



LINK TO FINAL TABLEAU PROJECT:

https://public.tableau.com/app/profile/john.k.hancock/viz/CAPSTONE_TABLEAU/Presentation?publish=yes

PROJECT PROPOSAL

Executive Summary

In 2021, New York's Citibike program started beta testing Electronic Bicycles ("E-bikes") in New York city. E-Bikes provide riders with assistance allowing riders to exert less energy. This may lead to increased ridership which will also have an impact on Citibike's membership program and casual users. I chose this topic because the data on ridership is widely available which allows me to focus more on the analysis and E-bikes interest me.

Business Case

New York city's Citibike's ridesharing program is a misnomer. Even though "Citi" is in its name, Citibank neither owns or operates the program. Motivate LLC (founded in 2010 as Alta Bicycle Share) operated the program in New York and other American cities, e.g. Chicago, Washington DC, Boston, and the Bay Area. In July 2018, Lyft, the car ride sharing company, purchased Motivate and allows it to run as a standalone business.¹

In 2020, Lyft has been beta testing ride sharing of electrical bikes, or E-bikes, which are bicycles with an integrated electric motor used to assist propulsion.² E-bikes enable riders to exert less energy when taking longer rides. In turn, this means that current long, non-E-bikes rides will take less time as riders switch to the E-bikes.

As the ridesharing system moves into the E-bikes era, Lyft wants to know how will E-bikes impact their current business situation. Currently, ridership consists of annual memberships (\$15 per month), a day pass (\$15 per day), and a single trip (\$3.50 for a single trip). Annual memberships allow for unlimited 45 minute rides on a bike. Day passes offer unlimited 30 minute rides per day, and the single trip offers only one 30 minute ride per day.

¹ Wikipedia. 2017. "Motivate (company)". Last modified June 24, 2021.
[https://en.wikipedia.org/wiki/Motivate_\(company\)](https://en.wikipedia.org/wiki/Motivate_(company))

² Wikipedia. 2021. "Electric bicycle". Last modified September 18, 2021.
https://en.wikipedia.org/wiki/Electric_bicycle

What is/are the business goals of this project?

The project will answer the following questions:

- a. For the past 6 months, what is the number of member and casual rides? Is there a pattern? A relationship?
- b. What is the average ride length? What is the distribution of ride lengths?
- c. Is there a relationship between ride lengths and membership?
- d. Based on usage, which stations have the most trips?

What data will be used to answer this question? Is the data capable of providing the information you are looking for?

Data is provided by Citibike by Lyft, website: <https://ride.citibikenyc.com/system-data>

The following fields are provided.

- Ride ID
- Rideable type
- Started at
- Ended at
- Start station name
- Start station ID
- End station name
- End station ID
- Start latitude
- Start longitude
- End latitude
- End Longitude
- Member or casual ride

I will use data for the past 6 months of ridership.

Who is the audience of this visualization (to whom are these findings ultimately being presented)?

The primary stakeholder is the team at Lyft responsible for managing the rollout of the E-bikes across their systems. Other stakeholders include the city of New York, in particular its Department of Transportation and members of Citibike.

How will your findings ultimately be displayed? Please list any special requirements of the user.

The visualization will be presented to Lyft stakeholders over a Zoom conference call. It will be done in a story point format.

PERSONA



Matthew Parker, CEO, Motivate LLC
Male, Age 54

Goals:

- Increase annual memberships to Citibike
- Roll out E-bikes
- Use E-bikes as an inducement for memberships

Challenges:

- Need an understanding of current membership
- Limited time to review visualizations
- Will be online for Zoom call presentation

Design Choices

My presentation to the board of Citibike was to highlight the differences between casual and member riders. Citibike is planning to roll out EBikes and understanding how their users will give them an idea as to how to market the EBikes to increase memberships.

Three specific design choices that I made are:

1. Color choices, green and yellow, to distinguish between casual and member riders. The contrast highlights the differences between usage patterns for each type of rider.
2. Interactivity which includes tool tip information about starting stations, popular routes, and the switching between casual and member allows the user to get a full understanding as to how each type of user uses Citibikes.
3. Use of KPIs for the longitude and latitude points for key geographic differences between the casual and member riders.