

C1 Planning to walk

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Purpose

This module assists local government planners, engineers and their consultants to begin planning for increased pedestrian activity by identifying the barriers to walking that may exist in their local area.

Introduction

A recent survey showed that, although 62% of people think walking is an important form of transport, 33% of people report walking less often than they did 2 years ago. The barriers that prevent people from walking include physical or environmental conditions, and social and cultural factors that influence our attitudes and perceptions.

British research into the loss of childhood mobility, for children aged from 7 to 11 from 1971 to 1990, identified parental perceptions as a key driving force for this decline. The research showed the following major reasons for parents withdrawing permission for children to walk to school (McCann et al. 2003):

- ▶ traffic safety concerns in 40% of cases
- ▶ fear of child molestation in 20% of cases
- ▶ too great a distance between home and school in 15% of cases.

While the percentages may vary in Queensland, many parents can relate to these concerns.

Barriers to walking may be identified through walking audits, questionnaires or surveys, pedestrian flow mapping or modelling, and analysis of existing data, such as crashes, land uses, crime and traffic volumes.

There is a need to help identify solutions or develop programs to overcome the social, cultural and institutional barriers to walking.

This module discusses some of the factors influencing walking, who walks and why, and identifies common obstacles to increased walking, to provide local government planners with a place to start in developing effective walking programs.

C1.1 Factors influencing walking

Walking is one of the most popular forms of physical activity among Queenslanders. However, approximately 25% of people report not having walked at all for recreation, exercise or transport during the previous week (Queensland Health 2003). Further, less than a quarter of students at some Queensland schools make the journey to school by foot (Queensland Transport 2004).

Aspects of the social and cultural environment that influence our attitudes and perceptions play a role in determining the attractiveness of walking. Individuals who have favourable attitudes and perceptions about walking may still be prevented from walking as a transport or recreation option by certain elements of the physical environment. According to Tolley (1990),



Source: ARR

Figure C1-1

Weather protection can lessen the impact of poor weather on pedestrian activity



'the main impediments to the free flow of people are those placed there to facilitate the free flow of motorised traffic, particularly road-crossing barriers, signs embedded in the footway, and steps and ramps to carry the walker over or under the roadway'. In addition, the liveability of an area is important to walking: for example, pedestrian-friendly urban design creates an aesthetically pleasing environment for walkers.

Environmental, social and cultural obstacles to walking include (Seaton & Wall 2001):

- ▶ lack of time
- ▶ 'laziness'
- ▶ destination too far away to walk to
- ▶ footpath in poor condition
- ▶ no footpath
- ▶ the footpath does not go to the destination
- ▶ fear of being robbed or attacked
- ▶ fear of dogs
- ▶ poor weather (see Figure C1-1)
- ▶ poor lighting
- ▶ heavy or fast traffic
- ▶ insufficient opportunities to cross roads safely
- ▶ unattractive or noisy surrounds
- ▶ skateboarders and cyclists on the path.

A variety of steps can be taken to mitigate or counter the obstacles listed above. *Easy Steps* offers many strategies and actions to help with planning and implementing walking programs, as well as designing walking facilities that will help overcome existing barriers to walking.

Additionally, Australian guidelines for addressing some of these issues are presented in Queensland Transport's *Shaping up* (n.d.), Main Roads' *Road planning and design manual* Chapter 5 (2004), and Austroads' *Guide to traffic engineering practice*, Part 13 (1995).

C1.2 Types of walking

The factors that affect walking will depend on the type of walking. There are four broad categories of reasons for walking (Tolley 2003):

- ▶ for transport (for example, to get to work, school or the shops)
- ▶ to access public transport
- ▶ as recreation (for example, walking a dog, and walking for exercise)

- ▶ to carry out non-transport-related activities on foot and in public (for example, window shopping).

A more detailed discussion of why people walk is contained in A1.1 *Who walks and why*.

C1.3 Types of pedestrians

Different types of barriers to walking discourage different potential users of pedestrian facilities. Women and seniors are more concerned about personal safety than are other groups. Poor pavement condition (see Figure C1-2) may be of most concern to pedestrians who have limited mobility, while parents often cite threats from traffic as a reason for driving their children to school.



Source: ARRB

Figure C1-2

Poor pavement condition may be of particular concern to people with vision or mobility limitations

C1.4 Factors that inhibit walking

The factors that inhibit walking in any particular community may be identified through analysis of existing data, such as data relating to crashes, land uses, crime and traffic volumes. Further analysis can also be undertaken of data from walking audits, questionnaires or surveys, and pedestrian flow mapping or modelling.

Existing data

Crash data can highlight locations where pedestrian crashes tend to be clustered. It is likely that numerous near-misses have occurred for every crash recorded. For those who have been involved in or have witnessed such events, crash cluster locations may represent an environmental barrier to walking. The same can be said of locations where crime is more prevalent.

High traffic volumes, especially where there are few safe crossing opportunities for pedestrians or where footpaths are insufficiently protected from traffic flow, present a barrier to walking.

As well as providing information on the likely attractiveness of the surroundings, land use data can provide information on the likely predominant trip purpose, and therefore what the most likely barriers to walking are.

Walking audits

The Pedestrian and Bicycle Transport Institute of Australasia (n.d) is currently developing guidelines for walking audits. These guidelines will allow communities and specialist consultants to analyse the quality and appropriateness of pedestrian corridors on the basis of a range of characteristics such as:

- ▶ activities that generate pedestrian trips
- ▶ directness of pedestrian routes between destinations in the area
- ▶ pedestrian volume in the area
- ▶ accessibility of public transport services in the area
- ▶ traffic-calming devices, speed limits, vehicle speeds and traffic noise
- ▶ grade
- ▶ weather protection
- ▶ vertical clearance from overhead obstacles
- ▶ level of personal security and lighting
- ▶ pedestrian crossings (types and usability by different groups)
- ▶ footpath continuity, width and surface quality
- ▶ presence of cyclists on the footpath
- ▶ amenities (shelter, seats, toilets, shade trees)
- ▶ signage (directional, regulatory and cautionary)
- ▶ special needs groups (children, seniors, people with sight/hearing impairments or other disabilities).

Pedestrian Safety and Accessibility Audit Tools have recently been developed and trialled by Queensland Transport. The tools provide a checklist covering a range of issues relevant to pedestrians and will be available from the Main Roads website early in 2005 (see D5.1 *Audit tools and guidelines* for more information).

A broader-based 'walkability checklist' (walkinginfo.org 2004) has been developed in the United States to help residents identify for themselves the barriers to walking in their local area (see also C2.4 *Walkability*).

The checklist provides information on how to make walking a more attractive activity for people in a local community.

Questionnaires

One way to determine what factors prevent local residents from walking is to ask them. Survey respondents, who should include members of a representative range of demographic groups, can be asked about a set list of potential barriers. Alternatively, survey respondents can be asked to identify barriers themselves, without prompting. A combination of these two approaches (where residents are asked to describe the barriers that are relevant to them and then to identify any additional barriers that appear on a list) is likely to identify all important barriers (Seaton & Wall 2001).

Other issues to consider when planning a questionnaire to identify barriers to walking include:

- ▶ *Method of administration:* Will the survey be administered by mail, over the telephone or during face-to-face interviews? Will interviews be conducted door-to-door or in public spaces, such as shopping centres?
- ▶ *The sampling frame:* What will the respondent sample need to look like in terms of age, gender, socioeconomic status, location of residence?
- ▶ *Sample size:* The number of respondents required will depend on a number of factors, including the resources available and the level of accuracy required of the results.
- ▶ *Pilot testing:* Pilot testing of surveys should be undertaken to identify problems with, for example, survey format, question wording and administration time.

There is a wide range of texts available on designing and implementing surveys and questionnaires. Anderson's *A guide to conducting surveys* (1993) is one of the few developed for use by road safety professionals, and contains greater detail on the issues described above.

Pedestrian flow

The perceived level of service associated with any particular pedestrian facility will be affected by pedestrian flow characteristics, such as:

- ▶ the ability to cross or walk in the reverse direction of a pedestrian traffic stream
- ▶ the ability to manoeuvre without conflicts or changes in walking speed



- ▶ the freedom to choose desired speeds
- ▶ the freedom to pass other pedestrians
- ▶ the delay experienced by pedestrians at signalised intersections.

Available space per pedestrian, flow rates and flow speeds can be used as indices of these flow characteristics. The assessment of pedestrian flow is addressed in detail in Chapters 11 and 18 of the Transportation Research Board's *Highway capacity manual* (TRB 2000).

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