Understanding User Perceptions of Pedestrian Overbridge in Sylhet City; toward a Framework for Safer Street Crossings

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Abstract: Pedestrian overbridges were introduced in Bangladesh to improve safer road crossing by separating pedestrian from high-speed traffic, but the use pattern remains critically lower. The use of urban streets as well as pedestrian of Sylhet city are increasing in a quick and haphazard manner parallel with the fast city growth. To avoid the unsafe and hazardous street crossing, there are pedestrian overbridge whereas the overbridges still remain almost unused; as a result, the street users fall into danger frequently crossing the vehicular street. This research work proposed few remarkable multi functions on how to back the pedestrian overbridges into action. Here, the study examines four major overbridges in Sylhet; University Gate, Bandar bazaar, Tilagor and Shah Poran Mazar Gate; where observational data shows that less than one percent of pedestrians rely on these structures. Field data analysis, photograph and sketch analysis, technical evaluations, and questionnaire responses indicate that steep staircases, single functionality, poor design, security issues, and the presence of street vendors discourage its uses. To address these problems, the study suggests a framework of ensuring more accessible overbridge with escalators and ramps, enhancing multifunctional spaces with aesthetics, relocating street vendors to overbridges along with stronger enforcement. It can improve safety, lower street fatalities, foster inclusive, and lively public infrastructure which enhance to a smart city growth for Sylhet and beyond. Enliven the pedestrian overbridge taking these minimum interventions and policies may encourage other growing cities to grab and researcher to further work on it.

Keywords: Pedestrian overbridge; Overbridge multifunctionality; Urban mobility; Safe Street crossing; Street vendors.

INTRODUCTION

Streets are not only pathways for vehicles but also vital spaces for daily life, economic activity, and social interaction in urban environments. In many developing countries, streets serve as multifunctional corridors where walking, trading, commuting, and socializing occur simultaneously (UN-Habitat, 2013). Bangladesh provides a striking example of this complexity, as its urban centers are marked by dense populations, rapid motorization, and limited pedestrian infrastructure (Shahrior Pervaz, 2020) . The consequences have been severe: rad crashes kill an estimated 20,000–25,000 people annually in Bangladesh, with pedestrians representing nearly half of all fatalities (WHO, 2018); (Rahman, 2020). For urban residents, particularly in Dhaka and Sylhet, crossing busy arterial roads is often a life-threatening activity (Hoque, 2015). As vehicular traffic intensifies and pedestrian volumes remain high, the challenge of reconciling mobility with safety has become one of the country's most pressing urban dilemmas (Debnath, 2021).

The concept of pedestrian overbridges, or foot overpasses, was introduced globally in the mid-twentieth century as a means of separating vulnerable pedestrians from fast-moving vehicles (Mitra, 2021). These structures, widely adopted in cities such as Tokyo, Singapore, and Kuala Lumpur, were designed to reduce pedestrian-vehicle conflicts and improve the efficiency of road systems (Zhang, 2014). In contexts where traffic signals or crosswalk enforcement were insufficient, overbridges provided a physical solution to road safety (Chakrabartty, 2014). Bangladesh adopted this model during the 1980s, when the first overbridges were constructed in Dhaka near Farmgate, Gulistan, and New Market (Islam, 2018). Their purpose was clear: to offer pedestrians a safe alternative to the hazardous practice of crossing chaotic and congested roadways. Since then, the number of overbridges has grown steadily, and Dhaka alone now has over one hundred such structures, with additional installations in other urban centers including Sylhet, Chittagong, and Rajshahi (Rahman M. S., 2017).

Bangladesh has witnessed a worsening trend in road fatalities (tab: 01) from 2022 to 2024, with 7,902 deaths in 2023 and rising to 8,543 deaths in 2024. Of these, a substantial proportion—often hundreds or more—are pedestrians, reinforcing their status as one of the most vulnerable road-user groups. Given that many pedestrian fatalities occur during unsafe at-grade road crossings, the underuse of overbridges represents a missed opportunity to prevent a significant fraction of these deaths. By increasing safe overbridge usage, the city could substantially reduce pedestrian fatalities by interrupting a critical risk factor—crossing without grade-separated infrastructure.

Table 01. Summary of Death tolls in Roads of Bangladesh

Year	Estimated Total Road Deaths	Estimated Pedestrian Deaths (apx.)
2022	~6321 total deaths	1,627 pedestrians killed
2023	~7902 total deaths	1732 pedestrians killed
2024	~8,543 total deaths	~1,535 pedestrians (21.04% of total)
Early 2025	~1,887 road fatalities (overall figure) for Jan–Apr	~387 pedestrians killed

However, the mere presence of overbridges has not translated into widespread usage. Studies conducted in Dhaka consistently reveal that less than fifteen percent of pedestrians use overbridges even in areas with high accident risk (Islam M. S., 2015); (Rahman M. S., 2012). Instead, the overwhelming majority prefer to cross roads directly, weaving through streams of buses, rickshaws, and motorbikes (Mahmud, 2012). Several factors explain this pattern of neglect. First, the accessibility of overbridges is limited: their steep staircases deter the elderly, children, and those carrying heavy goods, while individuals with physical disabilities are often entirely excluded (Ahmed, 2019). Second, convenience plays a significant role. Many pedestrians perceive climbing an overbridge as a waste of time compared to the speed of darting across the road (Rahman M. , 2021). Third, maintenance and security issues discourage use. Bridges are frequently unlit, dirty, and perceived as unsafe, particularly for women at night (Sultana, 2018). Moreover, cultural attitudes toward risk normalize dangerous behavior, with many pedestrians believing they can “manage” traffic by running between vehicles (Barua, 2016).

The problem is exacerbated by the encroachment of vendors and the disorganized nature of pedestrian pathways leading to bridges. In Bangladesh’s urban economy, street vendors are an essential component, providing affordable goods and services to millions. Yet their presence often blocks sidewalks and the approach routes to overbridges, nudging pedestrians to remain at street level where the commerce takes place (Alam, 2019). This intersection between economic necessity and safety infrastructure has rarely been addressed in planning. As a result, overbridges in Bangladesh, though constructed at significant public expense, are often labeled “white elephants”: infrastructure that exists physically but fails functionally (Rahman S. &., 2017).

Sylhet, a rapidly urbanizing city in northeastern Bangladesh, illustrates this paradox vividly. Known for its remittance-driven economy and growing commercial activity, Sylhet has invested in overbridges at four of its busiest junctions: University Gate, Bandar bazaar, Tilagor, and Shah Poran Mazar-gate

(Chowdhury, 2020). Each of these locations witnesses constant pedestrian flows and heavy vehicular traffic throughout the day. In theory, the presence of overbridges should provide safety and order. In practice, however, they are almost entirely ignored. Observational data suggest that fewer than one percent of pedestrians use these structures, while the vast majority continue to cross roads directly, often at considerable personal risk (Author's Field Survey, 2023). At University Gate, for instance, streams of students run across the road in front of buses, while the nearby bridge remains deserted. In Bandar bazaar, street vendors dominate the sidewalks, attracting pedestrians to ground level. At Tilagor, the steep and unattractive design of the bridge discourages use, and at Shah Poran Mazar-gate, the religious visitors often cross and mess at the street gate rather than climbing the stairs of the pedestrian overbridge. The consistent neglect across these diverse sites underscores a systemic disconnect between infrastructure provision and social behavior.

Figure 01 : The Road Safety Movement 2018; Source: (Hossain, 2018)

The 2018 student-led Road Safety Movement in Bangladesh (fig: 01) was a watershed moment that briefly brought road safety into the national spotlight. Sparked by the deaths of two students struck by a speeding bus in Dhaka, the protests mobilized thousands of young people and forced the government to acknowledge the failures of transport governance (Monamee, 2020); (Hasan, 2019). Among the immediate responses was a renewed emphasis on pedestrian facilities, including promises of new overbridges in major cities (Rahman M. , 2021). In Sylhet, this translated into the construction of additional foot overpasses at critical intersections. Yet, several years later, the situation remains unchanged:

fatalities persist, pedestrian compliance is minimal, and the bridges stand as underused monuments (Khan, 2020). This indicates that infrastructure construction alone cannot resolve deeply embedded behavioral and socio-economic dynamics.

Existing academic literature on pedestrian safety in Bangladesh acknowledges the underuse of overbridges but often frames the issue in purely engineering terms. Researchers focus on structural design, traffic flow modeling, or technical options such as escalator installation (Mahmud, 2012); (Sultana, 2018). While these aspects are important, they neglect the lived realities of pedestrians whose choices are shaped by convenience, culture, and economic environment. International research shows that when overbridges integrate commercial functions — hosting shops or vendors — they become more attractive and better utilized (Yusoff, 2016). In Southeast Asia, for example, skywalks in Bangkok and Kuala Lumpur are bustling spaces precisely because they combine safety with economic activity (Mitra S. , 2019). In Bangladesh, however, the potential synergy between pedestrian infrastructure and street vending has not been explored systematically.

This study addresses that gap by examining the four major overbridges of Sylhet in detail. It combines site surveys, technical documentation, and a questionnaire-based pedestrian survey to capture both the physical condition of the bridges and the social perceptions surrounding their use. The central hypothesis is that overbridges remain unused not only because of technical shortcomings but because they fail to align with the everyday practices of pedestrians. By proposing a framework that relocates street vendors onto the overbridges themselves, this research aims to reconceptualize them as multifunctional urban spaces rather than single-purpose structures. The potential addition of escalators is also considered as a technical aid, though its feasibility in the Bangladeshi context remains contested (Rahman M. , 2021).

Ultimately, this research seeks to bridge the gap between infrastructure provision and human behavior. By situating pedestrian safety within the broader urban fabric of Sylhet, the study contributes both to academic understanding and to practical policymaking. Its findings are relevant not only for Sylhet but for cities across Bangladesh facing the same paradox: substantial investment in overbridges that, without proper integration of social realities, remain unused. The goal is to generate solutions that are both technically viable and socially acceptable, thereby improving pedestrian safety while respecting the economic and cultural dynamics of the city.

Study Areas

This research was conducted in Sylhet, one of Bangladesh's fastest-growing urban centers, known for its remittance-driven economy, rapid commercial expansion, and increasing vehicular density. The city has invested in pedestrian overbridges at several strategic junctions to address road safety concerns, yet

their effectiveness remains in question. Four key locations were selected for detailed study based on their high pedestrian volumes, traffic intensity, and economic significance.

1. University Gate: This pedestrian overbridge located near Shahjalal University of Science and Technology and several colleges (fig: 02), this site witness's heavy student flows throughout the day. Despite the presence of a foot overbridge, most students continue to cross at street level, often between fast-moving buses and rickshaws. Vendors selling snacks, stationery, and mobile accessories further crowd the sidewalks, reducing access to the bridge.

Figure 02: University Gate pedestrian overbridge.

2. Bandar bazaar: This is the most congested commercial hub of Sylhet city area (fig: 03), where wholesale and retail trading activities attract thousands of pedestrians daily. Although an overbridge exists, its use is negligible as people prefer to remain at street level where shops and vendors are concentrated. The bridge itself is often overshadowed by billboards and encroaching stalls, making it visually and functionally disconnected from everyday pedestrian flows.

Figure 03: Bandar bazaar pedestrian overbridge.

3. Tilagor: This is located on the Dhaka-Sylhet highway (fig: 04), Tilagor serves as a key transit corridor where inter-district buses, trucks, and private vehicles converge. Pedestrian movements here include both local residents and intercity travelers. The overbridge, while structurally sound, remains underutilized as pedestrians, pressed for time, prefer to weave through heavy traffic rather than climb the stairs.

Figure 04: Tilagor Pedestrian overbridge

4. Shah Poran Mazar Gate: This site is adjacent to one of Sylhet's most significant religious pilgrimage destinations. Large crowds of devotees regularly cross the road massively, particularly on Fridays and during religious festivals. Despite the availability of an overbridge, the collective behavior of groups—coupled with elderly and disabled visitors—results in almost universal preference for at-grade crossing.

Figure 05: Shah Poran Mazar Pedestrian overbridge

Together, these four sites capture the diverse conditions under which pedestrian overbridges in Sylhet operate: educational corridors, commercial centers, transport nodes, and religious hubs. Their consistent underuse despite varying contexts underscores the systemic challenges of aligning infrastructure provision with social behavior.

METHODOLOGY

This research employs a mixed-method design (tab: 02) combining field observation, photograph and sketch analysis, structured pedestrian counts, vendor mapping, and questionnaire-based surveys following both random and inclusive sampling of user groups. The objective is to evaluate the current condition and usage of pedestrian overbridges in Sylhet while also capturing the social and behavioral dimensions influencing their underuse. The integration of both quantitative and qualitative techniques allows for a more comprehensive understanding of the problem, linking technical infrastructure with lived realities.

The research sites were selected purposively to represent Sylhet's busiest pedestrian-vehicular conflict zones: University Gate, Bandar bazaar, Tilagor, and Shah Poran Mazar-gate. Each location was chosen because of its high traffic intensity, constant pedestrian flows, and the presence of an overbridge that remains underutilized. University Gate is dominated by student movements, Bandar bazaar is a commercial hub with dense street vending, Tilagor serves as a transit corridor for inter-district buses, and Shah Poran Mazar-gate experiences heavy religious pilgrimage activity. Together, these sites provide a diverse picture of how overbridges interact with different urban contexts.

Data collection was conducted in three stages. First, systematic pedestrian counts were carried out during morning (8–10 AM), midday (12–2 PM), and evening peak hours (5–7 PM) across three consecutive weekdays at each site. Trained observers recorded the number of pedestrians crossing via the overbridge versus those crossing directly at grade. Simultaneously, vehicular volume counts were taken to contextualize pedestrian choices within traffic flow conditions.

Second, physical surveys and sketches documented the structural condition of the overbridges, their staircases, lighting, and surrounding sidewalks. Special attention was given to the spatial arrangement of vendors, whose stalls often blocked pedestrian access to the bridges.

Third, a questionnaire survey was administered to approximately 200 respondents, including pedestrians (n≈150) and street vendors (n≈50). The survey asked pedestrians about their awareness of the purpose of overbridges, reasons for non-use, perceptions of safety, and opinions on vendor relocation and escalator feasibility. Vendors were asked about their livelihood needs, willingness to relocate onto overbridges, and expectations of customer flows in such a scenario.

The sampling strategy combined purposive and random approaches. Locations were purposively chosen, while pedestrians and vendors were selected using a simple random intercept method, ensuring diversity in age, gender, and occupation. Data analysis combined quantitative and qualitative techniques. Pedestrian counts were analyzed using descriptive statistics and cross-tabulations (e.g., age vs. overbridge use, gender vs. perceptions of safety). Questionnaire responses were coded thematically to capture cultural attitudes, perceived

convenience, and barriers to usage. This combination of approaches allowed the study not only to measure usage but also to understand the underlying motivations behind observed behavior.

Table 02. Summary of Methodology

Component	**Description**
Study Area	Four Pedestrian overbridges of Sylhet city: University Gate, Bandar bazaar, Tilagor, Shah Poran Mazar Gate
Research Design	Mixed method: observation, photograph, sketch, oral interview, questionnaire
Data Collection	Pedestrian counts and traffic volume Physical survey of bridges Questionnaire survey
Respondents	200 (random sampling: 125 pedestrians, 50 vendors, and inclusive sampling: 25 learned local)
Sampling	Purposive site selection; random process for individuals; inclusion criteria for learned local
Survey Focus	Pedestrian awareness, usage reasons, safety perception, views on vendor relocation & escalators
Analysis Methods	Descriptive statistics, cross-tabulation, thematic coding
Timeframe	Three weekdays, peak hours (8–10 AM, 12–2 PM, 5–7 PM)

RESULT

The survey across four key overbridges in Sylhet city area reveals (tab: 03) that their overall usability remains critically low despite heavy pedestrian demand in these locations. Male pedestrians constitute the majority of users, while women and children are significantly underrepresented, reflecting both gendered mobility constraints and safety concerns. Although a small fraction of users (30–45%) reported feeling comfortable using the bridges, the majority highlighted discomfort, with steep staircases and time-consuming access being cited as major deterrents. At all sites, over 75% of respondents admitted that they prefer direct road crossing over using the bridge, even when traffic volumes pose life-threatening risks.

Beyond structural inefficiencies, the findings point to serious social and security challenges that further reduce pedestrian willingness to use overbridges. More than half of the respondents identified fear of pickpocketing and petty theft as a major deterrent, while 40–50% observed or suspected drug dealing and other illicit activities taking place on these structures, particularly at Bandar bazaar

and Shah Poran Gate. The lack of adequate lighting and absence of continuous police or authority monitoring amplifies these risks, especially at night, when 70–80% of pedestrians reported completely avoiding overbridges. Additionally, the frequent presence of beggars and homeless individuals occupying bridge spaces was perceived as both a safety issue and a physical obstruction to free pedestrian movement.

These findings underscore that the low usage of overbridges in Sylhet is not merely a design or accessibility issue but also a socio-spatial governance problem. Without addressing crime, maintenance, and the informal use of bridge spaces, interventions such as escalator installation or vendor relocation may not achieve their intended results. Thus, the usability of pedestrian overbridges must be understood through a multi-dimensional lens—combining physical infrastructure improvement with social safety measures, vendor integration, and active law enforcement—to ensure their effectiveness as genuine pedestrian solutions.

Table 03. Survey output of parameters of the four Pedestrian overbridge

Parameters	**University Gate**	**Bandar bazaar**	**Tilagor**	**Shah Poran Gate**
Male Users (%)	60	55	65	50
Female Users (%)	25	30	20	35
Children Users (%)	15	15	15	15
Comfortable Using (%)	40	35	45	38
Uncomfortable Using (%)	60	65	55	62
Stepping Up as Major Problem (%)	65	70	60	68
Prefer Direct Crossing (%)	80	85	75	82
Support Vendor Relocation (%)	55	60	50	58
Support Escalator Installation (%)	35	40	30	45
Feel Safe on Bridge (%)	45	40	50	42

Bridge Too Crowded (%)	50	65	55	60
Well Maintained (%)	40	35	42	38
Poor Lighting at Night (%)	70	75	68	72
Time-Saving Compared to Road Crossing (%)	30	28	32	29
Would Use if Vendors Present (%)	48	52	46	50
Fear of Pickpocketing/Theft (%)	55	65	50	58
Reports of Drug Dealing (%)	40	50	38	45
Presence of Beggars/Homeless (%)	60	70	55	62
Police/Authority Monitoring Present (%)	25	20	28	22
Avoid Bridge at Night (%)	75	80	70	78

Problems at overbridge area due to vendors

The survey findings show that vendor-related congestion significantly hampers effective overbridge use in Sylhet. This issue is worst in Bandar bazaar, where 85% of users report severe blockages at the entrances, and 40% say vendors occupy the bridge deck itself, causing constant crowding, noise, and limited pedestrian movement. Likewise, University Gate and Shah Poran Mazar Gate also face notable entrance congestion (68% and 75% respectively), although the types of vendors there are more specific, such as student stalls and religious vendors selling flowers and offerings.

Beyond congestion, the secondary impacts of vendor activity are equally disruptive. High levels of cleanliness issues were reported, peaking at 70% in Bandar bazaar, where food waste and plastic litter accumulate daily. Noise was also a concern, with 65% of Bandar bazaar users reporting significant disturbance from shouting vendors and aggressive selling practices. Even in relatively

moderate locations like Tilagor, one in three pedestrians noted waste and obstruction problems, suggesting that the issue is widespread across all bridges.

A particularly worrying finding is the association of vendors with illegal or unsafe activities. While 25–45% of users across different sites reported risks of pickpocketing or drug-related activity, Bandar bazaar again stands out with the highest risk perception (45%). This highlights how unregulated vendor presence not only obstructs movement but also transforms overbridges into insecure spaces, further discouraging their use, especially among women and children.

Interestingly, public opinion regarding solutions reveals a preference for vendor relocation rather than strict removal. Across all sites, 50–62% of users supported relocation, indicating that vendors are perceived as part of the urban fabric but require improved management. Support for outright removal was relatively low, except in Tilagor (40%), where pedestrian volumes are lighter and users are more willing to see overbridges cleared entirely. At Shah Poran Gate, only 25% supported strict removal, highlighting the cultural sensitivity of vendors linked to religious practices.

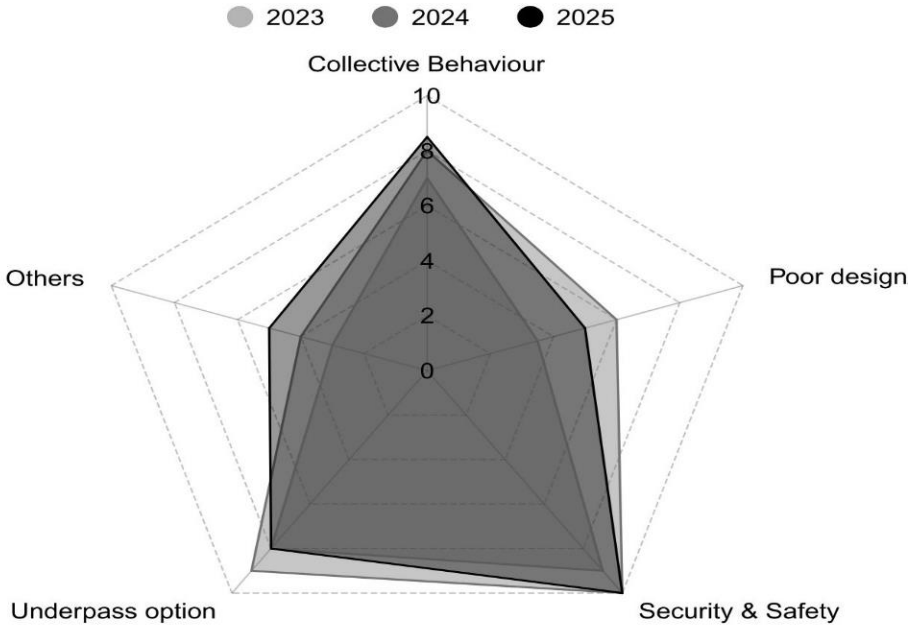
Overall, the findings underscore that vendor activity is both a physical and social barrier to the functional use of overbridges (tab: 04). Effective policy interventions must therefore balance pedestrian accessibility with livelihood concerns, focusing on structured relocation, waste management, and increased monitoring, rather than complete eviction, which could lead to conflict and resistance.

Table 04: Problems at overbridge area due to vendors (survey 2024)

Parameters	**University Gate**	**Bandar bazaar**	**Tilagor**	**Shah Poran Mazar Gate**
Vendor congestion near the entrance	68%	85%	60%	93%
Vendor presence on the bridge deck	20%	40%	15%	30%
Obstruction to pedestrian movement	55%	80%	50%	65%
Illegal activities (pickpocketing, drugs)	55%	75%	40%	45%
Cleanliness/waste problems	40%	70%	75%	80%
Noise/disturbance	30%	65%	25%	40%
Support for vendor relocation	58%	62%	50%	55%
Support for strict vendor removal	20%	35%	40%	25%

The site surveys revealed notable variation in pedestrian activity across the four studied overbridges in Sylhet, yet a consistent pattern emerged: almost no use of the infrastructure despite heavy foot traffic at ground level.

Chart 01: The key factors for underutilization of pedestrian overbridges



A detailed radar chart (chart: 01) visualizes the key factors contributing to the underutilization of pedestrian overbridges over a three-year period from 2023 to 2025. The chart, which measures five distinct categories on a scale of 0 to 10, highlights the growing significance of several issues. "Collective Behaviour," representing the public's disregard for using the overbridges, consistently emerges as the most critical factor, with its rating increasing annually. Similarly, "Poor Design" and "Security & Safety" are identified as major contributors, with the latter showing a particularly sharp rise in 2025, suggesting heightened concerns about personal safety on these structures. In contrast, "Underpass option" and "Others" are rated as less significant, indicating that the primary reasons for avoiding overbridges are tied to behavioral patterns and concerns about security rather than the availability of alternative crossing methods. The data collectively suggests that any effective solution must prioritize addressing these core behavioral and safety-related issues to encourage public use of the overbridges.

At the University Gate overbridge (fig: 06), pedestrian flows were very high, mainly consisting of students, teachers, and staff commuting between the university and nearby neighborhoods. Observations over several hours showed that fewer than 1% of pedestrians used the overbridge, with an average usage rate of 0.5%. The main deterrent was the steepness of the staircases, which

proved inconvenient for large groups of students rushing to classes. The lack of shaded structures and exposure to direct sunlight also discouraged usage, especially during midday. Respondents suggested that escalators or shaded roofing could improve compliance, though there was skepticism about the long-term maintenance of escalators.

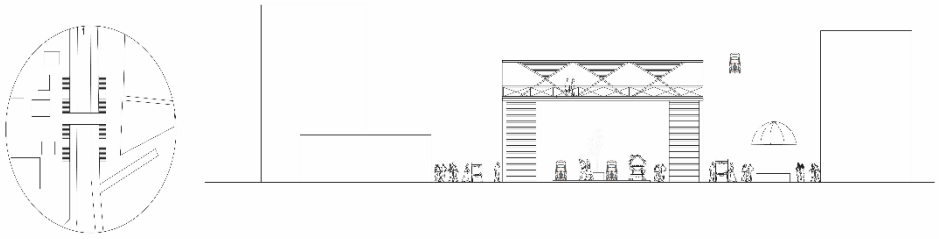


Figure 06: University gate pedestrian overbridge

The Bandar bazaar overbridge (fig: 07), is situated in one of Sylhet's busiest commercial areas, with extremely high pedestrian volumes throughout the day. Despite this, its usage was only 0.3%, the lowest among the four sites. The primary obstacle was not just the design but also the street-level environment. Street vendors occupied the approaches to the bridge, blocking entry and redirecting pedestrian movement along the ground. For most users, the economic activity at street level was a bigger attraction than the safety of the bridge. Interviews indicated that pedestrians might be more inclined to use the overbridge if vendors were relocated onto it, turning the structure into both a commercial and functional space.

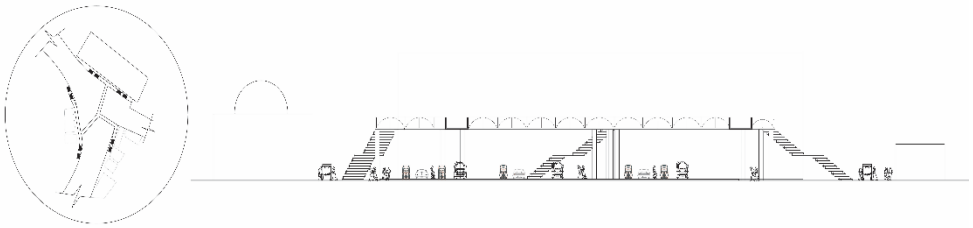


Figure 07: Bandar bazaar pedestrian overbridge

The Tilagor overbridge (fig: 08), had a slightly higher usage rate of around 1.0%, but this still meant more than 99% of pedestrians chose street-level crossings. Compared to other sites, Tilagor’s lower pedestrian volume slightly reduced risks, but the design flaws were clear. Users described the bridge as “unattractive” and “poorly maintained.” The lack of shops or active uses made the bridge feel isolated and unwelcoming, further discouraging use. Respondents proposed adding small commercial stalls on the bridge and improving maintenance and aesthetics to make it more appealing.

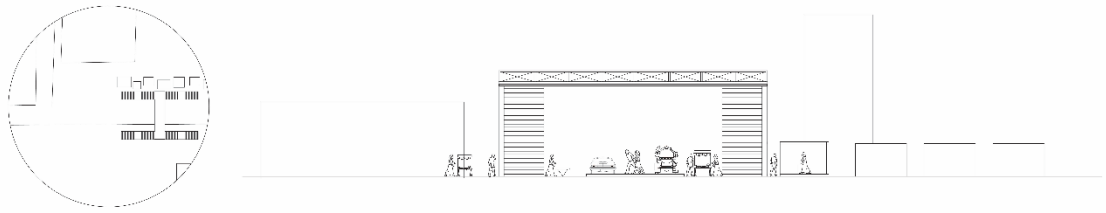


Figure 08: Tilagor pedestrian overbridge

The Shah Poran Mazar-gate overpass (fig: 09), near a religious shrine, experienced high pedestrian traffic, especially during prayer times and festivals. However, its actual usage was only 0.4%, since most devotees crossed at street level that occurs a traffic chaos and life threat due to possible accident. The collective behavior of religious groups crossing together established a strong social norm that made the bridge seem unnecessary. The lack of enforcement by traffic police further reinforced this trend. Survey responses indicated that stricter policing and relocating vendors onto the bridge could boost compliance, but many noted that because religious gatherings are collective, changing behavior would require community-wide awareness efforts.

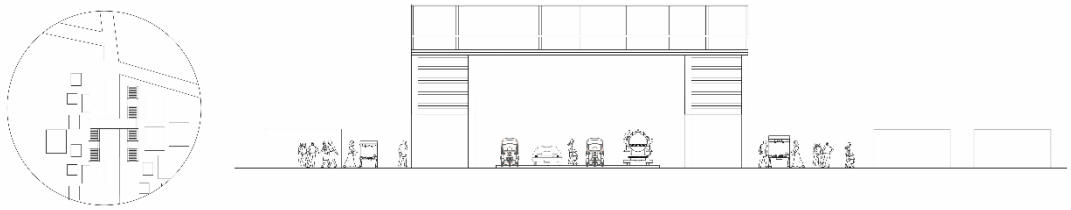


Figure 09: Shah Poran Mazar-gate pedestrian overbridge

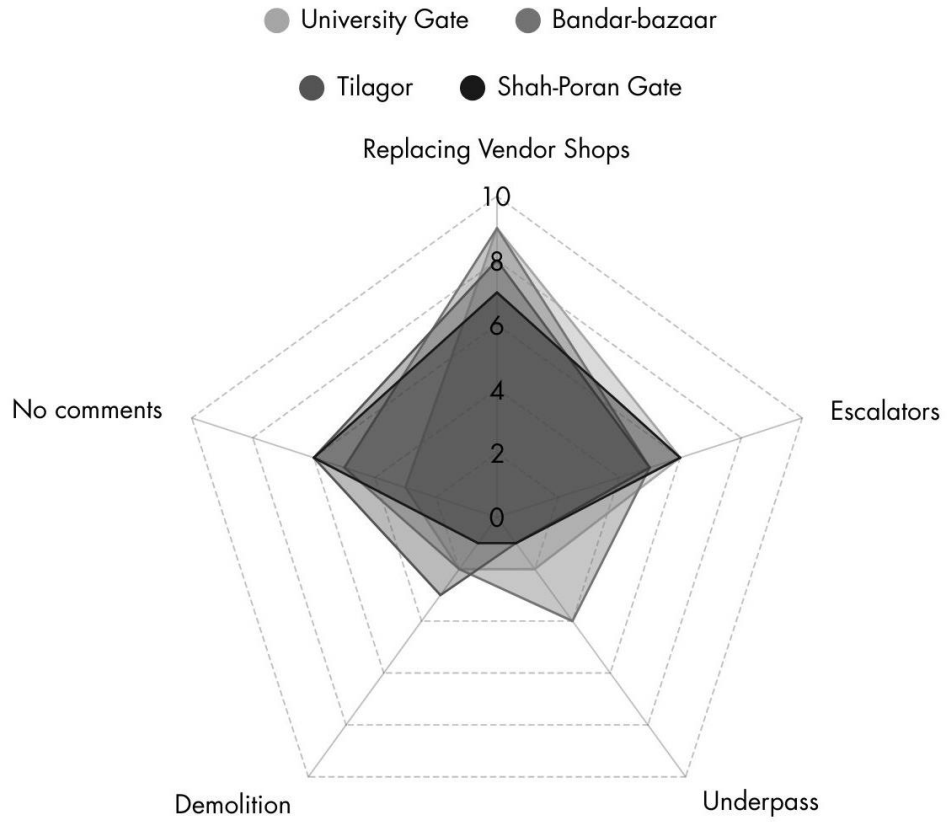
Table 05. User Perception

Location	**Pedestrian Flow**	**Usage %**	**Main Issues**	**Suggestions**
University Gate	High	0.5%	Steep stairs, student rush	Escalators, shaded bridge
Bandar bazaar	Very High	0.3%	Vendors block entry, too busy	Relocate vendors to bridge
Tilagor	Medium	1.0%	Poor design, unattractive	Shops, better maintenance
Shah Poran Mazar-gate	High	0.4%	Mass pedestrian crossings	Police enforcement, vendors

Across all four sites, the findings reveal a clear disconnection between infrastructure and pedestrian behavior (tab: 05). Despite high pedestrian traffic and evident safety risks, none of the overbridges had usage above 1%. Common barriers included steep and inconvenient access, unattractive design, and the prominence of vendors and economic activity at ground level.

Pedestrians expressed openness to potential solutions such as integrating vendors into the bridge and providing technical features like escalators or better shading. These findings lay the groundwork for the framework proposed later in the discussion.

Chart 02: Vendor relocation into the overbridge as a favorable solution



The radar chart (chart: 02) analysis across the four key sites in Sylhet — University Gate, Bandar bazaar, Tilagor, and Shah Poran Gate — shows that the most favored and practical solution is relocating street vendor shops into the overbridges. This approach received the highest scores at all sites, especially in Bandar bazaar and Shah Poran Gate, where vendors already have a strong presence in the surrounding streets. Moving vendors to the overbridges would

naturally encourage pedestrians to use them, reducing jaywalking and traffic conflicts, while also helping vendors sustain their livelihoods.

The second-highest rated intervention is the installation of escalators to replace or complement steep stairs. This solution directly addresses one of the major barriers to pedestrian use: physical inconvenience and time. University Gate, being a student-dense zone, especially favors this intervention as it accommodates high pedestrian flow and youthful demand for convenience. However, escalators in public spaces come with concerns regarding maintenance, electricity costs, and vandalism in the Bangladeshi context.

Underpasses emerged as a moderately supported option, particularly in Tilagor where road conditions might permit such development. However, underpasses are often associated with flooding, safety concerns, and low social acceptability in Bangladesh. Thus, while technically feasible, they are not the top priority solution in this context.

Demolition of overbridges was the least supported suggestion across all sites. This indicates that the public does not reject the overbridges outright but rather highlights dissatisfaction with their current design, accessibility, and integration with daily street life. People believe they can be made functional through modification rather than removal.

Finally, a notable portion of respondents provided no strong comments, showing either neutrality or resignation toward existing infrastructure. This highlights the importance of awareness campaigns and pilot programs to demonstrate how reimagined overbridges can enhance both safety and utility.

DISCUSSION

The results of this research confirm that the persistent underuse of pedestrian overbridges in Sylhet is not just a problem of infrastructure but more about a mismatch between design intentions and the social-behavioral patterns of urban life. Overbridges were originally built to provide safe pedestrian crossings along busy traffic routes, but their current state shows a lack of connection with the everyday needs of citizens. People keep crossing roads at street level, often through dangerous traffic flows, mainly because they see using overbridges as time-consuming, inconvenient, or disconnected from their immediate routines.

A key insight from our surveys and site observations is the role of street vendors in influencing pedestrian behavior. At locations like Bandar bazaar and Shah Poran Mazar Gate, vendors gather at road junctions and near the bases of overpasses, narrowing walkways and causing congestion. While this increases the risk of jaywalking, it also shows that the vendors themselves are not the problem — it is their placement within already crowded road networks that creates

hazards. Vendors, after all, serve an important role in urban Bangladesh by providing affordable goods, services, and social spaces.

Proposed Framework for Overbridge Revitalization

The findings from Sylhet's overbridges point to a need for a structured framework that integrates social, economic, and infrastructural dimensions into pedestrian bridge design and use. The proposed framework consists of four interdependent pillars, each addressing a key challenge behind underutilization.

1. Spatial Reallocation: Integrating Vendors into Overbridges

1. Objective: Reduce ground-level congestion and improve safety by relocating street vendors into overbridge platforms.
2. Actions:

1. Designated vending zones on overbridges with kiosks or modular stalls.
2. Clear zoning between movement lanes (for pedestrians) and static spaces (for vendors).
3. Incentivize vendors through reduced rents or municipal support.

3. Outcome: Pedestrian traffic is naturally drawn onto overbridges, while roads remain unobstructed.

2. Accessibility Enhancement: Reducing Physical Barriers

1. Objective: Encourage use by addressing mobility challenges such as steep stairs and time delays.
2. Actions:

1. Install escalators or ramps at high-density locations (e.g., University Gate).
2. Retrofit existing staircases with shaded canopies and resting spots.
3. Ensure disability-friendly access in line with universal design principles.

3. Outcome: Overbridges become inclusive and less physically demanding, particularly for elderly, disabled, or time-constrained pedestrians.

3. Design and Comfort Improvements

1. Objective: Transform overbridges from sterile, unattractive structures into appealing urban spaces.
2. Actions:

1. Incorporate lighting, shading, and urban furniture.
2. Encourage placemaking by integrating small shops, seating areas, and greenery.
3. Use transparent materials for safety and aesthetics, reducing perceptions of insecurity.

3. Outcome: Pedestrians perceive overbridges as vibrant, safe, and enjoyable spaces rather than as obstacles.

4. Policy and Enforcement Mechanisms

1. Objective: Ensure sustainable operation and long-term success of interventions.
2. Actions:

1. Enforce relocation of vendors with municipal monitoring to prevent return to streets.
2. Introduce community-based management involving vendors, pedestrians, and local authorities.
3. Regular maintenance schedules for escalators, lighting, and facilities.

3. Outcome: A self-sustaining system that balances pedestrian mobility, vendor livelihoods, and traffic flow.

CONCLUSION

This research has demonstrated that pedestrian overbridges in Sylhet, despite being constructed to enhance road safety and reduce pedestrian fatalities, are overwhelmingly underutilized due to poor accessibility, inconvenient design, and the overwhelming presence of street-level vendors. Through site surveys and user perspectives, it became clear that these structures fail to align with the daily practices and socio-economic realities of urban residents. The proposed framework—centered on relocating vendors to overbridges, improving accessibility through escalators and ramps, redesigning for comfort and aesthetics, and enforcing supportive policies— offers a practical and sustainable approach to revitalization. By repositioning overbridges as integrated public spaces rather than isolated crossing structures, this solution not only

addresses safety concerns but also promotes inclusivity, economic activity, and long-term usability within the urban fabric of Sylhet.

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