A2 Benefits of walking

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Purpose

This module summarises the health, social, environmental, transport, tourism and economic benefits of walking.

Introduction

Walking is a basic form of transport, which costs nothing and offers a wide range of benefits to the individual as well as to the community (see Figure A2-2). These benefits include better health and fitness, social equity, higher levels of environmental sustainability, improved choices for transport and access, tourism enhancement, and increased economic vitality.

A2.1 Health benefits

Walking results in many public health benefits. Walking and physical activity are an important part of a healthy lifestyle. Health professionals recommend approximately 30 minutes of moderate physical activity each day to maintain health. This time can be broken up into segments, such as three lots of 10 minutes (Department of Health and Ageing 2003; Queensland Health 2003). Table A2-1 lists the distances that can be walked in 10, 20 or 30 minutes each day.

Community-based walking programs can be very effective in achieving health benefits (see the case study '*10,000 Steps Rockhampton*', which describes an excellent example of such a program).

Table A2-1
Walking distance guide

Walking speed	Time 10 mins	20 mins	30 mins
Slow	0.6 km	1.2 km	1.8 km
Medium	0.9 km	1.8 km	2.7 km
Fast	1.1 km	2.2 km	3.3 km

Case study : *10,000 Steps Rockhampton*

The *10,000 Steps Rockhampton* program (see Figure A2-1) was initiated in 2001 by Health Promotion Queensland. The primary aim of the project was to increase health-related physical activity among the adult population of Rockhampton.

Levels of activity over a two-year period were compared to results from the neighbouring city of Mackay, where no walking program was available. Results indicate that the program encouraged a 3% increase in the proportion of Rockhampton residents who were 'sufficiently active'* between 2001 and 2003. By comparison, the proportion of residents who were sufficiently active in Mackay declined by 3%, which matches the national trend. For more information on this program, visit ‹http://www.10000steps.org.au/›.

* Sufficient physical activity for health benefit was defined as a minimum of 150 minutes of activity in five or more sessions in a week.

Source: 10,000 Steps Project

Figure A2-1
10,000 Steps Rockhampton distance marker

Benefits of walking

Health benefits	Transport benefits	Tourism benefits	Economic benefits	Environmental benefits	Social benefits
▸ improves quality of life	▸ improves mobility and access	▸ enhances town centres	▸ creates employment	▸ reduces traffic congestion	▸ encourages family/ community connectedness
▸ reduces risk of chronic diseases	▸ supports transport equity	▸ provides a 'point of difference' for the tourist market	▸ becomes a means of transport	▸ reduces air pollution	▸ improves social skills/ networks
▸ manages weight	▸ reduces transport costs	▸ creates a relaxed atmosphere	▸ supports local businesses	▸ reduces greenhouse emissions	▸ prolongs independent living for older people
▸ improves sleep	▸ links transport modes		▸ reduces absenteeism	▸ reduces noise pollution	▸ reduces isolation, loneliness
▸ reduces stress, depression	▸ improves transport safety		▸ reduces crime	▸ creates safer places with people out and about	▸ enhances self-esteem, confidence
▸ develops motor skills			▸ produces health savings		
▸ improves concentration					
▸ enhances memory and learning					

Figure A2-2
Summary of the benefits of walking

Walking contributes to the following health benefits:

- *Reduced healthcare budgets*: Walking can increase the levels of physical activity in the community, and consequently improve general public health and reduce healthcare expenditures (see the box 'Walking reduces healthcare expenditures'). Lack of physical activity is a major contributor to obesity and a range of health issues, such as coronary heart disease, stroke, diabetes, colon cancer, osteoporosis and hypertension[1].

  A recent report from the Federal Government found that physical inactivity contributed to more than 8,000 deaths in Australia each year, with more than 1,500 of these occurring in people under the age of 70. The report also indicated that the annual, direct healthcare costs attributable to physical inactivity are about $400 million each year for Australia (or, pro rata, $80 million for Queensland). Indirect costs such as time off work and the social costs of inactivity would more than double this amount (Bauman et al. 2002).

Walking reduces healthcare expenditures

'Lack of regular physical activity is not only unhealthy, it puts a great deal of strain on Australia's health care system. Physical inactivity is second only to tobacco in terms of contribution to ill-health in Australia. An estimated A$600 million could be saved in health care costs annually in Australia if 10 per cent more people participated in regular physical activity.'

Source: Queensland Transport 2003

- *Improved public health:* Every trip walked reduces air pollution and consequently improves community health. The noxious pollutants released by motor vehicles include nitrogen oxides, sulfur dioxide, lead, and volatile organic compounds. These pollutants contribute to a variety of health problems, including heart disease, asthma, reduced lung function, and respiratory illness (Queensland Transport 2003).

[1]The Australian Diabetes, Obesity and Life Study (2001) showed that nearly 25% of Australian adults have either diabetes or impaired glucose metabolism, and that of these, 65–80% will die of coronary heart disease. The 4% of the population who have diabetes account for 12% of health costs in Australia.

Health benefits of walking

Between one-third and a half of the new cases of diabetes could be prevented by the adoption of a regular walking program, and this effect is independent of body weight (Stephenson et al. 2000).

Overweight or obese individuals who are fit are less likely to suffer early death than normal-weight persons who lead a sedentary lifestyle (Blair & Brodney 1999).

Figure A2-3
Walking can improve the health of seniors

Figure A2-4
Walking with a favourite walking group

- *Increased quality and length of life for the individual:* Walking is a simple and enjoyable activity that in itself can improve one's quality of daily life. Additionally, a regular walking regime can help prevent physical health problems (Queensland Transport 2003) and increase length of life (see the box 'Health benefits of walking'). Walking can also reduce anxiety and depression (Paluska et al. 2000), and improve metabolism, muscle strength and flexibility, strength and endurance, respiratory function, and concentration and memory (Queensland Transport 2003).
- *Improved levels of fitness and health for seniors:* With the 'baby boom' generation now mostly in their mid-fifties, Australia is becoming an ageing population. Walking is a low-impact aerobic exercise that can contribute to improved levels of physical fitness and health for seniors (see Figure A2-3). Walking improves strength and balance, and helps reduce the incidence of falls for seniors. Walking also provides opportunities for both spontaneous and organised social interaction which, in turn, contribute to psychological wellbeing (Queensland Transport 2004).

A2.2 Social benefits

Walking is not only good for public health, it also strengthens the social fabric and thereby improves community wellbeing. Social benefits of walking include the following:

- *Improved social interactions for the individual, family and community:* Walking can increase the social interaction of families and friends, which also enhances the richness and diversity of the broader community (Gehl 2002), and improves overall levels of personal and community health. Early morning, lunchtime or evening walks, walking our children to school, walking to or from public transport with fellow commuters, or simply walking for pleasure with neighbours or our favourite walking group are all opportunities for quality time together (see Figure A2-4).
- *Stronger, more vibrant and safer communities:* Well-designed facilities that encourage walking and increased social contact help build stronger and more vibrant communities. The number of local social contacts people have is inversely related to the volume of traffic on the street where they live (Engwicht 1992). Lack of social contact within neighbourhoods can lead to social isolation, community severance, perceptions of decreased safety, higher crime rates and greater

social inequity. The provision of attractive walking routes and destinations increases social interaction and improves the 'liveability' of a community, complementing the goal of many councils to create sustainable communities. Walking also creates a safer environment through more 'eyes on the street'. This is a foundation principle of the *Neighbourhood Watch* program, currently operating in communities throughout Queensland.

- *Increased mobility for all community members:* Walking is a viable transport option for almost all members of the community, regardless of age or physical capability. This is particularly important for those who either do not have convenient access to a car, or do not drive. Walking and the provision of walking facilities also support mobility for people with disabilities, consistent with the Commonwealth *Disability Discrimination Act 1992*. This Act addresses matters of mobility for people with disabilities as well as the broader concept of 'universal design', seeking to facilitate and enhance access for all members of the community.
- *Lower overall social costs:* Walking can reduce traffic congestion, which is a major cause of delays, driver stress, crashes, air pollution and high travel costs.

A2.3 Environmental benefits

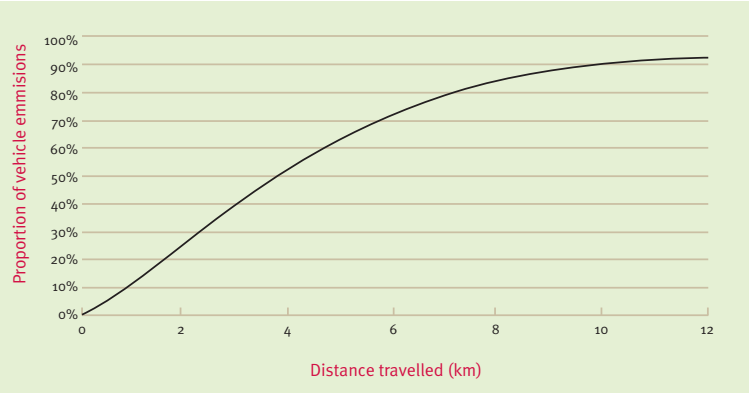
Increased walking can lead to a variety of environmental benefits, ranging from reduced air pollution to more sustainable communities.

Some of the more important environmental benefits related to walking include:

- *Decreased air pollution and energy use:* Cars are the greatest consumers of energy and the greatest source of greenhouse gas emissions in the road transport sector in Australia (Austroads 2003). By encouraging increases in walking in preference to using the family car, local governments can, through their strategic planning process and local area plans, contribute to an overall improvement in urban air quality throughout Queensland.

  Replacing short vehicle trips with walking can provide relatively large pollution emission reductions (Victoria Transport Policy Institute, Canada). In Australia, 22% of work and school trips are less than 3 kilometres in length (Austroads 1999). As shown in Figure A2-5, emission rates are disproportionately high during the first few minutes of vehicle operation (Edwards 1998)[2]. It is estimated that most pollutants from motor vehicles are produced during the first 8 to 10 minutes of a local journey (Austroads 1999). Major reductions in air pollution and greenhouse gas emissions can be achieved by increasing the walking mode share of shorter trips. Additionally, increased walking can reduce the need to build, service and dispose of cars (Queensland Transport 2003). The benefits of increased walking therefore are important for environmental sustainability.
- *A quieter environment:* When vehicle trips are replaced with walking trips, road noise levels decrease. This is beneficial as road noise can have a significant detrimental effect on residential areas, schools and businesses. In general, road noise can disturb sleep, impair mental function, increase blood pressure and increase psychological stress (Queensland Transport 2003).
- *Sustainable development:* Walking both supports, and is supported by, key land use and transport integration strategies, including higher densities of development, transit-oriented development, urban village and mixed-use development. Walking is consistently more prevalent in dense, multi-use neighbourhoods than in lower density, exclusively residential neighbourhoods (Ewing et al. 2003). Increased walking results in a reduced need for road space, reduced traffic congestion, and hence lower greenhouse emissions (see Figure A2-6).
- *Space for more environmentally friendly uses:* The family car requires three times more space than the family home because of the amount of space that is needed for the car to lie idle (at home, work, shopping centres, schools and so on) (see Figure A2-7).

  Walking can reduce the need to use cars and therefore reduce the amount of parking space required. This provides an opportunity for more recreational space and more trees or other plants in urban areas. Up to 40% of urban areas in Australia are taken up with infrastructure for motor vehicles, including roads, car parking, service stations and auto manufacturers. (Queensland Transport 2003).



Source: Edwards 1998

Figure A2-5
Vehicle emissions distribution over distance travelled

[2] The amount of emission hydrocarbons (HC), carbon monoxide (CO) and nitrous oxides (NOx) from cold start engines can be as much as 10 times the level from a hot engine.

A2.4 Transport benefits

For at least some of the time during every day, most people are pedestrians. Even if you are just walking from the car park to your workplace, you are a pedestrian. By extending the distance that you walk, or combining a short walk with public transport, you can contribute to improving your health, to reducing congestion, and to improving air quality (Queensland Transport 2003).

Figure A2-6
Typical traffic congestion in Brisbane

Figure A2-7
Car parking spaces at local shopping centre

As well as being a healthy, enjoyable, efficient and sustainable means of transport, walking plays an important part in achieving better integration between different transport modes, and provides a real choice of mode for short journeys.

Some of the more important transport benefits of walking include the following:

- *Sustainable transport:* High-quality walking access to public transport facilities reduces the need for costly car parking facilities at public transport stations and may result in an increase in public transport patronage. Within Brisbane, the average walking distance to public transport stations is about 500 metres. Providing high-quality pedestrian facilities connecting with public transport stops (see Figure A2-8) will extend the walking catchment and encourage walking at the expense of motorised access (Parsons Brinckerhoff 2004). Good pedestrian access includes wide footpaths, good road crossings (signalised, where traffic is heavy) and shelter, as well as convenient access to community and other facilities. Additionally, walking provides people who do not own or use a car, whether by choice or circumstance, with a viable transport option.

Figure A2-8
Sustainable transport links

Figure A2-9
Walking paths provide a relaxed environment for visitors

- *Equitable transport:* Walking is the most equitable and inclusive form of transport. It is low-cost, and requires no special skills, abilities or qualifications (such as a driver's licence). Approximately 40% of Australians (half of whom are adults) do not have access to a motor vehicle (Australian Bureau of Statistics 2001) and walking provides a feasible means of transport for these people.
- *Improved transport conditions around activity centres:* Walking reduces traffic and parking pressures and improves safety at key activity centres, such as schools, community facilities, neighbourhood shopping centres and sporting grounds. The location of a school in relation to students' homes influences the numbers of students who walk to school each day. Short walking distances along safe routes will encourage an increase in walking, which in turn reduces the level of vehicle congestion at schools and improves the flow of traffic during peak periods.

A2.5 Tourism benefits

Providing for pedestrians is an effective way to encourage visitors to explore a local area. Part B of *Easy Steps* outlines a variety of strategies for local governments to promote and develop pedestrian-friendly facilities for tourists. Important tourism-related benefits of such facilities and of walking include:

- *Enhanced town centres:* A pedestrian-friendly town centre is a place where people want to be rather than to simply pass through. Walking infrastructure and pleasing pedestrian amenities attract tourists and contribute to the shopping and restaurant business of a town centre.
- *A relaxed atmosphere:* A high level of walking in proportion to motorised traffic contributes to a more relaxed environment for visitors (see Figure A2-9). The relaxed atmosphere of a tourist destination where the car is confined to the background and where pedestrian facilities dominate is attractive to tourists.
- *A 'point of difference' for the tourist market:* The provision of walking infrastructure and walking tours can enhance local areas as potential destinations for tourism and provide a 'point of difference' from other similar communities. Walking tours are a fun activity for tourists as well as locals. Tourist offices, community groups and individuals can organise walking tours, which are often developed around themes such as historical sites of interest. 'Railtrails', which are multipurpose public paths created from abandoned railway corridors, are also great facilities for recreational walking, providing a way to experience nature and enjoy scenery often not visible from the road (Queensland Transport 2003).

A2.6 Economic benefits

Effective walking programs and facilities that promote increased walking can provide a wide range of economic benefits for a local area, including the following:

- *More productive workforce:* Physical activity such as walking is effective in the treatment of anxiety, can reduce the symptoms of depression, and can improve an individual's physical and mental health and wellbeing (Paluska et al. 2000), resulting in a more productive workforce. The most common causes of sick leave in Australia are stress, influenza and muscular-skeletal injury (Spedding et al. 2003). Staff members who walk are generally more punctual and take fewer sick days, due to improved health (Queensland Transport 2003). This is significant, since absenteeism and reduced productivity levels due to illness cost businesses about $400 million per year (Bauman et al. 2002).

Figure A2-10
Marketing based on lifestyle issues, in this case focusing on walking

- *Savings from reduced car park needs:* Quality walking facilities can increase the amount of walking by employees and customers of businesses. This reduces the pressure for businesses to provide costly car parking for employees and customers, and decreases the parking impacts on the surrounding community. Reducing the reliance on the private vehicle and increasing the use of non-motorised travel, such as walking and cycling, can help reduce transport costs for businesses (Austroads 1999).
- *Improved local economy:* A walking culture, including a high-quality walking environment, attracts customers, including tourists and other visitors. Malls and local shopping centre improvement plans which focus on pedestrian access and amenity issues have resulted in economic benefits for businesses (Hass-Klau 1993; KPMG 2002). Additionally, quiet areas away from traffic provide opportunities for people to meet, and when people spend more time in an area they are more likely to spend money in that area. Many businesses underestimate the number of clients who access them on foot, when, in fact, pedestrians often form a significant part of their customer base (Queensland Transport 2003). When there are increased numbers of pedestrians in a neighbourhood, motor vehicle traffic is reduced. This can enhance a sense of safety in the area, which may encourage more visitors and attract new businesses and jobs (Queensland Transport 2003).
- *Improved real estate sales in the local area:* Community liveability and lifestyle issues are increasingly a prime determinant in choosing a place to live. The marketing strategies of Queensland-based master-planned communities clearly reflect a preference for outdoor activities, such as exercise in the park, and walking with the family (see Figure A2-10). These liveability issues support the need for an increasing pedestrian focus for streetscapes and community parklands.
- *Less impact on families' budgets:* Increased walking can help reduce the impact of transport on household budgets. At 15% of the expenditure of a typical household, transport costs rank third behind housing and food as a proportion of total household costs. Private vehicle usage accounts for 94% of total household transport expenses (Austroads 2003). The family car costs up to 55 cents per kilometre to run, while 'the cost of walking can be as little as the cost of a good pair of walking shoes' (Queensland Transport 2003).

The economies of walking: three case studies

The effects of walking infrastructure on urban amenity, environmental sustainability and tourism can have a flow-on economic impact, as demonstrated by the following case studies (KPMG 2002).

Case study: The Strand, Townsville

- The Strand is now a pedestrian-friendly area which has attracted locals back to the Townsville foreshore.
- Since its revitalisation in 1999, 40,000 to 50,000 people visit the Strand each weekend, compared to about 5,000 people before the revitalisation.
- The improved urban amenity and increased visitor numbers have resulted in businesses thriving, and new businesses being attracted to the area.
- The revitalisation of the Strand is considered responsible for at least $100 million in new developments in the area.

Case study: Mooloolaba Esplanade, Sunshine Coast

- The Mooloolaba Esplanade is now a pedestrian-friendly precinct as the result of a number of major integrated urban improvement projects since 1997 (see Figure A2-11).
- Tourism expenditure has risen from $10.4 million in 1997 to $44.4 million in 2000, as the precinct is increasingly a place that people wish to visit, rather than just pass through.
- The economic benefits derived through the improvement projects and subsequent developments have been estimated at $22.4 million per annum between 1997 and 2000.

Source: John Mongard Landscape Architects

Figure A2-11
Mooloolaba Esplanade, Sunshine Coast

Case study: Surfers Paradise, Gold Coast

- Gold Coast City Council and local businesses had both acknowledged the declining attractiveness of the once-famous Surfers Paradise shopping precinct as traffic volumes increased.
- The council and retailing groups also acknowledged the need to increase pedestrian traffic to halt the decline in the precinct's commercial viability.
- Gold Coast City Council recently commenced the implementation of the *Surfers Paradise Traffic Management Scheme* to reduce the dominance of the car, and to allocate more road space to pedestrians (see Figures A2-12 and A2-13).
- The scheme is considered a key driver in the decision to undertake a number of other major projects (total value $1.4 billion) within the broader Surfers Paradise area.

Figure A2-12
Cavill Avenue pedestrian mall, Surfers Paradise

Figure A2-13
Esplanade, Surfers Paradise

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For more information

Website: <http://www.transport.qld.gov.au/pedestrian>.

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