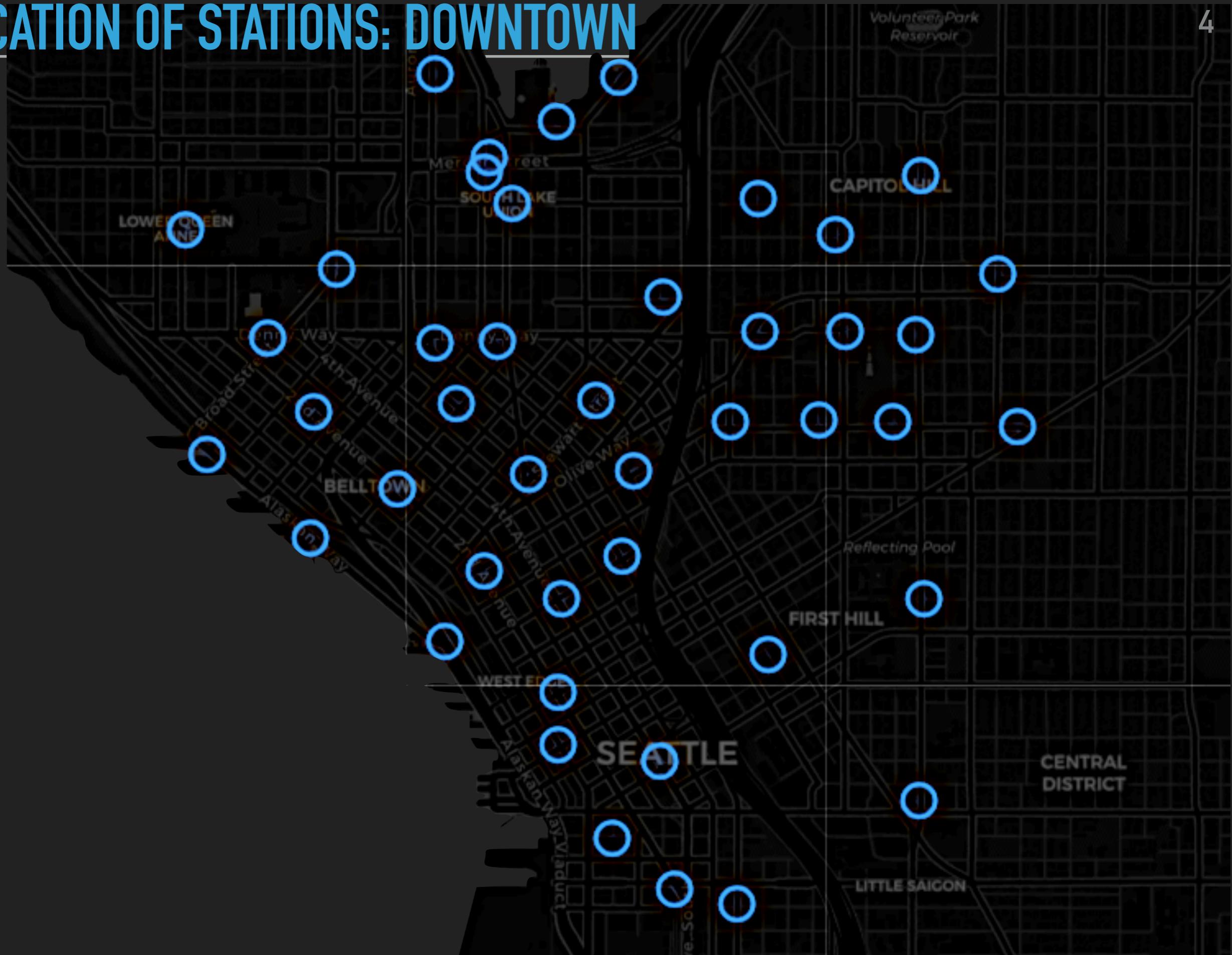
- THREE DATASETS (TRIPS, STATIONS, WEATHER)
- TIMESPAN: 10/2014 - 09/2016
- 236.000 TRIPS
- 500 BIKES
- 54 STATIONS
- 8 \$ DAY, 16 \$ 3-DAY, 85 \$ YEAR
- FOR UNLIMITED 30 MIN. RIDES
- PRONTO OPERATED FROM 10/2014 TO 03/2017

# LOCATION OF STATIONS: UNIVERSITY

3

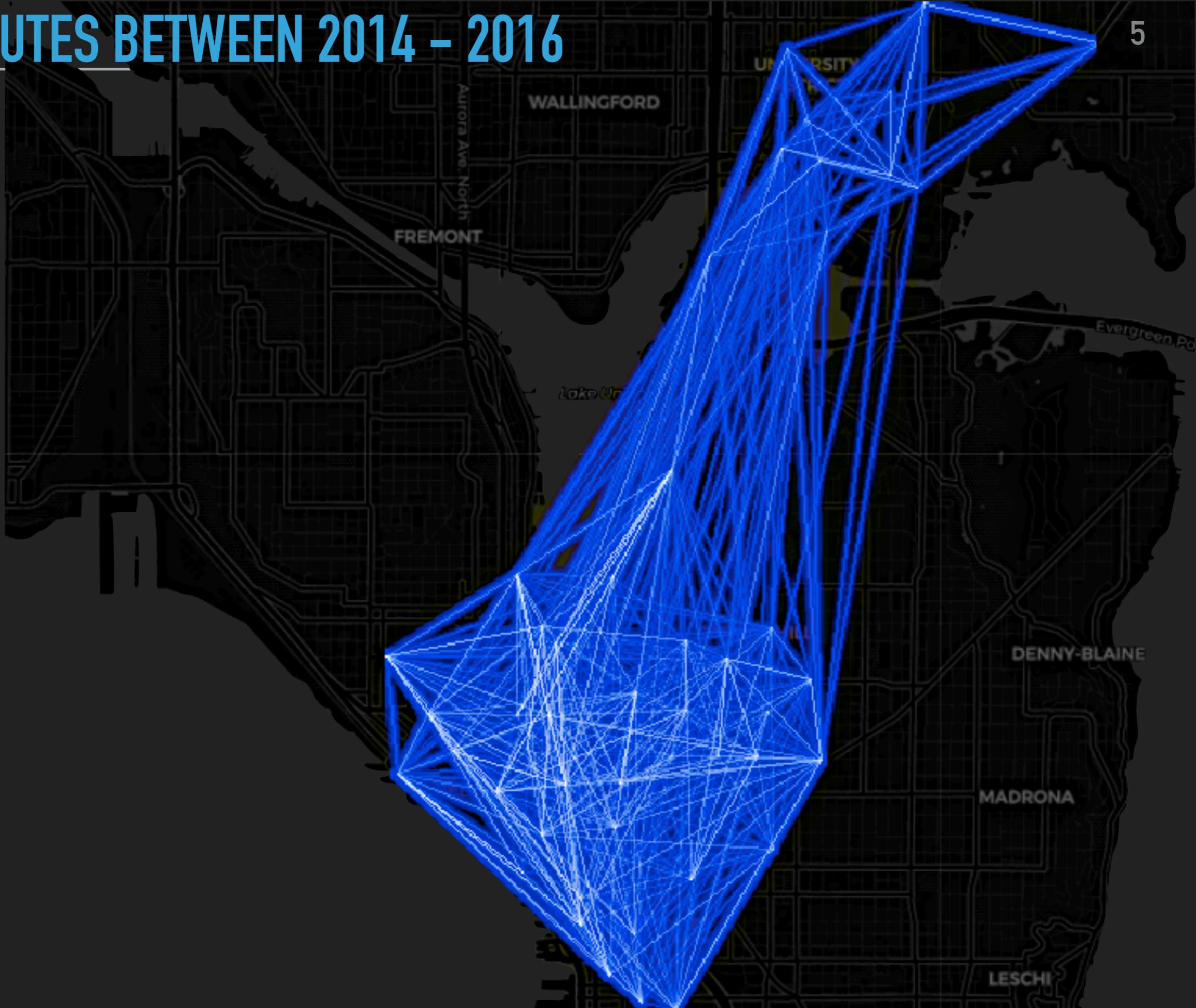


# LOCATION OF STATIONS: DOWNTOWN

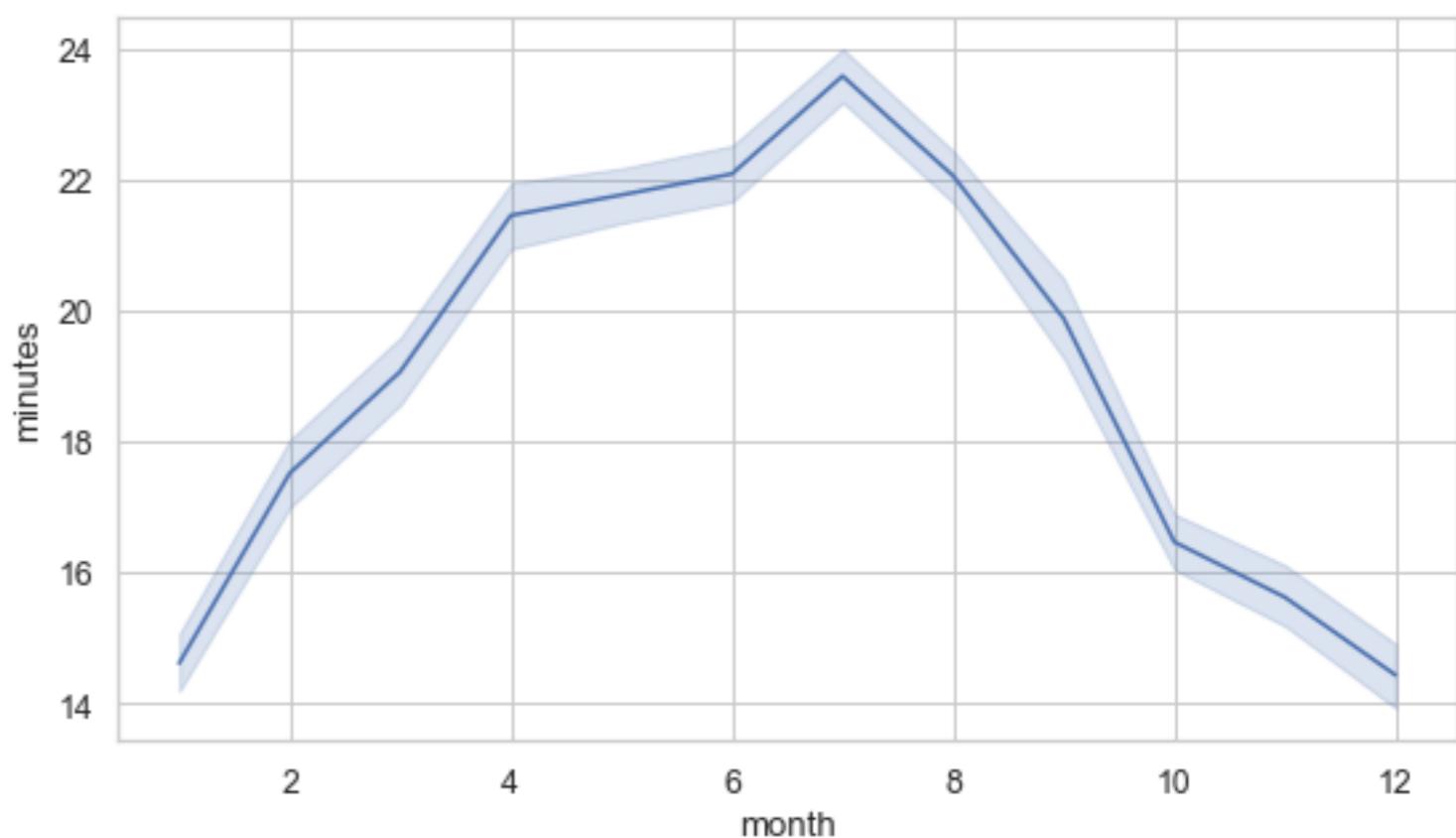
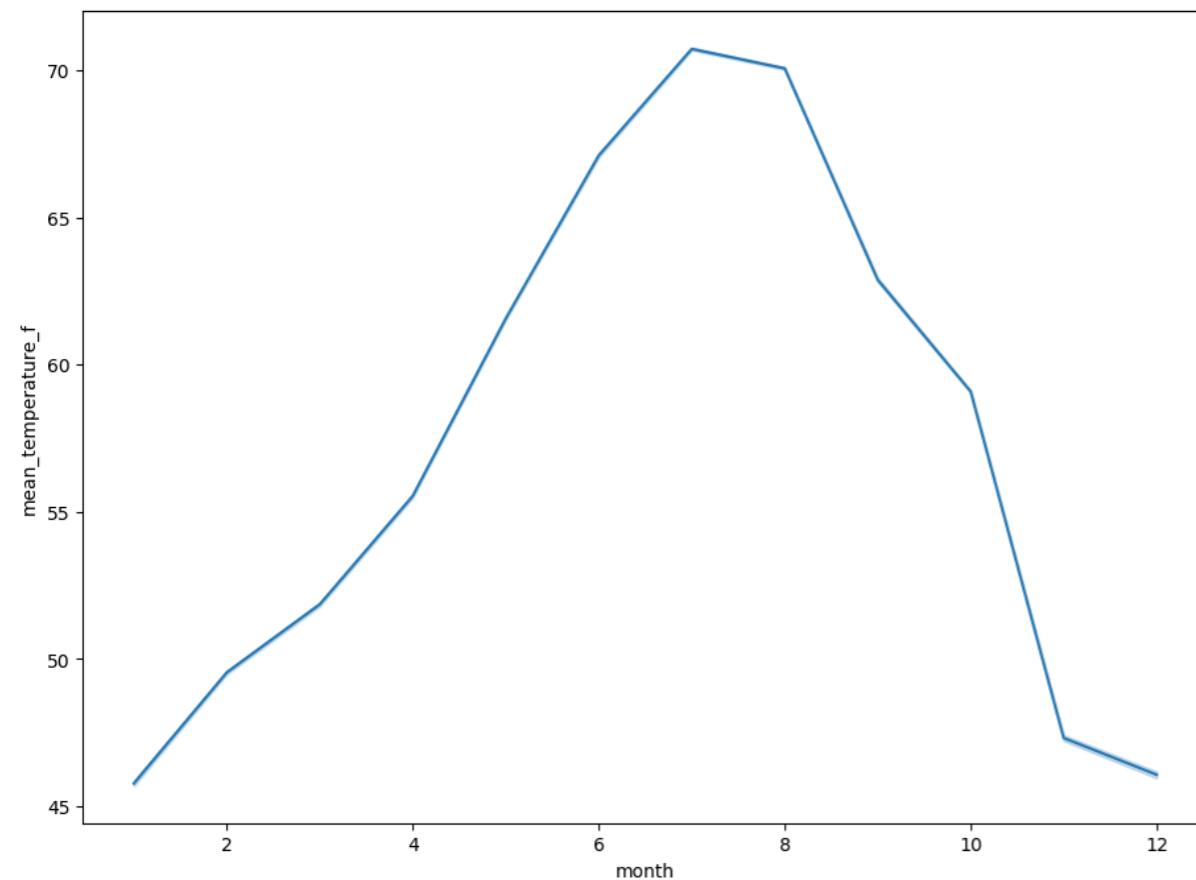


# MAIN ROUTES BETWEEN 2014 - 2016

5

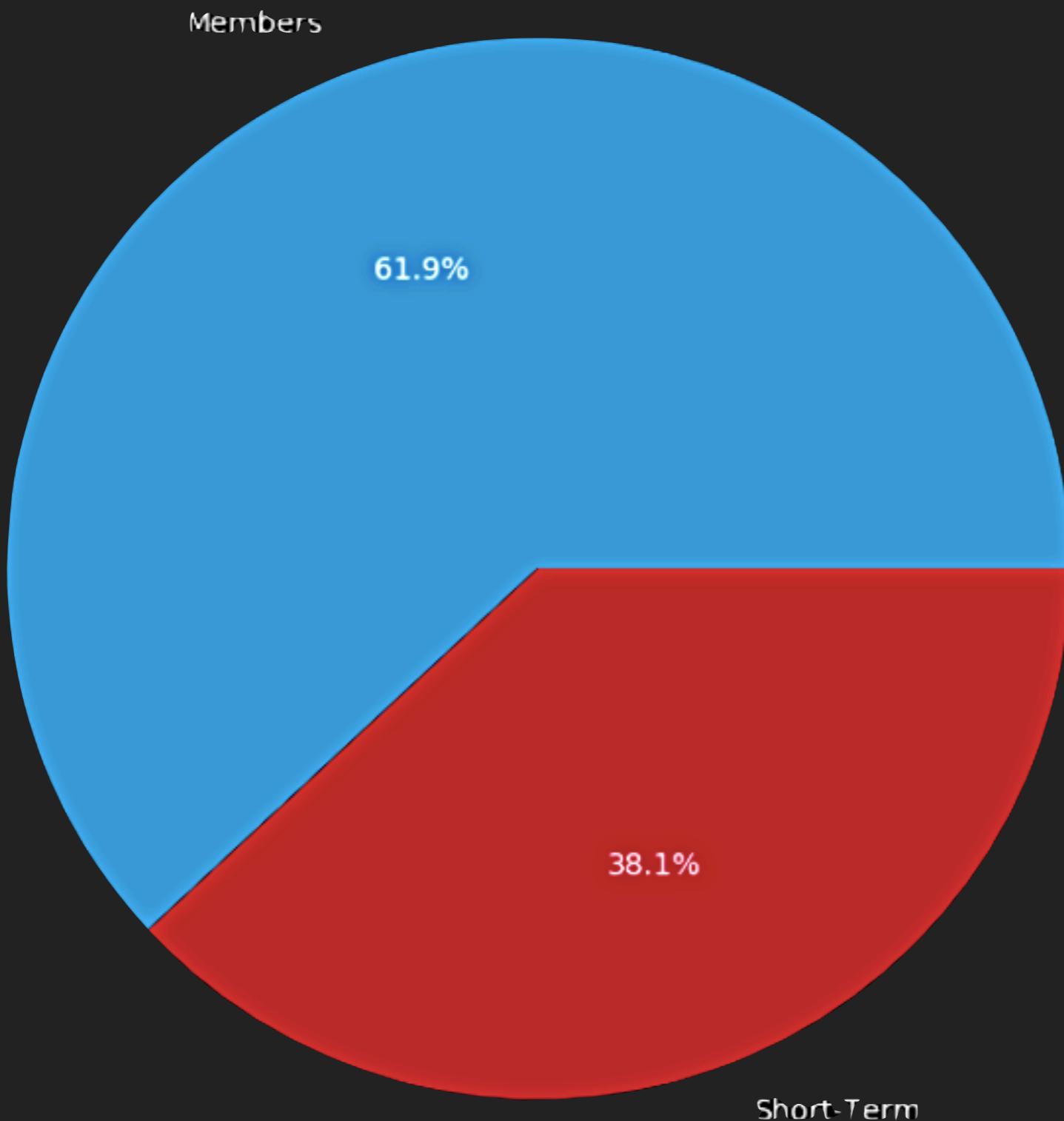


# TEMPERATURE VS. DURATION OF TRIPS OVER THE YEAR

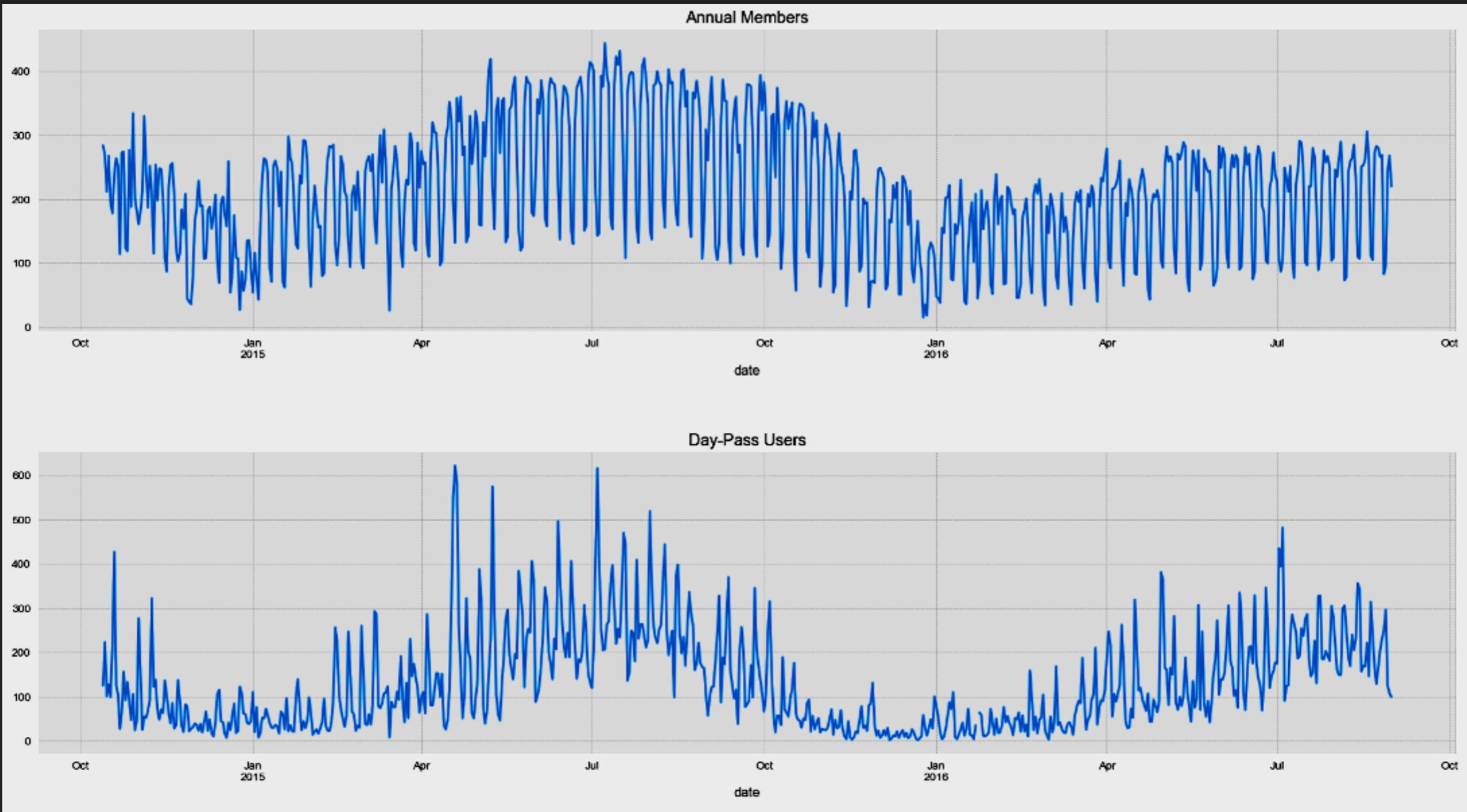


# ANNUAL MEMBERS VS. DAYPASS USER

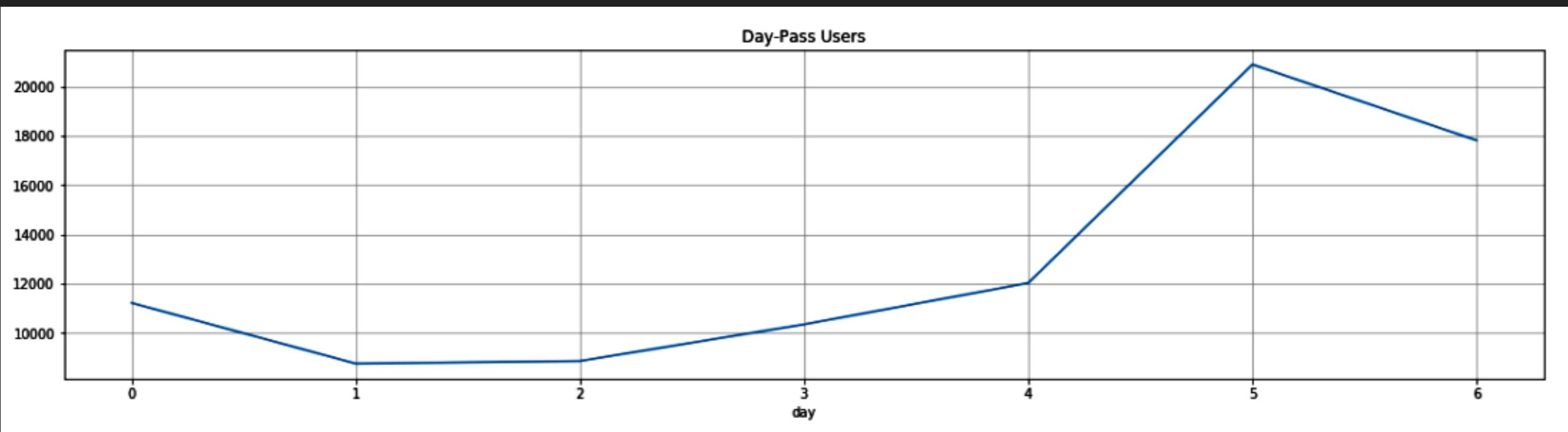
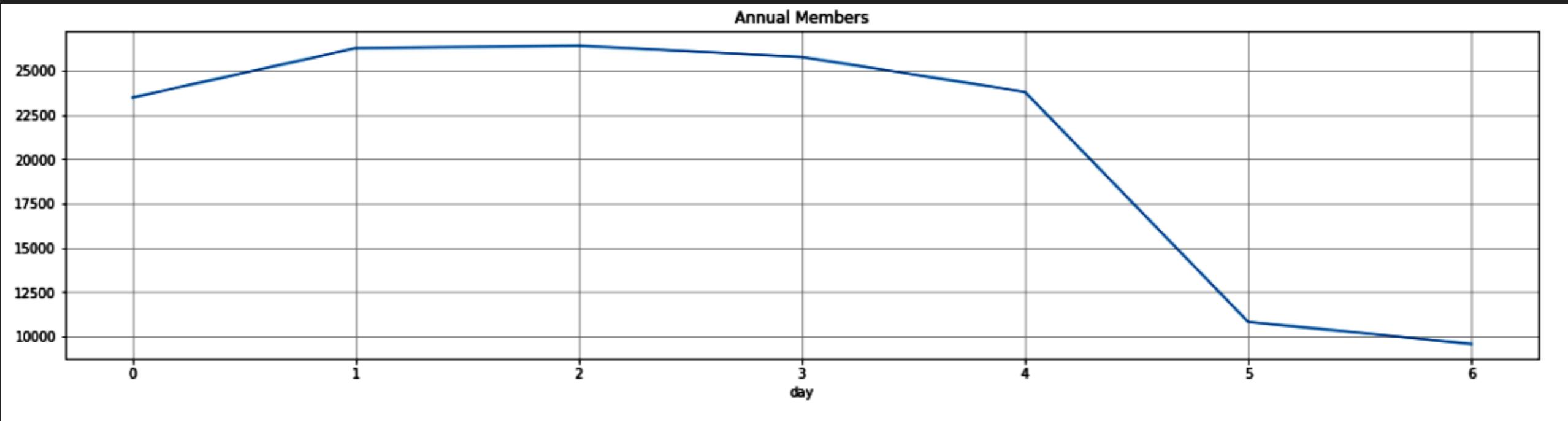
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# BIKE TRIPS 2014-2016

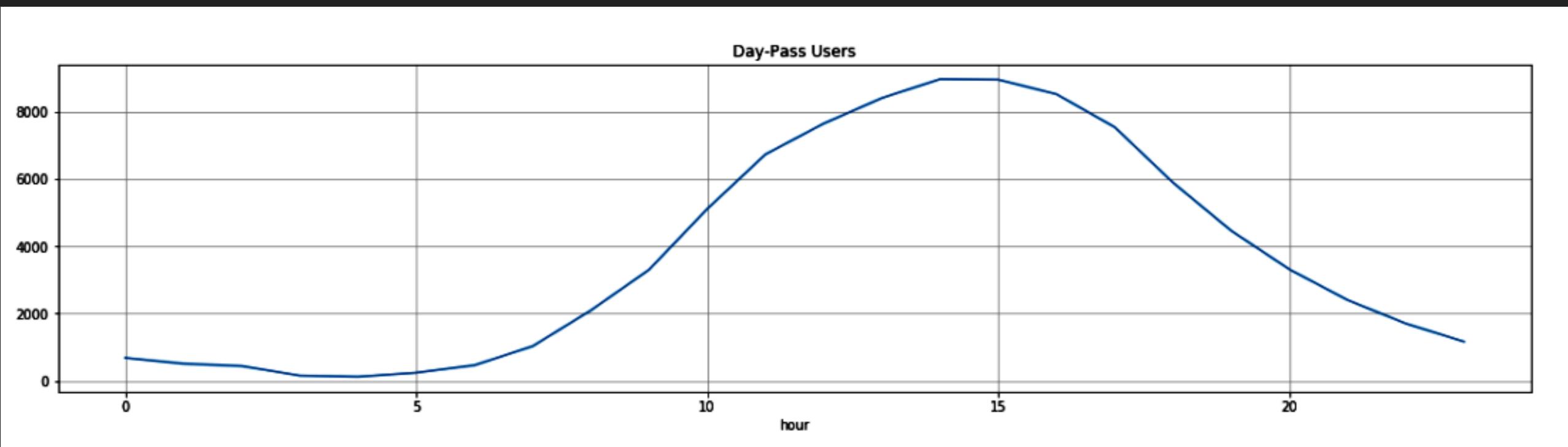
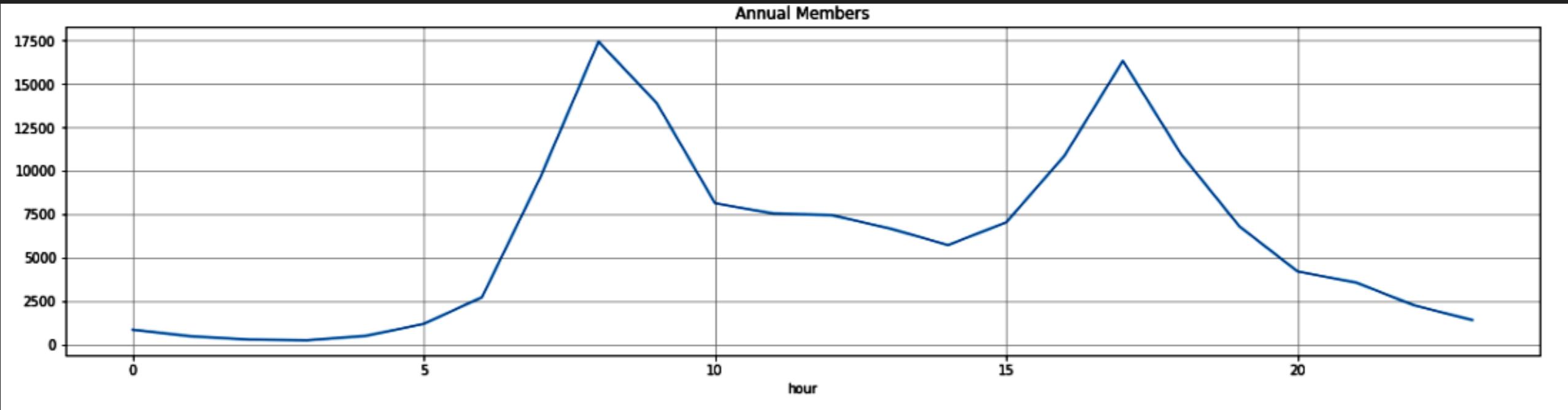


# BIKE TRIPS: WEEK VS. WEEKEND



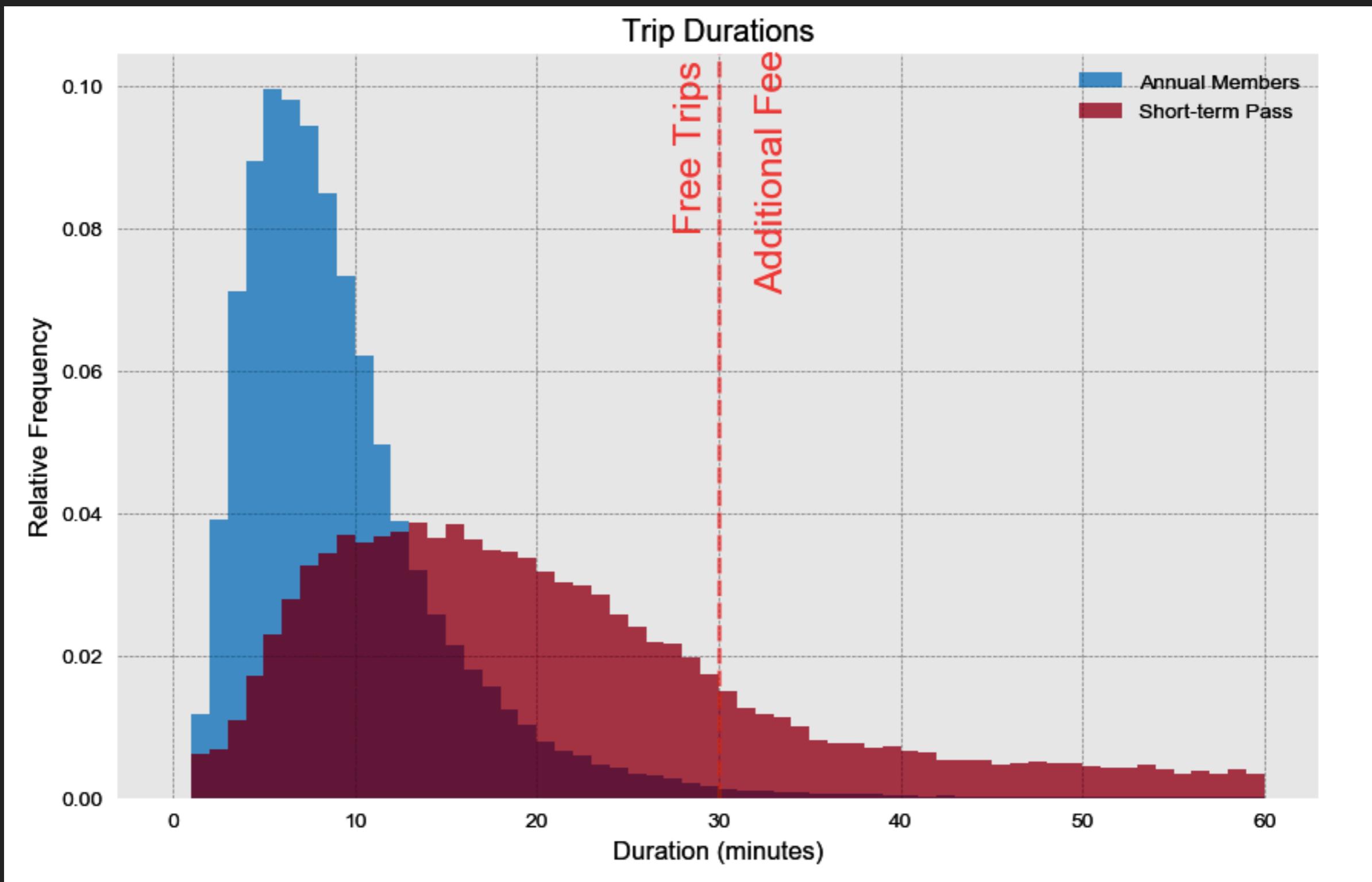
# BIKE TRIPS: DAY

10



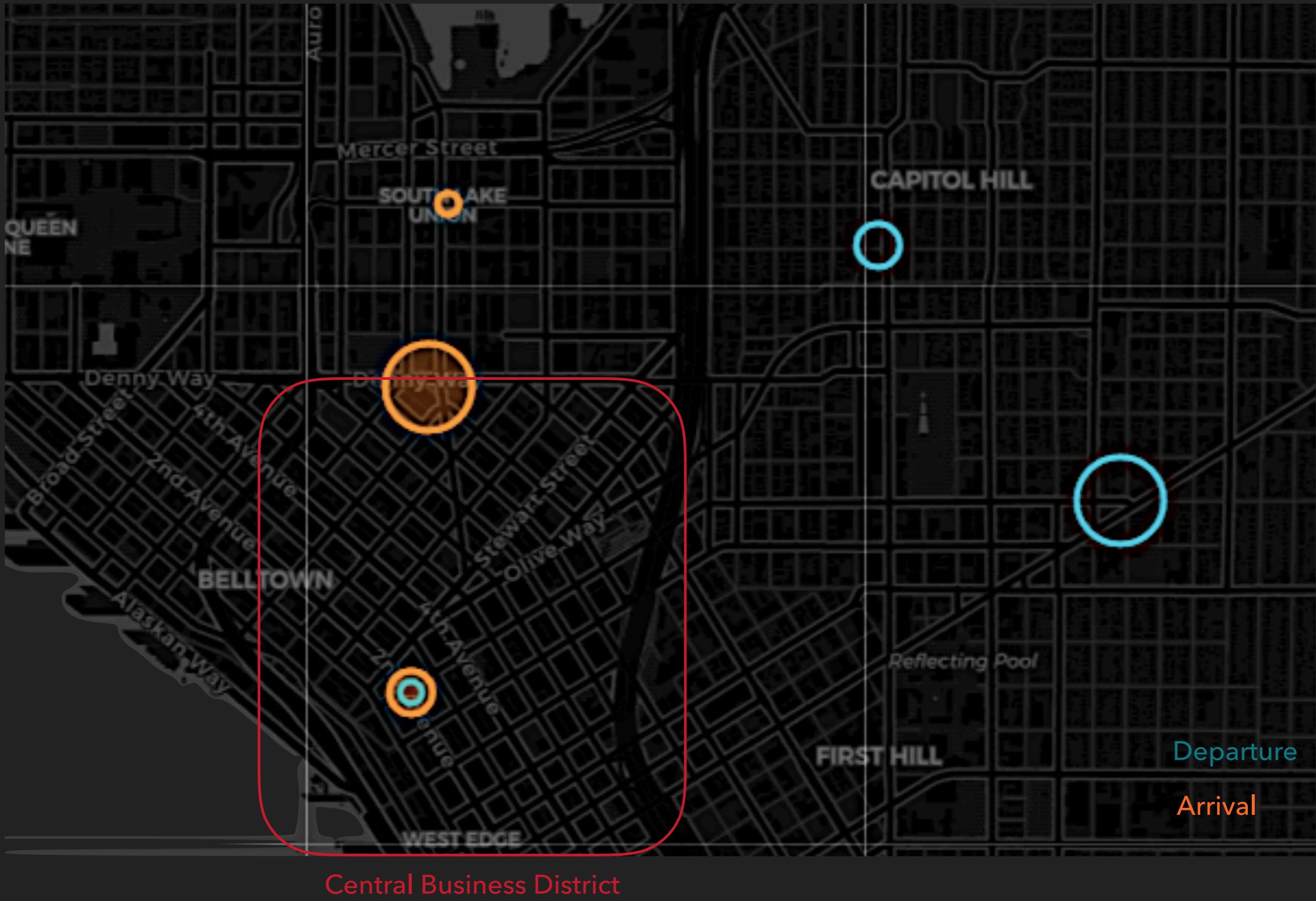
MEMBER/COMMUTER ARE MOSTLY MALE (AGE 25-35)

# BIKE TRIPS: DURATION



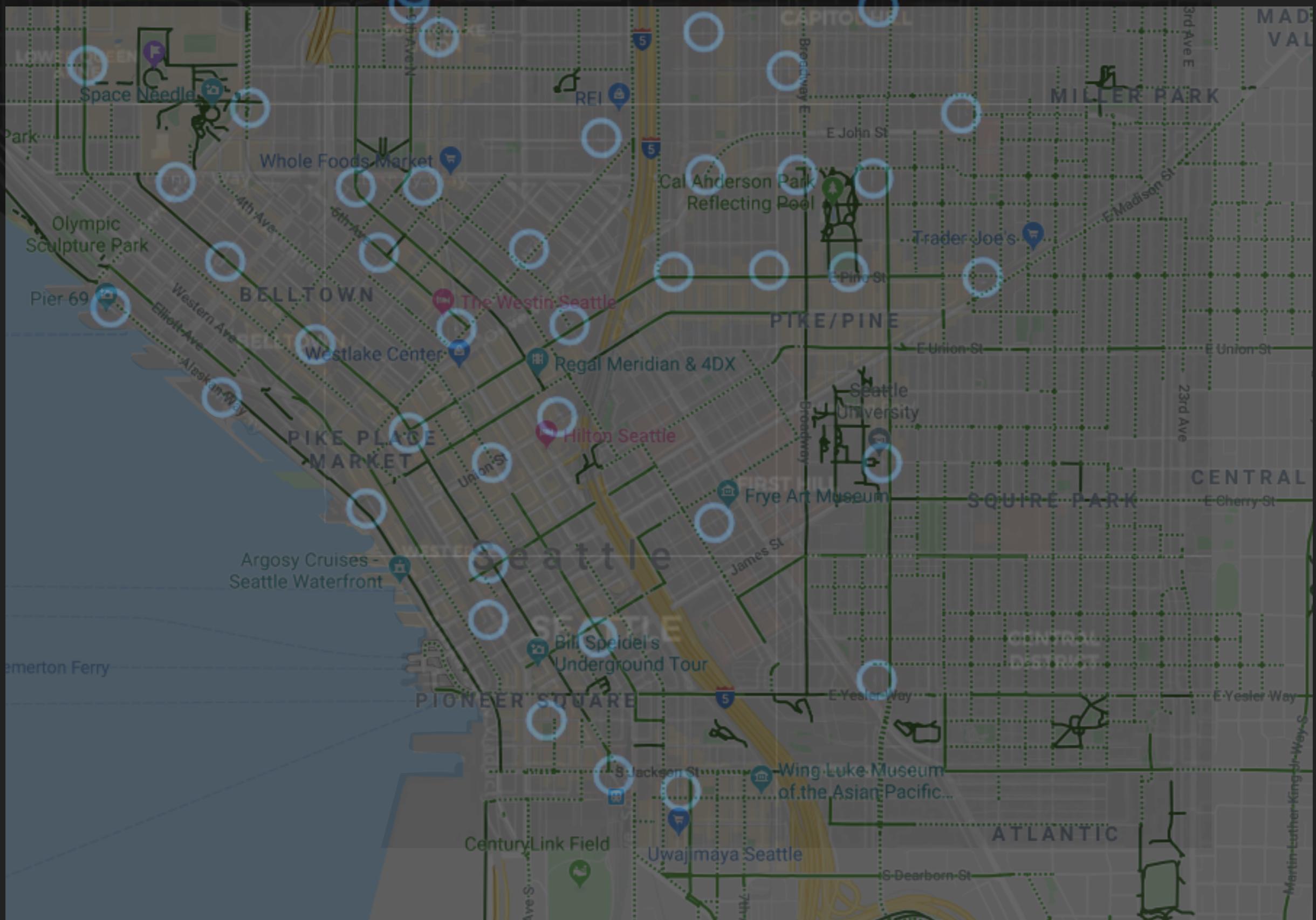
## 3 BEST OF STATIONS OF MEMBERS: FROM & TO

12



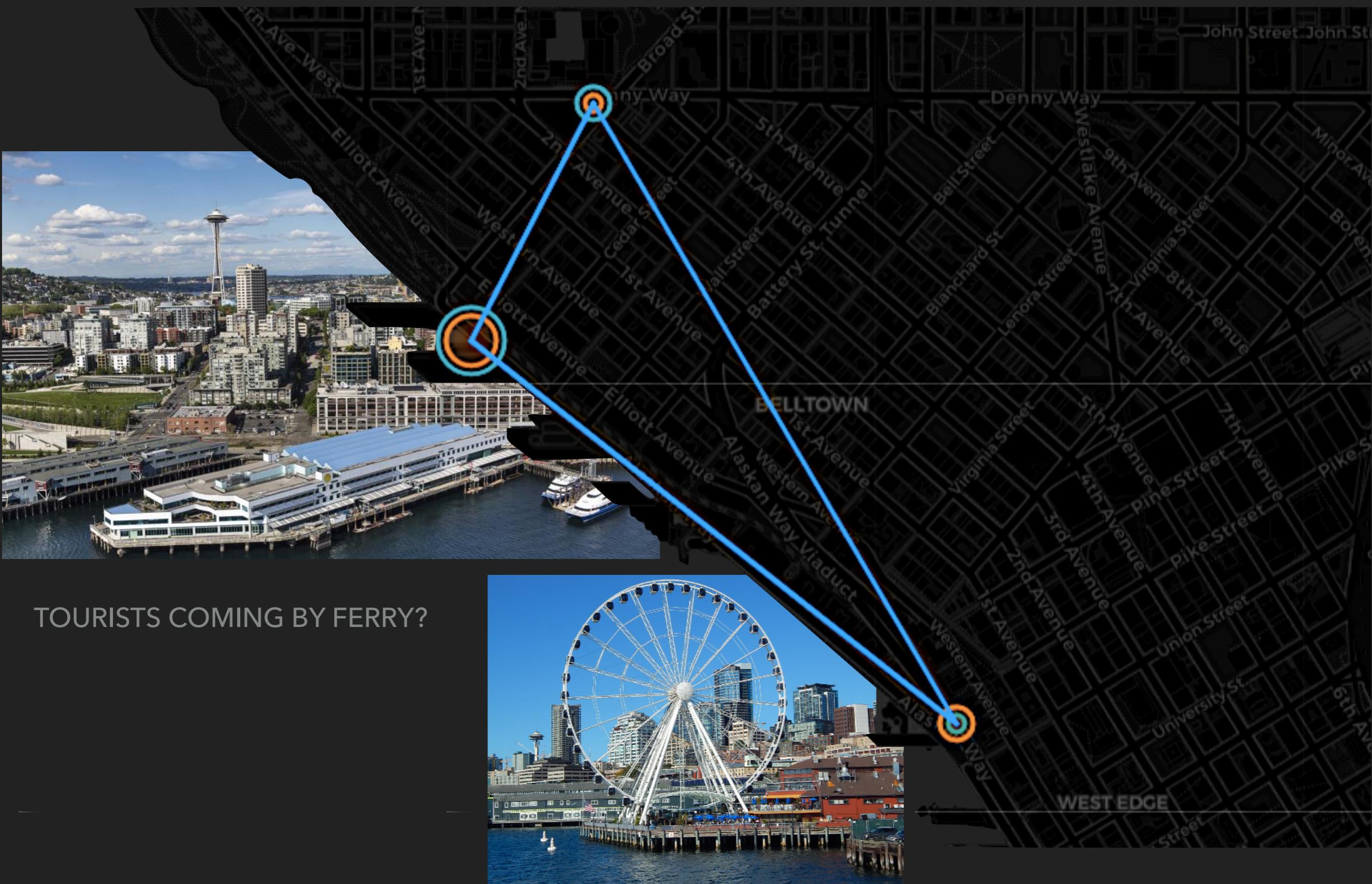
# GOOGLEMAPS: BIKE LANES IN SEATTLE VS. PRONTO STATIONS

13



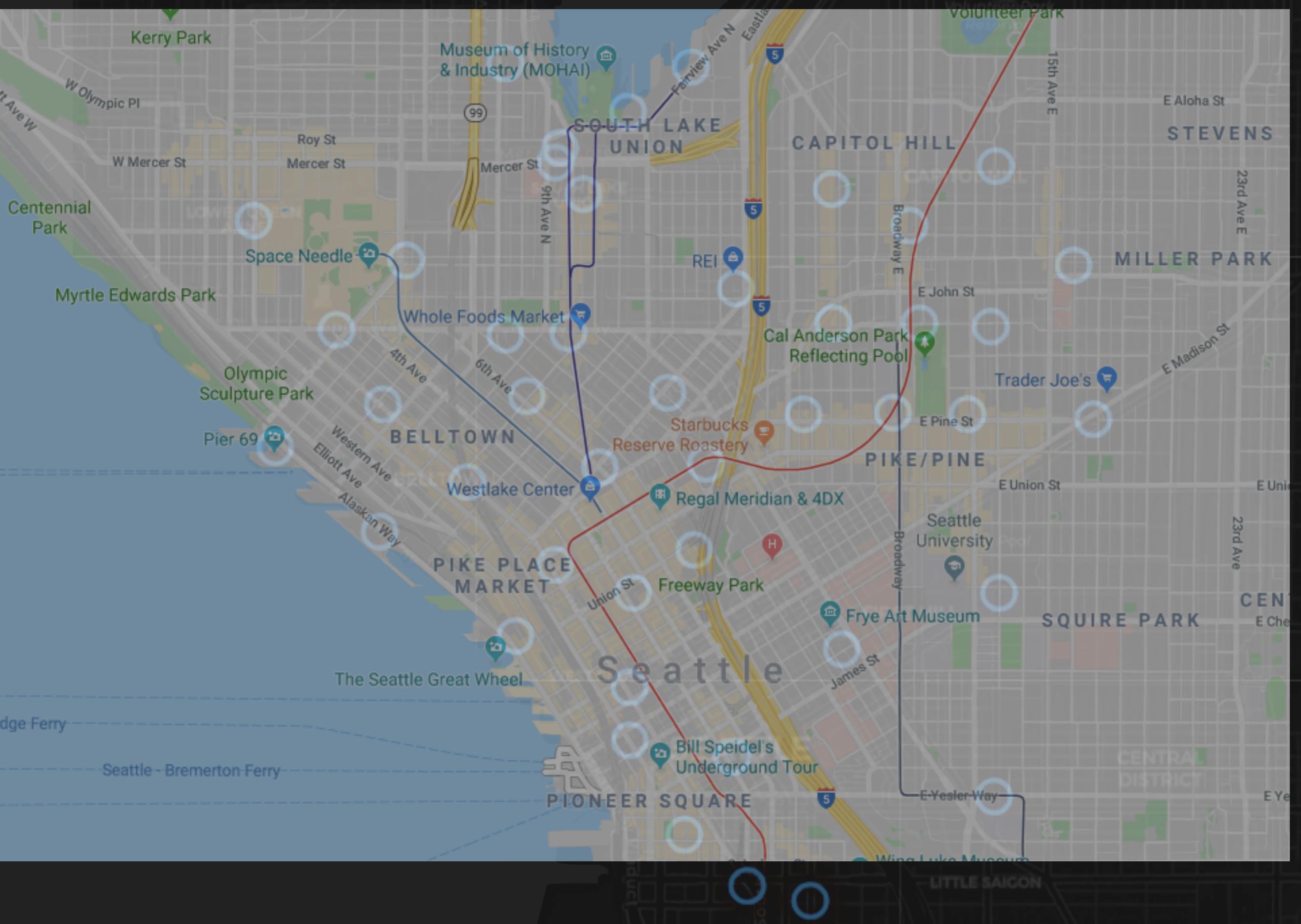
## 3 BEST OF STATIONS - DAYPASS-USER: FROM & TO

14



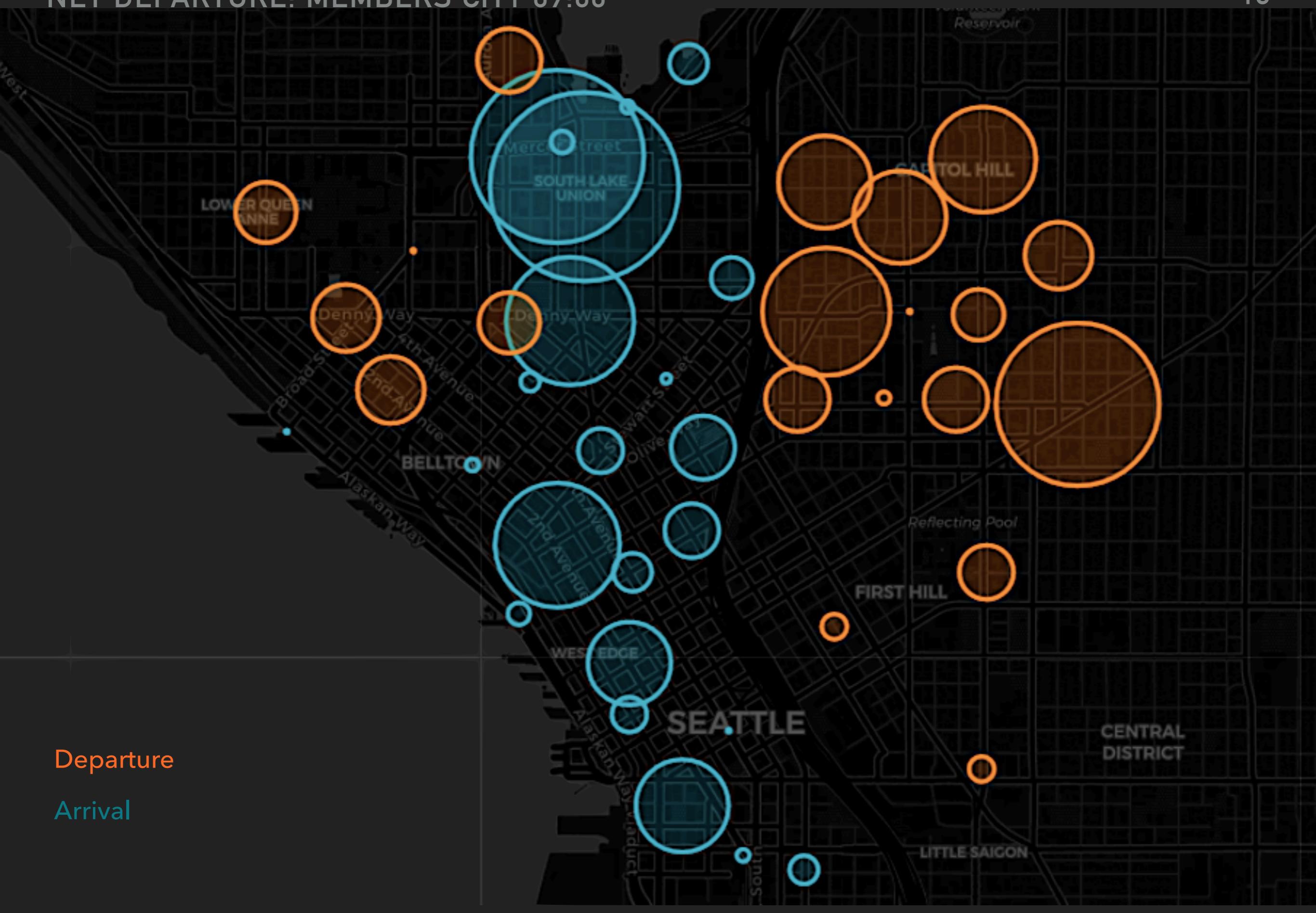
# GOOGLEMAPS: SUBWAY/TRAINS IN SEATTLE VS. PRONTO STATIONS

15



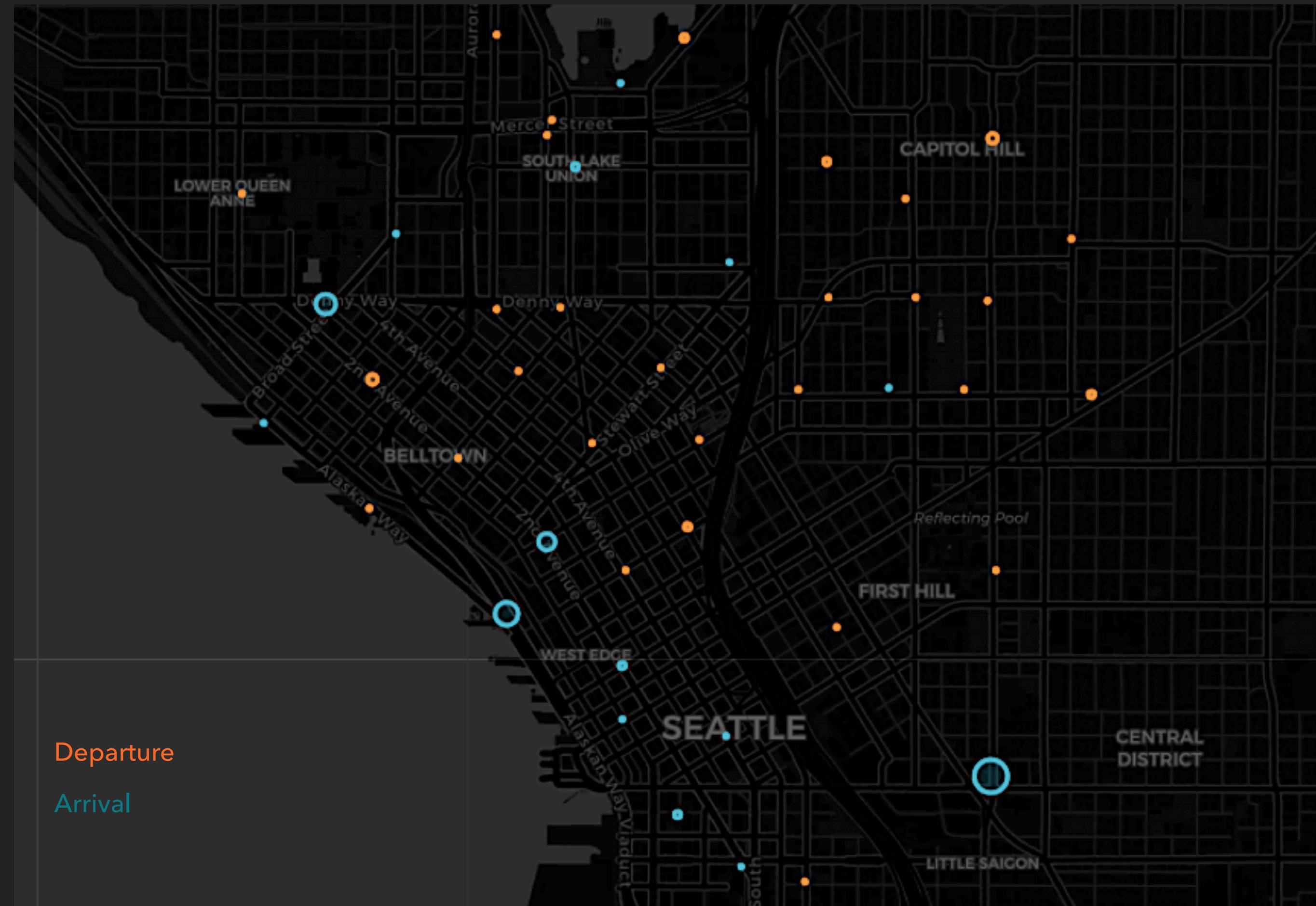
NET DEPARTURE: MEMBERS CITY 09:00

16



# NET DEPARTURE: DAYPASS HOLDER CITY 09:00

17



## Leasing Rate

How many Bikes will be  
rented at any given day  
in the year based on  
weather data?

Model	R2-Score
Linear Reg	0.69
Polynomial	0.66
XG Boost Reg	0.73
Random Forest	0.69



# FREE FLOATING EBIKES



- NUMBER OF USER DECLINED IN THE SECOND YEAR

- GET WEATHER DATA FOR EVERY HOUR EACH DAY OF TIME-PERIOD
- ANIMATED PLOT OF NET DEPARTURE
- USE NEURAL NETWORK FOR PREDICTION
- WHY HAS PRONTO DIED? ADVANTAGE OF E-BIKES

**THANK YOU FOR YOUR  
ATTENTION!**