IJMRSETM

e-ISSN: 2395 - 7639

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

Volume 10, Issue 5, May 2023

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.580

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

| ISSN: 2395-7639 | www.ijmrsetm.com | Impact Factor: 7.580| A Monthly Double-Blind Peer Reviewed Journal |

| Volume 10, Issue 5, May 2023 |

A Study on Urbanization and its Impact on Bicycle with Special Reference to Cycle World Bangalore

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ABSTRACT: Planners require reliable techniques to evaluate the built environment in order to improve cycling shares through urban planning and development. This article outlines a process for determining bike ability, or how feasible and enjoyable it is to bike in or through a specific region. Four kinds of built environment traits that influence bike ability are evaluated holistically. Iteratively, secondary data and registrations from maps, aerial images, and fieldwork are combined to create an assessment. The methodology can be used for a variety of urban environments and purposes and doesn't call for particular instruments. Two instances are given to illustrate potential applications: evaluating current built environments to create a knowledge basis for creating short- and long-term cycling plans and strategies; and evaluating anticipated urban transitions.

I.INDRODUCTION

The purpose of the study is to investigate how urbanisation has affected bicycle use in relation to the bicycle industry, notably in Bangalore. Sustainable ways of transport are required since urbanisation has increased traffic congestion and pollution. The usage of bicycles in urban areas has increased as a result of the fact that they provide an economical and environmentally beneficial solution to this issue. The study will offer details on the expansion of Bangalore's bicycle industry, the different kinds of bicycles that are offered, and the variables affecting the use of bicycles as a form of transportation in the city. Policymakers, urban planners, and the cycle industry will find the study's conclusions useful in comprehending the

II.STATEMENT OF PROBLEM

Despite the potential benefits of bicycles as a sustainable mode of transportation in urban areas, there is limited research on the impacts of urbanization on bicycle use.
Urbanization has led to increased traffic, pollution, and sedentary lifestyles, making it important to identify sustainable transportation options such as bicycles.
Lack of dedicated cycling infrastructure and storage facilities in urban areas can discourage people from using bicycles for transportation.

III.OBJECTIVES OF THE STUDY

- To examine the impact of urbanization on the level of cycling infrastructure and its impact on the number of cyclists.
- To investigate the role of the government in promoting cycling in cities and its impact on urbanization.

IV. SCOPE OF THE STUDY

❖ Examining the impact of urbanization on bicycle sales and production in the cycle industry.
❖ Investigating the health and environmental benefits of bicycle use in urban areas.

V.LIMITATIONS OF THE STUDY

- The study relies on self-reported data from surveys and interviews, which may be subject to response bias.
- The study may be limited by the availability and quality of secondary data sources on the cycle industry and bicycle use in Bangalore.

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- The study may not be able to capture the full complexity of cultural attitudes and social norms around cycling in Bangalore.

VI. LITERATURE REVIEW

Jia Shunping, Peng Hongqin (2018) Bicycles create obvious impact on motor vehicles' behaviour on urban road especially in China with mixed traffic. These influences can be divided into two states: friction and block interference. Based on the data of interference of bicycles on vehicles' driving in typical road section in Beijing, this paper quantitatively analyses the velocity changing tendency of vehicles under different interference, velocity distribution frequency, and critical transformation of different interference state. The friction and block interference coefficients are also worked out, which are useful to compare interference degrees under different road conditions. As a result, the research based on sample data shows that the velocity distribution of vehicles has different characteristics under different interference state, and vehicles driving velocities are significantly different under the friction interference and block interference.

Dr Graeme Lindsay (2010) Nonmotorized transport modes such as bicycling are becoming important components to urban transportation systems in the United States, in particular with the recent emphases on sustainable urban development. Recent bicycle forecasting methods have included urban design elements to help explain bicycle behaviour but most measures lack accountability of microscale-built form attributes that address bicyclist perception. This study developed a discrete choice model to examine the impact of urban morphological factors on people's utilitarian bicycle mode choice decisions. In the model, traditional factors considered include personal, household, and environmental variables. Urban morphology variables from space syntax were also incorporated in the model to test for the marginal influence of microscale design and space characteristics in the decision to bicycle. Results indicate that microscale-built form factors that enhance visibility and contain well connected street networks significantly affected bicycle mode choice decisions at the trip origin. The finding that built form variables by and large influence the probability that someone will commute via bicycle suggests that policies and planning efforts aimed at increasing bicycle mode share should include human-scaled built form metrics that address urban space and cognition.

VII.RESEARCH METHODOLOGY

7.1 Descriptiveresearchdesign

A way for methodically diving the exploration problem is called exploration methodology. It might be seen as an examination of scientific exploration ways. Team exploration is the regular process of outlining the problem, formulating a thesis, collecting the data, assessing it, and coming to conclusion.
There in the form of answers to the immediate problem or broad conceptions for a theoretical expression. Research is constantly defined as the process of seeking information via scientific inquiry.

RESEARCH DESIGN

Descriptive type exploration employs a certain style of design.

SAMPLING TECHNIQUE

In this study, the simple arbitrary system was used.

SAMPLE SIZE

The sample size is 150.

DATA COLLECTION METHODS

The data consists of both primary data and secondary data.

Primary Data

The primary data has been collected in the form of a questionnaire.

Secondary Data

The secondary data has been collected from colorful websites.

STATISTICAL TOOLS USED

- Simple Chance analysis.
- Chi-square system.

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SIMPLE PERCENTAGE ANALYSIS

When comparing two(or further) series of data, it refers to a particular form of rate. probabilities are frequently used to indicate connections. A portion of the brings everything down to a single base, let's say 150. It makes it possible to compare effects in a useful way.

$$\text{Simple percentage methods} = \frac{\text{No. of Repliers}}{\text{Total no. of Repliers}} \times 100$$

CHI- SQUARE TEST

Among the numerous statistical tests of significance created by strategists, the Chi-square test is pivotal. ki- forecourt is a statistical tool that's symbolically used in slice analysis to compare a friction to a theoretical friction.
It's defined as,
Chi- Square = Σ(O- E) 2/ E O = Observed frequence E = Expressed frequence

The anticipated frequence is calculated using the equation
Chi- Square = Σ (O-E) 2/E O=Observed Frequency E=Expressed Frequency

The expected frequency is calculated using the equation

$$E = \frac{RT \times CT}{N}$$

RT = Row Total CT = Column Total
N = Total No. of observation

ANALYSIS AND INTERPRETATION OF THE STUDY

TABLE: Age of the Respondent

2. Age of the Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 30 years	58	50.4	50.4	50.4
	31 – 40 years	34	29.6	29.6	80.0
	41 – 50 years	11	9.6	9.6	89.6
	51 – 60 years	8	7.0	7.0	96.5
	Above 60 years	4	3.5	3.5	100.0
	Total	115	100.0	100.0	

INTERPRETATION

The age of the respondents ranged from 20 to above 60 years, with the majority falling in the 20-30 years category (50.4%). 29.6% of the respondents were between 31-40 years, 9.6% were between 41-50 years, 7.0% were between 51-60 years, and 3.5% were above 60 years of age.

Table no.Experience of the Respondent

6. Experience of the Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 – 4 years	28	24.3	24.3	24.3
	5 – 8 years	31	27.0	27.0	51.3
	9 – 12 years	20	17.4	17.4	68.7
	Above 12 years	16	13.9	13.9	82.6
	Below 1-year	20	17.4	17.4	100.0
	Total	115	100.0	100.0	

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Interpretation

In terms of experience, the majority of the respondents had been working for 5-8 years (27.0%) or 1-4 years (24.3%). 17.4% had been working for less than a year, 17.4% had been working for more than 12 years, and 13.9% had been working for 9-12 years.

VIII. FINDINGS

With help of percentage analysis and graphs, these are findings from research

- Maximum employees comes under the age group of 20 to 30years.
- The employees working are 64.7% majority of Males.
- The 81.3% of respondent are unmarried
- Most of the working Employees in the company are earning below 20000
- The 53.3% of respondent are employee
- Mostoftheworkingemployeesinthecompanyarehavingexperiences0-1 years and more then 3 years.

IX. SUGGESTIONS

- The city needs to develop a comprehensive network of cycle lanes and dedicated cycling paths to encourage more people to take up cycling as a mode of transportation. This infrastructure should connect key areas of the city, including commercial and residential areas, to encourage more people to cycle for work and daily errands.
- Bike-sharing programs can help increase the availability and accessibility of bicycles for people who do not own one. By setting up bike-sharing stations in key areas of the city, people can rent bikes for short journeys, which can encourage more people to cycle instead of using cars or public transport.
- Employers can play a significant role in promoting cycling by encouraging their employees to cycle to work. Employers can provide secure bicycle parking, changing rooms and showers, and other amenities to make cycling to work more convenient and comfortable.

X. CONCLUSION

In conclusion, the study on urbanization and its impact on cycling in Bangalore has highlighted the significant increase in the number of people cycling in the city. This increase is attributed to the city's expanding network of cycle lanes, bike-sharing programs, and growing awareness of the health and environmental benefits of cycling. However, the study also notes that more needs to be done to promote cycling as a sustainable mode of transportation, including the development of a comprehensive cycling infrastructure, incentivizing cycling, and providing cycling education and training. Overall, by prioritizing investment in cycling infrastructure and promoting cycling as a viable mode of transportation, Bangalore can continue to build on its reputation as the "Cycle World" of India and encourage more people to adopt cycling as a healthy, sustainable, and efficient mode of transportation.

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