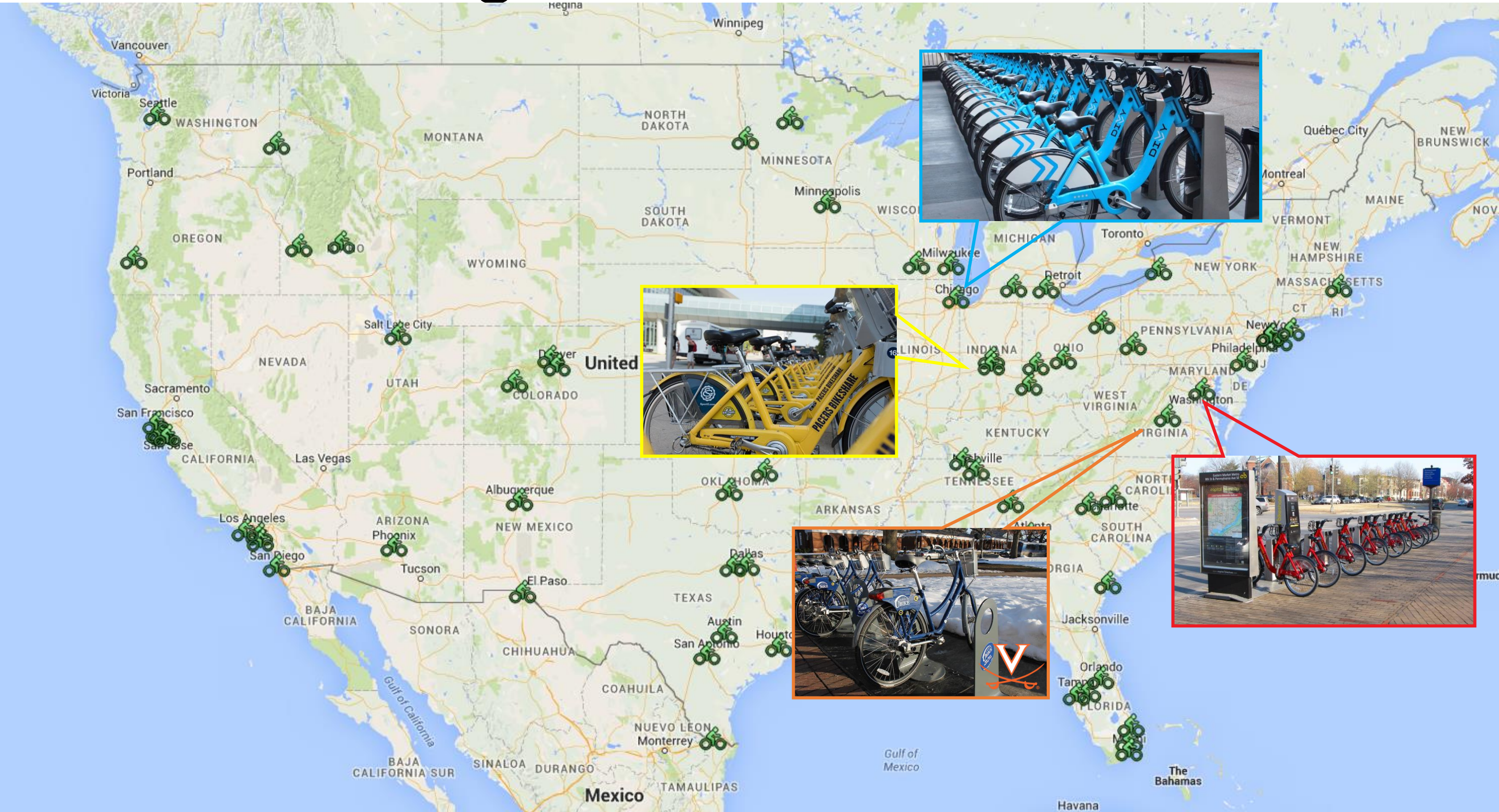


Analysis of a University Bike Sharing Program

Jijo Mathew

Maggie McNamara

Bike Share Programs

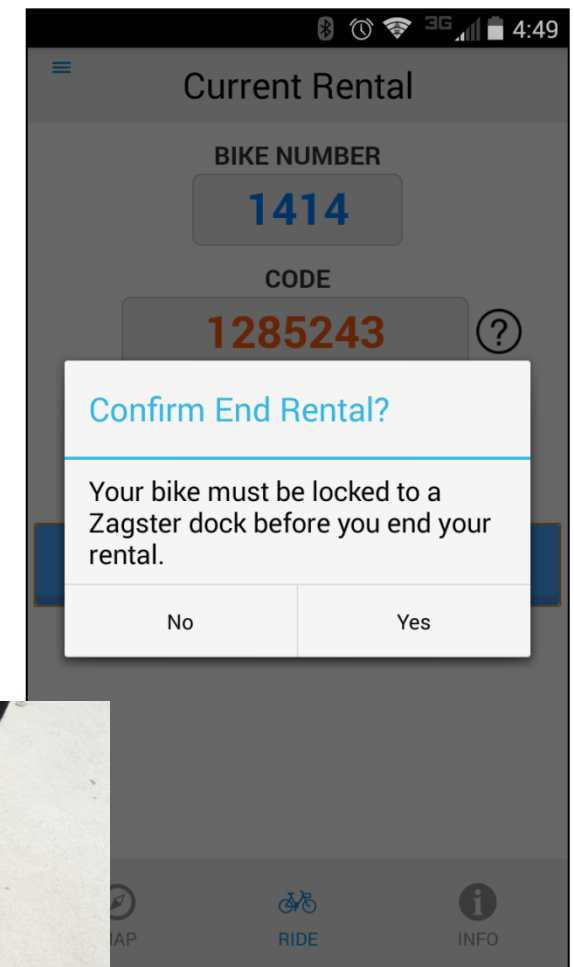
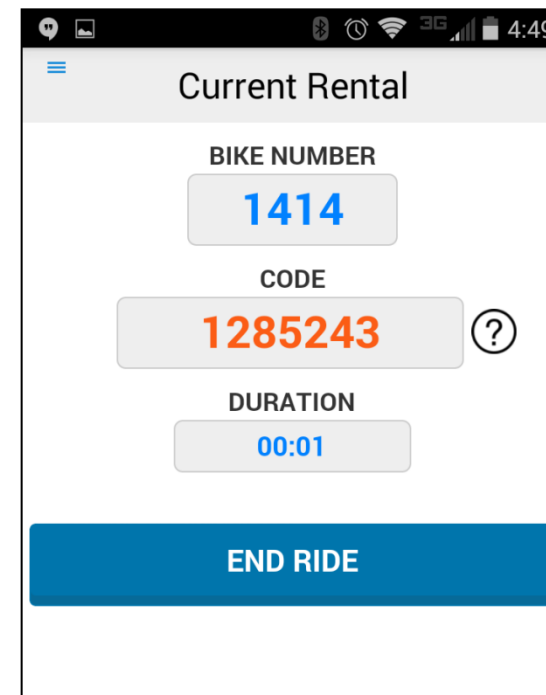
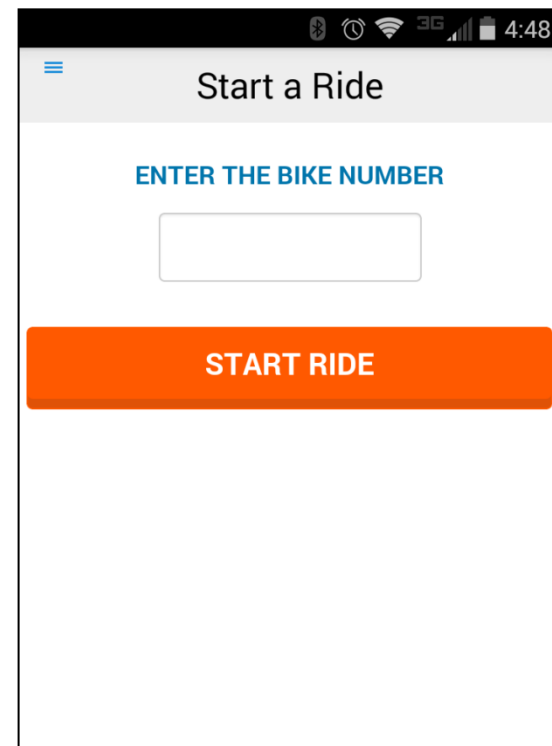
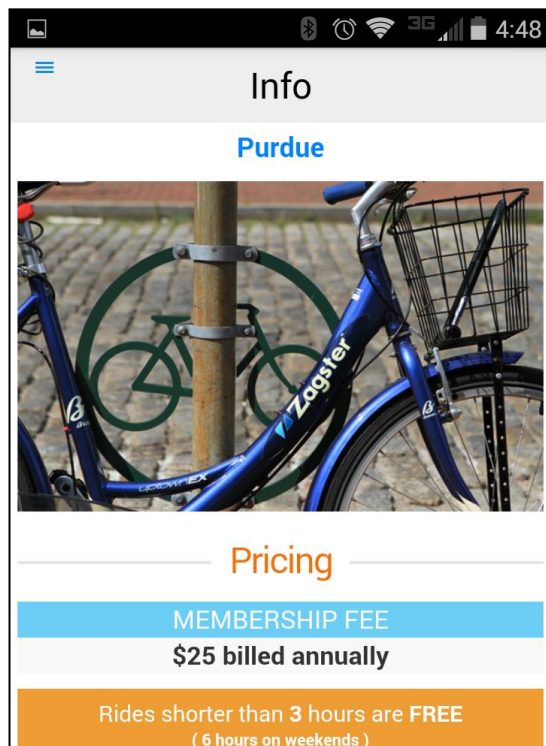


Bike map from <http://www.bikesharingmap.com/>
Pictures from thechicagolifestyle.com, wikipedia.org,
www.insideindianabusiness.com, and cvilletomorrow.org

Purdue's Bike Share Program - Zagster



How it Works



Membership Options

Compare plans to find the one that fits your riding style. Just click Join when you're ready to get started.

Yearly Membership

24 Hour Pass

Promotional Membership



MEMBERSHIP FEE
\$25 billed annually

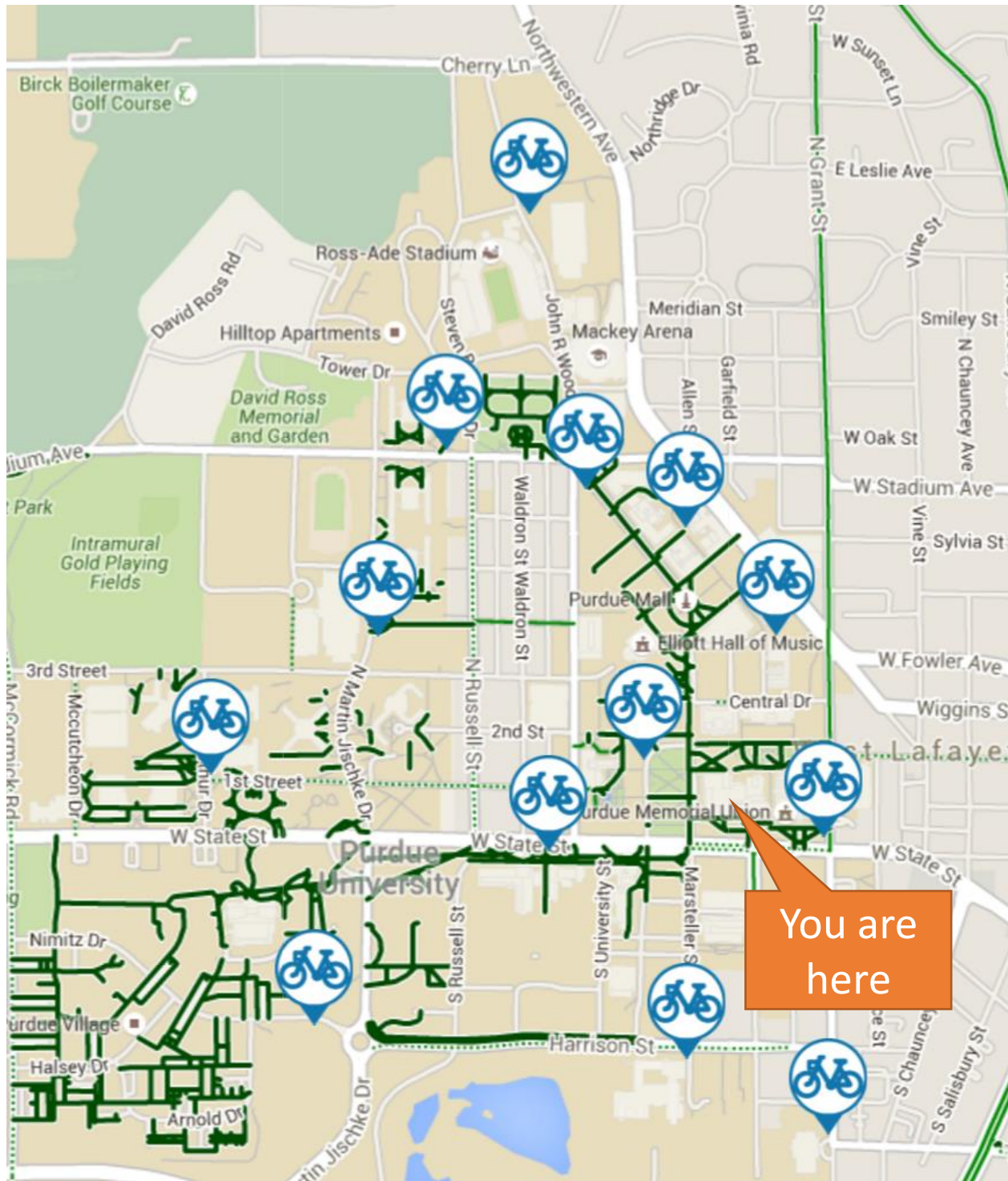
Trips under 3 hours are **FREE** (6 hours on weekends)

then pay **\$2/hour**

up to **\$10/ride**



Bike Rack Locations



- 13 bike racks on campus
- Capacity ranges from 6-12 bikes
- Bikes secured with U-bolt, key for which is in lockbox on back of bike



2015

JAN	FEB	MAR
APR	MAY	JUN
JUL	AUG	SEP
OCT	NOV	DEC

The Quick Numbers

646
Users

77
Bikes

15K
Rentals



22K hrs
Total
Duration

425

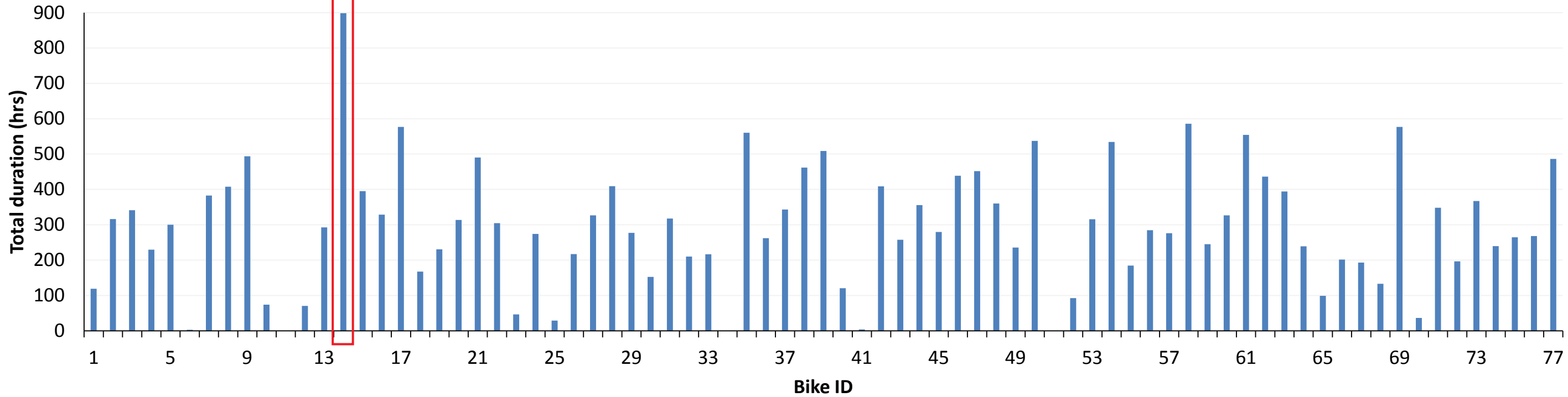
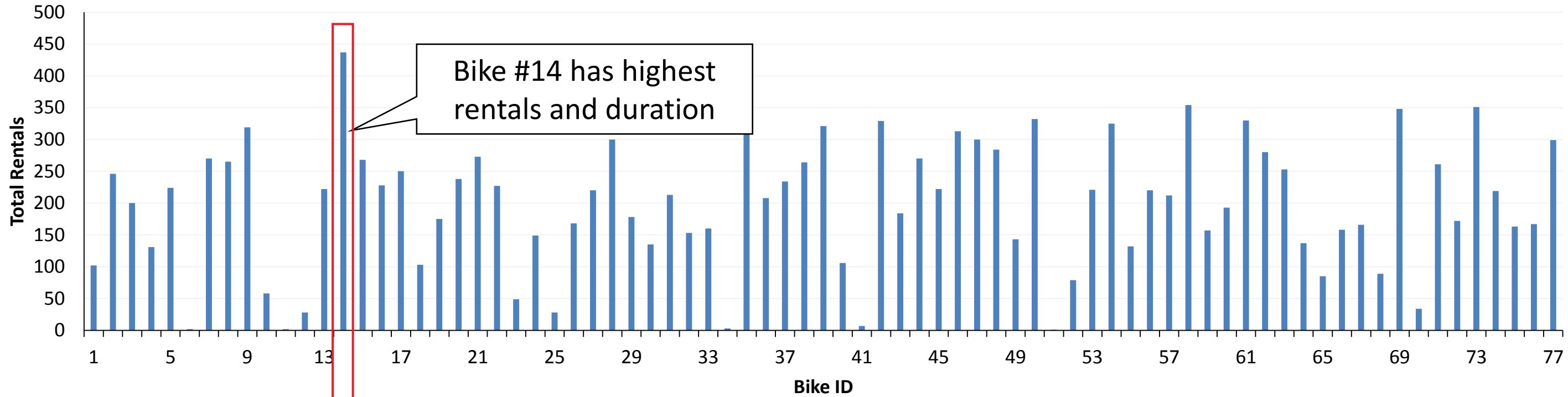
Most rentals
by a user

1058 hrs

Highest total
duration by a
user

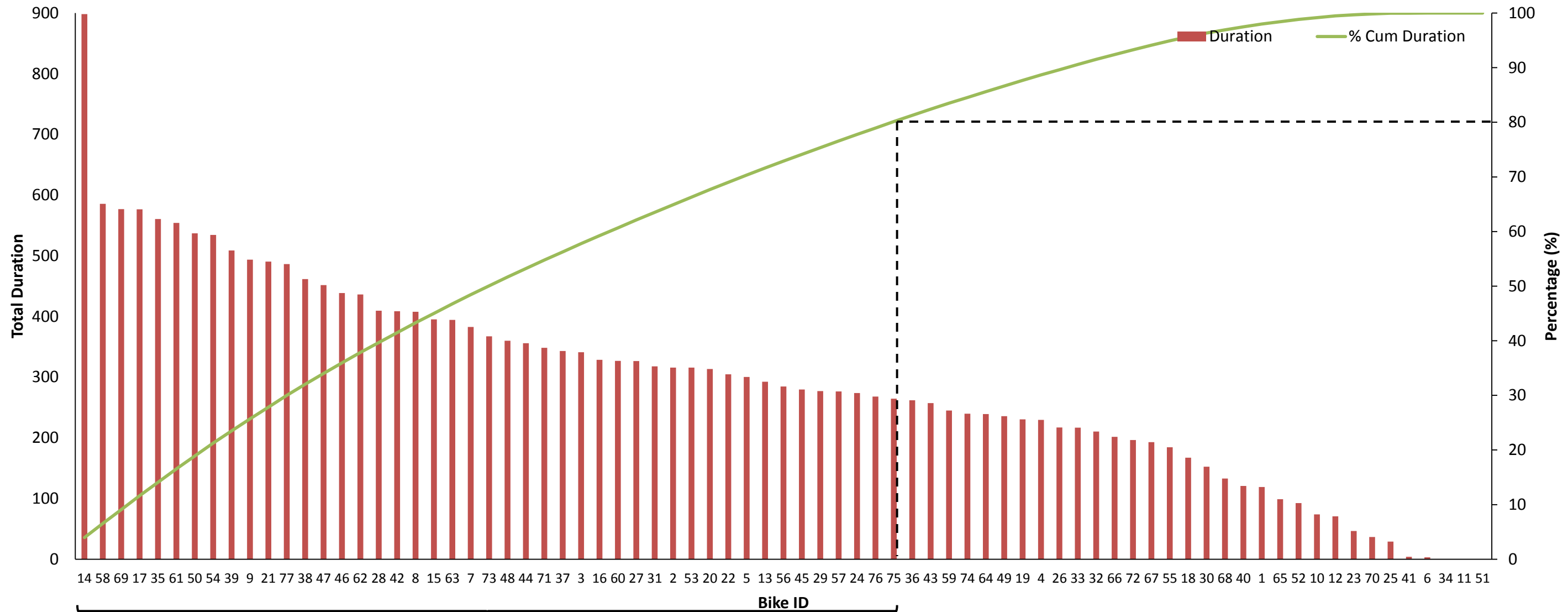


Total rentals and duration for each bike



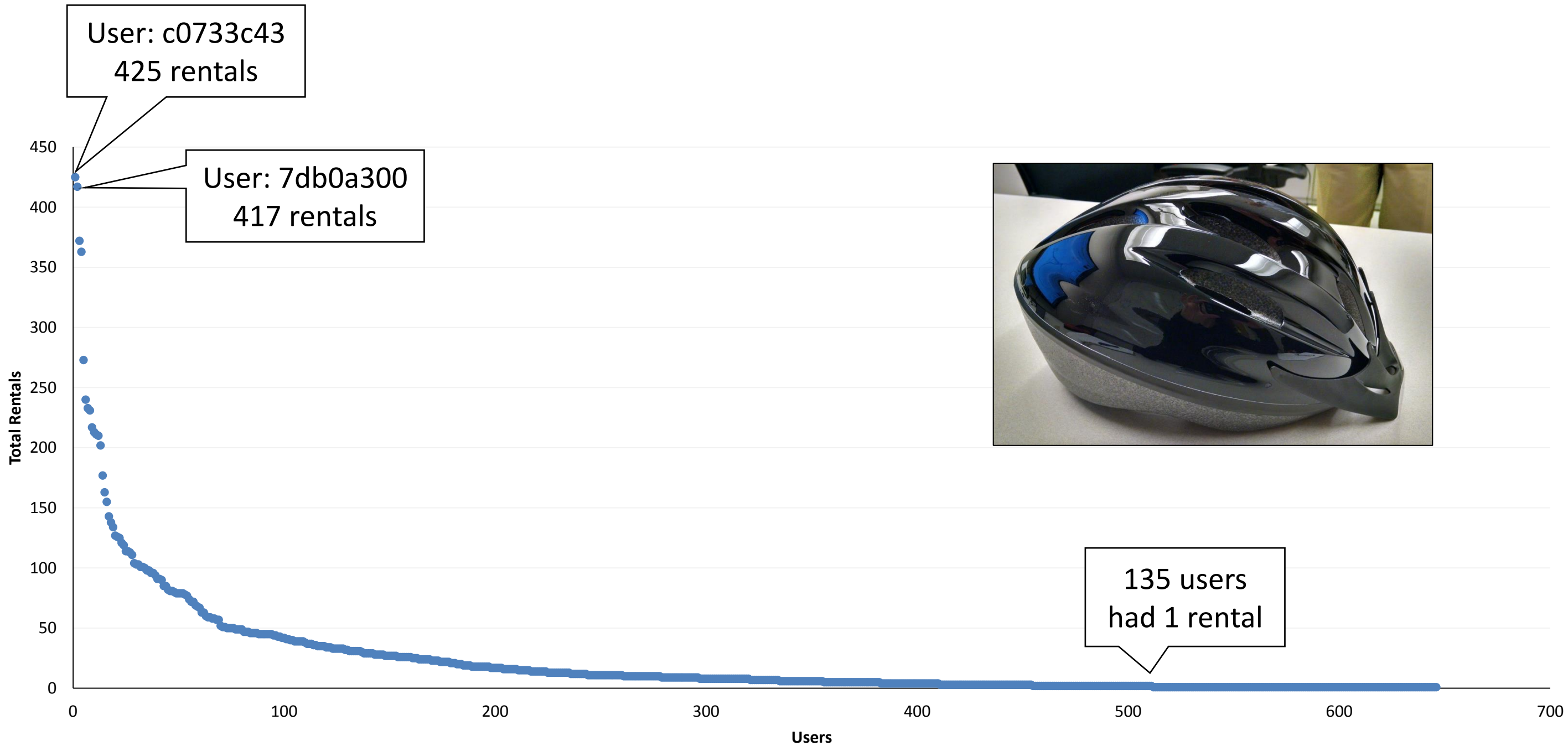
Hours of use by bike

Pareto chart

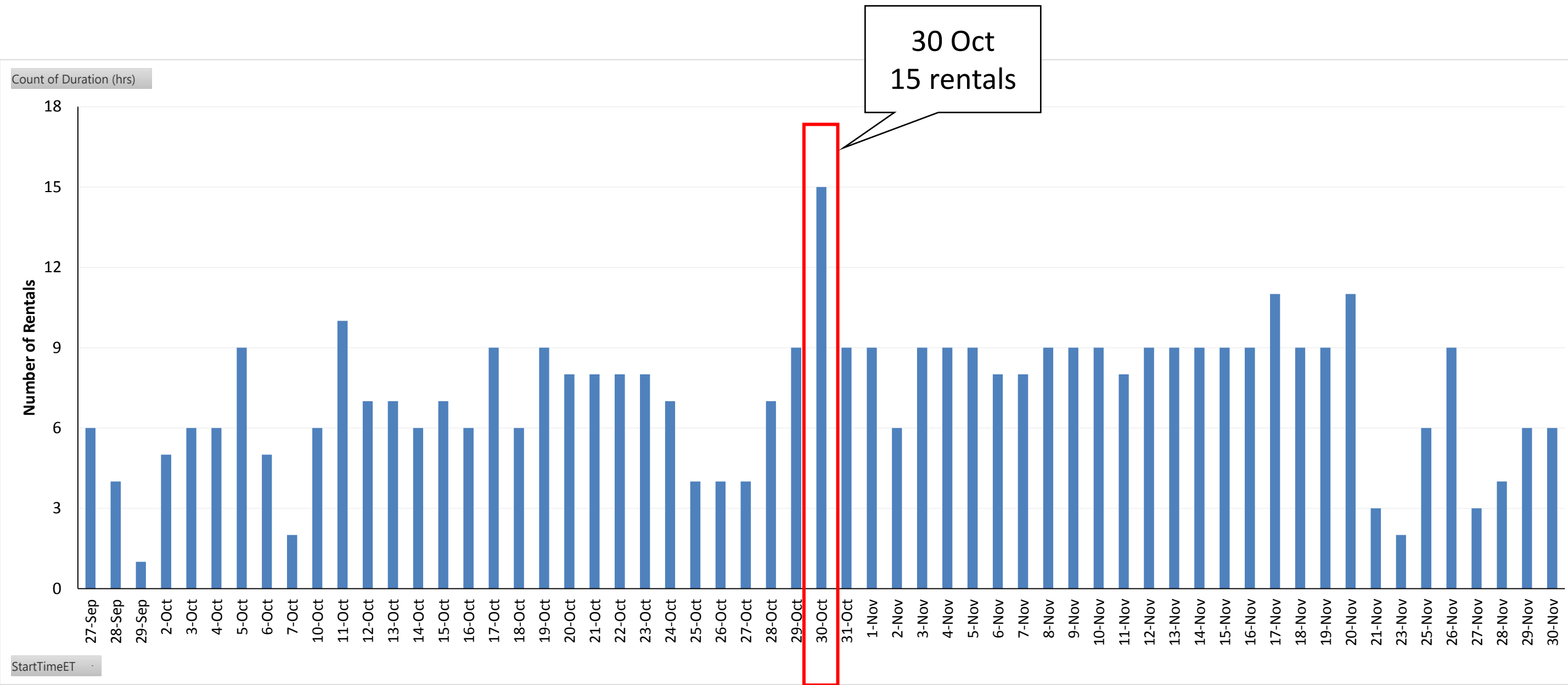


45 bikes

Rentals by User



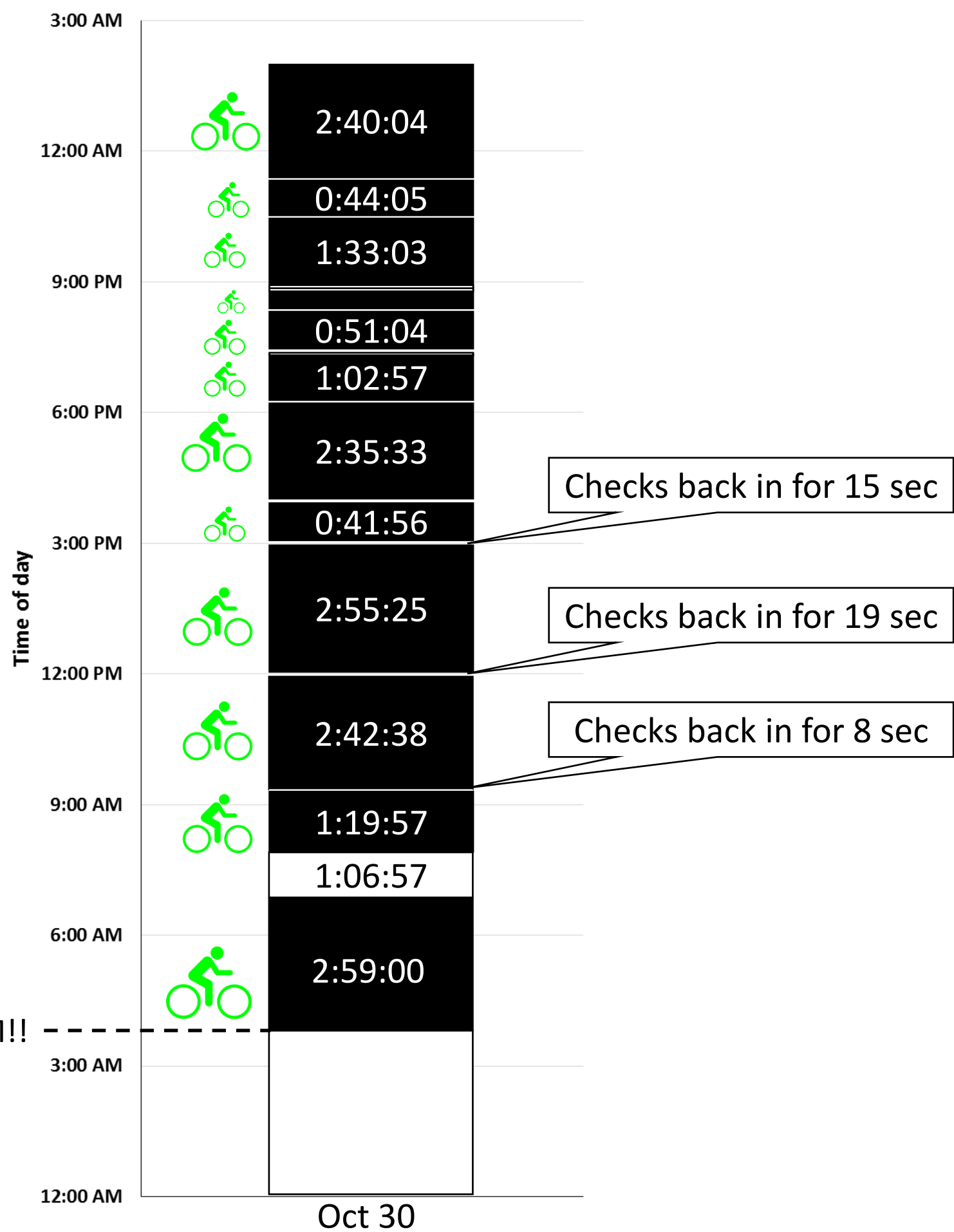
Rentals over the study period by top user



User on Oct 30, 2015

Not Riding
 Riding

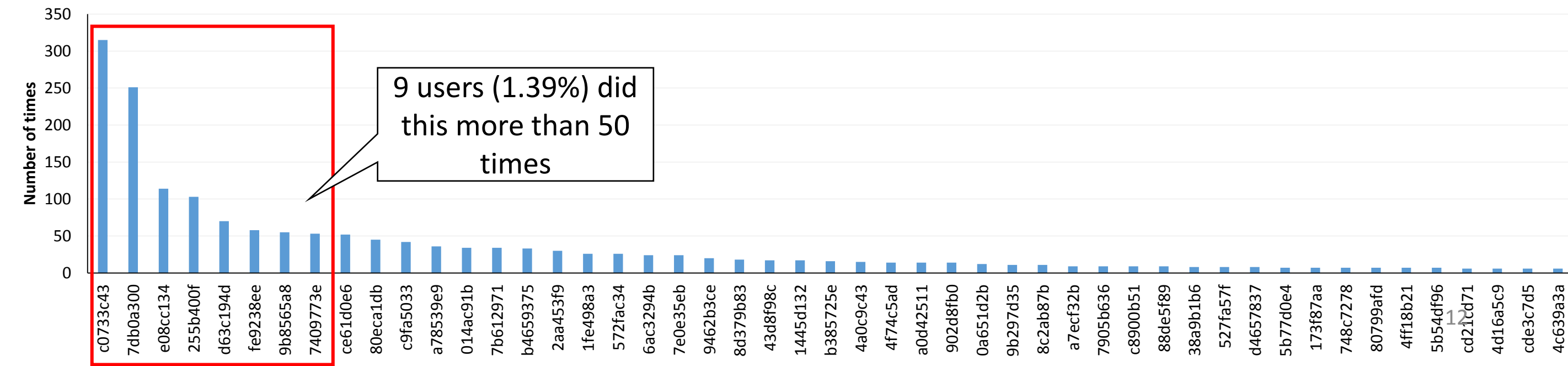
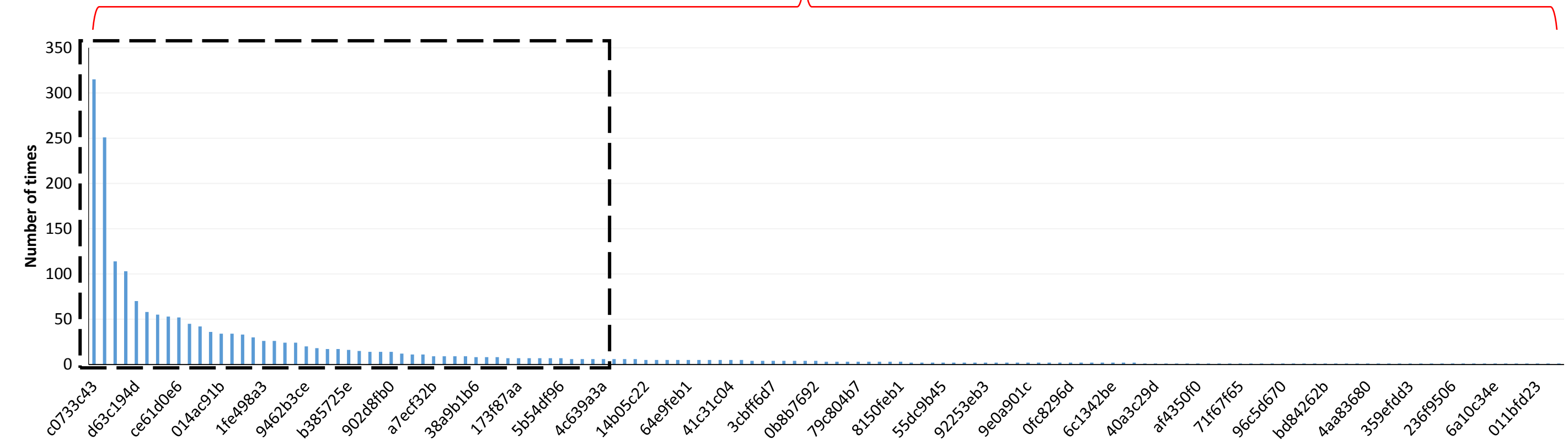
First rental at 03:51 AM!!



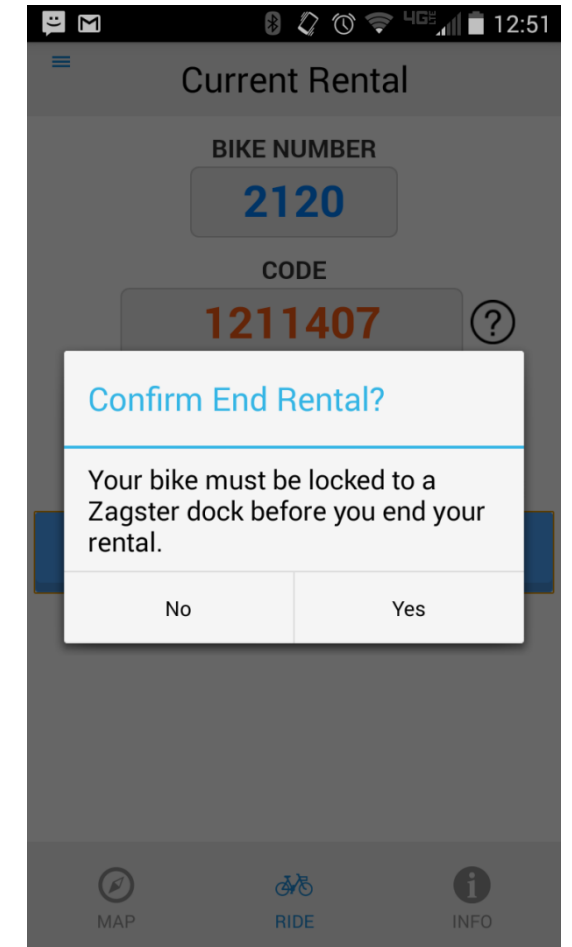
Users who check in and check out near the 3hr mark

- Rides that lasted 2.5 to 3.1 hrs
- Checked in and out within 5 mins

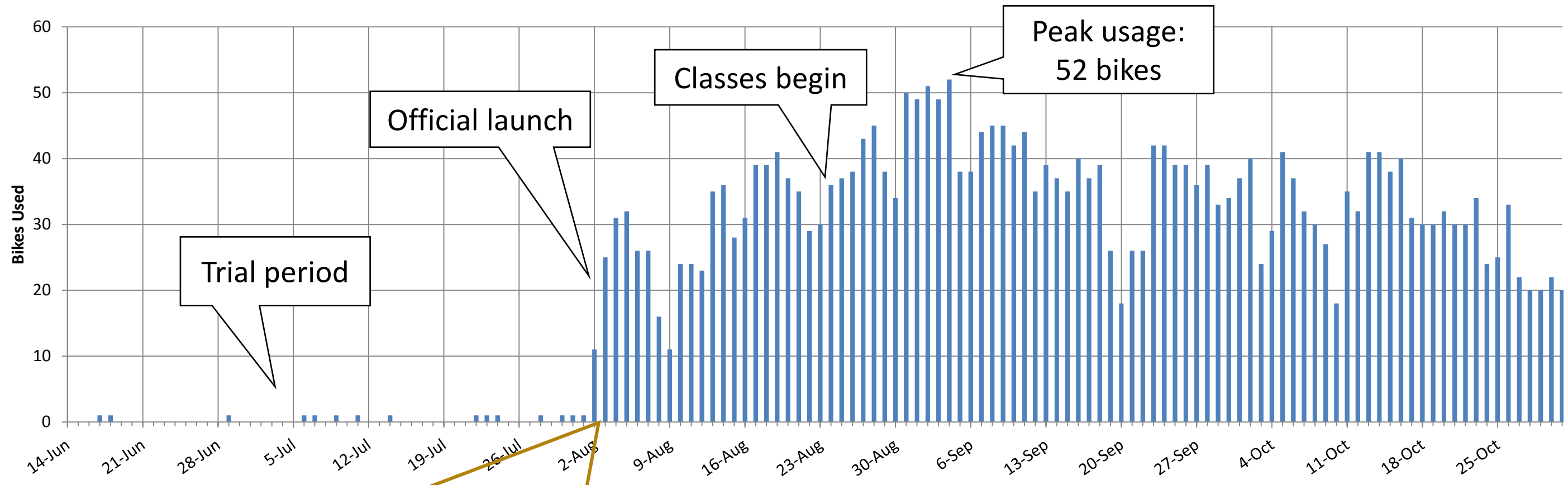
139 users or 21.5% of all users



Challenges in Implementation



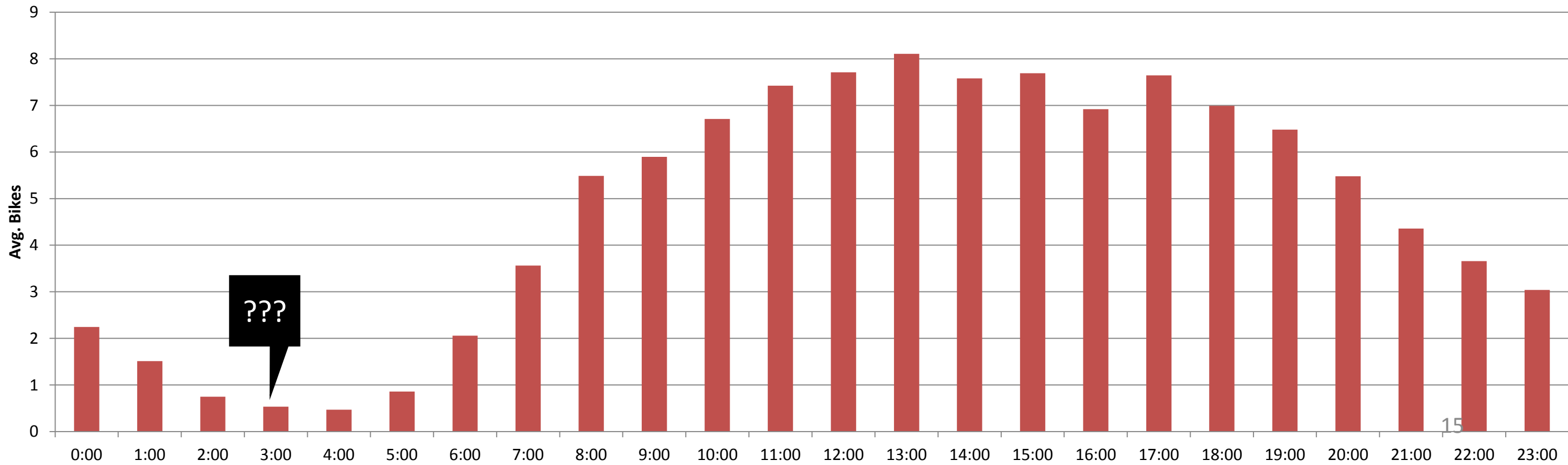
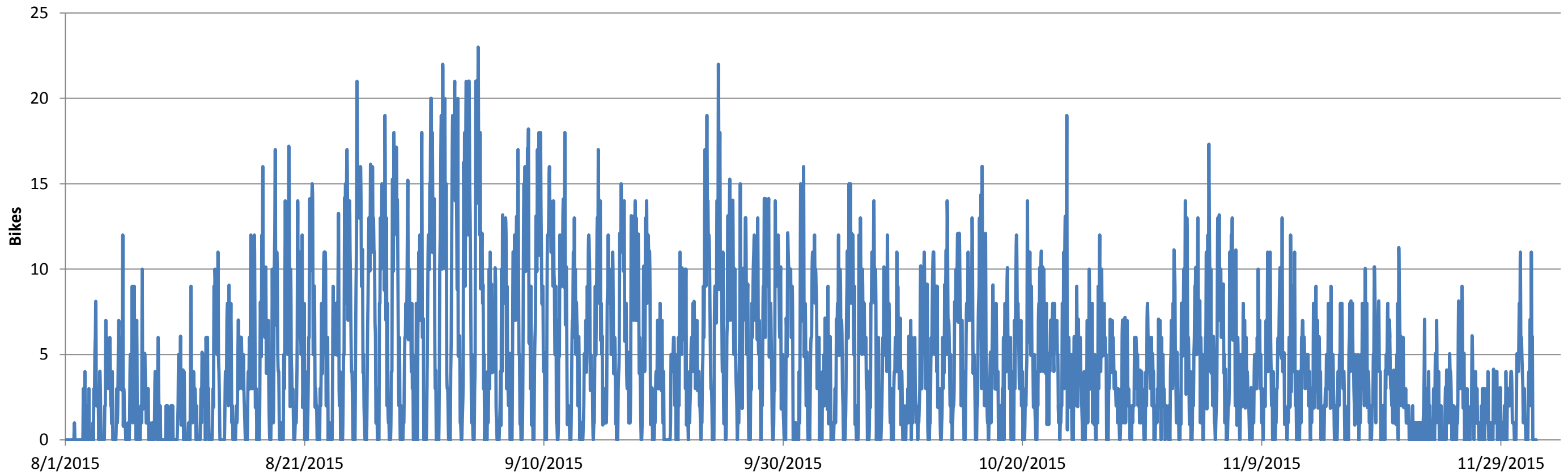
Unique bikes in use per day, out of 77



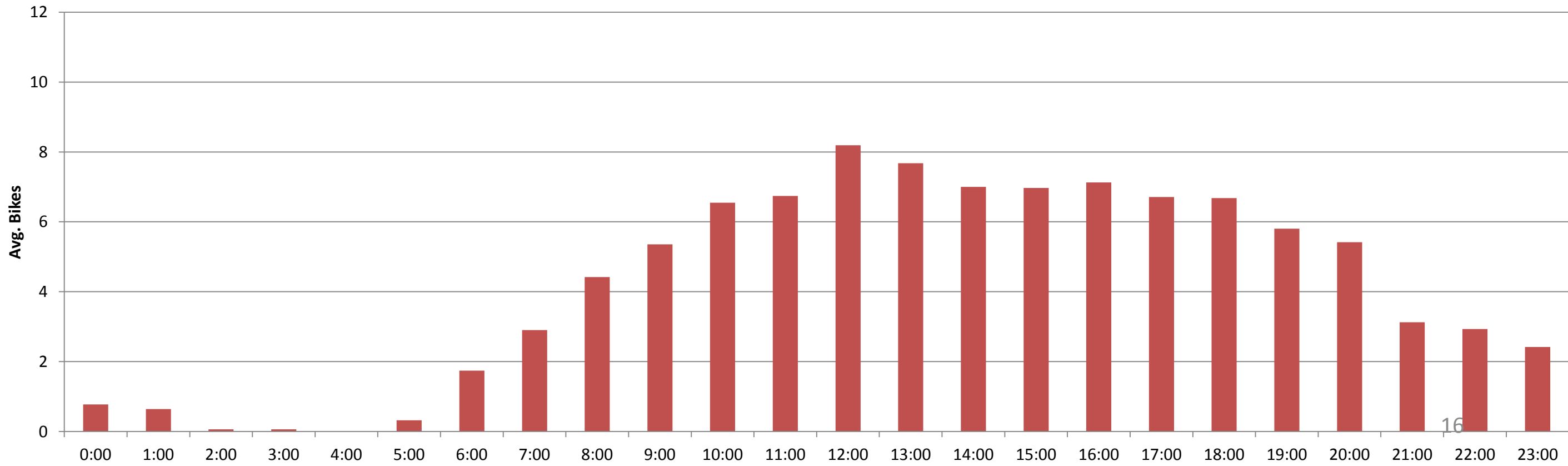
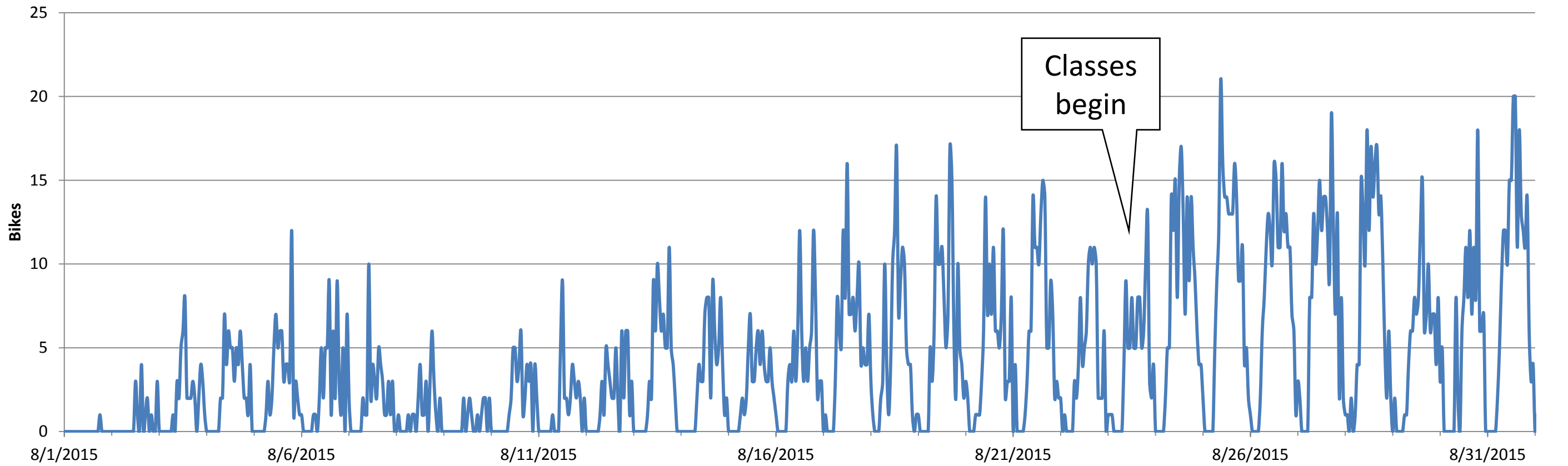
- Average: 28.1 (of days with use)
- Average: 22.9 (all days)



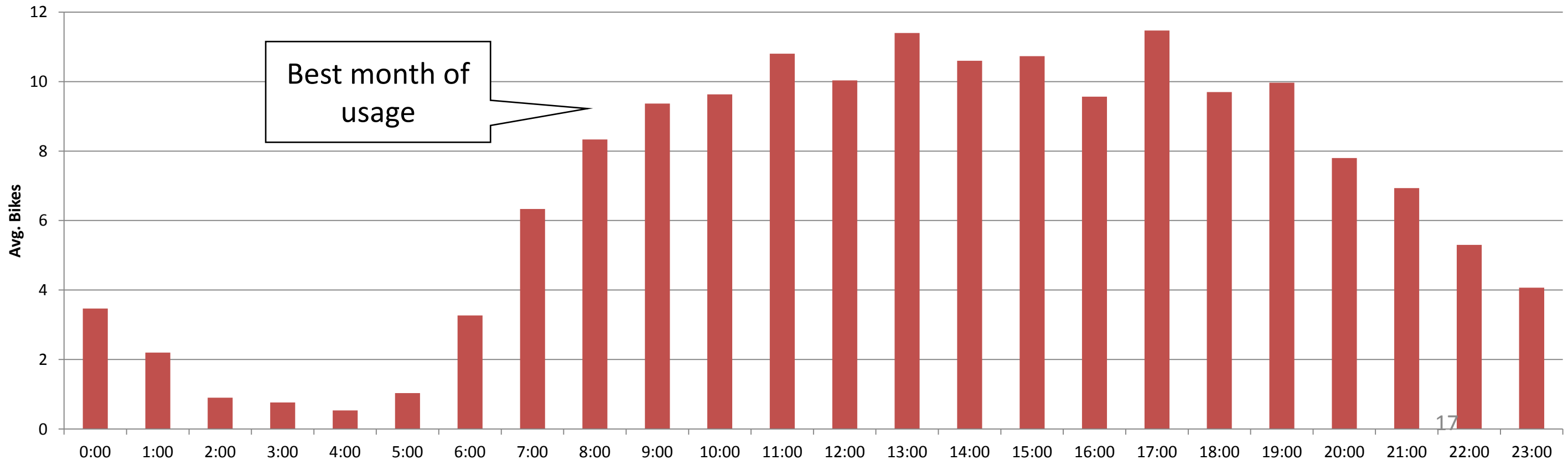
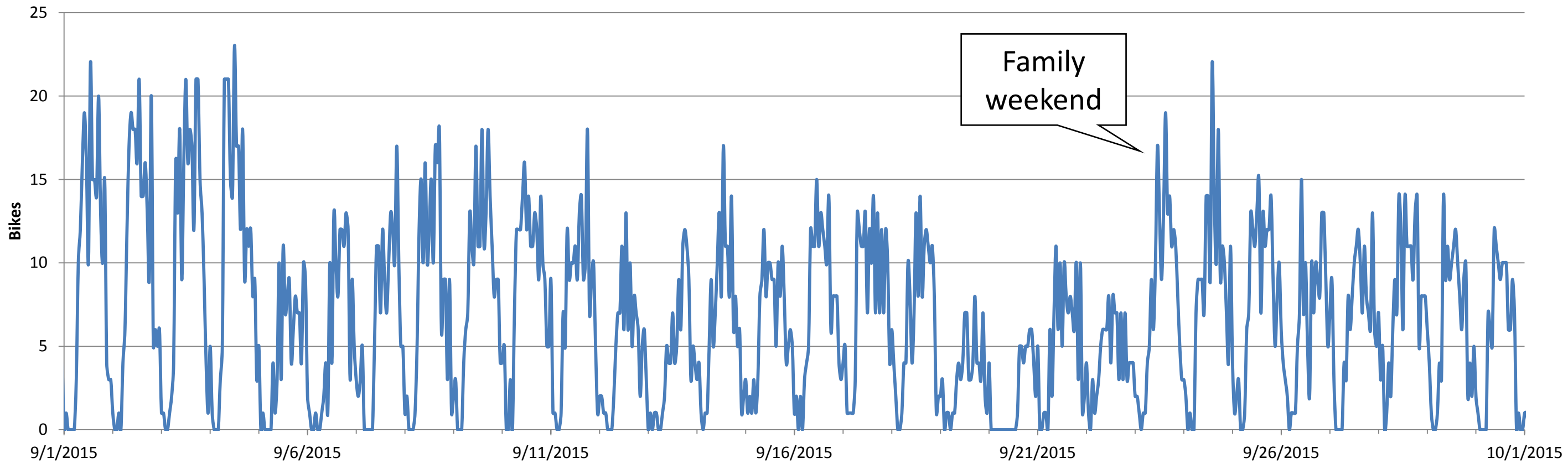
Unique bikes rented per day and hour, out of 77



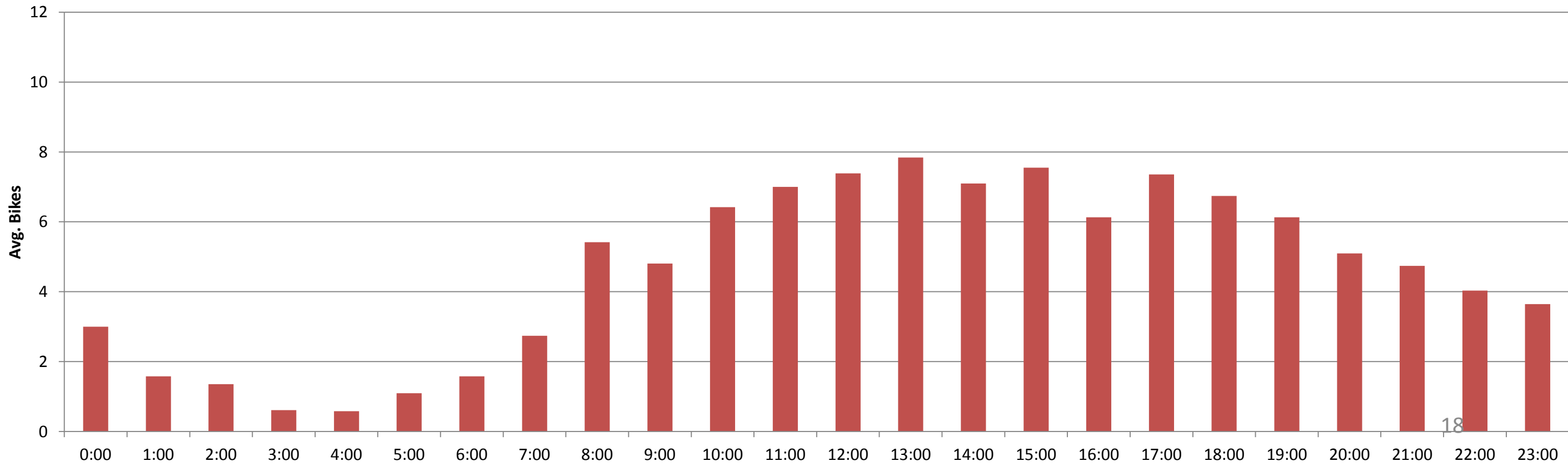
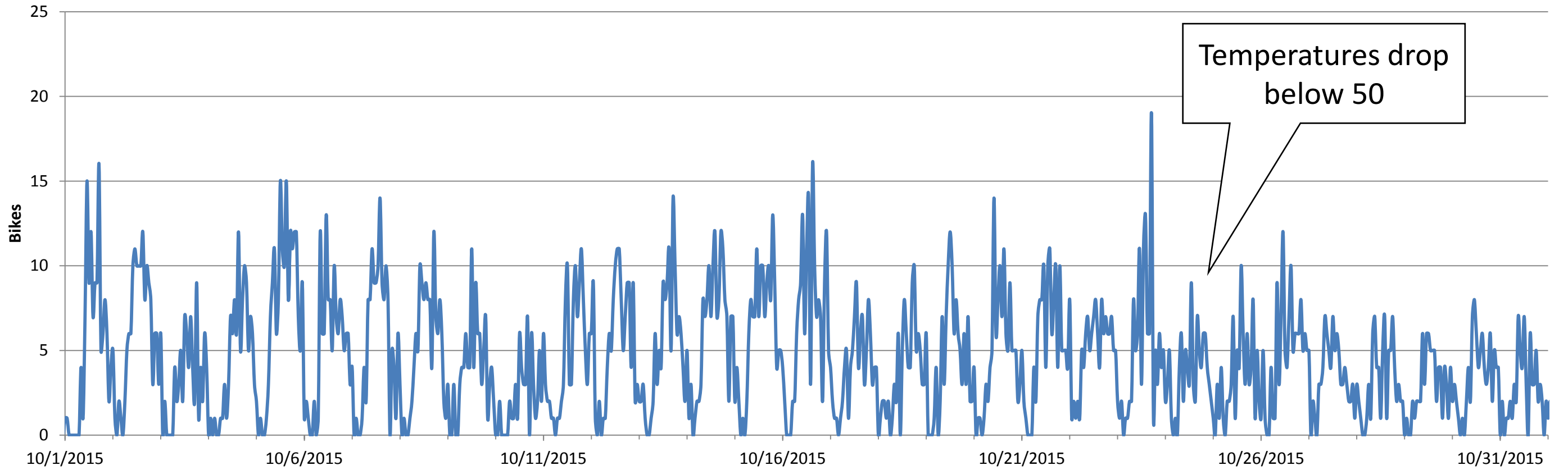
Unique bikes rented per day and hour, Aug



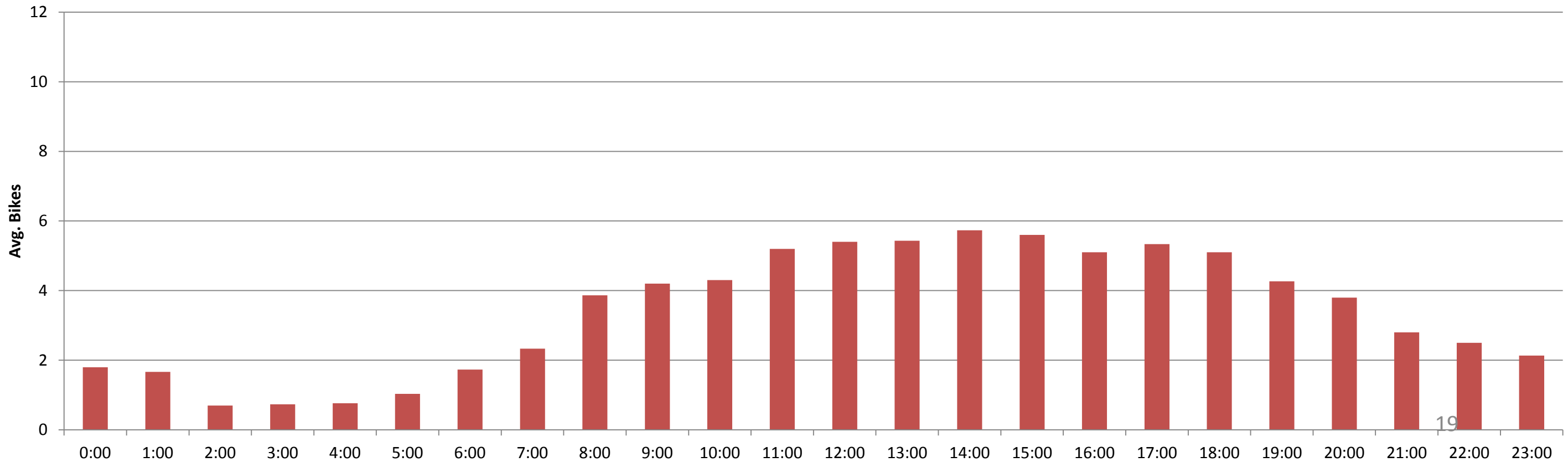
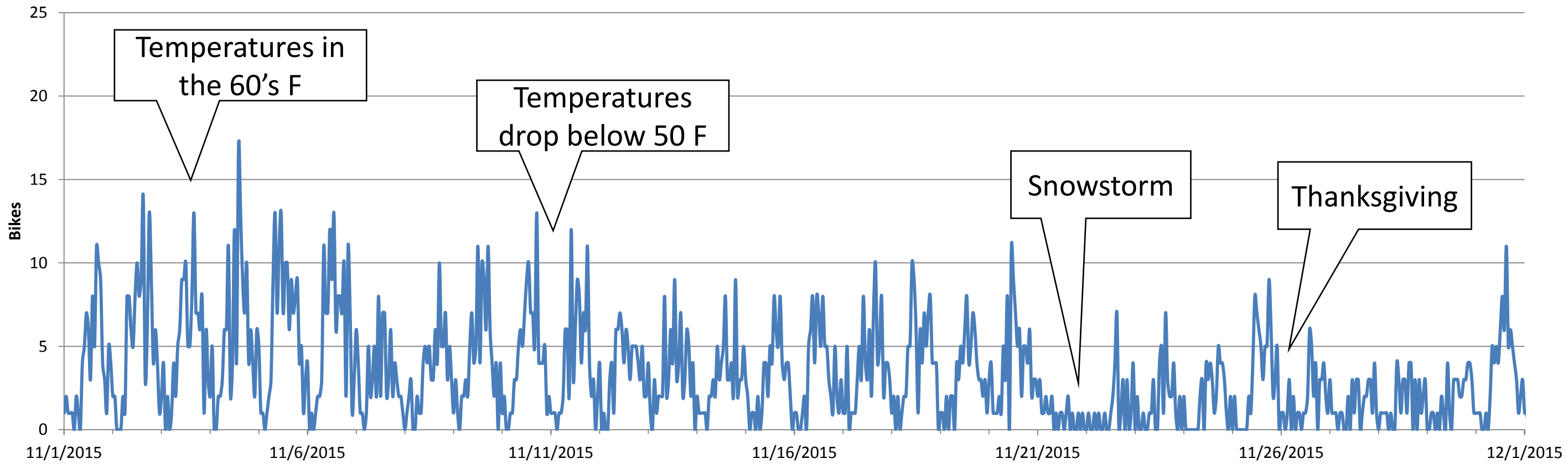
Unique bikes rented per day and hour, Sept



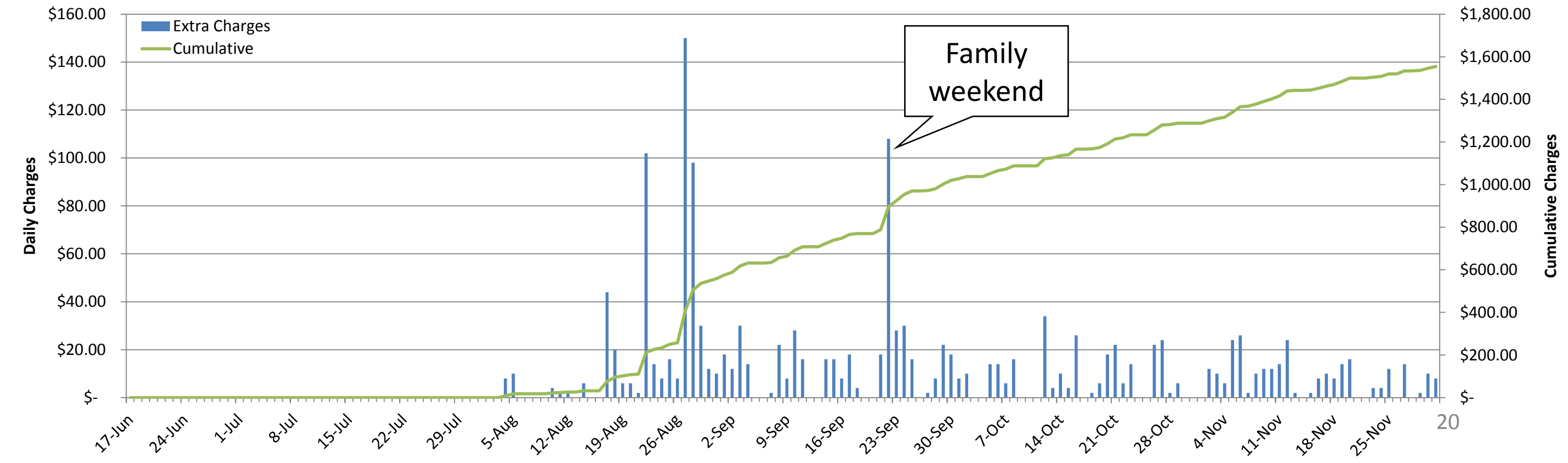
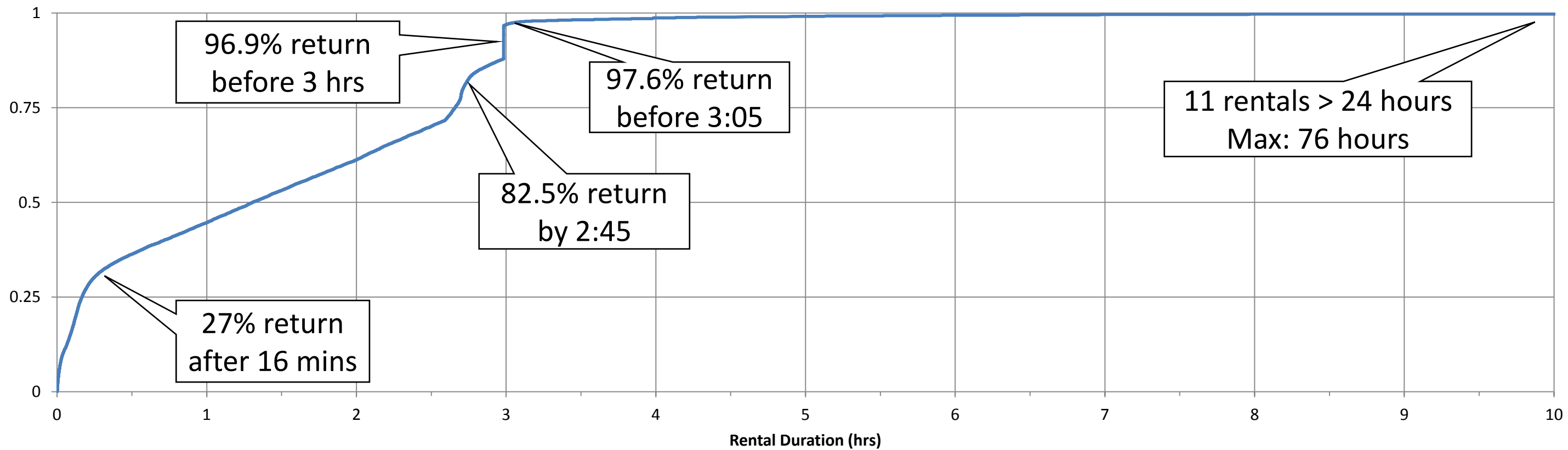
Unique bikes rented per day and hour, Oct



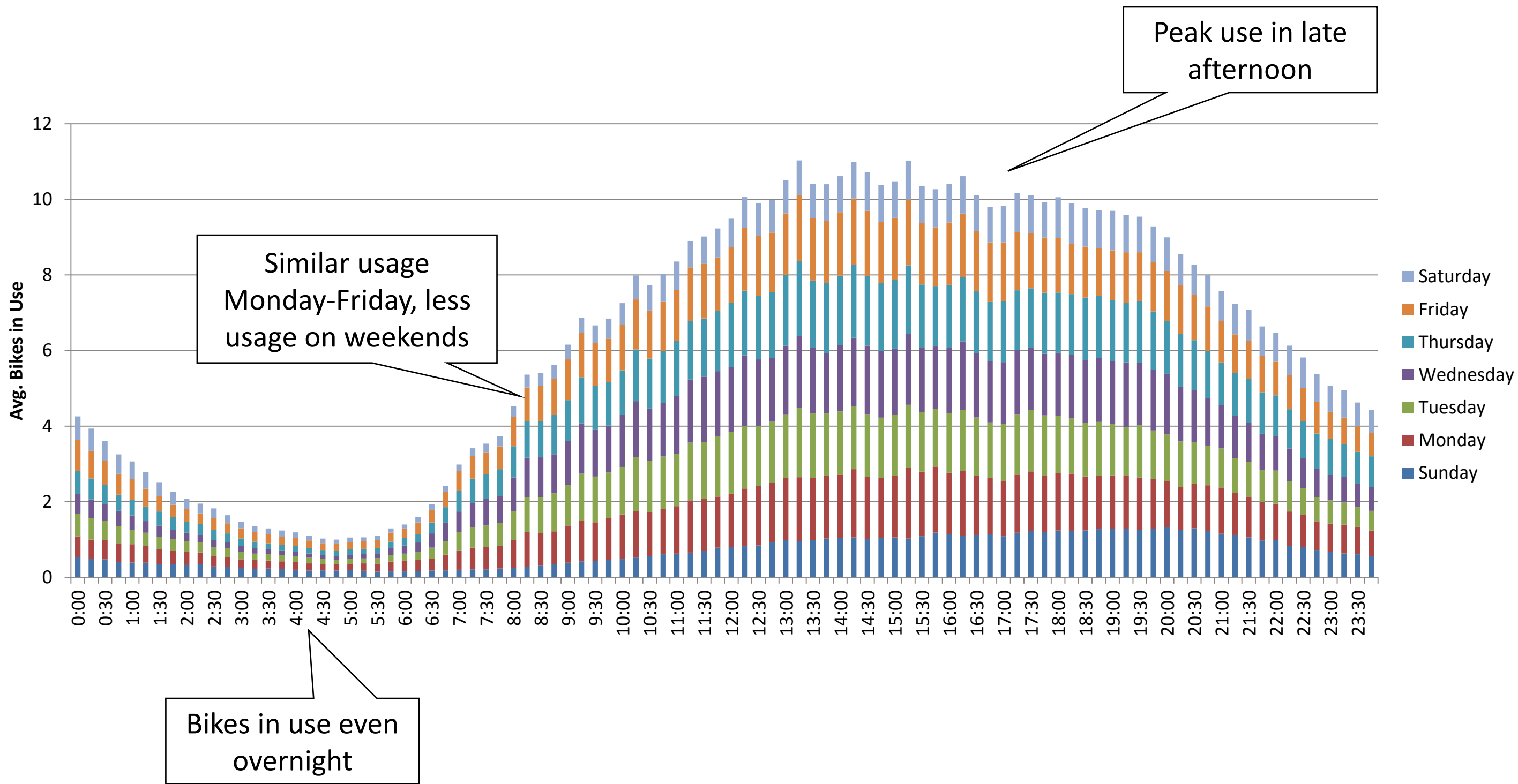
Unique bikes rented per day and hour, Nov



Cumulative plot of rental duration

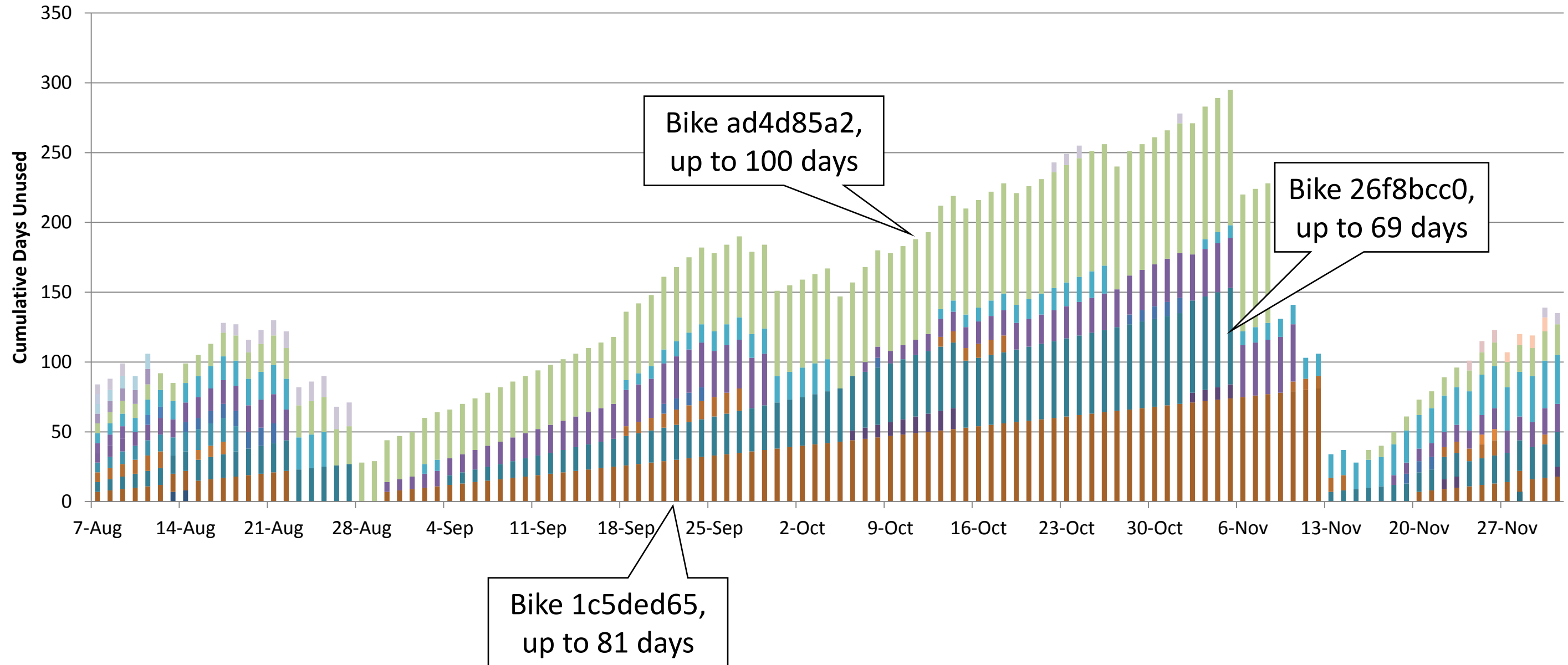


Average Bikes in Use by 15-min periods since Aug. 1

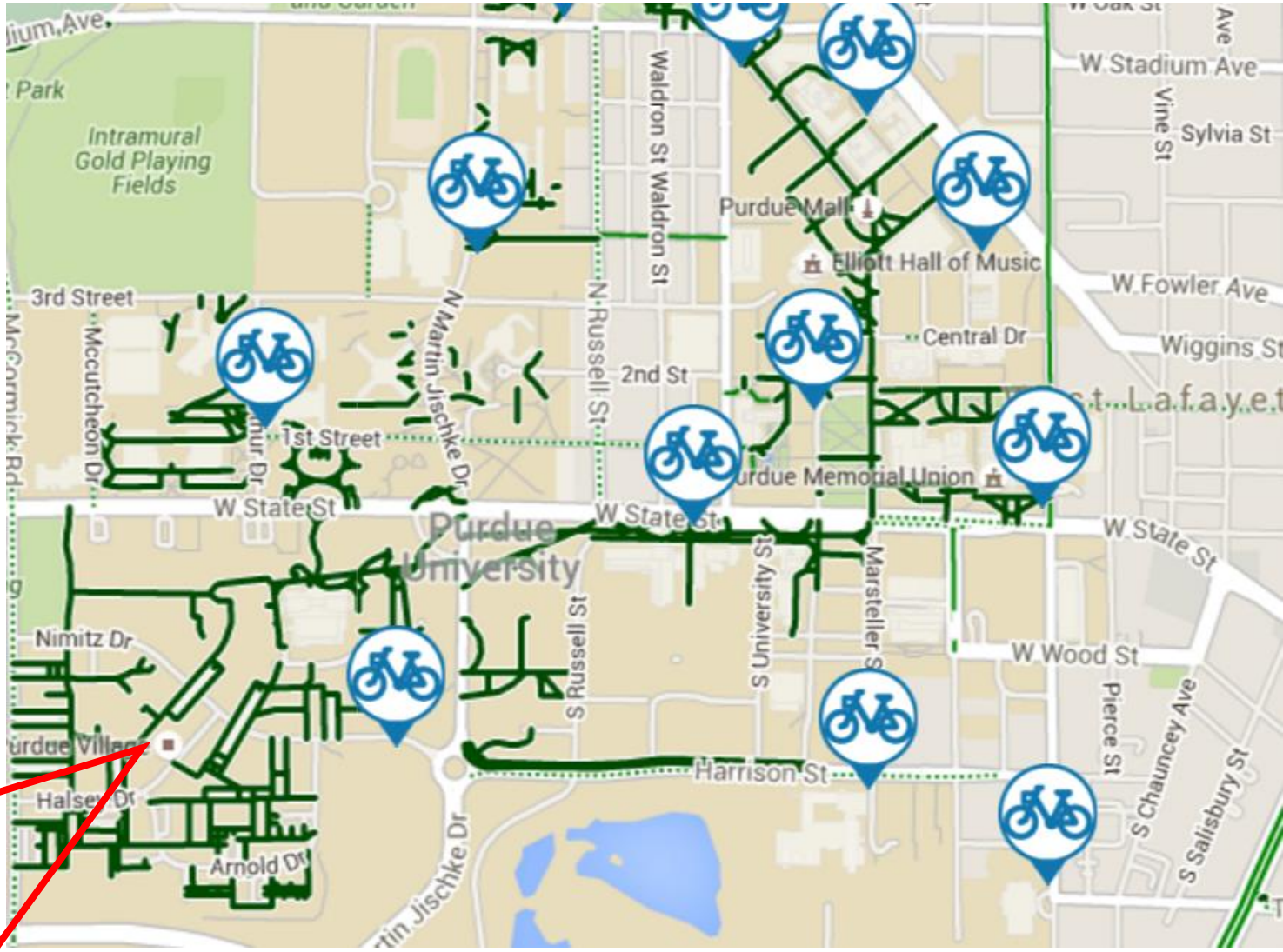
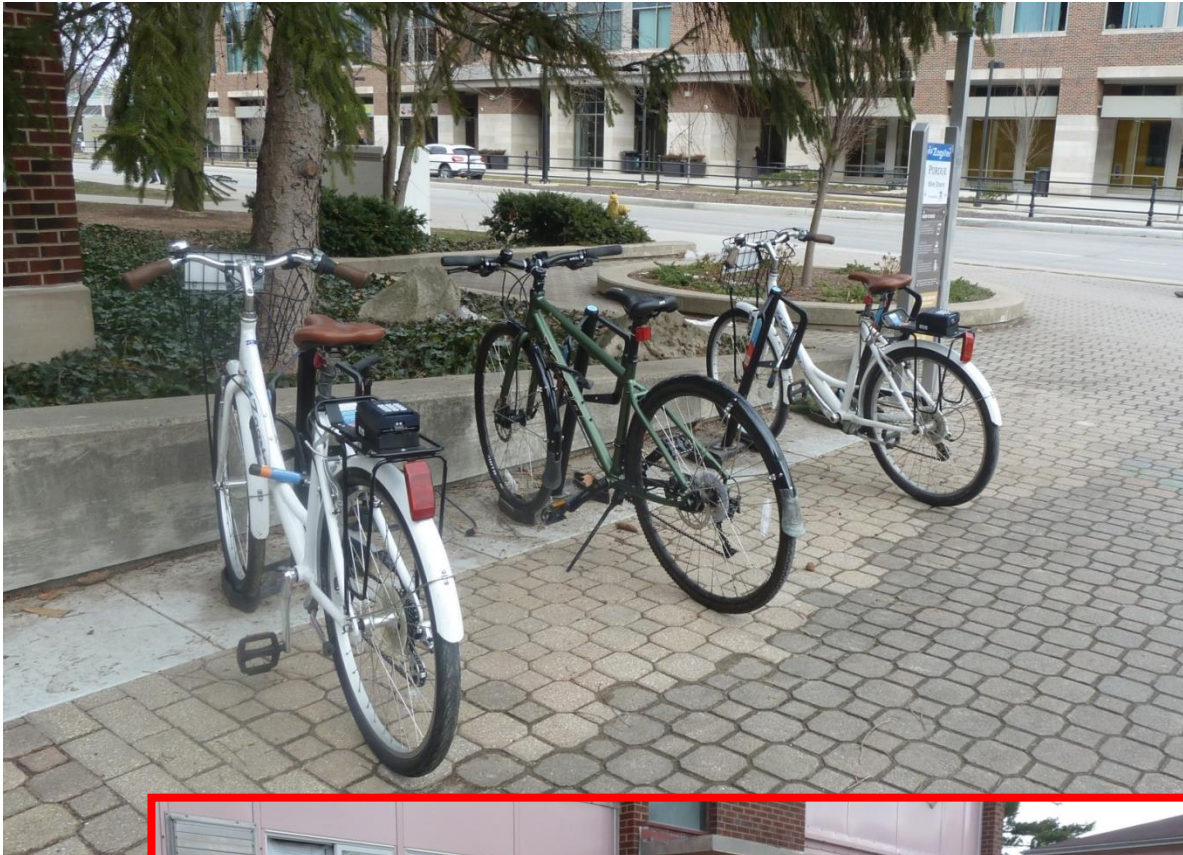


Cumulative Days Unused by Bike since Aug. 1

Bar only shown when bike is unused for at least 7 days



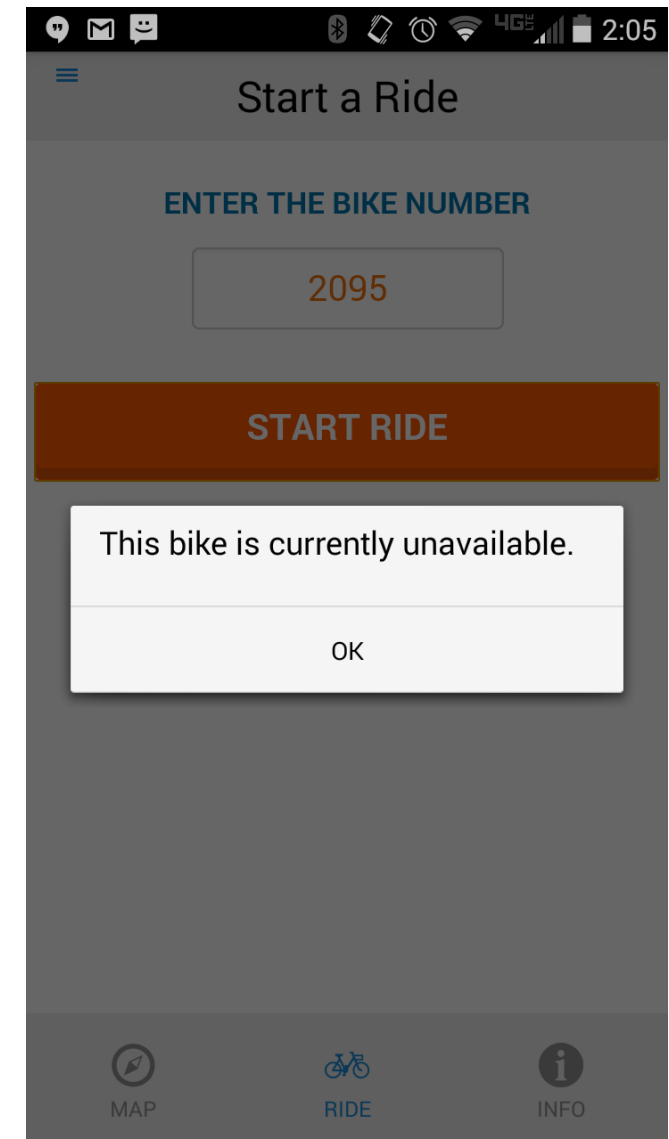
Challenges in Implementation



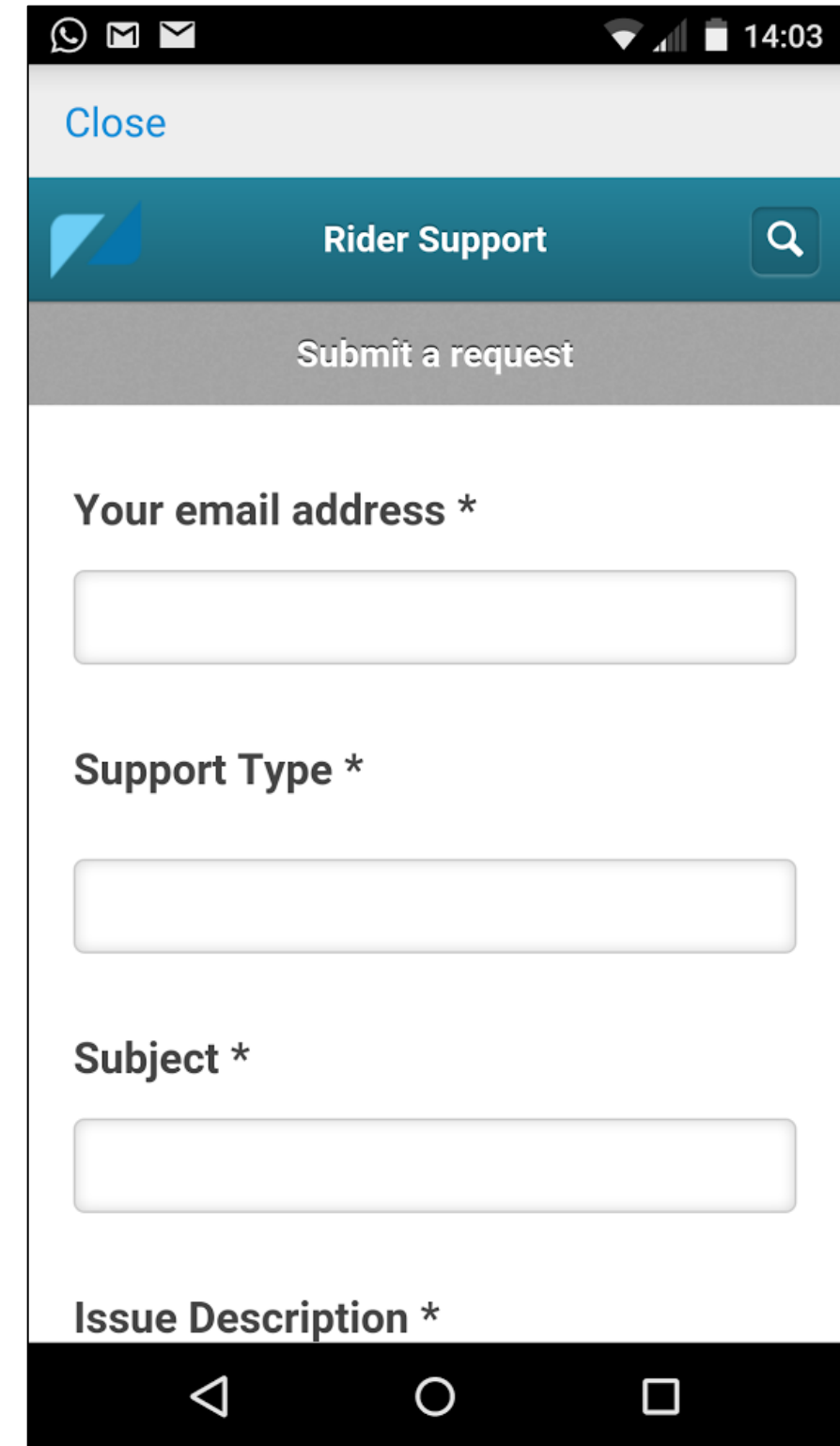
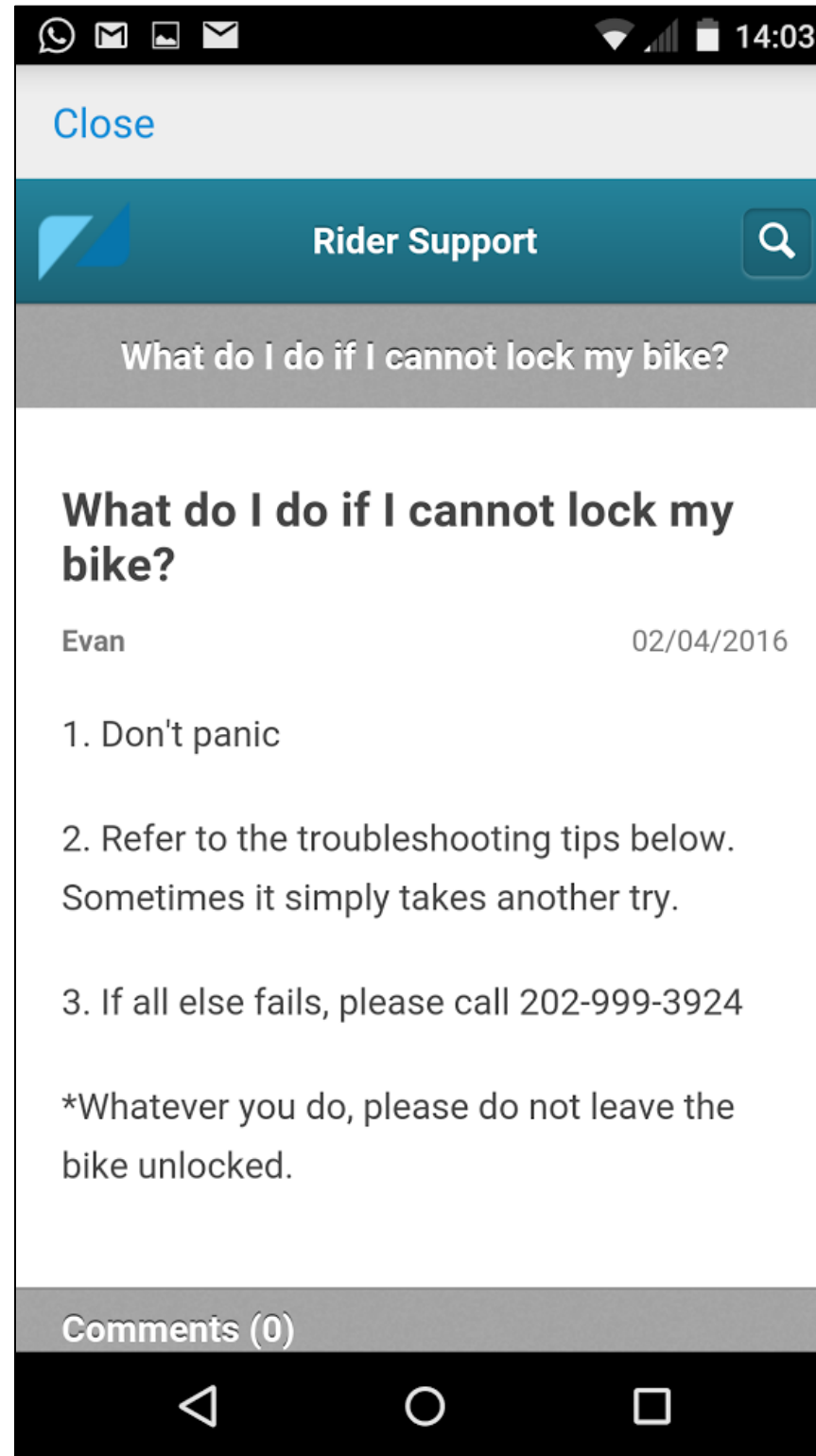
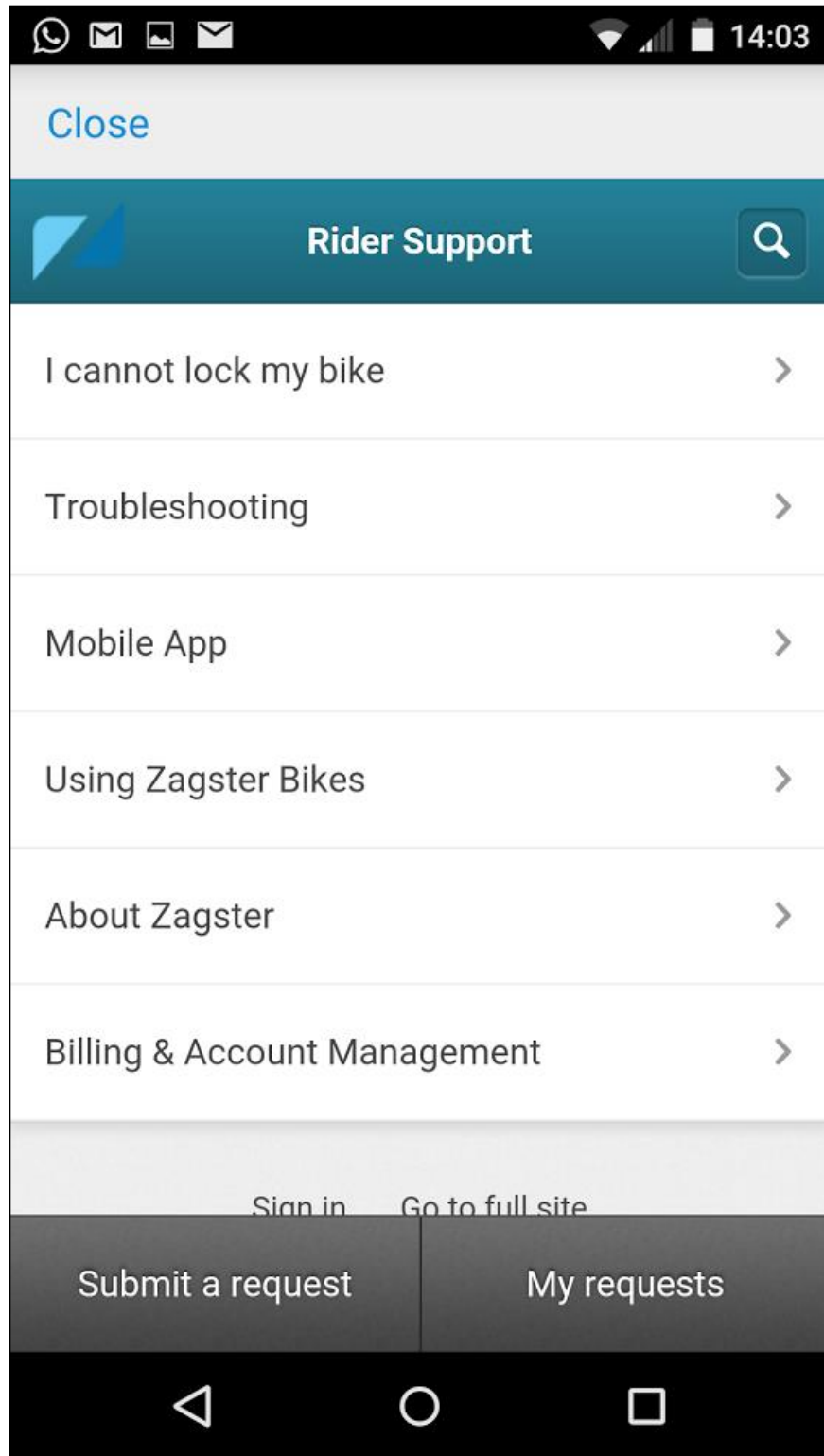
Challenges in Implementation



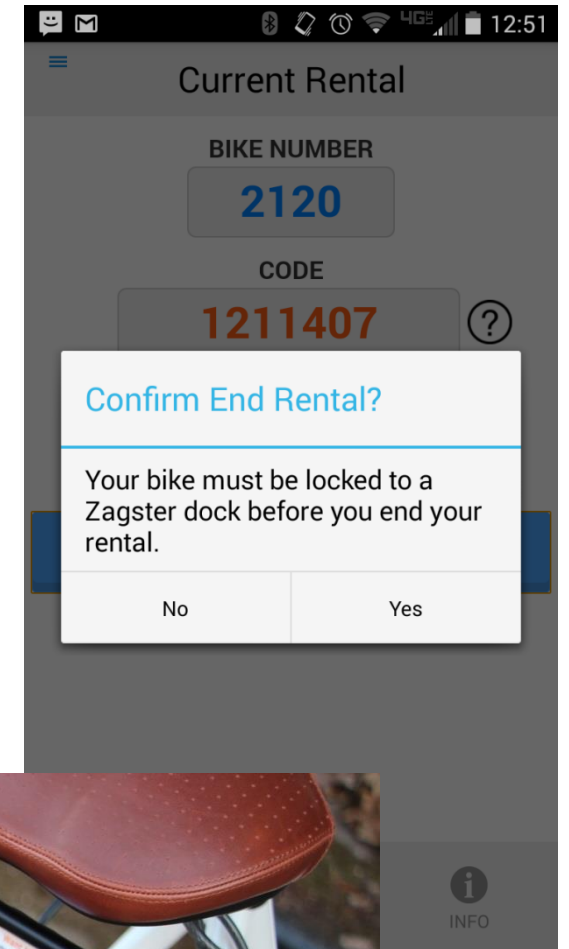
Lessons Learned - Maintenance



Lessons Learned - Support

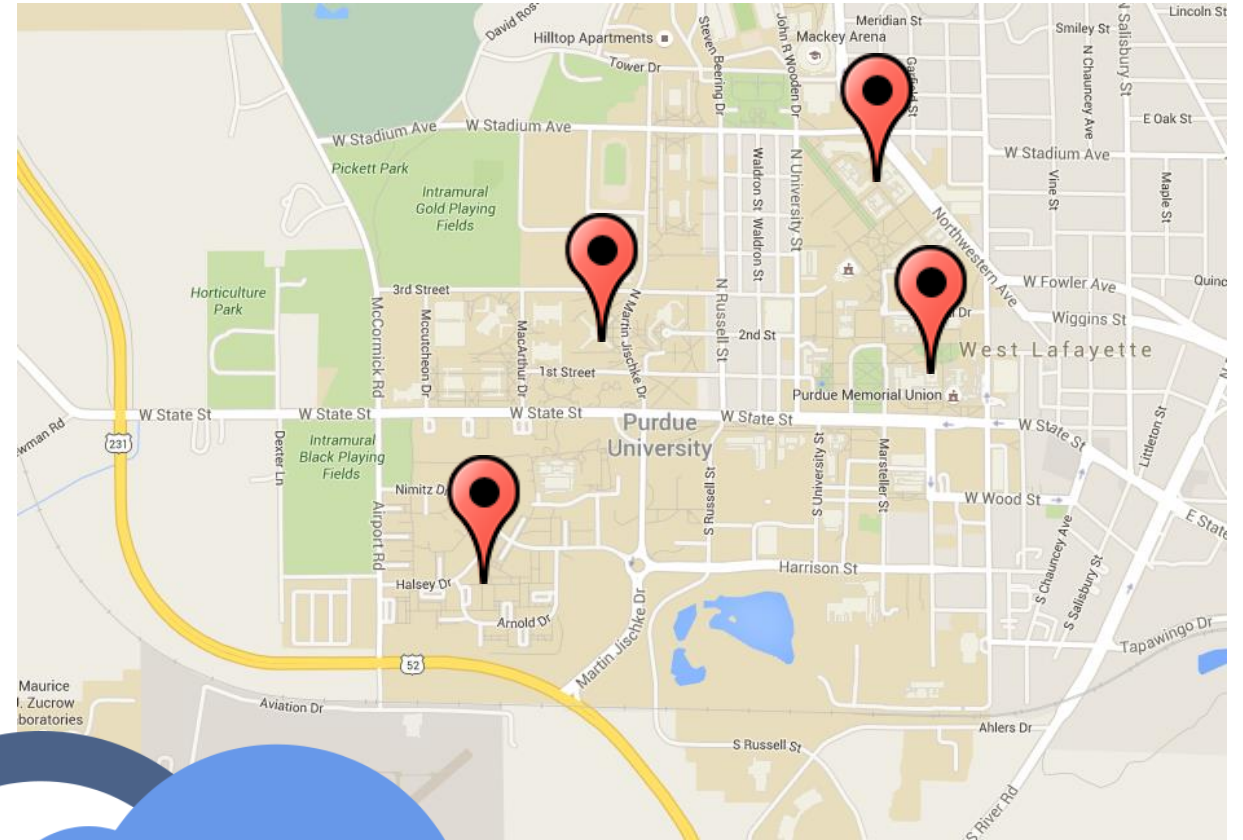


Lessons Learned – Geo Fencing



Future Research

- **GPS data**
 - Origin-destination study
 - Locate demand
 - Understand usage patterns
- **Weather integration**
 - Explain anomalies in usage
- **User feedback surveys**



Questions?



Zagster

PURDUE UNIVERSITY
Bike Share

PROUD PARTNER 

HOW TO RIDE

1. BORROW
Enter your bike's number into the Zagster app and tap START RIDE. You'll get a code to open the bike's lockbox. 

2. UNLOCK
Use the key from inside the lockbox to operate the U-lock that attaches the bike to its station. Make sure to close the lockbox before you ride. 

3. RIDE
Have fun and stay safe! Use the U-lock to keep the bike secure if you make stops along the way. Your lockbox code will continue to work during your ride. 

When you're finished riding, remember to seal the deal by locking your bike to a Zagster station and ending the ride on your Zagster app.

GRAB A BIKE AND GO!
ZAGSTER.COM/PURDUE

Need Help?
Call us at 202-999-3924
Also, text us the letters 'ZAG' to learn how to ride via text message.



Contact:
Jijo Mathew – kjijo@purdue.edu
Maggie McNamara – mcnamar0@purdue.edu