To MetroBike or Not?

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Python Data Analysis Project
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What is MetroBike?

A public bike share system in Austin, TX, USA.

Owned by the City of Austin, it is a CapMetro service, and operated by a local non-profit Bike Share of Austin.
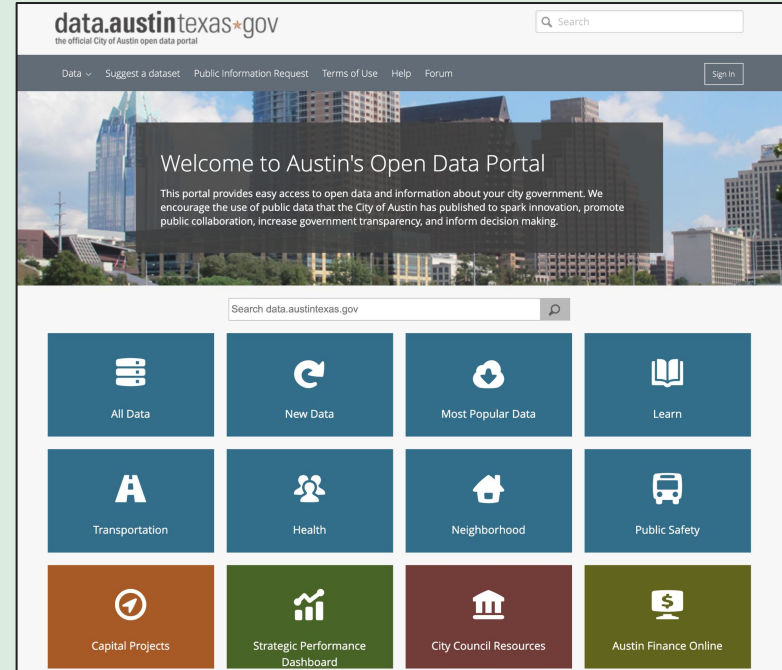

Bike Share of Austin's Mission
- Reduce traffic congestion and minimizing air pollution
- Supply affordable public access to bicycles in urban areas.

Datasets

Three datasets were downloaded from →

1) Austin MetroBike Trips
2) Austin MetroBike Kiosk Locations
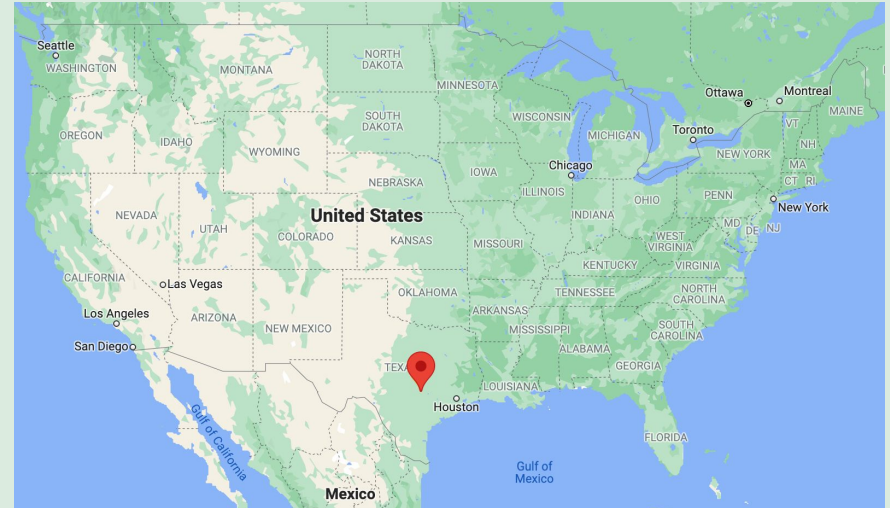3) Community Survey (1 question)

data.austintexas.gov

Austin, TX

Austin, TX is a city in the state of Texas in the USA.

➔ Located centrally in the state and is reported to have a population of ~978,908 people.

➔ It is described as a **CAR-CENTRIC CITY** with high levels of traffic congestion.

Google Maps

Austin Strategic Mobility Plan (ASMP)

■ The broad plan guides our transportation policies, programs, projects, and investments for the next 20+ years

■ City leaders hope to expand individual's transportation behavior to include different transport modes
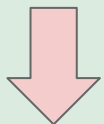
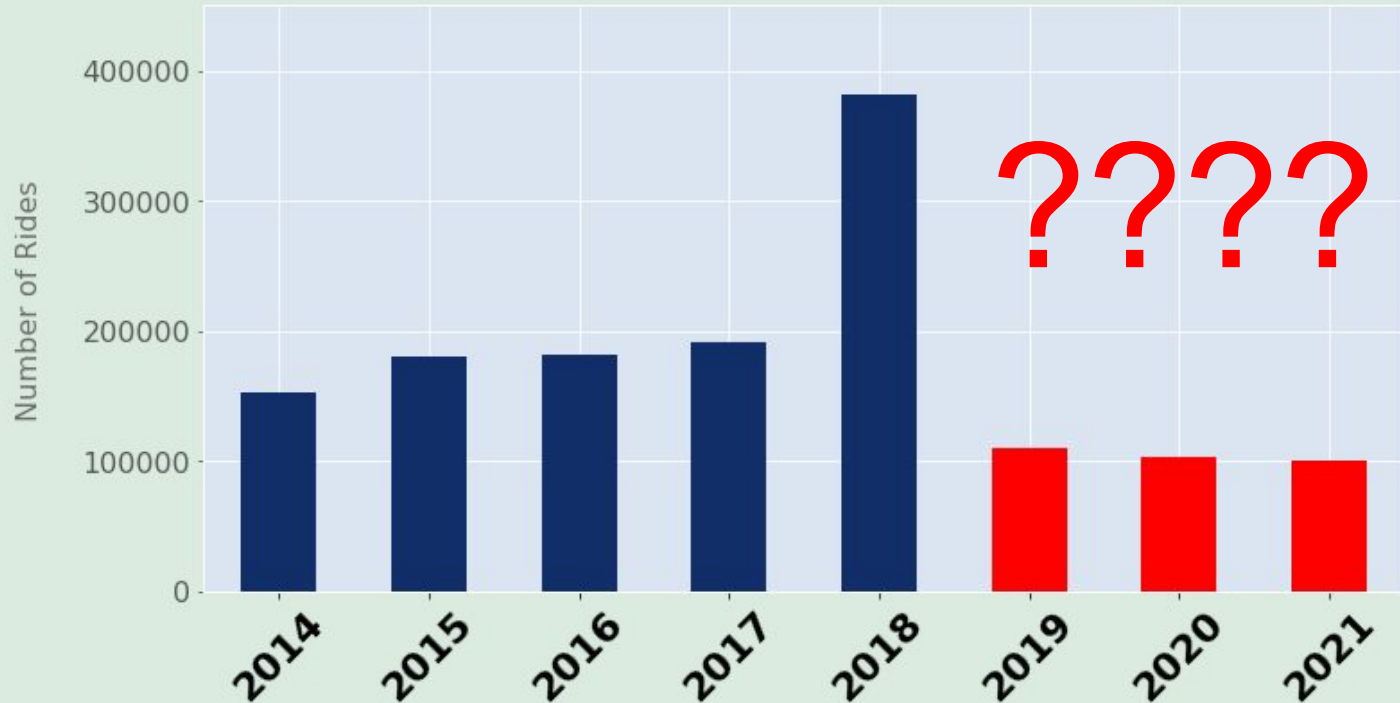**Commuters that drive to work alone from 74 to 50% (by 2039)**

Commuters that carpool, bike, use bus/rail, and/or walk

Community Survey (2019)

How satisfied are you with Transportation options (aside from personal vehicle) to get around Austin (e.g. rideshare, bus/train, bike, walk)?
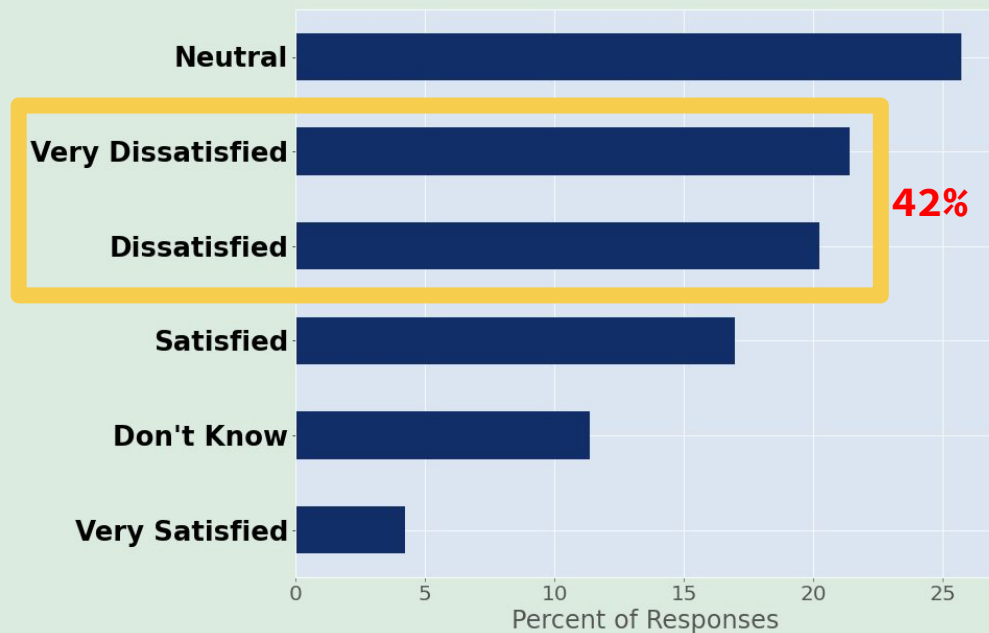
PURPOSE: Identify actionable steps to ↑ the number MetroBike rides.

Research Questions
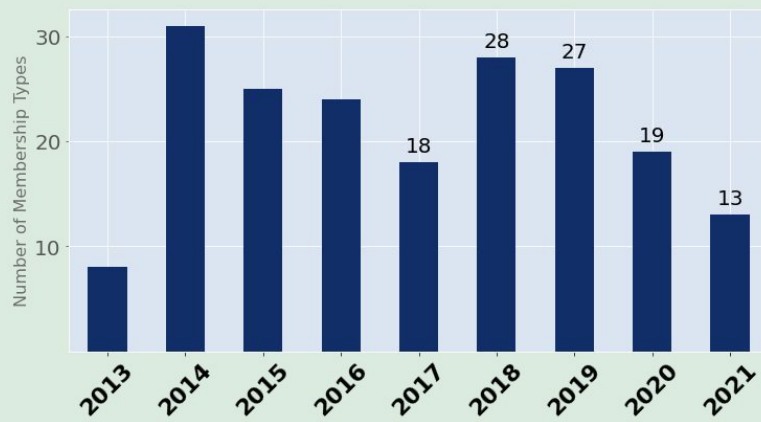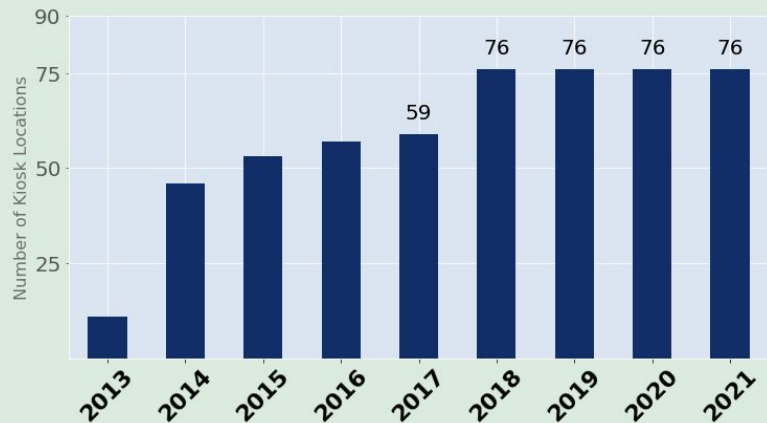
Q1: How did the following metrics change <u>over the years</u>?

- number of bikes
- number of kiosk locations ⟩ Infrastructure

- Top membership types
- Top kiosk locations ⟩ MetroBike User behavior
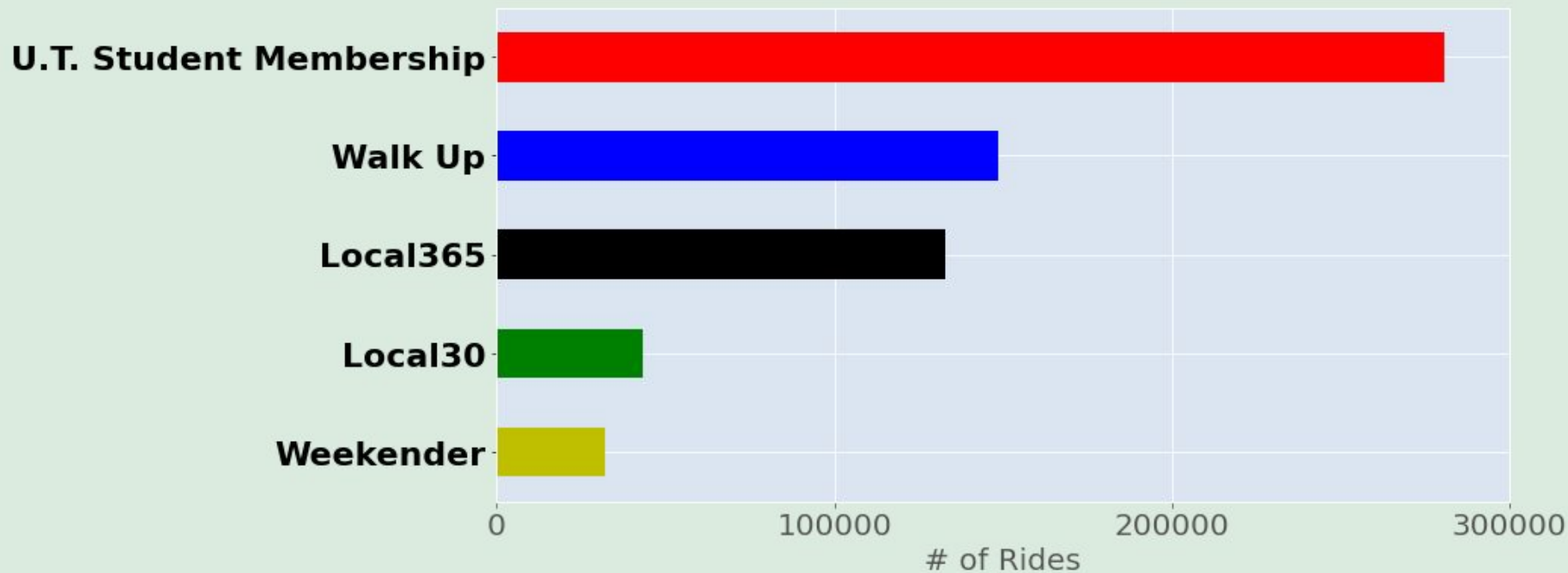
To inform <u>future</u> analyses

Q2: For any given year, how do number of rides change across the

- Months of the Year
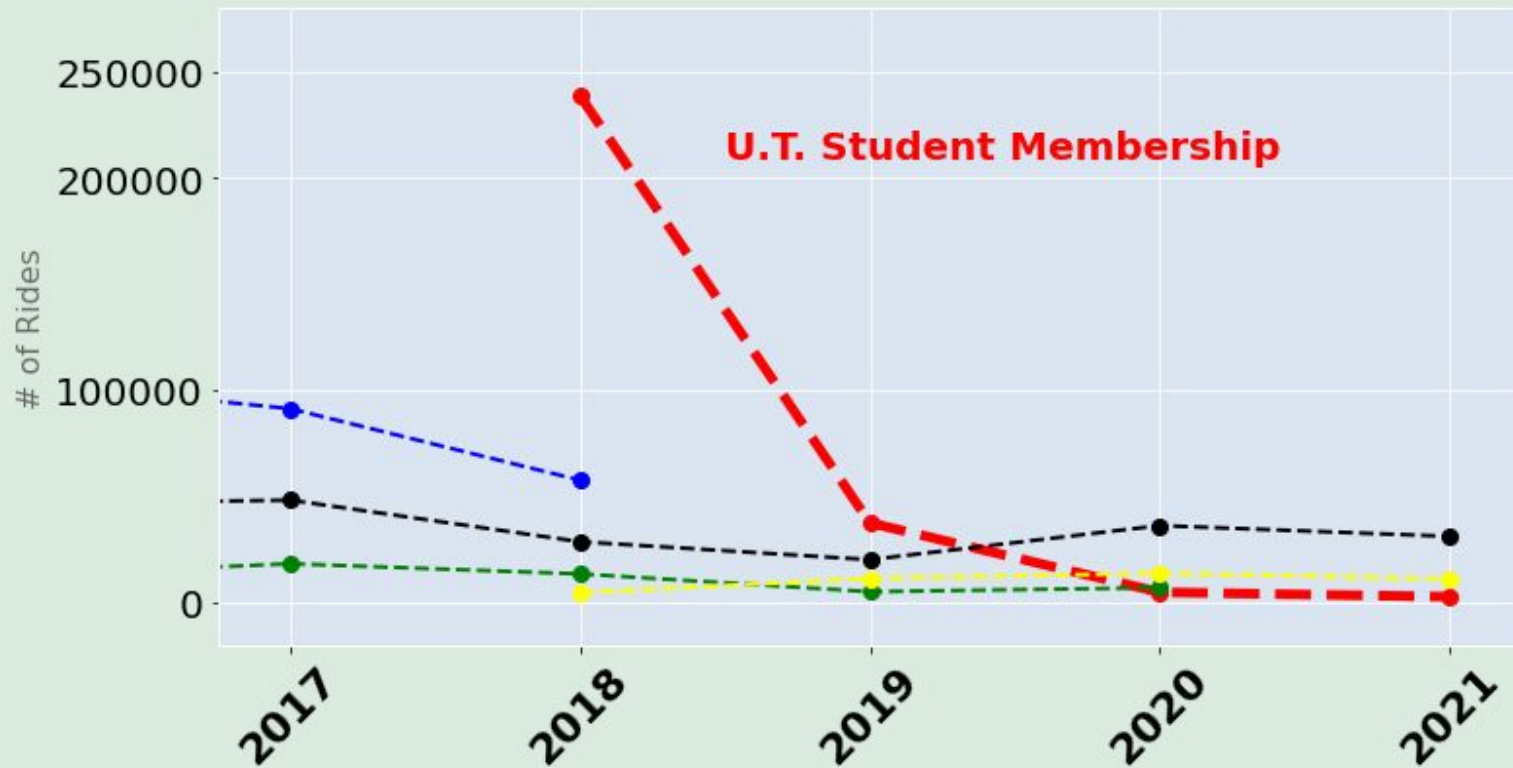- Days of the Week
- Hours in the Day
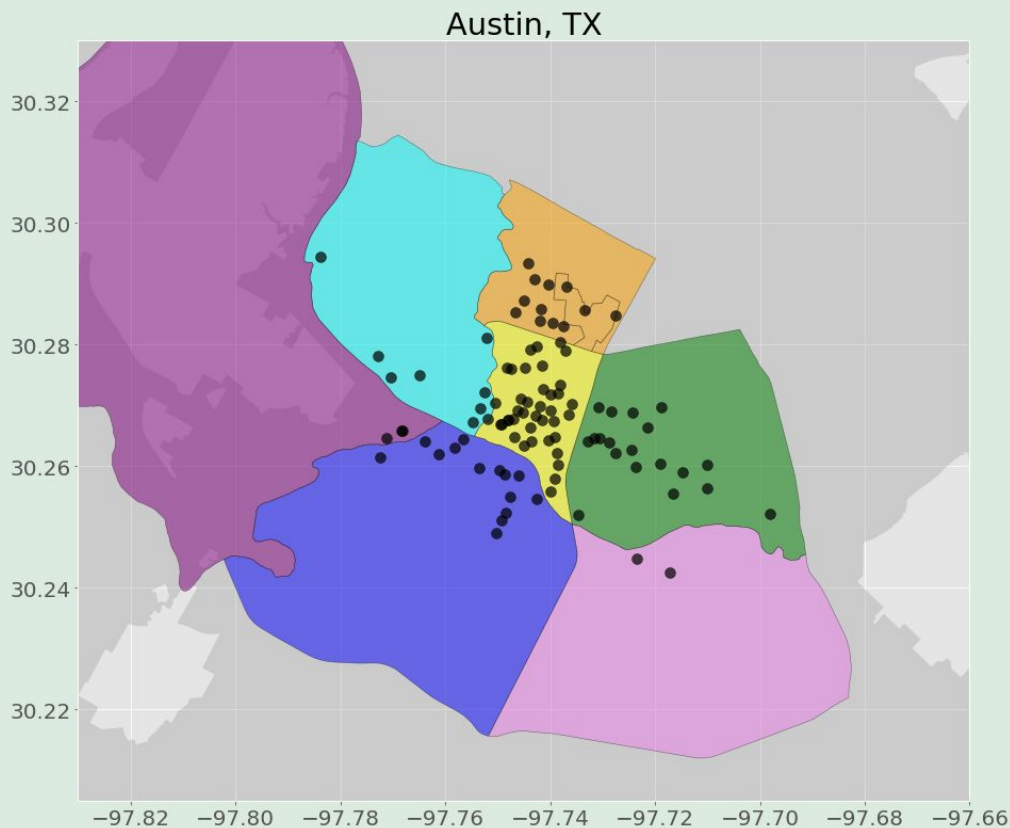
Infrastructure

Top 5 Membership Types

Data from 2017 through 2020.

Top Five Membership Types (Over the Years)

Infrastructure: Kiosk Locations

Austin, TX

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Top Kiosk Locations

Top 4
Rainey St @ Cummings
Riverside @ S. Lamar
2nd & Congress
Davis at Rainey Street

Rides in 2017

78705
78712
78704
78703
78702
78701
78746
78741

13
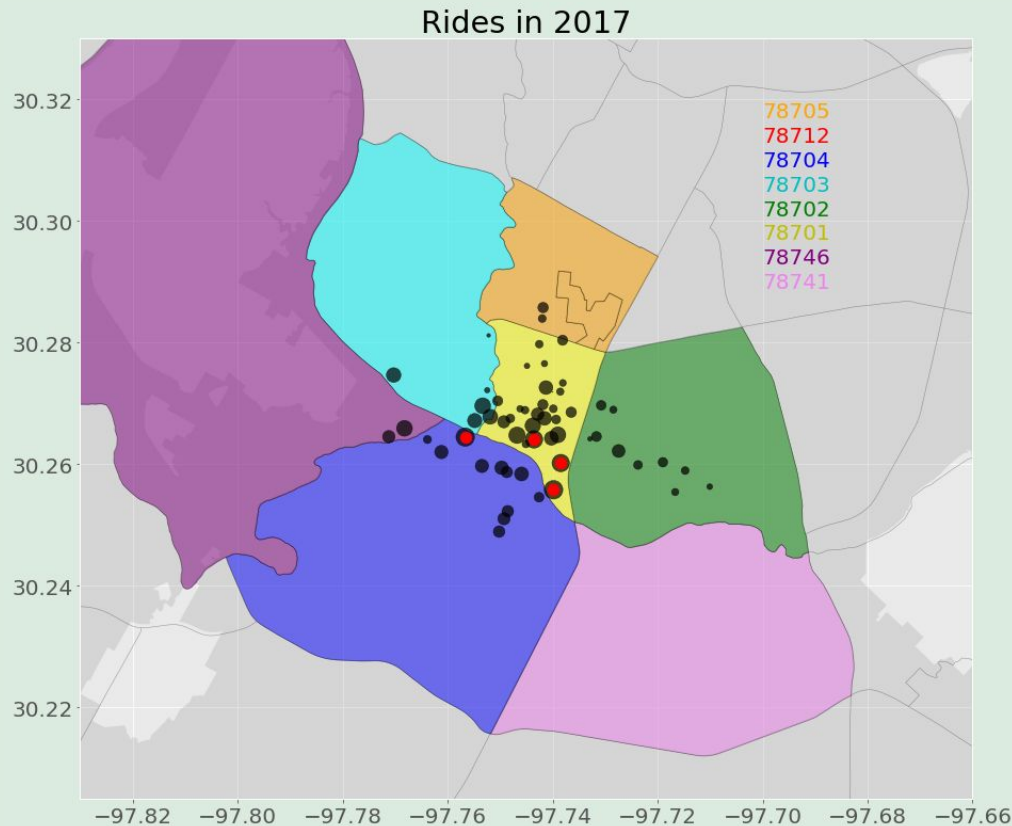
Kiosk Locations

Top 4
21st & Speedway @PCL
23rd & Rio Grande
22nd & Pearl
Dean Keeton & Speedway

Rides in 2018

78705
78712
78704
78703
78702
78701
78746
78741

14
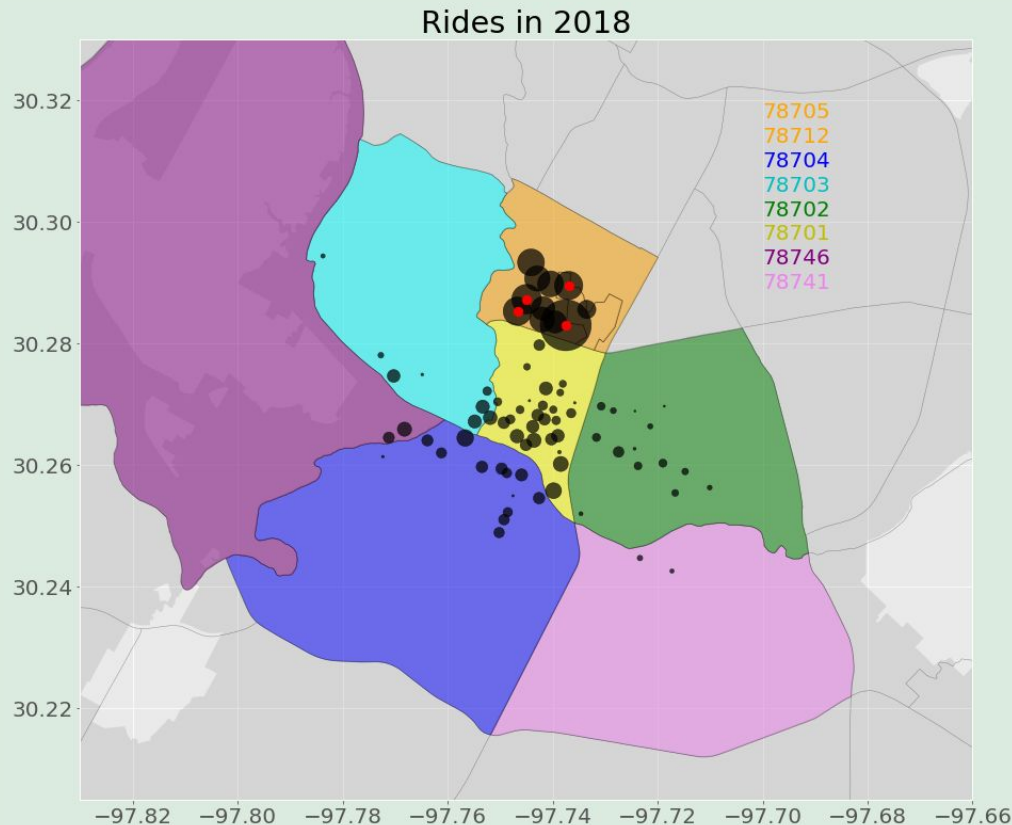
Kiosk Locations

Top 4
21st & Speedway @PCL
Dean Keeton & Speedway
Rio Grande & 28th
Riverside @ S. Lamar

Rides in 2019

78705
78712
78704
78703
78702
78701
78746
78741

15
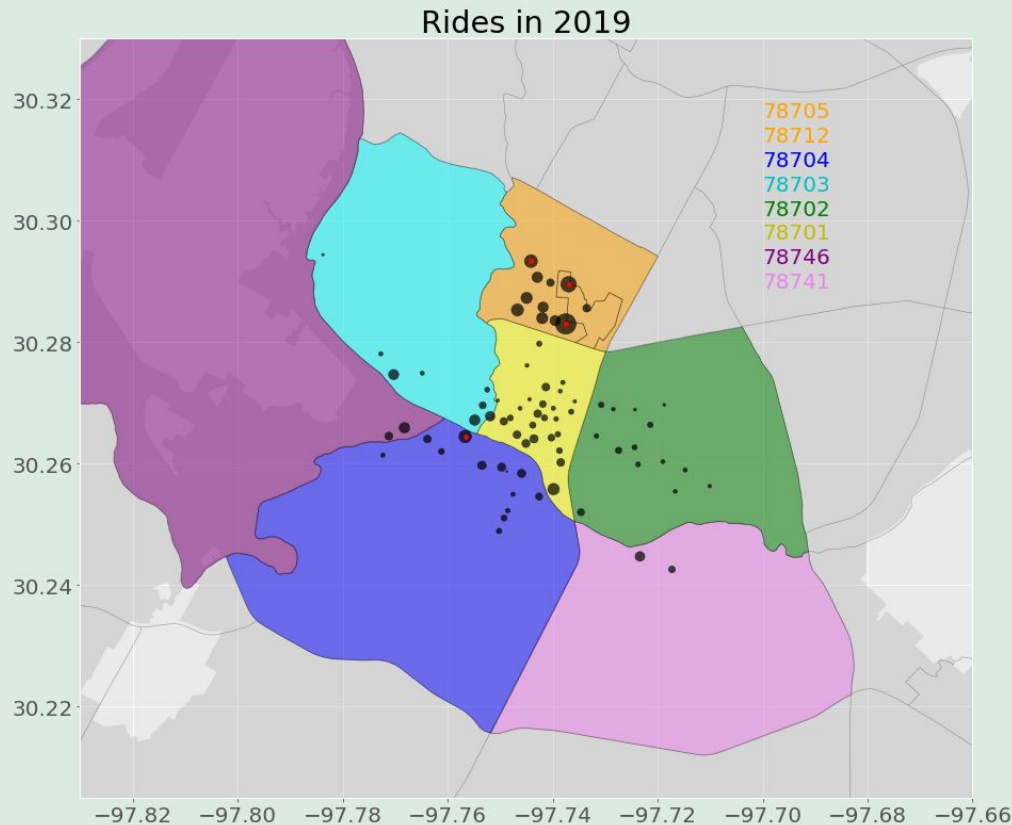
Kiosk Locations

Top 4
Riverside @ S. Lamar
Rainey St @ Cummings
Lakeshore @ Austin Hostel
Zilker Park

Rides in 2020

78705
78712
78704
78703
78702
78701
78746
78741

16
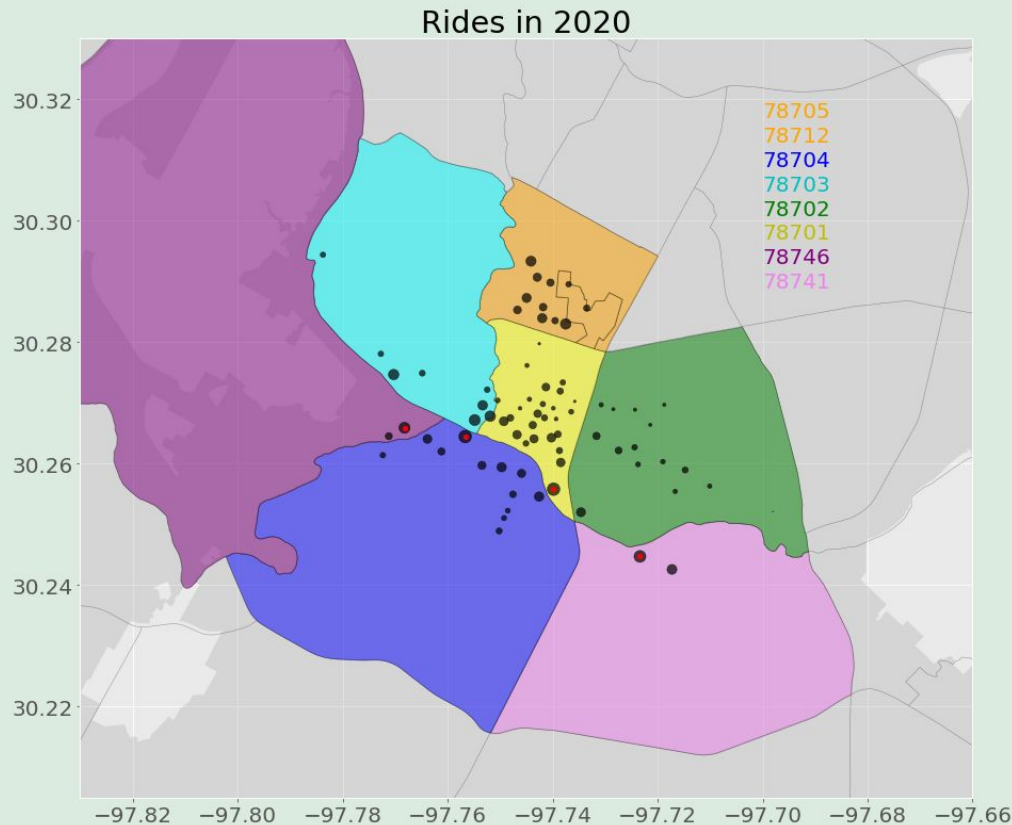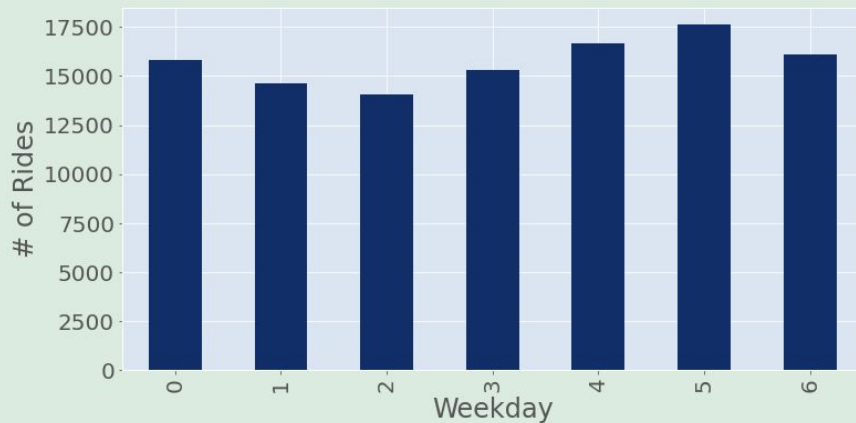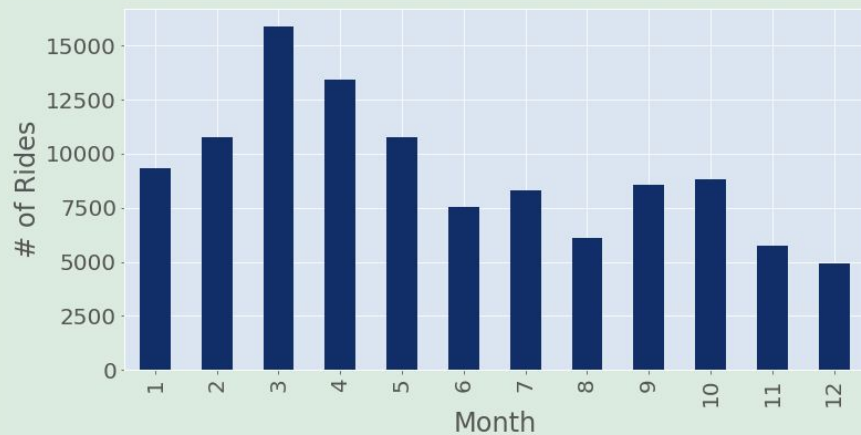
For 2019

For 2019

Future analyses

For 2019 (and other years), separate the data based

➔ Days of the week (e.g. Mon-Thu vs. Fri-Sat)
➔ Hours in the day (e.g. 6 AM-10 AM vs. 8 PM-12 AM)

Given a group of data (from above)

➔ Examine the top kiosk locations, the distance traveled between kiosk locations, and the travel directions from each kiosk.
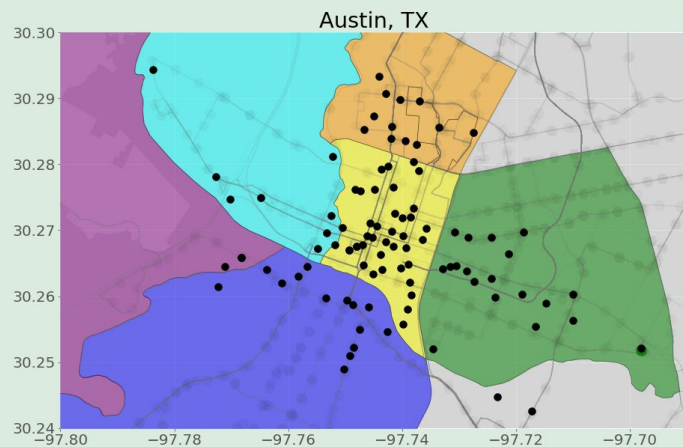
Recommendations

1. Introduce new Membership Type discounts

Consider short-term student discounts to minimize financial barriers and increase ridership during off-seasons.

2. Similarly, consider seasonal promotions to increase rides during the off-months (e.g. August, December)
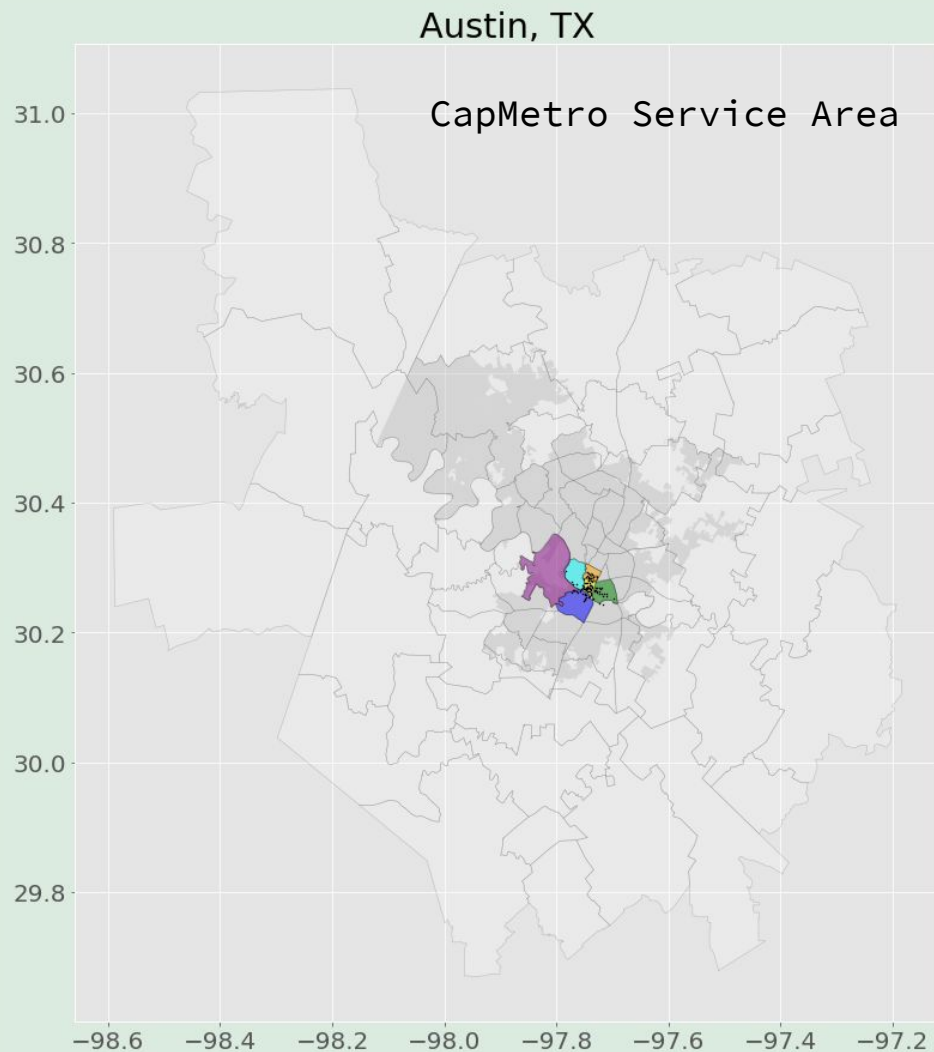

U.T. Student Membership
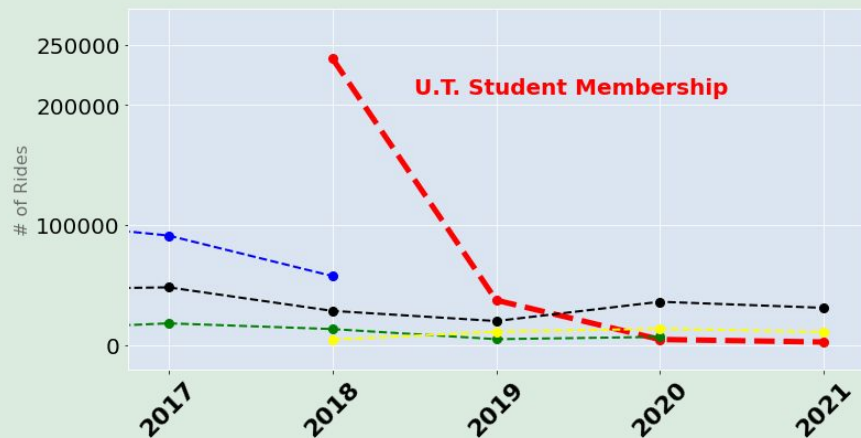
REcommendations

Austin, TX

3. Add kiosk locations
   beyond central Austin.

   Suggestion: North
   Campus (UT Students)

Austin, TX

CapMetro Service Area

Thank You!