Project Proposal – Citi Bike: A Visual Analysis of New York City's Bike Share Program
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Background

Bicycle sharing was first proposed by the New York City Department of City Planning in a report published in the Spring of 2009, *Bike-Share Opportunities in New York City.* The report stated that, "As a transportation system, bike-shares are ideally designed for densely populated cities like New York. Distances between many major destinations are small and almost 50% of New York's workforce lives within a reasonable bicycling distance (less than 5 miles) of their place of work."[1]

After studying several successful Bike-Share programs in other large metropolitan areas to determine what form the system should take, and after some unexpected delays due to, among other factors, Hurricane Sandy in 2012, the Citi Bike program began service in May of 2013 as a public / private venture comprised of 6,000 bicycles and 332 stations located in Manhattan and Brooklyn. The program has proven enormously popular and successful in the eight years since its initial deployment. By 2020, the service had expanded to the Bronx and Queens, with the total number of bicycles set to exceed 40,000.[2]

Project Proposal

Since its introduction, Citi Bike has maintained detailed records of every trip using the service, including date and time, rental and drop-off location, trip duration and demographic information in the case of subscribers.[3] In addition to this extensive dataset, Monthly Operating

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[1] *Bike-Share Opportunities in New York City*, p.5 (https://www1.nyc.gov/assets/planning/download/pdf/plans/transportation/bike_share_complete.pdf)
[2] "Lyft Bets Big on Bikes in NYC, and Uber Is None Too Happy," *Wired.com* (https://www.wired.com/story/lyft-bets-bikes-nyc/)
[3] *Citi Bike System Data* (https://ride.citibikenyc.com/system-data)

Reports are released to the public containing information regarding membership numbers, financial information, maintenance operations, incidence of theft and vandalism, etc.[4]

I propose to use this available information to develop a visual analysis of the day-to-day workings of the Citi Bike system to reveal patterns in the data that may answer such questions as: Where and when is the program used most? What effects does it have on other forms of transportation? What is the correlation, if any, between the growth of the program and bicycling accident statistics? Examination of the data may bring into focus additional questions unforeseen at this point. At some point, I may augment my main datasets with other sources, such as the following: *NYC Bicycle Safety Overview: Infrastructure & Crash Stats*[5], Safer *Cycling: Bicycle Ridership and Safety in New York City*[6], among others.

[4] *Citi Bike Monthly Operating Reports* (https://ride.citibikenyc.com/system-data/operating-reports)
[5] https://www.peoplepoweredmovement.org/nyc-bicycle-safety-overview-infrastructure-crash-stats/
[6] https://www1.nyc.gov/html/dot/downloads/pdf/bike-safety-study-execsummary2017.pdf