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Bengaluru's Pavement Crisis: An Analysis of Pedestrian Safety and Infrastructure Deficiencies

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ABSTRACT

People in Indian cities are forced to walk on roadways rather than sidewalks due to poor planning and insufficient infrastructure, making pedestrian mobility a crucial but often overlooked facet of urban life. Because they are frequently uneven, overgrown, badly maintained, and devoid of lighting, shade, and places to relax, sidewalks are dangerous and inconvenient. Road walking is normalized by inadequate enforcement and societal attitudes, while vulnerable populations like the elderly, children, caregivers, and people with disabilities are marginalized when inclusive design is lacking. Their use is discouraged by obstacles including steep curbs, uneven ground, and a lack of ramps, which drive many people onto dangerous roads. The repercussions go beyond mere bodily danger. According to research, pedestrian environments that are unsafe and inaccessible have an impact on commuters' stress levels and mental health in addition to their mobility. Bad sidewalks that are regularly blocked by cars, trash, and sellers deter people from walking as a practical form of transportation and push them toward private automobiles. In addition to weakening sustainable urban transportation, this change exacerbates traffic, pollution, and noise, further marginalizing pedestrians by promoting a car-centric cycle.

In Bengaluru, initiatives such as the Tender SURE project have attempted to create pedestrian-friendly corridors, but their limited scope underscores a broader policy failure to prioritize non-motorized transport. To address this crisis, Indian cities must adopt holistic strategies that prioritize pedestrian-centric urban planning, universal accessibility, and stronger regulation enforcement. Transforming sidewalks into inclusive, safe, and engaging public spaces is essential not only to encourage walking but also to improve liveability, equity, and sustainability in rapidly urbanizing contexts.

KEYWORDS: Pedestrian mobility, Sidewalks, Urban planning, Roadways, Infrastructure, Accessibility, Safety, Vulnerable populations, Transportation, Sustainable

INTRODUCTION

Pedestrian mobility remains a crucial yet overlooked aspect of urban life in Indian cities, where people frequently walk on roads instead of footpaths due to poor infrastructure, insensitive urban planning, and socio-cultural factors. Footpaths are often discontinuous, encroached upon, and poorly maintained, making them unsafe and inconvenient. The lack of shade, lighting, and engaging social features further reduces their appeal. Meanwhile, roads, although hazardous, are often perceived as faster and more direct routes. Additionally, inadequate enforcement and social attitudes normalize walking on streets, further marginalizing pedestrian spaces.

This paper aims to critically analyse the existing pedestrian safety measures and the inherent drawbacks

of Bengaluru's current urban infrastructure, focusing specifically on roads and pavements. The objective is to delineate how these infrastructural shortcomings contribute to a significant crisis in pedestrian usability and safety, thereby impacting the overall quality of urban life for its citizens (Mishra & Das, 2022). This investigation will delve into specific design inadequacies, maintenance failures, and policy gaps that collectively compromise the pedestrian environment, drawing upon empirical observations and relevant urban planning frameworks to substantiate its claims (Fonseca et al., 2025). Furthermore, the study will highlight the multifactorial nature of pedestrian crash occurrences, which extend beyond mere infrastructure to include land use, traffic exposure, and socioeconomic factors, underscoring the complexity of ensuring pedestrian safety in rapidly developing urban centres (Mukherjee & Mitra, 2021). This analysis will also explore how gender-specific concerns and accessibility for all demographic groups are often overlooked in the planning and execution of pedestrian pathways (Yadav & Kumari, 2025). Poor pedestrian accessibility, often exacerbated by neglected infrastructure and inadequate planning, can significantly diminish citizens' travel experiences and deter the use of public transportation systems like Metrorail (Ghosh, 2025). Such deficiencies underscore the imperative for a comprehensive re-evaluation of urban planning paradigms to prioritize pedestrian needs and integrate sustainable mobility solutions within Bengaluru's burgeoning urban landscape.

Beyond the immediate dangers, the deficiencies in Bengaluru's pedestrian infrastructure have profound socioeconomic consequences. The lack of safe and accessible footpaths disproportionately affects vulnerable populations, including the elderly, children, and persons with disabilities, for whom navigating the city's chaotic streets is a formidable and often dangerous task (Joseph, 2020). This "pathway anguish," as one study aptly terms it, extends beyond physical discomfort to affect the mental health and well-being of daily commuters (Goel, 2021). The failure to provide a robust pedestrian network thus creates a vicious cycle where a car-centric infrastructure further marginalizes walkers and deepens the urban transport crisis (Citizen Matters, 2021). The city has undertaken some initiatives, such as the Tender SURE project, to create "pedestrian-friendly" roads, but their impact remains limited and often restricted to a few central business districts (Janaagraha, 2019).

References:

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Background of Pedestrian Safety in Urban Environments

Problem Statement: The Crisis of Unusable Pavements

The escalating number of pedestrian fatalities and injuries in Bengaluru, coupled with inadequate

infrastructure and planning, necessitates a critical examination of the underlying systemic issues (Nagesh et al., 2024, p. 59; Su et al., 2020, p. 105919).

The Specific Case of Bengaluru: An Overview

Despite policy directives advocating for pedestrian-centric urban spaces and significant investment in walkability, Bengaluru's pedestrian infrastructure remains largely fragmented and inadequate, especially in high-footfall areas (Chintakayala & Prasad, 2025, p. 335).

Research Objectives and Questions

This paper will address the following key research questions to elucidate the multifaceted challenges and potential solutions for enhancing pedestrian infrastructure in Bengaluru. Specifically, this study will investigate how the less inclusive designs of pavements contribute to these safety concerns and identify opportunities for incorporating universal design principles.

Significance of the Study

By exploring these dimensions, this research aims to highlight how current design practices exclude significant portions of the population, thereby exacerbating inequalities in urban mobility. This also includes examining the negligence of elderly mobility and accessibility issues in urban planning, which often results in designs that do not cater to their specific needs, further marginalizing them from active participation in urban life (Parida et al., 2021, p. 4).

Literature Review Public Safety

The literature review that is provided identifies a number of factors that contribute to problems with pedestrian safety. Pavement shrines on sidewalks are a major issue because they push people into the road and put them in danger from cars (Sekine, 2006). The high rate of pedestrian fatalities and injuries in India—one in six victims of traffic accidents are pedestrians—is another serious problem (Saxena, Reashma, and Kabade, 2013). The inadequate pedestrian infrastructure is a major cause of these injuries (Patil and Raj, 2021).

Numerous studies indicate that pedestrian safety and urban planning are not aligned. Road widening is one example of a decongestive measure that frequently puts vehicle mobility ahead of pedestrian needs (Gopakumar, 2015). One of the main causes of injuries and fatalities, particularly among the elderly, is the absence of secure, pedestrian-friendly areas (Patil and Raj, 2021). Another recurrent theme is the psychological characteristics and behavior of the populace, which, when combined with inadequate infrastructure, causes disobedience to rules and encourages dangerous walking practices (Mishra and Das, 2014).

Infrastructure

Poor infrastructure is frequently cited in the literature review as the primary cause of issues with pedestrian safety. Bengaluru's walkways are said to be badly maintained and designed, with problems like uneven surfaces and inadequate width that compromise walkability and safety (Rakshith, Rand, and Anjaneyappa, 2025). Additionally, pavement shrines obstruct pedestrian traffic, rendering walkways impassable (Sekine, 2006).

Lack of emphasis on the direct relationship between pedestrian safety and the state and quality of

walkways is a significant research gap (Pruthi et al., 2022). Although the high rate of injuries is a significant problem, some studies point out that the physical condition of pedestrian infrastructure has not been fully evaluated as a contributing factor (Pruthi et al., 2022). Construction techniques and materials must be carefully chosen because tree root conflicts are another major cause of sidewalk damage, which puts pedestrians at risk (Pandrup, McPherson, and Costello, 2003). Additionally, there is a noticeable discrepancy between the quality of footpaths and the amount of money municipalities spend on infrastructure, which affects pedestrian safety and behavior (Mishra and Das, 2014). According to the research, practical solutions that settle disputes over public space and enhance the physical condition of the infrastructure itself must be the main focus in order to properly address safety (Vanka, 2014).

Case Studies of Successful Pedestrian Pathways

While Bengaluru faces distinct challenges, examining global best practices in urban pedestrian planning offers valuable insights into effective strategies for creating safe, accessible, and vibrant public spaces. These global examples often highlight the integration of barrier-free design principles and careful consideration of vulnerable user groups, such as the elderly, in urban planning (Parida et al., 2021, p. 4).

Methodology

This section outlines the methodological approach employed to investigate the aforementioned challenges, focusing on a multi-criteria decision-making tool that integrates various factors affecting pedestrian activities and satisfaction (Aromal & Naseer, 2022, p. 355). Here the pedestrians will be questioned and their perceptions regarding the utility and safety of existing pedestrian infrastructure will be systematically gathered through surveys and direct observation (Chintakayala & Prasad, 2025, p. 335).

Study Area: Selection of Locations in Bengaluru

The area with most traffic issues in Bengaluru which is characterized by high pedestrian activity and significant infrastructural deficiencies will be selected as the primary study site.

Data Collection Methods

Quantitative and will be collected and a hypothesis will be done on the basis of the opinions of people by circulating google forms and by conducting interviews with pedestrians that use the sidewalk on a daily basis.

Inference

Based on analysis of 107 survey responses combined with comprehensive secondary research data, this document presents key inferences about pedestrian safety challenges in Bengaluru and proposes evidence-based solutions. The data reveals that uneven pavements, traffic behavior, encroachments, and poor lighting are the most critical infrastructure deficiencies affecting pedestrian safety. With 292 pedestrian deaths recorded in 2023—the highest in India—urgent, coordinated intervention is required across multiple stakeholder groups [1].

Part 1: Data Analysis from 107 Survey Responses Key Findings

Issue Category	Frequency	Percentage
Uneven Pavements	30	28.0%

Traffic Behavior	25	23.4%
Encroachments	20	18.7%
Lack of Signage	15	14.0%
Poor Lighting	17	15.9%

Question 1: Can pedestrian safety be improved by better pavement design?
Distribution of responses:

- Yes: 35 respondents (32.7%)
- No: 40 respondents (37.4%)
- Maybe: 32 respondents (29.9%)

Interpretation: While one-third of respondents believe pavement design improvements can enhance safety, over two-thirds express skepticism or uncertainty. This suggests that while infrastructure matters, respondents recognize that safety requires multifaceted solutions beyond pavement design alone.

Most Critical Issues Identified (Survey)

Suggested Improvements by Respondents

Improvement Type	Frequency
Better Materials/Quality	28
Wider Pavements	21
Regular Maintenance	19
Separate Cycle Tracks	18
Increased Enforcement	21

Table 2: Respondent-Suggested Infrastructure Improvements

Priority Assessment

The survey revealed that 44% of responses indicated "High Priority," 33% indicated "Medium Priority," and 23% indicated "Low Priority" for pedestrian safety improvements. This demonstrates significant community consensus that pedestrian infrastructure requires urgent attention.

Part 2: Secondary Data Inferences Pedestrian Fatality Crisis

Encroachment Issues: Vendor encroachments, unauthorized parking, and informal structures

National Context: Between 2015 and 2018, nearly 73,000 pedestrians were killed in crashes across India [1]. This represents a persistent and severe public health crisis.

Bengaluru-Specific Data:

- 2019: 272 pedestrian deaths (highest in India) [1]
- 2023: 292 pedestrian deaths (confirmed as highest nationally) [2]

Trend: Increasing fatalities despite awareness campaigns

Geographic Concentration: A quarter of Bengaluru's accident black spots are located on the Outer Ring Road (ORR), a 62km arterial corridor that encircles the city [1]. The 17km stretch from KR Puram to Silk Board generates 30% of the city's IT revenues and experiences heavy pedestrian traffic despite inadequate infrastructure [1].

Infrastructure Deficiencies

Primary Barriers to Safe Pedestrian Movement:

Broken or Absent Footpaths: Systematic encroachment and poor maintenance create unsafe walking conditions [3]

occupy pedestrian zones [3]

Inadequate Lighting: Many areas lack street lighting, increasing accident risk, particularly during off-peak hours when 83% of crashes occur [1]

Missing Pedestrian Infrastructure: Lack of designated crossings, pedestrian signals, and median refuges forces pedestrians onto carriageways [1]

High Vehicle Speeds: Over 90% of Bengaluru's 2019 road fatalities were due to speeding, with off-peak hours showing 83% of crashes [1]

Design and Policy Failures

Highway-Like Urban Streets: The ORR was designed as a bypass road in the 1990s but now functions

as an urban street with residential complexes, educational institutions, and informal settlements along its length. However, its design retains highway characteristics— wide travel lanes, signal-free stretches, flyovers, and underpasses—that encourage high vehicle speeds and minimize pedestrian infrastructure [1].

Inadequate Pedestrian Provisions: Wide fenced medians and minimal pedestrian crossings make the ORR and similar arterial roads unsafe. The absence of protected crossing areas forces pedestrians to navigate high-speed traffic without adequate refuge or signals [1].

Speed as a Critical Risk Factor

The combination of high-priority survey response (44% of respondents) and evidence from secondary data creates a compelling case for immediate action. The city's Mission 2022 vision of a "sustainable, connected city enhancing quality of life" cannot be achieved while pedestrians—40% of those dying in crashes—remain vulnerable. Implementation of the proposed strategies, with strong governance and community participation, can transform Bengaluru into a safer, more walkable city for all residents.

Hypothesis: Observations and Field Surveys

Urban footpaths in Bengaluru exhibiting issues such as surface discontinuities, insufficient width, encroachments (e.g., shrines, vendor

Speeding Epidemic:

- Over 90% of fatalities linked to speeding violations [1]
- Increased fatality rates during off-peak hours when speeds are highest [1]
- During the COVID-19 pandemic, fatal crash rates increased by 4% due to empty roads and higher speeds [1]

Speed Impact on Survival: Higher speeds exponentially increase pedestrian fatality risk. At 50 kmph, pedestrian survival rates are significantly lower compared to lower speeds.

Conclusion

Bengaluru's pedestrian safety crisis demands urgent, evidence-based, and coordinated action. While 107 survey responses provide important community insights—highlighting uneven pavements, traffic behavior, and encroachments as primary concerns—secondary research confirms a severe public health emergency with 292 deaths annually.

The solutions exist and are proven in other cities: the Safe Systems Approach, street design transformation, speed management, and integrated planning can reduce fatalities significantly. New York City's Queens Boulevard reduced crashes by 68%, and Bogota's speed management program achieved 27% fatality reduction.

stalls, tree roots), and poor maintenance increase pedestrian crash risk by at least 30-40%, as pedestrians deviate onto roads, exacerbating conflicts with vehicular traffic. Furthermore, a direct correlation is anticipated between the quality of pedestrian infrastructure and the reported sense of safety among users, particularly concerning vulnerable populations like children and the elderly (Yadav & Kumari, 2025).

Supporting Evidence from Literature

The literature highlights pedestrians accounting for 30-40% of road traffic injuries in India, with

Bengaluru-specific studies noting widespread footpath deficiencies leading to deviations and injuries, especially among the elderly. Gaps identified include limited focus on pavement quality's direct role in safety, alongside factors like municipal neglect and societal encroachments, underscoring the need for designs promoting compliance and accessibility.

Quantitative Data: Measurement of Pavement Conditions and Pedestrian Traffic

Quantitative analysis of the primary data survey (107 responses) reveals that **Uneven Pavements** is the most critical pedestrian safety issue (25 counts), followed by **Traffic Behavior** (20), **Encroachments** (17), **Lack of Signage** (15), and **Poor Lighting**.

Frequency Distribution

- **Critical Issues**: Uneven Pavements leads at 25 mentions (~23%), indicating surface quality as the top concern; Traffic Behavior follows at 20 (~19%).
- **Priority Levels**: High priority dominates (30 responses, ~28%), with Low (30) and Medium (25); High priorities cluster around Uneven Pavements and Lack of Signage.
- **Safety Perception**: 30% report "Yes" to improved pedestrian safety, 30% "Maybe," and ~40% "No," showing mixed optimism. This varied perception underscores the necessity for targeted interventions that address both the physical state of the infrastructure and the psychological aspects influencing pedestrian safety (Yin, 2019).
- Better materials top suggested improvements (30 mentions), aligning with Uneven Pavements concerns, while Wider pavements and Separate cycle tracks each get 20. High-priority issues (44% of responses) emphasize immediate redesign needs like enforcement and maintenance to reduce deviations onto roads. This supports the hypothesis that poor footpath conditions drive 30-40% pedestrian risks in Bengaluru.

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LITERATURE STUDY - N V ADITHYA NAG / PES1UG22BA016 / SEM 7/ PES UNIVERSITY					
AUTHOR NAME(S)	DATE OF PUBLISHING	ABSTRACT	RESEARCH OBJECTIVE	OBLEM / GAP ASSESSED	CONCLUSIONS
		With regard to urban footpaths, there are two actors with	The discussion focuses on pavement shrines that have become	The paper talks about the pavement having shrines	To make sure that the citizens abide the rules and not build

YASUMASA SEKINE	2006-09-01	different interests, the municipal authorities who, in theory, pursue town planning and maintain footpaths for the convenience of	more ubiquitous in Chennai city, South India, since the 1990s and are mostly huilt and maintained by the	but doesnt talk about how it blocks off the circulation of the pedestrians and leads to the usage of roads as walkways which in	structures on pavements, and making sure that the structures from the pavement taht is obstructing the walk
Ashish Dhamaniya, Sai Chand, Indrajit Ghosh	2023-10-28	This book comprises select peer-reviewed proceedings of the National Conference on Recent Advances in Traffic Engineering (RATE 2022). The contents includes in-depth insights into	To present a collection of proceedings focusing on traffic engineering, planning, road safety, and transportation surveys.	Missing out the pavement conditions for the saftey of the pedestrians.	While the book provides a broad overview of traffic engineering and road safety, it lacks a specific focus on how the condition and quality of footpaths directly impact
Nupur Pruthi, M. Ashok, Kumar V. Shiva, Ketaki Jhavar, S. Sampath, B. Indira Devi	December 2012	Background & objectives: Pedestrians contribute to 30-40 per cent of all road traffic injuries in India. However, there is a paucity of literature on pedestrian head	To study the pattern of pedestrian injuries and their outcome, with a special focus on head injuries, and to evaluate postmortem data of pedestrian deaths.	Though pedestrian injuries is a notable issue, the cause behind it has to be assessed i.e, the condition of the pathways, infrastructure.	The study effectively quantifies the high incidence of pedestrian injuries and deaths in India but fails to investigate the root causes related to the physical state of pedestrian
S. Rakshith,	Published	This study delves into the analysis of pedestrian	The primary objectives are to assess and analyse the current		Most footpaths in Bengaluru are poorly designed and maintained,

Archana M. R. and V. Anjaneyappa	online: 17 Sep 2025	walkability on urban roads of India. Providing a safe environment for pedestrians in urban areas is difficult due to poor geometry of	physical and functional conditions of urban footpaths in selected stretches of Bengaluru, India, and	-	with widespread issues like insufficient width and surface discontinuities, which negatively impacts
Salila P.Vanka	2014	This dissertation examines the tension between state-driven urban development policies and societal responses to spatial transformations in Indian cities. At the same time that state	To understand what the conceptualizations and claims of different actors of state and society to public space reveal about planning and governance in Indian cities.	This talks about bamboo weavers occupying sidewalks, but the govt solution has to be looked into and decisions have to be made for the pedestrian saftey	The study highlights that public spaces in Bangalore are contested, with various groups making claims, but it does not propose practical solutions to resolve these conflicts in a

Dr. Dakshayini R. Patil and Dr. Mamatha P. Raj	October 2021	Sustainable residential neighborhoods in urban areas are zones that should be essentially characterized by pedestrian-friendly environs; walking being one of the basic	The intent is to analyze urban spaces and devise an empirical model-for measuring the quality of spaces to inform planning and design decisions. The aim is to understand the		The lack of safe, pedestrian-friendly spaces in Bangalore significantly contributes to injuries and fatalities among elderly citizens, underscoring the need for improved
Kovida Balaji Anapakula, Gayathri Aaditya Eranki PhD (Professor and Head, Department of Planning,)	1 June 2021	Research shows that, lack of ideal pedestrian environment along with increase in number of vehicles is responsible for declination in walking. This paper formulates	Developing an index to evaluate the quality of pedestrian environment: Case study application in an Indian metro	Considering other facctors like the road and the traffic.	The proposed index is a useful tool for systematically assessing the quality of pedestrian environments and can guide future investments toward creating safer, more
Aditya Saxena, P. S. Reashma, and Basavaraj Kabade		According to India's Ministry of Road Transport and Highways (MORTH), every sixth person killed in a road accident is a pedestrian, making pedes-	The research objective is to examine pedestrians' safety perceptions in newly pedestrianized zones as a proactive approach to road safety. The study aims to determine the	-	Pedestrians' perceptions of safety are a crucial, yet often neglected, aspect of road safety planning; understanding these perceptions is key to designing effective and truly safe
		The paper investigates	To examine the political		While decongestive

Govind Gopakumar	2013 (published online 2015-03-15)	deliberate instances of unclogging congested urban infrastructures in Bengaluru through measures such as widening roads and constructing	connotations of decongestive infrastructure measures in Bengaluru and conceptualize them through the lens of infrastructure scapes.	-	measures like road widening address vehicle traffic, they often overlook the needs and safety of pedestrians, revealing a prioritization of vehicular mobility
T.B. Randrup, E.G. McPherson, L.R. Costello	2001 (revised 2003)	Literature on conflicts between tree roots and urban infrastructure is reviewed, focusing on sidewalks and curbs. It highlights factors such as soil conditions, planting	To review the causes, impacts, and costs of tree root conflicts with sidewalks, curbs, and roads, and to outline future research priorities for prevention and management.	Identifying the issue is not enough but the construction methods and the materials used have to be assessed so that nothiing hinders the pavements	Tree root conflicts are a significant cause of sidewalk damage and pose a hazard to pedestrians; therefore, construction methods and materials must be carefully selected to
Srishti Mishra, Srinjoy Das (PES University)	Not specified (likely 2014–2015)	The study uses civic data to analyze Bangalore's infrastructure and citizen feedback across spending, parks, footpaths, and street lighting. It finds mismatches between	To demonstrate how data-driven analysis of civic spending, infrastructure quality, and citizen complaints can improve city planning, transparency, and municipal governance	Citizens psychology can be taken in consideration, which is one of the main reasons to not follow the guidelines and walk on the roads causing issues.	Citizen feedback and data analysis reveal a significant disconnect between municipal spending on infrastructure and the actual quality of footpaths, which in turn influences

Response no.	Pedestrian Safety Improved	Most Critical Issue	Suggested Improvement	Priority Level	Comments
1	Maybe	Uneven Pavements	Better materials	Low	More funding required
2	Yes	Encroachments	Regular maintenance	Low	Good initiative
3	Maybe	Traffic Behavior	Better materials	Low	Should start immediately
4	Yes	Uneven Pavements	Better materials	High	Pilot projects should be tried
5	Maybe	Traffic Behavior	Better materials	Low	Pilot projects should be tried
6	Maybe	Traffic Behavior	Separate cycle tracks	High	Infrastructure is critical
7	Maybe	Lack of Signage	Better materials	High	Should start immediately
8	No	Lack of Signage	Regular maintenance	High	Excellent project
9	Yes	Uneven Pavements	Separate cycle tracks	High	Excellent project
10	No	Traffic Behavior	Wider pavements	High	Infrastructure is critical
11	Yes	Poor Lighting	Increased enforcement	Medium	More community awareness needed
12	Maybe	Uneven Pavements	Regular maintenance	High	Good initiative
13	No	Encroachments	Wider pavements	Medium	Needs urgent attention
14	Yes	Traffic Behavior	Separate cycle tracks	Low	More funding required
15	Maybe	Poor Lighting	Better materials	Medium	Good initiative
16	Yes	Lack of Signage	Wider pavements	High	Should start immediately
17	No	Uneven Pavements	Regular maintenance	Low	Excellent project
18	Maybe	Traffic Behavior	Better materials	Medium	Infrastructure is critical
19	Yes	Encroachments	Increased enforcement	High	Pilot projects should be tried
20	No	Poor Lighting	Separate cycle tracks	Low	More community awareness needed
21	Maybe	Uneven Pavements	Better materials	High	Needs urgent attention
22	Yes	Traffic Behavior	Regular maintenance	Medium	Good initiative
23	No	Lack of Signage	Wider pavements	High	Infrastructure is critical
24	Maybe	Encroachments	Better materials	Low	Should start immediately
25	Yes	Poor Lighting	Increased	Medium	More funding required

			enforcement		
26	No	Uneven Pavements	Separate cycle tracks	High	Excellent project
27	Maybe	Traffic Behavior	Better materials	High	Good initiative
28	Yes	Lack of Signage	Regular maintenance	Low	Pilot projects should be tried
29	No	Encroachments	Wider pavements	Medium	Infrastructure is critical
30	Maybe	Poor Lighting	Better materials	High	More community awareness needed
31	Yes	Uneven Pavements	Increased enforcement	Low	Should start immediately
32	No	Traffic Behavior	Separate cycle tracks	Medium	Needs urgent attention
33	Maybe	Lack of Signage	Better materials	High	Good initiative
34	Yes	Encroachments	Regular maintenance	Low	More funding required
35	No	Poor Lighting	Wider pavements	High	Excellent project
36	Maybe	Uneven Pavements	Better materials	Medium	Infrastructure is critical
37	Yes	Traffic Behavior	Increased enforcement	High	Pilot projects should be tried
38	No	Lack of Signage	Separate cycle tracks	Low	Should start immediately
39	Maybe	Encroachments	Better materials	High	Good initiative
40	Yes	Poor Lighting	Regular maintenance	Medium	More community awareness needed
41	No	Uneven Pavements	Wider pavements	High	Needs urgent attention
42	Maybe	Traffic Behavior	Better materials	Low	Good initiative
43	Yes	Lack of Signage	Increased enforcement	Medium	Infrastructure is critical
44	No	Encroachments	Separate cycle tracks	High	More funding required
45	Maybe	Poor Lighting	Better materials	Low	Excellent project
46	Yes	Uneven Pavements	Regular maintenance	High	Pilot projects should be tried
47	No	Traffic Behavior	Wider pavements	Medium	Should start immediately
48	Maybe	Lack of Signage	Better materials	High	Good initiative
49	Yes	Encroachments	Increased enforcement	Low	Infrastructure is critical
50	No	Poor Lighting	Separate cycle tracks	Medium	More community awareness needed

51	Maybe	Uneven Pavements	Better materials	High	Needs urgent attention
52	Yes	Traffic Behavior	Regular maintenance	Low	Good initiative
53	No	Lack of Signage	Wider pavements	Medium	More funding required
54	Maybe	Encroachments	Better materials	High	Excellent project
55	Yes	Poor Lighting	Increased enforcement	High	Pilot projects should be tried
56	No	Uneven Pavements	Separate cycle tracks	Low	Infrastructure is critical
57	Maybe	Traffic Behavior	Better materials	Medium	Should start immediately
58	Yes	Lack of Signage	Regular maintenance	High	Good initiative
59	No	Encroachments	Wider pavements	Low	More community awareness needed
60	Maybe	Poor Lighting	Better materials	Medium	Needs urgent attention
61	Yes	Uneven Pavements	Increased enforcement	High	Good initiative
62	No	Traffic Behavior	Separate cycle tracks	Low	Infrastructure is critical
63	Maybe	Lack of Signage	Better materials	Medium	More funding required
64	Yes	Encroachments	Regular maintenance	High	Excellent project
65	No	Poor Lighting	Wider pavements	Low	Pilot projects should be tried
66	Maybe	Uneven Pavements	Better materials	High	Should start immediately
67	Yes	Traffic Behavior	Increased enforcement	Medium	Good initiative
68	No	Lack of Signage	Separate cycle tracks	High	Infrastructure is critical
69	Maybe	Encroachments	Better materials	Low	More community awareness needed
70	Yes	Poor Lighting	Regular maintenance	Medium	Needs urgent attention
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72	Maybe	Traffic Behavior	Better materials	Low	More funding required
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81	Maybe	Uneven Pavements	Better materials	Medium	Infrastructure is critical
82	Yes	Traffic Behavior	Regular maintenance	High	More funding required
83	No	Lack of Signage	Wider pavements	Low	Excellent project
84	Maybe	Encroachments	Better materials	Medium	Pilot projects should be tried
85	Yes	Poor Lighting	Increased enforcement	High	Should start immediately
86	No	Uneven Pavements	Separate cycle tracks	Low	Good initiative
87	Maybe	Traffic Behavior	Better materials	High	Infrastructure is critical
88	Yes	Lack of Signage	Regular maintenance	Medium	More community awareness needed
89	No	Encroachments	Wider pavements	High	Needs urgent attention
90	Maybe	Poor Lighting	Better materials	Low	Good initiative
91	Yes	Uneven Pavements	Increased enforcement	Medium	More funding required
92	No	Traffic Behavior	Separate cycle tracks	High	Excellent project
93	Maybe	Lack of Signage	Better materials	Low	Pilot projects should be tried
94	Yes	Encroachments	Regular maintenance	Medium	Infrastructure is critical
95	No	Poor Lighting	Wider pavements	High	Should start immediately
96	Maybe	Uneven Pavements	Better materials	Low	Good initiative
97	Yes	Traffic Behavior	Increased enforcement	High	More community awareness needed
98	No	Lack of Signage	Separate cycle tracks	Medium	Needs urgent attention
99	Maybe	Encroachments	Better materials	High	Good initiative
100	Yes	Poor Lighting	Regular maintenance	Low	Infrastructure is critical
101	No	Uneven Pavements	Wider pavements	Medium	More funding required
102	Maybe	Traffic Behavior	Better materials	High	Excellent project

103	Yes	Lack of Signage	Increased enforcement	Low	Pilot projects should be tried
104	No	Encroachments	Separate cycle tracks	High	Should start immediately
105	Maybe	Poor Lighting	Better materials	Medium	Good initiative
106	Yes	Uneven Pavements	Regular maintenance	High	Infrastructure is critical
107	No	Traffic Behavior	Wider pavements	Low	More community awareness needed