



## Walkability Survey Tool

**W**alking is a significant mode of transport and all human beings are pedestrians for varying time periods on roads, even though motorization is increasing at a rapid pace. Even people who use cars and motorcycles, depending on their need, walk for shorter or longer distances.

Benefits of walking include

- Health, as walking helps prevent diabetes, obesity, hypertension, cardiac problems and others
- Environment, through the avoidance of air pollution and greenhouse gas (GHG) emissions from motorized vehicles and conservation of fuels
- Mobility, which is improved because pedestrians take less space and walking is a viable alternative for trips of a few km or less, which form the majority of trips in urban areas
- Economic: walking does not cost anything, it is the most affordable mode of transportation



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The ability to walk (“**walkability**”) in Asian cities has gradually deteriorated due to the increase of motorized vehicles. A worldwide study of the World Health Organization (2009) analyzed the causes of accidents and relevant policies and suggests that: *“Our roads are particularly unsafe for pedestrians, cyclists and motorcyclists who, without the protective shell of a car around them, are more vulnerable. These road users need to be given increased attention. Measures such as building sidewalks, raised crossings and separate lanes for two wheelers; reducing drink-driving and excessive speed; increasing the use of helmets and improving trauma care are some of the interventions that could save hundreds of thousands of lives every year. While progress has been made towards protecting people in cars, the needs of these vulnerable groups of road users are not being met.”*<sup>1</sup>

**“While progress has been made towards protecting people in cars, the needs of these vulnerable groups of road users are not being met.” - WHO, 2009.**

The main objective of walkability surveys is to benchmark cities against different walkability parameters and to inform policy makers, development agencies and other stakeholders on the results to enable them to improve walkability. Several methodologies exist in Asia to assess walkability and they vary with regard to the emphasis in qualitative or quantitative assessment, components, sampling and scoring. The most comprehensive is the Global Walkability Index (GWI) developed by the World Bank.<sup>2</sup> The CAI-Asia Center through a project with the Asian Development Bank modified the methodology to reflect pedestrian route assessment and included a field walkability survey similar to the GWI, a pedestrian preference survey (“pedestrian wish-list”) and a government policy and institutional survey. This revised methodology allows not only the comparison of pedestrian infrastructure and support in terms of policies and services in different cities **but also identifies specific actions that cities can take to improve their infrastructure, as well as provide inputs to related policies and services.**

<sup>1</sup> WHO. 2009. Global Status Report on Road Safety: Time for Action. Available: [http://www.who.int/violence\\_injury\\_prevention/road\\_safety\\_status/2009/en/](http://www.who.int/violence_injury_prevention/road_safety_status/2009/en/)

<sup>2</sup> Holly Krambeck developed the GWI for the World Bank. [www.cleanairnet.org/caiasia/1412/article-60499.html](http://www.cleanairnet.org/caiasia/1412/article-60499.html)

## Field Walkability Survey

The field walkability survey assesses pedestrian infrastructure in four areas (commercial, residential, educational, and public transport terminals). For each, areas with high pedestrian volume are selected based on preparatory surveys and consultation with local stakeholders. Complete route assessments were conducted by following logical pedestrian routes in the specific areas linking origins to destinations.

In order to facilitate comparisons among cities, the field survey used a uniform rating system for nine qualitative parameters (Table 1). Complete route assessments were conducted to provide a holistic overview that links design and execution to user perception and the built environment.

**Table 1: Field Walkability Survey Parameters.**

#	Parameter	Description
1	Walking Path Modal Conflict	The extent of conflict between pedestrians and other modes on the road, such as bicycles, motorcycles and cars
2	Availability of Walking Paths	The need, availability and condition of walking paths. This parameter is amended from the parameter "Maintenance and Cleanliness" in the Global Walkability Index
3	Availability of Crossings	The availability and length of crossings to describe whether pedestrians tend to jaywalk when there are no crossings or when crossings are too far apart
4	Grade Crossing Safety	The exposure to other modes when crossing roads, time spent waiting and crossing the street and the amount of time given to pedestrians to cross intersections with signals
5	Motorist Behavior	The behavior of motorists towards pedestrians as an indication of the kind of pedestrian environment
6	Amenities	The availability of pedestrian amenities, such as benches, street lights, public toilets, and trees, which greatly enhance the attractiveness and convenience of the pedestrian environment, and in turn, the surrounding area
7	Disability Infrastructure	The availability of, positioning of and maintenance of infrastructure for the disabled
8	Obstructions	The presence of permanent and temporary obstructions on pedestrian pathways. These ultimately affect the effective width of the pedestrian pathway and may cause inconvenience to pedestrians
9	Security from Crime	The general feeling of security from crime on a certain stretch of road



Field surveyors are asked to rate the selected road stretches from 1 to 5 for each parameter (1 being the lowest, 5 being the highest) in each of the area types. The averages for each of the parameters are translated into a rating system from 0 (lowest score) to 100 (highest score). Walkability ratings in the different area types in each city are derived by taking the average of the individual parameters' averages. The final city walkability ratings are derived by averaging the walkability ratings in the different area types in each city.

This method of deriving a “Walkability Rating” differs from the Global Walkability Index as the latter takes into account the number of people walking (pedestrian count) during the time of the survey and the length of the stretch being surveyed. The revised methodology documents street lengths and pedestrian counts but excludes these two factors from the walkability rating to eliminate the inherent bias generated by the number of people walking on a certain stretch and its length. For example, a stretch with adequate infrastructure and very high pedestrian traffic should not receive a higher rating than a high-quality stretch with low pedestrian traffic. Utilization by itself should not be used as a parameter to assess the walkability of a certain area because it penalizes good areas with lower utilization rates. Current levels of pedestrian traffic are more useful in identifying priority areas for improvement (e.g. areas with high pedestrian traffic but with low walkability ratings). This argument also holds true for distance. A relatively short but high quality stretch of footpath should not be penalized because it is shorter.

One of the limitations of the field surveys is the subjectivity of responses as it is influenced by the surveyor, especially in this study that involved different organizations and individuals to carry out the surveys. There needs to be a balance between accuracy, simplicity and resources availability. This methodology adopted is cheap and simple but less accurate when compared with many quantitative methodologies, even though other methodologies make surveys more expensive. What is important to keep in mind is that the results need to give a clear enough indication as to where main weaknesses exist in the current pedestrian infrastructure, facilities and supporting policies and institutional set up, so that actions for improvement can be selected.



**Figure 2: Sample for Hong Kong: Residential; Whampoa Garden Site 3 Blk 8; 0.8 km – 10 mins**

### **Pedestrian Survey**

Pedestrian interviews are also conducted to capture the views and preferences of pedestrians. A short questionnaire on social characteristics and walkability preferences is designed based on discussions with experts and policymakers. The surveyors completed the questionnaire during the interviews and used local language to improve respondents' comprehension of the questions.

Pedestrians are interviewed in different cities and are asked to rate the walkability of a specific area, to describe what makes a good pedestrian environment, as well as to identify specific improvements that they would want in their walking environments. The minimum sample size is 50 respondents per area, and the actual number of respondents is influenced by resources available, outdoor conditions and willingness of the people to be interviewed.



### ***Policy and Institutional Survey***

Finally, interviews are held with several public agencies and current policies and guidelines in the selected cities and countries are reviewed. This is an important component because while there are many reasons for the current state of the walking environment in Asian cities but the main ones are related to policies, institutions and allocation of financial resources. While current policies and guidelines for pedestrians in these cities are reviewed to identify strengths and gaps, the survey does not provide a comprehensive analysis of the current design guidelines for pedestrian facilities in surveyed countries and cities

### ***For more information***

Visit the Walkability Page in the Clean Air Portal: <http://cleanairinitiative.org/portal/whatwedo/projects/Walkability>

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