BIKE SHARE RIDERSHIP PROJECT

ABSTRACT

As a relief to the current automobile centric transportation systems, many cities around the globe currently operate bike sharing system. Currently, almost every large city in the United States has bikeshare. This study quantifies the factors affecting bike share ridership in the US. In particular, the study investigates the effect of demographic and employment characteristics near bike share stations on bike share ridership in three US cities. A statistical analysis is done to study how station-level bike sharing ridership correlates with a number of factors such as population density; retail job density; bike, walk, and transit commuters; median income; education level; presence of bikeways and proximity to a network of other bike sharing stations. The regression model so developed can be used to predict potential levels of ridership and identify station locations that will serve the greatest number of riders.

INTRODUCTION

A public bike-share system is a service in which bicycles are provided for a short-term access for a price. It allows the users to borrow bikes from a station and return it to any other station in the city after the ride. Bike-share began in Europe in 1965 and it is one of the fastest way to move around with least concern about parking space. The concept of bike-sharing is prevalently increasing in the United States nowadays. A recent report 119 US cities with bike-share systems together have about 4800 stations [1].

This study investigates the effects of demographic, environment, and employment on bike share ridership at stations in three operational systems: BCycle in Boulder, Colorado; Bike Chattanooga in Chattanooga, Tennessee; and CoGo Bike Share in Columbus, Ohio. Considering

PREVIOUS BIKE SHARE RIDERSHIP STUDIES

A number of studies have attempted to develop tools to forecast bike share ridership and identify appropriate service locations. These studies demonstrate a correlation between demographic and built environment variables on bike share ridership.

DATA

Dependent variable(2017 data) - Average monthly rentals/station

Independent variables (source ACS 5yr estimate 2015) – population density; number of households; retail job density; bike, walk, and transit commuters; median income; education level (proportion of population over 25yrs with bachelor’s degree); presence of bikeways and proximity to a network of other bike sharing stations

METHEDOLOGY

MODEL

LIMITATION

REFERENCES

1. Malouff, D. All 119 US bikeshare systems, ranked by size.In, 2017.