A New Hint To Transportation-Analysis Of the NYC Bike Share System

INTRODUCTION:

The goal of this analysis is to create an operating report of Citi Bike. The Citi Bike deployment changes the landscape of urban mobility in New York City and provides an example of a scalable solution that many other large cities are already adopting around the world. Urban stakeholders who are considering a similar deployment would largely benefit from a quantitative assessment of the impact of bike sharing on urban transportation, as well as associated economic, social and environmental implications. While the Citi Bike usage data is publicly available, the main challenge of such an assessment is to provide an adequate baseline scenario of what would have happened in the city without the Citi Bike system. Existing efforts, including the reports of Citi Bike itself, largely imply arbitrary and often unrealistic assumptions about the alternative transportation mode people would have used otherwise (e.g. by comparing bike trips against driving).

LITERATURE REVIEW:

The trip data files contain one record for each ride, around two million records per month, depending on the season. It's a traditional bike share system with fixed stations where a user picks up a bike at one

dock, using a key fob or a code, and returns it at another. The station and time when the ride started and stopped is recorded for each ride.

Some limited information about the rider is also recorded: their gender and year of birth. Citi Bike also distinguishes between what they call Subscribers who buy an annual pass (current cost is $179 for unlimited rides up to 45 minutes) and Customers who buy a day pass ($15 for unlimited 30 minute rides) or a single ride pass ($3).

For each user type there are overage fees for longer rides. For Customers it's $4 per 15 minutes; for Subscribers it's $0.15 per minute. These fees seem to be designed to discourage longer rides, more so than to increase revenue.

The Citi Bike System Data page describes the information provided. The specific information for each ride is:

- Trip Duration (seconds)
- Start Time and Date
- Stop Time and Date
- Start Station Name
- End Station Name
- Station IDStation Lat/Long
- Bike ID

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