IMPLEMENTATION BARRIERS FOR PROMPTING PRO-CYCLING POLICIES IN STARTER CITIES: STAKEHOLDER VIEWS FROM SRI LANKA

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ABSTRACT - Starter cycling cities have less than 10% cycling mode share due to car-oriented urban design. Though Sri Lanka has a cycling history, rapid motorized vehicle use and infrastructure improvements have hindered cycling promotion. The Western province's average distance travelled by car is 6.1 km, a distance feasible for comfortable cycling. However, the lack of a cycling culture poses challenges to pro-cycling policy implementation. This paper examines barriers to implementing pro-cycling policies in urban areas of Sri Lanka which have a low level of cycling share in the existing context, considering that favorable policies and a cycling-friendly attitude are the most prominent factors needed for the growth of cycling mode share. Methods: The study aims to identify the public perception of cycling for utilitarian purposes and draws on quantitative and qualitative data obtained from in-depth interviews with seven key stakeholders and a questionnaire survey done on 200 participants. Results: From the results obtained from 200 employees in Battaramulla area, it is evident that the mere interest in biking to work exists within the community (71%) despite safety (77%) and weather concerns (36%). Better infrastructure (92.5% for segregated bike lanes, 90% for tree cover) and technology (81% for e-bike promotion) motivate biking. On the other hand, in the institutional background, most of the respondents claimed, barriers related to institutional and political support are what's preventing pro-cycling policies from implementing (n=28), mainly planning for cycling lanes (n=12). Paratransit availability poses a unique barrier in South Asia. Respondents offer insights and recommendations to address these issues.

Keywords: Implementation; Barriers; Cycling; Policy; Starter Cities

1. INTRODUCTION

There are minimal cycling promotion initiatives in Colombo. There have been new plans proposing a 23 km city-wide cycling path from Colombo to Battaramulla [1][2]. This aims to reduce traffic congestion and encourage sustainable transportation [3]. Limited attention to cycling promotion necessitates studying public perception for user-friendly infrastructure implementation. The research will identify barriers to pro-cycling policies in Sri Lanka, focusing on urban areas and utilitarian cycling. The European studies highlight Push/Pull measures and Soft/Hard infrastructure interventions as crucial for promoting cycling [4][5][6]. Starter cities face challenges in initiating cycling promotion, with key barriers including resource, institutional, political, social, cultural, legal, and physical aspects [7].

2. MATERIALS AND METHODS

A general questionnaire survey was created to identify the community interest and perceived barriers and motivators to cycling. Additionally, a pilot survey was conducted using 20 participants to identify the constructed questionnaire survey issues.
The expert survey for identifying implementation barriers to cycling was drawn using cycling/ transportation planning experts. Since cycling is not a practiced habit in urban areas and infrastructure promotion is limited, the sample consisted of experts concerning infrastructure planning agencies and did not necessarily come from pro-cycling backgrounds. Additionally, they had expertise in different

fields, such as infrastructure planning, transportation planning, urban planning, and social sciences. For backing up what's said during interviews secondary published masterplans and reports were used along with the help of on-site photographs.

3. RESULTS AND DISCUSSION

3.1. Perceived Barriers to Cycling to Work

The Relative Importance Index (R.I.I.) revealed that safety concerns (0.83) were the most significant barrier to cycling, particularly due to the mixing of motorized vehicles and bicycles on existing routes (RII = 0.88). Natural environmental conditions (0.60), such as heat and rain, also presented a barrier for most respondents (R.I.I. = 0.59 for heat), with the perception of arriving at work sweating being another concern (R.I.I. = 0.64). However, opinions were divided on this issue (Mdn = 3, IQR = 2). Time consumption (0.43) was another concern, with cycling seen as more time-consuming than the current mode (R.I.I. = 0.60), although opinions were divided (40% did not see it as a barrier, Mdn = 3, IQR = 4). Access to bike equipment (0.41) and physiological/physical issues (0.35) were less relevant, but the lack of access to a bicycle was still a significant barrier for users (R.I.I. = 0.64), with a fair division among respondents (Mdn = 4, IQR = 4). Vanity and prestige were insignificant barriers for only 12% of respondents.

Table 1. Cycling Perception

Barriers	%	Median	Inter quarantine Range	RII Score	Rank
Infrastructure/ Safety	**77.63**	**5**	**1**	**0.88**	**1**
Speed of other vehicles makes it unsuitable to cycle	84.5	5	1	**0.91**	
Motorists does not respect cyclists	82.5	5	1	**0.89**	
Not having sufficient infrastructure	78.5	5	1	**0.86**	
Current traffic in the city makes it unsafe to cycle	77	5	1	**0.87**	
Natural Environment	**38.59**	**3**	**2**	**0.60**	**2**
It rains all the time	25	3	2	0.57	
Sweating	42	3	2	**0.64**	
Heat is unmanageable	38	3	2	0.59	
Work/ Routine	**23.41**	**1**	**1**	**0.48**	**3**
Carrying heavy/ larger things to work	3.5	1	0	0.25	
Work attire is not compatible	31	2	3	0.51	
Safe Parking is unavailable	31	2	2	0.54	
It will take longer time to reach when cycling	35	3	4	**0.60**	
Bike Equipment	**22.95**	**1**	**1**	**0.41**	**4**
Do not Own a bike	51	4	4	**0.64**	
Carrying the bike is impossible	11.5	1	1	0.33	
Cannot Afford a bike	15.5	1	1	0.35	
No Bicycle repair shops available	7	1	1	0.33	
Physiological/ Physical	**19.32**	**1**	**0**	**0.35**	**5**
Stigma and Vanity related issues	11.5	1	2	0.35	
Not knowing how to cycle	5	1	0	0.26	
Have not cycled in years	20	1	2	0.38	
Physically unable to cycle	2	1	0	0.24	
Others not cycling in the city	33	3	3	0.50	

3.2. Implementation Barriers to Utilitarian Cycling Promotion

The attempts taken to implement bicycle infrastructure in the Sri Lankan context is minimal. Therefore, this study aimed to identify barriers to implementing pro-cycling policies in Sri Lanka to mitigate issues when promoting cycling culture. According to the interviews conducted below are the main barriers identified for implementing pro-cycling policies.

Table 2. Implementation Barriers for Pro-Cycling Policies

Barrier Type	No of times mentioned (n)	Description
Institutional and Political Barriers	28	Issues with Planning for bicycle lanes - 12 Issues with Institutional frameworks – 11 Political Support – 5
Resource Barriers	17	Cost of Bicycles are High – 8 Funding issues - 6 Activism Unavailability – 2 Do not have specialists in the field – 1

ISSN: 2513-2504

Social and Cultural Barriers	16	Under- utilization of already constructed cycle lanes. Behaviours related to other road users and cyclists – 2
Legal Barriers	10	Encroachments of bike lanes - 3
Other Barriers	10	Availability of multiple transport options in urban areas – 5 Climate – 3 Distance – 1 Terrain – 1

4. CONCLUSION

The Study uncovers barriers and expectations for promoting bicycles in starter cities. It highlights the clash between institutions and public preferences, uncertainty about cycling adoption, and the need for road safety. Valuable insights for fostering bike culture in such cities.

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