



# Walkability

## "Making Walking Preferable"

Walkability is a means to measure the friendliness of an area for walking. Walking is a convenient, significant and sustainable mode of transport. It provides health benefit to the pedestrians; reduce pollutant emission, reduce dependency on fossil fuel and promotes road safety. Good sidewalks, disable friendly infrastructures, good traffic and street lights, shades over footpath and feasible crossing points makes the street pedestrian friendly. In most of the places in the valley where people used to meet, play and do shopping are offend filled by cars and motorbike parking. This has a negative effect on the livability and attractiveness of city.

In most of the developing countries, daily trips often include walking. Nearly all trips made by people entail walking either directly to the destination or to another mode of transport. " Although walking is still the major mode of travel in Kathmandu Valley, it has significantly decline form 53.1% in 1991 to 40.7% in 2012 (MoPIT/JICA, 2012).The study further forecasted that walking mode share will decline to 38% in 2020. A study by ADB in 2010 along with CEN and CAI-Asia revealed that the pedestrian facilities in Kathmandu is worse in condition and is not user friendly to disable people". In order to understand the state of walkability in Asian cities, Clean Air Asia (CAA) with support from the Asian Development Bank and the Fredskorpset conducted walkability surveys in 27 Asian cities. This study revealed that the pedestrian facilities in Kathmandu is worse in condition and is not user friendly to differently abled people. The cities of Kathmandu Valley were traditionally designed for walking and providing communal space for people to meet. But, the places where people meet, shop and play are often occupied by cars and motorbikes parking. This decrease livability and attractiveness of the cities.

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## State of Pedestrian Infrastructures

The major barriers of walkability in cities are as follows:

- Narrow and Congested footpath with discontinuity and obstruction (electric poles, bins)
- Abrupt lowering of sidewalk
- Dirty and unsafe pavements
- Vendors encroachment and parking in sidewalk
- Lack of facilities/amenities for pedestrian
- Lack of priority for differently able people

Photo Courtesy: Rajan Thapa



Figure 1: Pavements with obstruction



Figure 2: Pedestrianization in Bhaktapur



## Walkability in Different Cities of Nepal

Walking is the common mode of transport. Lack of proper infrastructure has reduced the number of pedestrians, which has significantly declined from 53.1% in 1991 to 40.7% in 2012 (MoPPW/ JICA, 2012). To understand the walkability status and people perception, the walkability study was conducted in four cities of Nepal; Kathmandu, Lalitpur, Bhaktapur and Pokhara.

### Study Findings

Walkability Index

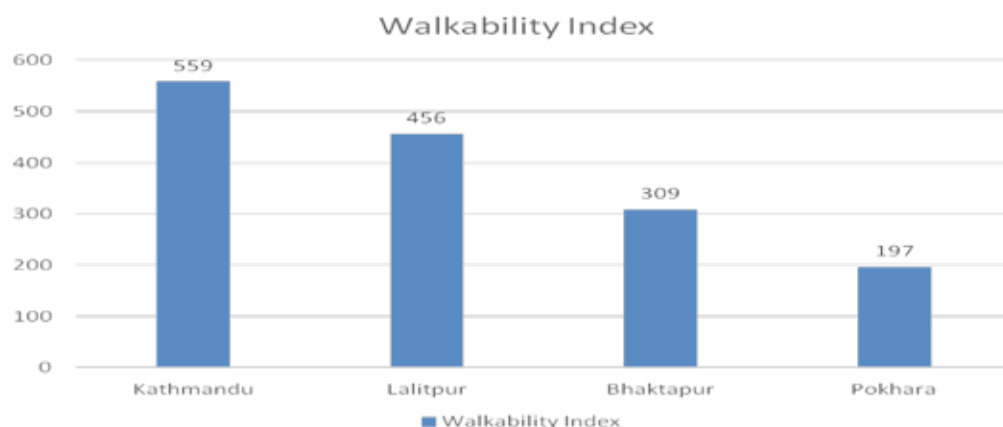


Figure 3 : Walkability index of four cities in Nepal

“...Kathmandu is least walkable among the four cities of Nepal with highest walkability score 559 whereas Pokhara the most walkable city with the least score 197.”

Walkability Index is a resource used to measure and visualize walkability. The walkability index formulated through the survey revealed that Kathmandu is least walkable among the four cities of Nepal with highest walkability score 559 whereas Pokhara the most walkable city with the least score 197. Lower walkability score indicate the more walkability of city.

This walkability index is based on Global Walkability Index developed by Holly and Walkability Mobile Application launched by Clean Air Asia. The total walkability score was achieved from scoring the nine different parameters; walking path modal conflict, availability of walking paths, crossings, grade crossing safety, motorist behavior, amenities, disability infrastructure, obstruction on pathways and security from crime.



Figure 4 : Congested road with less pedestrian flow



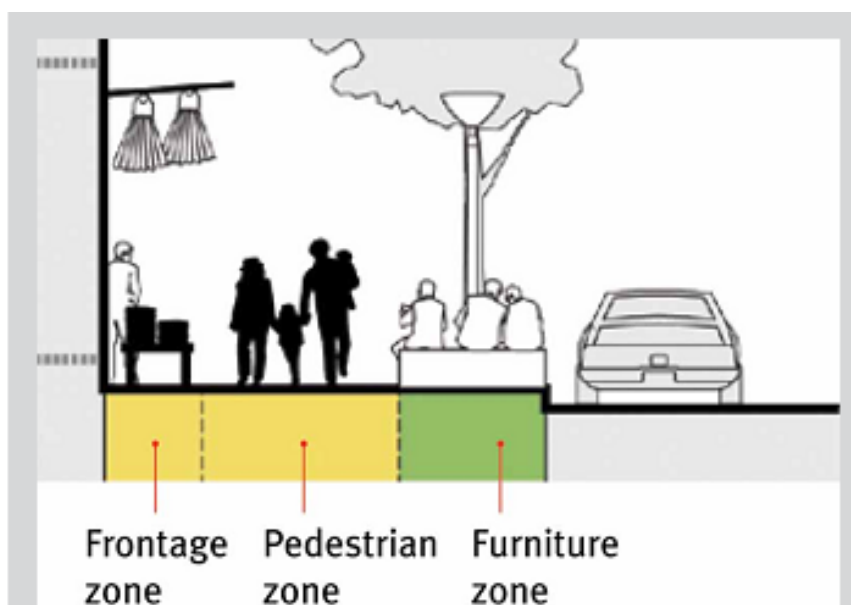
## People's Perception on Pedestrian Facilities

The pedestrian from four cities rated the pedestrian facilities of their cities where Kathmandu was rated with the worst pedestrian facilities. 78% of the pedestrians mentioned that the pedestrian facilities are poor in Kathmandu. While in other cities 48%, 46% and 30% of respondent in Lalitpur, Bhaktapur and Pokhara stated the poor pedestrian facilities in their respective cities. The facilities taken into consideration during the survey were street lighting, wider footpaths, clean sidewalks, reduced traffic speed on road, removal of obstacles/parking from footpath and practicable crossing points.

## Stakeholder's Perception on Pedestrian Facilities

Eighty percentage of surveyed stakeholder stated that pedestrian facilities in the cities are nearly fair but they are hopeful that the new improvised construction of roads and its planning for future can improve its conditions. However, the currently running road construction still lacks the proper designing of sidewalks.

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Sidewalk should have distinct zones that serve different purposes:

**Pedestrian zone:** Provides continuous space of at least 2m width of right-of-way for walking and should be free of any on obstructions.

**Furniture zone:** Space for landscaping, furniture, lights, bus stops, sign, and private property access ramps etc.

**Frontage zone:** Provide buffer between street-side activities and the pedestrian zone.

Source: ITDP/EPC, 2011

Figure 5 : Proper designs for the sidewalks with distinct zones



## Pedestrian's Preference for Crossings

Crossing is an important infrastructure for convenient walking. Among different types of crossing options; ground crossing, sky bridge and subway, 64% of the surveyed pedestrian preferred ground crossing over other crossing options since ground crossing is less time consuming, convenient and easy option for the old age people, children and differently able people. The construction and maintenance cost of ground crossing is even cheaper than other types. Hence, it is necessary to increase and improve the infrastructure like zebra crossings, traffic lights and traffic signals for the convenient ground crossing.

## Pedestrian willingness to walk to pedestrian crossing point

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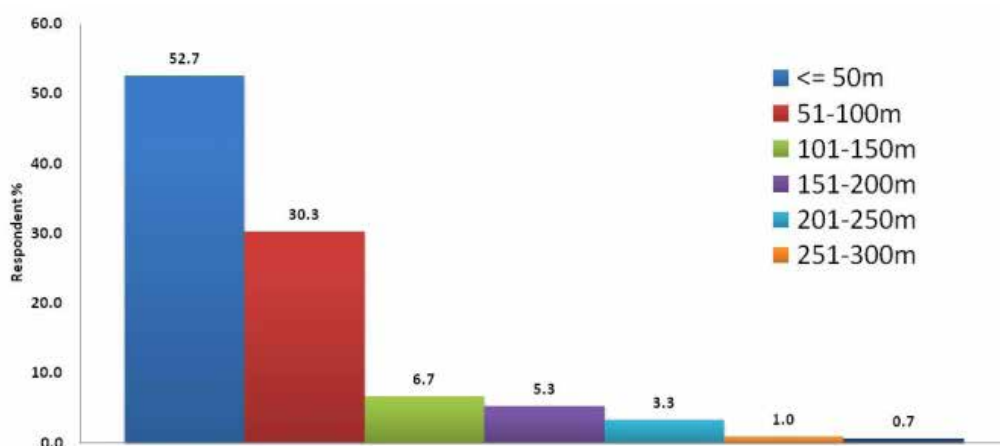


Figure 6 : Pedestrian's willingness to walk up to the crossing point

Practicable distance for crossing is also an important factor that affects people's willingness to walk. 83% of the pedestrians surveyed are willing to walk to pedestrian crossing point if the walking distance is not more than 100m. The lack of crossing at the feasible distance can encourage the jaywalking, which as a result increases the road accidents. The Metropolitan Traffic Police Division (MTPD) stated that 49% of the total road fatalities were pedestrians in Kathmandu Valley.



Figure 7 : Narrowed disable unfriendly pavements



## Feasible pavements for differently able people

Officially, the Prime Minister's Office (PMO) has instructed the Ministry of Physical Infrastructure and Transport (MOPIT) and the Ministry of Federal Affairs and Local Development (MoFALD) to incorporate provisions of disabled-friendly roads while drawing and designing public roads. At the national level, policies are being more inclusive but at implementation level, the inclusiveness still lacks. Almost 92 % of all the surveyed roads have no existing facilities for differently able people.

## Pedestrian – Vehicle conflict in urban core area



Photo Courtesy: Rajan Thapa

Figure 8: Lagankhel-Manga bazar stretch

As fewer number of people are willing to walk, the use of private vehicle for every activities is increasing. Such frequent usage creates the conflict between pedestrian and vehicle. The conflict is even worse in the small streets. The study of pedestrian–vehicle conflict conducted in the small and busy street of Lagankhel-Mangalbazar for two hours in regular interval of 10 minutes. 4395 : 485 pedestrian : vehicle was counted in the stretch of 700m. There is no infrastructure for the pedestrians to walk safely and care freely. In order to encourage the pedestrians to walk, urban core area should be made vehicle free to stop conflicts and to build a livable, humane city and to boom local economy.

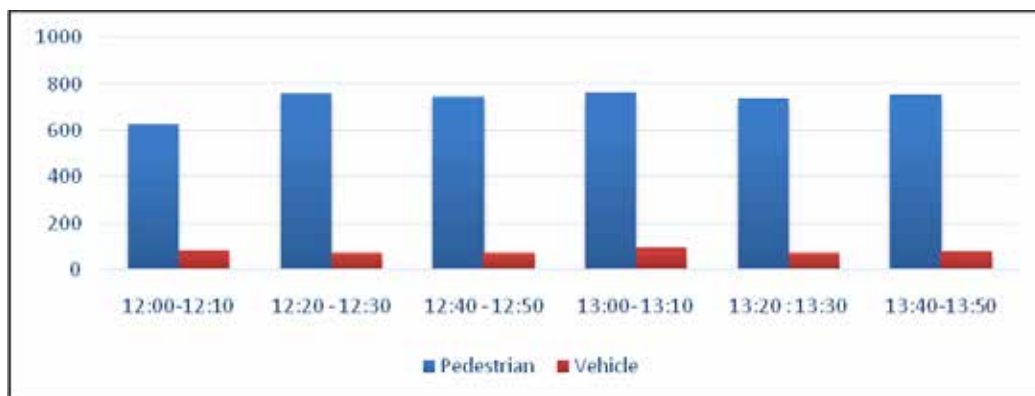


Figure 9 : Pedestrian vehicle count in Lagankhel-Manga bazar stretch

## Initiatives on Improving Pedestrian Facilities

### KTM Walks



Photo Courtesy: Rasu Manandhar

Figure 10 : Elderly people walking easily and safely in vehicle free stretch

Ktm Walks is a campaign to promote walking and cycling. The goal of this campaign is to build more livable and humane city. During this campaign, private motor vehicles is restricted to enter the certain stretch and the space is exclusively provided for the people to walk, cycle, play, eat and relax in order to experience the serene environment.



The first Ktm Walks was organized on 20th September at Kiagha. Similar vehicle free day were organized in different road stretches; Janabahal, JP Marg (Thamel), Satghumti (Thamel), Bhagwan Bahal (Thamel), Teku Dobhan (Kalmochan), Basantapur and Bhaktapur. Activities such as promotional rally, heritage walk games, slow cycle race, cleanup program, pottery paintings, documentary show, food stalls etc. making the street vibrant and lively.

## Components of Complete Streets

- Complete Footpaths
- Pedestrian Crossings in regular distance
- Complete Cycle tracks
- Carriageway
- BRT / Separate Bus lanes
- Appropriate bus stops
- Parking
- Vending space
- Street furniture /amenities– sign boards, benches etc
- Utilities – Rain water drains, Sewage lines, electric poles etc.

## Conclusion and Recommendation

Walkability in Nepal is decreasing whereas the dependency in fossil fuel is increasing. In order for a city to be livable, it should focus on people centric development rather than vehicle centric development. Thus, there is an urgent need to formulate plans and policies to improve walkability in cities of Nepal.

**Feasible crossing points:** In most of the places the crossing points were found very poor in condition. As most of the people preferred for the ground crossing, an efficient method of crossing like zebra crossing must be preferred and its maintenance must be ensured. Moreover, the crossing at the feasible distance should be provided for pedestrians.

**Vehicle Free Urban Core Area:** With wider stakeholder consultations and local community participation, the city government should implement plans to restrict vehicular movement and improve walkability.

**Responsible Department:** A secure and dedicated funding for improving pedestrian infrastructure and services should be established by mobilizing the national and local resources. Concern stakeholders should make the responsible decision before executing the development works.

**Discourage parking:** It is very common to see parked private car and two wheelers on pedestrian footpaths. Even though strong rules are made to ban illegal parking, somehow the law is not being enforced properly. Parking should be discouraged in the open spaces and footpaths

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**Improve Pedestrian Amenities:** Pedestrian amenities such as greenery, waiting sheds, crossing points, ramps for differently able people and street lights must be placed in strategic locations to promote pedestrianization in the city. The footpath should connect with the public transportation so that the pedestrians can get access to the public transport.

**Public Awareness:** Public awareness campaigns must be strengthened to promote pedestrian safety on the road and improve motorist behaviors towards pedestrians.

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Streets and their sidewalks are the main public places of a city; they are its most vital organs. Think of the city and what comes to the mind? *Its streets – Jane Jacobs*



Figure 11 : People Friendly City

This Factsheet is produced through the support from; funding partner Fk Norway, coordinating partner Clean Air Asia and the country network Clean Air Network Nepal/ Clean Energy Nepal

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