



POST-DESIGN ISSUES

19 Monitoring pedestrian activity

20 Making best use of facilities



POST-DESIGN ISSUES

How do we know if our projects have achieved their goals?

It is important to monitor the effectiveness of walking strategies and projects to gain an understanding of how well they are providing the desired outcomes. This part suggests ways of monitoring completed projects.

For quality facilities to be fully effective, people need to know they are available and encouraged to use them. Ways of promoting their user are briefly discussed.

19 MONITORING PEDESTRIAN ACTIVITY

MEASURE PROGRESS TOWARDS WALKING OBJECTIVES

- Choose monitoring techniques
- Set up pedestrian counting programme
- Collect data for walking indicators
- Share information to benchmark performance

19.1 Introduction

Every scheme or strategy to help pedestrians should have a clear set of objectives – and a plan for effective monitoring to track progress in achieving those objectives, to establish trends and to determine if the facilities provided are adequate [97].

19.2 Monitoring methods

The appropriate monitoring method(s) should be chosen at the earliest stages of the scheme or strategy. It must be cost effective, easily repeatable and collect accurate data [98]. The survey duration is also a factor, as longer periods increase costs but generally provide more accurate and useful information.

The approaches are usually limited and depend on the objective being monitored. Table 19.1 shows some common techniques [38]:

Technique		Characteristics
Interviews and questionnaires	On-street surveys	<ul style="list-style-type: none"> • Can collect origin and destination data that enable trip length and route to be determined, as well as demonstrating how walking relates to other modes. • Can also be used to gather information on perceptions of the walking environment by those actually using the facilities.
	Household surveys	Useful to obtain general and background information on walking trips.
	Travel diaries	
Pedestrian counts	Manual pedestrian counts	Collect a range of data for pedestrian flows, such as: <ul style="list-style-type: none"> • pedestrian ages • group size • mobility impairments • conflicts with vehicles or other pedestrians • crossing location • delays experienced • path taken across the road • uncertainty in crossing (abortive crossing attempts). Need to have enough staff to cope with anticipated pedestrian numbers and avoid fatigue/loss of accuracy. Surveys can be videotaped and reviewed later, but this increases costs.
	Automatic video imaging	<ul style="list-style-type: none"> • Walking activity is videotaped and subsequently processed using computer software. • Can provide good data when extended monitoring is required. • Generally less flexible and more expensive than manual methods.
	Infrared sensors (through-beam or retro-reflective)	<ul style="list-style-type: none"> • Create an invisible beam that pedestrians break as they walk past. • Pedestrians have to be in single file, which occurs infrequently. • Can provide good data when extended monitoring is required. • Generally more expensive than manual methods.
	Infrared sensors (diffuse-reflective)	<ul style="list-style-type: none"> • Capture pedestrian targets and trace their path. • Very flexible and can produce data on walking speed, routes and sudden deviations (indicating conflicts). • Can provide good data when extended monitoring is required. • Generally more expensive than manual methods.

19.3 Survey locations

Pedestrian surveys should take place where the scheme's effects are likely to be the most significant, bearing in mind that walking trips are generally short. Pedestrians can also be highly flexible in their choice of route, so for some monitoring activities a number of surveys carried out simultaneously in different locations can offer more reliable and useful data than a single survey at just one location [38]. These approaches are known as 'site-specific' for surveys in the scheme's immediate vicinity and 'area-wide' for those on the immediate approach to, or within, the area.

Table 19.3 – Potential walking indicators

	Quantitative	Qualitative
Walkability	<ul style="list-style-type: none"> • Total length of road that has been subject to a walkability audit, per 100,000 population. • Percentage of households within 1 km of major destinations (such as local shopping areas or schools). • Percentage of streets where the 85th percentile speed is greater than 40 km/h. • Percentage of roads that include footpaths on both sides. • Average number of formal crossing facilities provided per km of road. • Percentage of pedestrian crossing points with facilities for mobility or vision impaired. • Percentage of reported pedestrian problems that are corrected within one week. • Percentage of residential streets having street lights that meet or exceed the minimum standard. • Percentage of crossing facilities more than 10 m long with no refuge. 	<ul style="list-style-type: none"> • Percentage of pedestrians who feel the streetscape has improved in quality. • Percentage of pedestrians who consider it easy to cross the road. • Percentage of the public who are satisfied with footpath conditions. • Percentage of pedestrians who feel they have to wait too long at signalised crossings.
Modal share	<ul style="list-style-type: none"> • Annual increase in pedestrian numbers at key cordons. • Percentage of trips under 1 km made by walking. • Percentage of population walking to work. • Percentage of children walking to school. • Number of children's independent journeys, per 10,000 children. 	<ul style="list-style-type: none"> • Percentage of the public who feel more inclined to walk.
Safety	<ul style="list-style-type: none"> • Number of pedestrian casualties per 100,000 population. • Number of crimes where a pedestrian is a victim per 100,000 population. 	<ul style="list-style-type: none"> • Percentage of pedestrians who feel safe while out walking. • Percentage of pedestrians who feel safe while crossing the road. • Percentage of school children who consider it is safe to walk to school.
Other	<ul style="list-style-type: none"> • Percentage of transportation funds spent on pedestrian facilities. • Percentage of schools that have a safe routes to school or school travel plan scheme. • Percentage of schools that have a walking school bus scheme. • Percentage of resource consent applications specifically consider pedestrians. 	<ul style="list-style-type: none"> • Percentage of pedestrians who know how to complain about footpath condition.

19.4 Survey timing

The ideal time to monitor walking is when flows are high but unaffected by short-term, special events – this usually means the summer months. It is good practice to collect data at the same time each year, as long as weather conditions are comparable [38].

Pedestrian flows can fluctuate significantly owing to inclement weather, school/public holidays, sporting events and seasonal factors such as daylight hours and tourism activities. All factors that may influence the results should be noted when the survey is carried out and included when interpreting historic data. For this reason, short-term counts are unlikely to be statistically reliable [146].

19.5 Pedestrian counts within other surveys

Pedestrian counts and surveys can sometimes be easily included within other RCA surveys, such as manual classified vehicle counts. While this is a straightforward and cost-effective way of gathering information, it does have drawbacks, such as:

- the survey locations and timing may not be appropriate for observing representative pedestrian flows and patterns
- the surveys may only identify the main mode of travel, rather than all modes
- the surveys may be targeted at groups that do not have typical walking behaviour
- when surveyors get busy they tend to miss pedestrians.

As a result, this technique should only be used in addition to, not in place of, properly arranged and programmed pedestrian counts.

19.6 Indicators

There are no standard indicators for assessing the pedestrian environment. The *Getting there – on foot, by cycle* implementation plan ^[178] proposes to develop indicators for New Zealand. Section 19.7 of the implementation plan has a selection of examples from around the world; however, local authorities should also develop local indicators ^[150, 25, 97].

19.7 Benchmarking

Benchmarking compares the performance of one organisation or geographic area with others, using a set of common indicators. It can identify significant differences in indicator values, enabling organisations to identify ways to improve performance ^[160]. It should be an ongoing process.

There is no limit to the number of organisations or geographic areas that can be involved in benchmarking, but all should use the same indicators and collect data in identical ways. Those organisations performing strongly should be prepared to help those that have not performed as well on any given indicator ^[38].

Benchmarking can start at any stage of the monitoring process, but there are advantages to starting as early as possible, such as ^[160]:

- common indicators are developed before any data is collected
- the potential for generating incompatible data sets is removed
- it helps in establishing relationships and creating a comparative environment where ideas can be exchanged
- relevant data is collected prior to scheme implementation.

Walking indicators can be both quantitative and qualitative.

20 MAKING BEST USE OF FACILITIES

PROMOTE WALKING AND PEDESTRIAN FACILITIES

Increase the profile of walking

Promote facilities

Produce walking maps

20.1 Introduction

For facilities to be fully effective, people must know that a high-quality walking environment is available and be encouraged to use it ^[29]. Many of the techniques in this guide go some way to accomplishing this, but there are other opportunities too.

Technique	Overview	Key considerations
Media releases	A short statement to the local media about some issue to do with walking.	<ul style="list-style-type: none"> Minimal cost to issue, and can cover a wide range of media types. Can only provide limited information. Limited control over whether the media release is picked up. Media may put their own 'spin' on the information.
Paid advertisements	A message placed in the local media, paid for at commercial rates.	<ul style="list-style-type: none"> Total control over the message presented. Can be expensive. Very useful to communicate simple messages. Readership of publication must be carefully considered.
Leaflets	Small flyers or other handouts that provide some information on walking.	<ul style="list-style-type: none"> Needs to be kept simple, and use graphics rather than text. Should 'whet the appetite' of the reader rather than provide copious amounts of information. Distribution is key – consider using community and health facilities. Can be expensive to copy or print the leaflets.
Posters	Large displays providing information on walking.	<ul style="list-style-type: none"> Can be eye-catching and reinforce a message effectively. Very limited information can be provided. Only a limited number of places where they can be displayed (mainly community and health facilities) without considerable cost.
Maps	A simplified street pattern, over which is superimposed key trip origins and destinations and the pedestrian network itself.	<ul style="list-style-type: none"> Routes on which there are more significant barriers or obstructions should not be explicitly promoted. Maps are commonly printed and distributed freely at trip origins (such as community facilities) but can also be distributed via other means. Further details are set out below.
Personal travel plans	Individuals are given a personalised travel plan showing the most suitable route between their home and key destinations. Typical travel times (by all modes of travel) can be shown, as well as the real cost of using a car for the same journey, or anticipated fitness gains through walking the route regularly.	<ul style="list-style-type: none"> Considers people's individual environments as well as their characteristics. Improves any misperceptions of walking as a viable mode of travel. Proactive help to identify how to make trips by alternative means. Can be expensive to implement, as each plan is different.

[17, 54, 60, 165, 162, 67, 16]

20.2 General considerations

The most important consideration in any promotional activity is ensuring the message reaches the intended audience at the right time. For walking, this has two implications ^[17, 122]:

- The intended audience of pedestrians is a diverse group and should be treated accordingly. Information should be carefully tailored to trip purposes, geographic locations, ages and/or ability. For example, walking maps could be produced specifically for visitors to an area (showing locations of interest), or for the vision impaired (using a larger print size).

