LITERATURE SURVEY

LITERATURE SURVEY-1:

Ines et al.,Science Direct-Social and Behavioral Sciences 111 (2014) 518 – 527 " Bicycle sharing systems demand"

This paper sets out a method for estimating the bike-sharing demand and it allows to geo-reference the demand, considering the characteristics of the city and of the trips.

Merits:

It can be adapted to other towns and cities according its characteristics.

The method is useful in the full design ie. location of bike-sharing stations and in the dimension of the fleet, as well as in the scheduling of the investments.

Demerits:

It did not consider other socio-economic characteristics, such as population density, non-institutionalized group quarter population density.

LITERATURE SURVEY-2:

Elias et al.,ScienceDirect Journal of Transport Geography 91 (2021) 102971"What do trip data reveal about bike-sharing system users? "

It used data from the Helsinki BSS from 2017 (~1.5 million trips) as a case to study the potential of trip data for future BSS studies.

Merits:

Based on this paper results, trip databases are well established to support spatio-temporal analyses on where and when trips are being taken in general and how the demand varies at the stations.

It can help to uncover nuanced cycling patterns or even general mobility flows in urban areas without compromising user's privacy.

Demerits:

It focuses only on urban areas. But it does not consider the rural areas for bike sharing system.

LITERATURE SURVEY-3:

FRANCESCO et al.,IEEE Access 2020"Bike Sharing and Urban Mobility in a Post-Pandemic"

They presented an analysis of the bike sharing data during the month of March 2020, observing the changes in New Yorkers' mobility patterns in response to the pandemic and the countermeasures against it

Merits:

Their analysis of mobility patterns provides evidence that bike sharing, and cycling in general, can provide a flexible and eco-friendly mode of transportation for shorter trips

Demerits:

They did not mention that the data sources could be combined with POI data for better clustering the station category and understanding the spatial variation of bikeshare ridership.

LITERATURE SURVEY-4:

"A long-term perspective on the COVID-19: The bike sharing system resilience under the epidemic environment"Journal of Transport & Health ,2021

This study applied a series of statistical techniques including spatial-temporal approach, complex network-motivated methodology and cyclist behavior analysis to capture the influence of the COVID-19 pandemic on bike sharing mobility patterns.

Merits:

It has illustrated the importance of a bike sharing system on people's daily life during the outbreak.

Results reveal that a bike sharing system could potentially reduce the load on the urban transport network and improve the resilience of the transportation systems.

Demerits:

It did not do the work that the clearer picture of the role of a bike sharing program in these emergency situations can be refined and confirmed as more relevant studies are conducted in other cities with bike sharing systems.

LITERATURE SURVEY-5:

Nguyen Thi Hoai Thu, Chu Thi Phuong Dung, Vietnam 2017 International Conference on Advanced Technologies for Communications - Multi-source Data Analysis for Bike Sharing Systems

They developed a multi-source data analysis approach for addressing the rebalancing problem of BSSs by using BSS historical trip records, meteorological data and taxi usage data.

Merits:

The exploration of multiple sources of data affecting BSSs is highly beneficial to improving bike demand prediction accuracy

Use of ANN provides better performance.

Demerits:

It did not make use of the housing and demographic data for station clustering algorithm, bus data, and subway data to predict the bike demand and to expand the system.

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