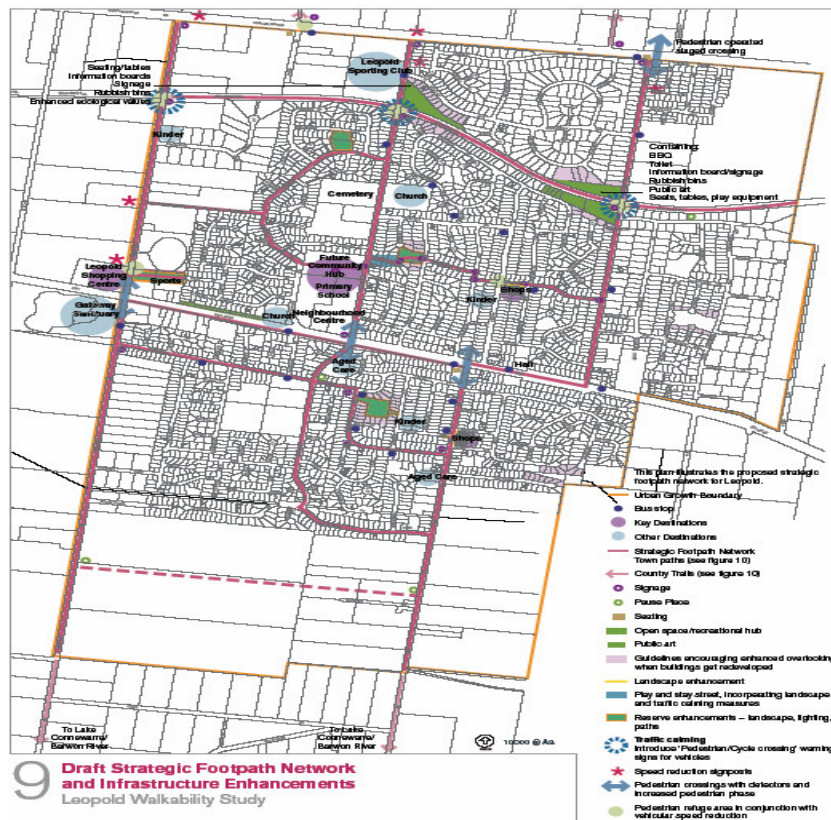


LEOPOLD STRATEGIC FOOTPATH NETWORK

Health Impact Assessment
March 2008



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1 List of Acronyms

ACHEIA	–	Australasian Collaboration for Health Equity Impact Assessment
BMI	–	Body Mass Index
CoGG	–	City of Greater Geelong
DHS	–	Department of Human Services, Victoria
EFHIA	–	Equity Focused Health Impact Assessment
HIA	–	Health Impact Assessment
LSFN	–	Leopold Strategic Footpath Network
WHO	–	World Health Organisation

2 Introduction

The City of Greater Geelong (CoGG) is currently redeveloping its approach to Footpaths Policy.

In one way or another, much of Geelong's policy, planning and strategic documentation refers to footpaths. Documentation refers to footpath function, their role in supporting pleasant environments in which shopping strips can thrive, their recreational value as a walking asset, or usefulness as an active transport network to all those using them. Crucially policy documentation refers to footpaths central importance in providing functional mobility and physical freedom to everybody but particularly to older people, people with disabilities, people pushing prams, and those without cars or other transportation. Increasing walking as a mode of transport is also an important component in the greenhouse gas reduction solution.

Sealed footpaths are permeable for most people in all weather conditions and thus are compliant with the Disability Discrimination Act. However sealed footpath coverage varies across the municipality. In some areas footpaths are provided in most places. In others, particularly those in rural and coastal areas, sealed footpath coverage is estimated at less than ten percent of possible road verge and common walking routes.

This leaves some people in some places, including some reliant on walking from choice or necessity, without appropriate footpaths, and safe or comfortable walking environments. Best practice literature on walkability recognises that where walking routes are seen to be unpleasant, unsafe, or uncomfortable they deter most people from using them most of the time. Consequently the state of footpaths impacts directly on personal mobility and transport choice, and impacts most significantly on those who are less able, who have limited other transport choice, or who feel less comfortable or safe when walking on unmade footpaths or on the road carriageway.

Of particular importance, the City is currently experiencing a significant and disproportionate growth in the older adult population, with more than half the profile of some coastal communities now aged over fifty years. As global warming and petrol pricing impact on more remote and coastal communities, the challenge of healthy aging in more remote locations with less amenity will increase. This poses a particular challenge for the City in ensuring healthy active transport and healthy aging in place.

Within this context, the City is rethinking how we might prioritise funding to footpath construction. The Leopold Strategic Footpath is one exploration of possible solutions. This process is one tool in considering the strategic footpath approach.

3 Definitions

3.1 Accessibility

Accessibility is the ease of access to destinations or facilities. High accessibility of local infrastructures and places means that they are easy and convenient to access (e.g. in terms of cost, time and distance) (World Health Organisation, 2007, p.2).

3.2 Active Transport

Active transport comprises non-motorized but human-powered modes of transportation, such as walking or cycling to work, to school or to carry out errands. Sufficient opportunities for public transport increase people's likelihood of walking and cycling in combination with using public transport (World Health Organisation, 2007, p.2).

3.3 Built Environment

Defined broadly the built environment includes land use patterns, the transportation system, and design features that together provide opportunities for travel and physical activity. Land use patterns refer to the spatial distribution of human activities. The transportation system refers to the physical infrastructure and services that provide connectivity among activities. Design features refer to the aesthetic, physical and functional qualities of the built environment, such as the design of buildings and streetscapes, and relates to both land use patterns and the transportation system (World Health Organisation, 2007, p.2).

3.4 Connectivity

Connectivity relates to the directness of travel to destinations: a street network that provides direct and safe travel routes between destinations for pedestrians and cyclists (non-motorized transport). Connectivity is determined by the kind of intersections and density in a given area (World Health Organisation, 2007, p.2).

3.5 Equity Focussed Health Impact Assessment

An Equity Focused Health Impact Assessment (EFHIA) framework that can be used to determine the unanticipated and systemic health inequities that may exist within the decision making processes or activities of a range of organisations and sectors. The EFHIA framework provides one approach that can be used to assist decision makers to put equity and health on their agenda in a more obvious and systematic way. The framework represents a 'moment in time' rather than a definitive statement or 'toolkit' on the best way to proceed. Further practice, refinement and adjustment will be needed over many years to consolidate both Health Impact Assessment (HIA) and EFHIA (Aldrich et al., 2004, p.1-2).

3.6 Leopold Strategic Footpath Network

The Leopold Strategic Footpath Network (LSFN) is a design for a high amenity footpath route, taking people to all community amenity, shops, services, and public transport stops, or key destinations. It is a design intended to ensure that most people can walk locally most often to the things they need to. It forms a key active transport network for the township. It also provides for recreational walking opportunity within the township and other nearby environmental destinations (David Lock Associates and PBAI, 2007).

For detailed information see:

http://www.geelongaustralia.com.au/Services_In_Geelong/Planning/Planning_for_People/Strategic_Footpath_Design_in_Leopold/

3.7 Obesity and Overweight

According to international World Health Organisation (WHO) classification, adults are overweight when they have a Body Mass Index (BMI) of between 25 and 29.9, (calculated using height and weight measurements), and as being obese when they have a BMI of 30 or more (World Health Organisation, 2007, p.3).

3.8 Obesity Propensity

“Giles-Cortes and Donovan’s 2002 [study found that] overall study participants found to be prone to overweight:

- were more likely to live on a highway interval;
- perceived no walking or cycle paths within walking distance or a five minute drive;
- had poor footpath access, with either no footpath or only one footpath on one side of the street (Mead et al., 2006, p.37).

3.9 Physical Activity

Physical activity is any bodily movement produced by skeletal muscle that results in a substantial increase over the resting energy expenditure (World Health Organisation, 2007, p.3).

3.10 Urban Sprawl

“In recent years, the rapid expansion of metropolitan areas has been termed ‘urban sprawl’ – referring to a complex pattern of land use, transportation, and social and economic development. As cities extend into rural areas, large tracts of land are developed in a ‘leapfrog’ low-density pattern. Different land uses- housing retail stores, offices, industry, recreational facilities, and public spaces such as parks – are kept separate from each other, with the separation enforced by both custom and zoning laws. Extensive roads need to be constructed; for suburban dwellers most trips, even to buy a newspaper or a quart of milk, require driving a car. Newly built suburbs are relatively homogeneous in both human and architectural terms, compared with the diversity found in traditional urban or small time settings. With the expansion of suburbs, capital investment and economic opportunity shift from the centre to the periphery. Regional Planning and co-ordination are relatively weak.” (Frumkin, 2002, p.201)

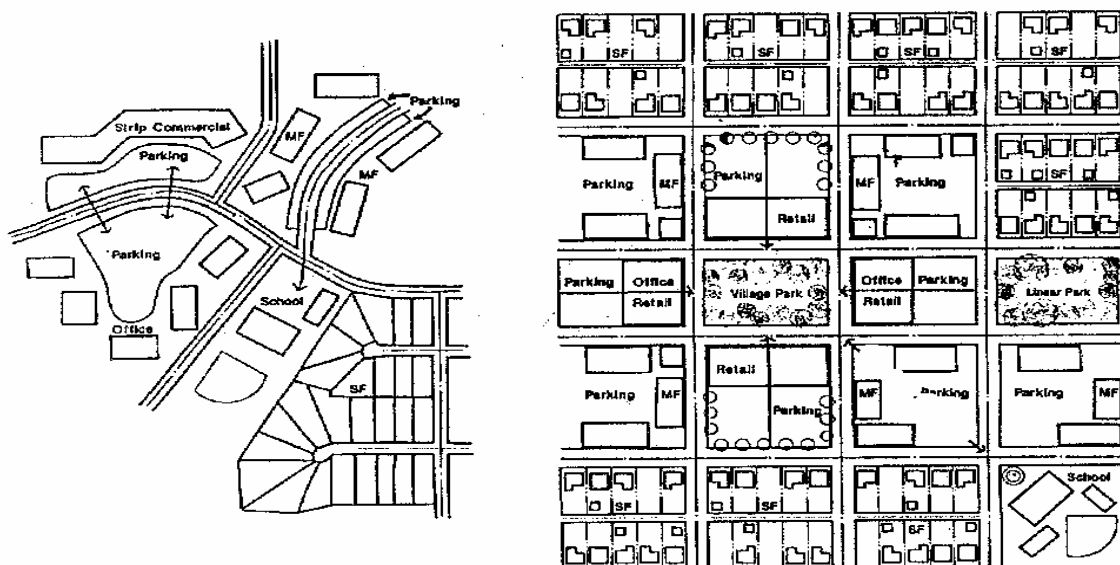


Figure 1 Hierarchical and Connected Road Systems
(Kulash, Anglin and Marks, 1990)

“Dispersed, auto dependent, development outside compact urban and village centres, along highways, and in rural countryside”. (Frumkin et al., 2004, p.1-2)

“Low density development beyond the edge of services and employment which separates where people live from where they shop, work, recreate and educate – thus requiring cars to move between zones.” (Mead et al., 2006, p.24, citing Sierra Club 1999)

3.11 Walkability

Walkability is the degree to which a single route, or a system of routes, between points is relatively short, barrier-free, interesting, safe, well-lighted, comfortable and inviting to pedestrians (World Health Organisation, 2007, p.4).

3.12 Walking Patterns

The survey identified different walking patterns in the contrasting neighbourhood forms. In the traditional grid neighbourhoods, walks were predominantly shorter with utilitarian trips often involving secondary activities. Conversely, in the newer neighbourhoods, walking was characterized by longer, less frequent recreational walks involving fewer secondary activities. (Mead et al., 2006, p.34)

“The importance of walking in general and for specific purposes also varies with the levels of environmental variables. In the traditional neighbourhoods, walkable distances, access to transit, shops and work are important, as is the opportunity to be outdoors. In the modern neighbourhoods, walkway continuity, trees, and interesting things to look at are more important environmental attributes, as is the opportunity to maintain health.” (Mead et al., 2006, p.34, citing Shiver 1997)

Differences in neighbourhood development types can therefore influence types of walking behaviors. In older neighbourhoods walking tends to be for access, whereas in newer neighbourhoods, walking appears largely for recreation. (Mead et al., 2006, p.34)

4 Why undertake a Health Impact Assessment?

In an environment where all resources are scarce, and where funding for new footpaths is limited and highly contested, it is incumbent on the City to make the most efficient and effective use of resources, and to ensure that those populations most likely to be adversely impacted by the current state of footpaths have their needs addressed in any new building program.

This requires a paradigm shift, and for us to change our practice. Whereas we once prioritised building footpaths on indications of where people actually walked, we now need to ensure the policy and approach particularly encourages all those who may want to walk, but were unable previously or discouraged, for whatever reason, as well as those already walking.

In order to make appropriate policy and strategic implementation decisions we needed to test assumptions about walking, walking environments and walking behaviour to help us think around how to approach the issue. We had conceptually designed a "Strategic Footpath" which we thought might be the starting point. While providing limited-coverage it would offer a strategically placed high quality walking environment in communities with few sealed footpaths. We needed to test both the thinking behind the concept, the strategy for roll out, the design parameters, as well as the acceptability to the community.

We needed to work through a process for development of 'strategic footpaths'. Decisions had to be made about what information was required to ensure the most appropriate route design, how to prioritize parts of a route - one over another, and how to prioritize these routes in competition with other decisions, including completing the remainder of the network, and in competition with traditional design, funding and rollout models.

Importantly we needed to ensure that whatever money we spent on this activity was an efficient use of public funds, had the capacity to deliver healthy walking environments for communities, and in turn encouraged walking in those communities.

We particularly needed to know if, once designed, these footpaths would have the impact of encouraging more walking more often particularly amongst those that are 'transport poor', including those unable to drive yet or any more, those without cars or without regular access to cars, including family groupings who might be making their way around communities with children in pushers or on tricycles, as well as those with limited alternative transport including public transport.

Most importantly, if we were promoting the health benefits of this form of public expenditure over any other potential expenditure, we needed to ensure that this would actually deliver health benefits that Council and the community thought it might, both immediately and in the longer term.

Similarly, if we were promoting the greenhouse gas reduction benefits of most people walking short distances more often, then we needed to be able to calculate the benefit, promote this information and use community education processes to change behaviour.

4.1 Why choose an Equity Focused Health Impact Assessment?

The CoGG chose the Australasian Collaboration for Health Equity Impact Assessment (ACHEIA) framework published by Newcastle Institute of Public Health as the model for this HIA. The decision to prefer this tool over others was taken as emphasis is placed on unintended or systemic inequalities of current practices and the way in which these may be addressed.

We felt this model most appropriately applied to current new footpath decision-making practices as our current practice provide no clear way of distinguishing or prioritising one footpath over another, except for property owner's and Councils capacity to pay, and a willingness from all parties to enter into a Special Rates and Charges scheme. We felt that by carefully constructing a decision-making process in this instance, which took into account the potential impacts within the community, we would be able to make clearer and more equitable decisions about community wide prioritisation.

We chose to concentrate in this instance on the route the 'strategic footpath' would follow, rather than whether a strategic footpath would have any superior benefits to any other footpath design. We understood that this would be our most effective course of action given the depth of recent research (Barton and Tsourou, 2000b, ; Frumkin et al., 2004, ; Gebel et al., 2005, ; Harris-Roxas and Harris, 2007, ; Lavin et al., 2006, ; Mead et al., 2006, ; World Health Organisation, 2007) documenting the health impacts of physical inactivity resulting from less-walkable neighbourhood designs on residential populations.

5 Context of current Walkability Investigation in Leopold

Leopold is a township approximately 10 kilometres east of Geelong on the Bellarine Peninsula. It currently comprises approximately 9,000 persons. The Australian Bureau of Statistics notes it as within the top five township population growth rates in the Barwon South West Region. The expectation is that the population will grow rapidly in the next few years to approximately 15,000.

Leopold is built on the side of a hill and bounded by Lake Connewarre to the south, drainage basin and wetlands to the west, Corio Bay to the north and farmland to the east. The township is bounded by larger rural properties that abut Lake Connewarre, the Bay, and the wetlands.

Leopold has been developed over the past fifty years and for much of that time has been a developing residential community in the middle of rural land. Although some community services and community amenities have been provided, overall the community has not been well serviced. Residents have relied on two small shopping strips, one to the north and the other to the south, and both at the top of a hill, until early 2007 when a full-line supermarket within a small shopping centre complex was built at the bottom of the hill on Melaluka Road.

Leopold has been built across many fashions in urban development. These include periods where variously, footpaths in new subdivisions have been built on both sides of the road, on one side of the road, or not at all. Throughout the period, building footpaths has either been the joint responsibility of the Council and community where they have not been provided in the course of sub-division, or most latterly sole responsibility of the developer. Many of the existing footpaths are older, at the end of their working life, and in a relatively poor state of repair.

The need to upgrade existing footpaths and build footpaths on the way to the supermarket were already an identified need of the population in the Bellarine Peninsula Strategic Plan (2006). However the new supermarket has had the effect of changing common walking routes and drawing the population down the hill towards the new full-line supermarket.

For much of Melaluka Road's length there are no existing footpaths, just road verges and car cross overs into driveways. A further housing development along Melaluka Road will add six hundred households of residents onto the road, bringing significant number of cars and bikes and walkers into a 70 kilometre per hour road space daily. Residents have identified Melaluka Road as a dangerous environment, and the new supermarket, as the one place to which people will not walk because of this.

Beyond this, east west routes taking people up and down the hill from their homes to the supermarket are neither easily navigable, particularly for those with limited mobility, nor provided as a contiguous sealed route.

6 Footpaths Context

The map below illustrates the existing footpath network in Leopold. All those areas marked in red or blue are currently missing footpath links, as are major sections of the highway, all of Melaluka Road and Portarlinton Road.



7 HIA Process

7.1 *Project Inception*

This project was supported by the Department of Human Services (DHS), Victoria in partnership with Monash University who provided technical support, advice and capacity building. This support was provided as part of a competitive round in 2006/2007 and targeted at programs running between July and September 2007.

Project team providing support included Necia Burford, DHS, and Jessica McCormick, Lecturer, Department of Health Science, Monash University

The Project Team included:

- Vicki Shelton Co-ordinator Road & Drainage Infrastructure, Engineering Services, City of Greater Geelong;
- Karen Valentine, Health Promotion Officer, City of Greater Geelong;
- Carmel Boyce, Social Planner, City of Greater Geelong;
- Carla Woodyard, Health Promotion Project Officer, Barwon Primary Care Forum;
- Margot Busch, Road Safety Officer, City of Greater Geelong;
- Bob Claffey, City of Greater Geelong Disability Advisory Group; and
- Kathryn Kelly, Rural Access and Health Promotion Officer, Surfcoast Shire Council.

Not all members of the team attended all sessions. Some attended one, others attended all sessions. At all sessions there was a consistency of at least four core members.

7.2 *Project Co-ordination*

The broader project that became the focus of the HIA was a collaboration between social planning and engineering services, co-ordinated jointly by Carmel Boyce, Social Planner and Vicki Shelton, Co-ordinator Engineering Services. The process was supported by those participating in the project group at various points bringing a wide range of expertise, practical assistance and understanding to the project. The EFHIA process was co-ordinated within this context.

Due to competing walking and other infrastructure projects, all with tight time frames and delivery commitments, the EFHIA process, albeit following the advertised process, extended beyond the expected project delivery time frames. However the group believes that despite elongating the process, it made for a better, more reflective product.

8 Screening

A project screening tool was adapted from the Institute of Public Health in Ireland, Screening Tool, (Ireland, 2006) by the Project team. Adaptation included ensuring the language was country appropriate, accessible to the skills set of the whole team, as well as appropriate to EFHIA framework.

Project Screening was undertaken on with the project team on 23 August 2007. The completed screening tool is attached in Appendix 1.

The screening identified the following potential positive health impacts:

Lifestyle including:

- improving overall diet and health, physical activity;
- increasing community happiness and social capital;
- with a decreasing drink and drug affected driving.

Physical environment including:

- improving air quality, urban design and connectivity thus improving built environment and land use;
- improving water quality through decreasing car emissions and pollutants;
- safer urban design coupled with an improved perception of safety; and
- reducing car traffic noise.

Socio Economic Environment including:

- increasing surveillance and social capital thus decreasing crime, and improving community access to education;
- improving community access to local employment accessible by public transport;
- improving family cohesion by encouraging group physical activity and improving health and mental well-being;
- increasing housing attractiveness and house prices with nearby amenity;
- improve access to recreational opportunity and choice;
- improving incomes by reducing the cost of travel;
- improving social cohesion in general by having more people meet more often; and
- improving accessibility for everyone and particularly for the mobility impaired.

Transport including:

- reducing pollution; and
- increasing exercise and a reduction in accident levels from poor infrastructure and car / pedestrian conflicts.

Health care access including:

- improving access to health services and community amenity.

The screening tool also identified the following potential detrimental health impacts:

Lifestyle including:

- increasing walking accessibility to licensed premises may reduce drink driving but increase alcohol related pedestrian incidents.

Socio Economic Environment including:

- increasing the prospect of crime for those on the route or alternately those away from the route; and
- increasing the cost of housing near the route thus decreasing housing affordability.

Transport including:

- increasing in accident levels with increasing pedestrian traffic.

8.1 Recommendations from the Screening Process

It was recommended that the full EFHIA be undertaken in this instance in order to address:

- potential safety concerns caused by the combination of active transport with traffic;
- potential for Negatives if this project doesn't work out (Council is unlikely to consider such an approach again if this is unsuccessful – this in turn has implications for other communities);
- uncertainty around how the plans will be funded. Depending on how it is done there may be impacts on existing residents (through special rates and charges, if this is enacted) or new residents through Developer Contribution Plans.

9 Scoping

A project scoping tool was adapted from the Institute of Public Health in Ireland, Screening Tool, (Ireland, 2006) by the Project team. Adaptation included ensuring the language was country appropriate, accessible to the skills set of the whole team, as well as appropriate to the EFHIA framework.

The scoping tool was developed for easy use and adaptation to other projects. It was undertaken in part prior to the HIA design and thus only influenced by this stage of the Project. A complete copy of the scoping tool is included in Appendix 2 of this report.

The scoping process was undertaken on 23 August 2007.

Key decisions undertaken within the scoping process include:

- limiting the EFHIA to the route given the extensive evidence on health impact of urban sprawl to ensure that the LSFN had the potential to deliver its aim of ensuring more people walked more often; and
- ensuring the process was a learning process for all participants and replicable in other environments and other decision making processes.

Key approaches to obtaining evidence include:

- a literature review, completed in the background paper discussing the 'Strategic Footpath Approach', modified and adapted where appropriate;
- additional material was collected for the screening phase for particular evidence on physical activity, physical inactivity and urban sprawl, and physical inactivity with related health outcomes;
- understanding that evidence of actual improved health and community well-being will not be available at any time in the course of the project;
- community surveys to establish base line data – relying on evidence of community perception of their own health and the health of the community;
- commitment to repeat initial questions asked in initial surveys over time to demonstrate any change; and
- commitment to test evidence collected in the initial surveys will be tested in subsequent surveys to determine the perceived benefits or dis-benefits of the implementation of the Strategic Footpath.

Key methodologies included:

- collection of baseline population and community data including evidence possible and available at township level;
- ABS population data 2001, 2006, 2011, 2016;
- Community Survey 2005;
- Travelsmart Survey 2007;
- Walkability Survey 2007;
- annual house construction data in Leopold;
- focus Groups using skilled survey persons at destinations annually; and
- quarterly counts at particular identified points on the route as it is built.

Key decisions taken in LSFN route evaluation included:

- limiting the EFHIA to decisions about the route location;
- undertaking most steps except for the preliminary screening and scoping with the Leopold Community Reference Committee if / where possible;
- including evidence-gathering opportunities from public comments collected through surveying, and provision of public comments on proposed draft and final routes;
- assessing proposed route at draft stage;
- modifying draft route where appropriate given assessment;
- making recommendations about construction impacts given draft route;
- monitoring and evaluate over time, over implementation time frame and beyond; and
- implementation of monitoring and evaluation processes as route is constructed.

9.1 EFHIA – Target Populations

Given the equity focus of the HIA, it was important to consider the groups beneficially affected:

- males and females of all ages of the community;
- all people residing in an area without clear and legible walking paths and which can be characterised as 'urban sprawl'; and
- particular benefit flowed to isolated persons, people with disabilities, economically disadvantaged and low-income persons, and locally transport disadvantaged persons.

10 Evidence

10.1 Health Impacts of 'Urban Sprawl'

Leopold would, in most health and urban planning assessments, be considered 'urban sprawl'. Seminal texts including Barton and Tsourou, Frumkin and Frank document the connections between health outcomes, urban planning, and in particular urban sprawl (Barton and Tsourou, 2000a, ; Frank et al., 2003, ; Frumkin et al., 2004).

Recent publications point to clear and unequivocal linkages between poor urban design resulting in urban sprawl, inactivity and obesity (Lavin et al., 2006, ; Mead et al., 2006, ; World Health Organisation, 2007) They establish a high level of agreement around established health impacts (Harris-Roxas and Harris, 2007).

Frumkin defines the impacts of 'urban sprawl' on health within the context of a broader social model of health, and identifies the following detrimental impacts:

- decreased air quality and the direct linkages with asthma, cancer, respiratory disease, and premature mortality (Frumkin et al., 2004, p.66);
- decreased physical activity, an increasing sedentary lifestyle, a resultant increase in BMI and the direct linkages with an increasing BMI and a range of cancers by more than half (overall rate 1.52 men and 1.88 women) for those in the highest body weight category. (Frumkin et al., 2004, p.98);
- increased risk of pedestrian fatality with an increased incidence of traffic, decreased incidence of risk to walkers and cyclists with increasing numbers (Frumkin et al., 2004, p.115, 120);
- decreased water quantity and quality (Frumkin et al., 2004, p.123-135);
- decreased mental health through increases in driving related stress, stress injuries, road-rage, and increases in depression as a result of isolation (Frumkin et al., 2004, p.137-160);
- undermining latent potential of social capital by limiting the time people have available for civic engagement, reducing time for social interaction, privatising the public realm through personal investment in private social space rather than public shared space, segregating communities, disrupting community life as people age and their environment is no longer appropriate to their circumstances.(Frumkin et al., 2004, p.161-185).

10.2 'Urban Sprawl' Impacts on Walking

One of the significant health impacts of urban sprawl noted by Frumkin above is decreased physical activity resulting in obesity. In Australia, the National Physical Activity Guidelines for Adults recommends a minimum daily of a half hour moderate physical activity per day and refers to walking as appropriate to increase activity.(Department of Health and Aging, 1999).

The Victorian Governments 'Go for Your Life' campaign promotes active living. Walking, active recreation, and active transport are three of the top four methods recommended to increasing physical activity. The Victoria Vision for developing healthy active communities is...

"The Victorian Government wants Victoria to be a world leader in the development of healthy and active communities. Our aim is to create and support a culture and environment where:

- More people choose walking as the primary means of making local journeys as part of a safer, healthier and more sustainable lifestyle;
- More people choose to participate in walking for recreation; and
- There are more inclusive and attractive places, which encourage people to walk, enriching their experience of being out and about in their community."

The Victorian Government identifies the benefits of walking as...

- regular, moderate activity, such as walking, improves health and fitness, regardless of age;
- walking helps prevent and manage chronic diseases such as stroke, diabetes and heart disease;
- walking promotes improved mental wellbeing and opportunities for social interaction;
- more people on the streets makes for safer, more vibrant neighbourhoods;
- walking is the most affordable and equitable means of transport for local journeys;
- walking is often a quicker means of transport for local journeys;
- choosing to walk, rather than using the car, reduces pollution and creates a more sustainable environment;
- walkable cities and towns attract tourists and bring economic benefits;
- a good walking environment supports increased public transport usage; and
- suburbs designed for walking promote stronger, safer, more socially cohesive communities.

Based on Shriver's research cited in Meed (2006, p.34), on defining walking patterns, the particular characteristics of Leopold suggest that urban design had the capacity to limit walking opportunities and may result in a population walking less, and walking predominantly for recreation rather than secondary activities. There is a high likelihood that these circumstances result in a level of relative physical inactivity in the Leopold population.

If the characteristics of Leopold mitigate against people walking for daily activity, the implication is that daily physical activity minimums are unlikely to be met within the context of current Leopold urban design.

In a preliminary study on the costs of physical inactivity for the Commonwealth Government, Stephenson et al (2000, p.68-75) detail epidemiological evidence connecting physical inactivity with the following illness:

- stroke;
- depression;
- non insulin dependant diabetes;
- falls incidence;
- lung cancer;
- breast cancer;
- colon cancer;
- coronary heart disease;
- all causes mortality.

The Victorian Government 'Go For Your Life Campaign' identifies the linkages between physical inactivity and illness as including:

- arthritis;
- asthma and other breathing related illnesses;
- back problems;
- cancer;
- Chronic Fatigue Syndrome;
- diabetes;
- epilepsy;
- osteoporosis;
- heart disease;
- Parkinson's disease.

Reinforcing the case that Leopold's design impacts on health outcomes, is research by "Giles-Cortes and Donovan in 2002 which found that those prone to being overweight:

- Were more likely to live on a highway interval;
- Perceived no walking or cycle paths within walking distance or a five minute drive; and
- Had poor footpath access, with either no footpath or only one footpath on one side of the street (Mead et al., 2006, p.37).

The Leopold community is divided by two major highways. Further, a CoGG survey of residents in 2007 found a high level of concern with missing or poor quality footpaths in close proximity to their homes, which do not provide continuous access to destinations including school, shops, public transport, social and recreational opportunities (David Lock Associates and PBAI, 2007).

Given the similarity of known conditions, there is a high likelihood of replication of Giles-Cortes and Donovan research findings, as reported by Mead (2006, p.37), in the Leopold context.

10.3 Expected Equity and Health Impacts in Leopold

Given the location, layout and amenity of Leopold, in general terms, we would expect similar social environmental and health impacts as reported by Giles-Cortes and Donovan in Mead (2006, p.37).

Our starting point in this EFHIA is that the current urban environment is likely to impact adversely on people's capacity and willingness to walk most places locally most of the time.

Our preliminary assessment was that the current state of the footpath network in Leopold was likely to inhibit people's capacity to undertake the National Physical Activity Guidelines in the normal course of daily activity locally. We also note with the current state of footpaths, some people and population groups would be impacted more than others.

The WHO report (2007, pp.9-11) suggests a range of possible beneficial results from intervening in the public domain through promoting walkability including:

- real and perceived road safety improvements;
- real and perceived improvements in crime through improvements in lighting and increased pedestrian and cycling traffic;
- improvements in the opportunity and willingness to walk with improved aesthetics, street design and availability of open space;
- increased likelihood of meeting national activity requirements daily;
- increased convenience walking where walkability is improved;
- increased possibility of walking as active transport;
- decreasing prevalence of obesity.

The WHO study (2007, pp.12-14) further suggests a range of particular benefits would flow from interventions for particular disadvantaged groups including:

- improved participation in physical activity and perception of safety for young people;
- improved physical activity and longevity of older people;
- improved access to no cost amenity promoting physical activity for those on lower incomes.

Our pre- evaluation assessment of the proposal was that if it improved walkability it had every chance of replicating similar results to the WHO study (2007).

In a survey of the Leopold population undertaken by the CoGG (David Lock Associates and PBAI, 2007, p.55-61) when asked how residents travelled to community buildings 67.52 per cent

of respondents indicated they travelled by car, despite buildings being within reasonable walking distances, and for some, within a 400m pedshed (a walkable catchment – defined as a 5-10 minute walk for most people). A significant percentage (40.26 percent) blamed the current state of footpaths and claimed they would walk if footpaths were continuous, on both sides of the street, safer, all weather or merely better. The survey results clearly reinforced the importance and relevance of findings by Giles-Cortes and Donovan (2002) (Mead et al., 2006, p.37).

This gave rise to a number of possibilities, including increasing inactivity within the local population, people undertaking their daily physical activity outside the community, or possibly privatising any physical activity within the context of gymnasiums or swimming pools.

However, for the purposes of this assessment we inferred from the preference for car travel, even for short distances the state of footpaths, limited potential physical activity within the community. We supported this inference with supporting information gathered in the survey including that more than 25 percent walked less than the National Physical Activity Guidelines minimum. Further, three quarters of respondents self identified as could improve their health and weight (17.87 percent) fitness and well being (26.81 percent), and exercise (24.68 percent).

Again survey data from residents in Leopold indicated that, in general terms, respondents understood the benefits of walking and potential improvements possible from additional walking opportunities. The community expected the strategic footpath would improve 'fitness' (10.7%), overall 'happiness' (4.43 percent), and 'community wellbeing' (4.06 percent). They felt it would also increase 'exercise' (4.8 percent) 'assist in weight management' (9.96 percent).

Residents also identified improved social capital building outcomes of footpaths where people could talk to each other, meet their neighbours, decrease isolation and thus improve their mental health and mental stimulation. Benefits perceived by residents are consistent with that of the Federal and State Governments physical activity and walking policy frameworks and WHO findings above.

The target populations for the EFHIA were those at risk of being impacted by physical inactivity resulting from limited opportunities to walk comfortably. In Leopold in the Strategic Footpath context, this population included the whole population. Our expectation from an improvement in the quality and connectivity of the footpath network was that overall health, well-being, happiness and social connection would all be increased. At the same time weight management and obesity risk would reduce.

However those most likely to be most inhibited from walking included those who were without other forms of transport and reliant on walking, and those who were socially isolated and older and most likely to be significantly impacted by life long inactivity.

Those at particular risk were identified within the survey as people without car access always, reliant on walking and doing so for long periods of time daily, and in particular the identifiable elderly population in this category, another group of middle aged women likely to have children and children in pushers with them, as well as those under the driving age. This is consistent with findings in Lavin and the WHO (2006, p.23, World Health Organisation, pp.13-14) which indicate the elderly and poor as being those most impacted by poorly designed urban environments.

Given the lists of potential health impacts of limited physical activity on whole populations above, it is possible that the 'at risk' groups would also benefit from particular beneficial health outcomes including:

- decrease in depression and an increase in social inclusion;
- reduction in falls and bone strengthening;
- reduction in arthritis and diabetes; and
- increase fitness, reduction in weight and obesity levels.

All possible beneficial health and well-being outcomes will be evaluated over time as part of the CoGG commitment to monitor and evaluate the efficacy of the project over time.

10.4 Policy Change

As the process was part of an initial experiential learning step in changing the walkability policy focus for the City the potential of this process to be instructive was extremely high.

The CoGG is already in the process of changing the Greater Geelong Planning Scheme to include walkable communities as one of its defining features in the Municipal Strategic Statement. As part of this exercise it has commenced a number of projects including building a toolkit to promote walkability. One element of this work particularly focuses on the Walkable Neighbourhoods provisions in Clause 56 in respect of New Subdivisions.

10.5 Recommendation

The recommendation from the screening was that an equity focussed HIA be undertaken as there was considerable uncertainty about the potential, differential impacts, and non-negligible impacts including:

- Potential safety concerns caused by the combination of active transport with traffic;
- Potential negatives if this project is not well founded and is not successful in being funded or accepted in general in Council, and the flow on impacts for other communities in similar circumstances; and
- Funding uncertainty around amount of funding being sought, impact on Council and residents, and / or on Development Contribution Plans.

11 Impact Identification

It is important to remember that impact identification was not trying to identify the impact of the project as compared to any other strategy, merely whether the route was appropriate and possible mitigation of any impacts caused by the route design and construction phases of the project.

The impact identification process was undertaken by the project steering group on 26 September 2007 following the publication of the results of the community survey and establishment of the draft route which was then made available for public comment.

Further opportunities for impact identification were made available in the presentation of the report to the community on 3 October 2007 and in response to comment forms available from the CoGG's website specifically tailored to address the draft proposal.

A number of issues were raised by the community. Two most critical were:

- that the concept and design lacked integration with cycling and with broader recreational walking opportunities on the Bellarine Peninsula; and
- a resident with a clear preference for no additional footpaths and for walkways to remain unconstructed road verges in the future added that the construction of these footpaths might actually harm health by leading to skeletal injuries.

Of the six submissions received one correspondent identified areas that would remain relatively inaccessible despite proposed improvements in north south and east west routes. No other submissions were critical or commented on the route in any way, while clearly accepting the premise that the strategic network had the capacity to improve community health and well-being.

Within the Project Steering Group context a number of potential impacts were identified when the proposed route was reviewed according to an abridged version of the social model of health, including potential access, social and environmental influences as well as influences on Leopold residents lifestyle and personal circumstances. See the Table in Appendix 3 for the complete list of impacts envisaged by the steering group in respect of the proposed route.

It was important that these impacts were considered in the light of two filters:

- considering how these would impact the whole of the community; and
- for specific impacts on those least likely to have alternatives to walking identified earlier (aging and walking dependant, people without transport, people with prams, and those under driving age).

Fifteen additional categories of impacts were identified by the Project Steering Group relating to the following topics that have been briefly summarised into question form below:

- Pedestrian traffic conflict – what initial adjustment is required in a rebalanced environment to ensure good and safe behaviours?
- Hill – the challenge is that the hill remains unnavigable for some due to the gradient and crossfall despite footpath linkages. Are there other opportunities?
- School – is still missing a section of footpath on Vicarage Road to the west edge that might not deliver children quite to the door. Should this section be completed?
- Melaluka Road construction and construction in general – minimising risk and impacts of construction – how is this undertaken?

- Distance from route – potentially some are still outside a reasonable walking pedshed, have we measured the pedsheds post -design to check this potential impact?
- Community perception of value – potential that if done well it will enhance well-being and Leopold's residents a sense of place, but how will we know?
- Increased employment locally – with paths leading to local businesses the potential is that this will deliver local shopping by locals to local businesses and generate local employment. How will we understand the impact?
- Shared Footpaths – should the strategic footpath be a shared footpath or just a pedestrian footpath. Are there broader health benefits to it being more than just a footpath?
- Melaluka Road by the Reserve – routes need to be thought about carefully to promote all weather, day and night time accessibility. Is 24 hour use of all of the route desirable and to be encouraged?
- Community infrastructure – does the path promote overall connectivity?
- Perception of safety – does the proposed footpath network improve the perception of walking safely in the Leopold environment?
- Economic impact – can the strategic footpath route provide particular benefits for some community members on lower incomes?
- Economic benefit – how will the cost sharing arrangements be distributed to ensure they do not detrimentally impact on some residents with less capacity to pay?
- Public transport – will the route encourage public transport use?
- Crossing points – has better access been provided and achieved and how will we know?

12 Impact Appraisal

Impact Appraisal is an assessment of the validity and level of risk that the identified impact will adversely or, in an unintended way, unequally impact on identified at risk resident populations.

The following table illustrates the identified level of impact in respect of community affected.

Issue	Potential 'whole of community' adverse Impact	Potential Specific target population adverse impact
The project is not an integrated active transport solution	Low	Low
Some areas will still be without access to high quality footpaths	Medium	High
That the Strategic Footpath design and fabric would harm health	Low	Low
Pedestrian traffic conflict will exist in the short and longer terms	Medium – short term	High – short tem
Hill – impossible gradients	Medium – long term	High – Long term
School –missing sections	Low – short term	Low – short term
Melaluka Road construction and construction in general	High – short term	High – short term
Distance from route	Medium – long term	High – long term
Community perception of value	Low	Low
Increased employment locally	Low	Low
Shared Footpaths	Medium	High – long term
Melaluka Road by the Reserve	Medium	Medium
Community infrastructure	Low	Low
Perception of safety	Low	Low
Economic impact – beneficial impacts on some population groups with lower incomes	Medium	Low – long term
Economic Impact – Detrimental impact on those least able to afford to pay specific charges for footpaths	Medium – short term	High – short term
Public transport	Low – long term	Low – long term
Crossing points	Low – long term	Low – long term

Perhaps identify in the third column above, who the specific target populations are

13 Recommendations

The following table identifies solutions to be implemented to address to the high, medium and short and longer-term impacts raised above. Perhaps some explanation of how recommendations were developed could be included. This would then be consistent with the previous outlines of how screening, scoping etc were undertaken.

Issue	Solution
Pedestrian Traffic Conflict will exist in the short and longer terms	<ul style="list-style-type: none"> Community education and safety program. Monitor safety issues over time in annual survey post build.
Some areas will still be without access to high quality footpaths	<ul style="list-style-type: none"> Review current pedshed analysis to ensure it delivers equitable results across community. Monitor of any engineering and DDA complaints in respect of the route. Plan for all other footpath construction in a staged approach following Strategic Footpaths cascading hierarchy with the priority to those that are the most benefit to the most number of people.
Hill – impossible gradients	<ul style="list-style-type: none"> That seating be provided along the route. That meandering route be included to limit gradient. That at points that are particularly steep options of splitting between meandering and steps be considered as per Guidelines for Walkable Coastal Communities solutions.
School – missing sections	<ul style="list-style-type: none"> Monitor footpath use and ensure improvement in road crossing points from existing footpath on other side of road to school as part of the design.
Distance from Route	<ul style="list-style-type: none"> Review current pedshed analysis to ensure it delivers equitable results across community. Monitor any engineering or DDA complaints in respect of the route. Plan for all other footpath construction in a staged approach following Strategic Footpaths cascading hierarchy with the priority to those that are the most benefit to the most number of people.
Melaluka Road by the Reserve	<ul style="list-style-type: none"> Encourage use of on road paths out of day light hours. Deliberately avoid providing lighting for certain through walking routes at night, although park night use by recreation groups lighting needs still should be considered.
Economic impact – detrimental impact on those least able to afford to pay specific charges for footpaths	Policy to address issues of equity, capacity to pay, resident share, payment time frame, components charged etc.
Public transport	Produce similar design solutions for bus stops as well as consider other Transit Oriented Design (TOD) solutions in a related walkability project in the short term.
Crossing points	Monitor walking patterns and review crossing treatments annually in post build survey of population.

14 Monitoring and Evaluation

The following monitoring process is proposed for the LSFN:

1. Pre-build Impact identification checklist to highlight any pertinent issues for particular sections and that can be addressed at this stage (completed in recommendations in previous section).
2. Quarterly counts of pedestrians at key route locations post build.
3. Annual monitoring post build including focus groups, and street surveying.
4. Analysis of annual housing construction data to ensure proposed route build sections match population locations.

Evidence in this section is to be completed annually after construction of the LSFN commences in 2008/2009.

15 Appendix 1

15.1 Project Screening Tool

Title of Policy or Program	Leopold Strategic Footpath			
Content and Context of Proposal				
<p>Although there is a large amount of community concern at present about footpaths and walkability of neighbourhoods, there is currently no policy that encourages the generation of new footpath networks outside of Special Rates and Charges provisions (which are costly, time consuming and inequitable in their implementation).</p> <p>There is also an extremely limited budget available for the generation of new footpaths, despite the fact that a number of Council plans point to active transport and encouraging physical activity as being important objectives for this Council.</p> <p>With the rate of new housing development occurring across the City of Greater Geelong, there is an opportunity to capture Developer Contribution Plans (DCPs) to upgrade the existing footpath network to include 'strategic footpaths' that will connect residents with community infrastructure such as shops, health services and sporting grounds.</p>				
Target Populations				
Identified Populations included or excluded from the policy/ program and identified links between policy and health	Whole of community, with a particular focus on access for those parts of the population who most need it (eg people with a disability, older people, people on low incomes)			
Lifestyle	Positive	Negative	No Effect	Health Link
Diet	✓			Encouraging healthier lifestyles
Physical Activity (including encouraging car substitution)	✓			Encouraging car substitution
Safe sex behaviours			✓	No link
Alcohol and other drug use	✓	✓		Increasing walking accessibility to licensed premises may reduce drink drive but increase alcohol related pedestrian incidents
Other (Happiness and general wellbeing)	✓			Social capital building as well as possibility identified by community
Physical Environment	Positive	Negative	No Effect	Health Link
Air (including greenhouse gas)	✓			Reduction in car use and hence reduction in greenhouse gas emissions
Built environment and land use	✓			Better linked, better amenity, more efficient walking options provided
Noise	✓			Reduced car noise, increased noise of people in public domain including talking, playing and laughing
Water	✓			Improved water quality through reduction in car pollutant run off from roads with decreased

Title of Policy or Program	Leopold Strategic Footpath			
				car use
Other			✓	None identified
Socio Economic Environment	Positive	Negative	No Effect	Health Link
Crime (reduce crime or fear of crime)	✓	✓		Possible increase in crime in housing immediate to route, although moderated by increased route traffic so reduction in incidental crime opportunities
Education (effect on educational opportunities)	✓			Improved fitness and this improved learning capacity for children walking to and from school Better safety around school at pick up and drop off times as reduced traffic
Employment (employment opportunities / environment)	✓			Improve local economy with improved passing and incidental trade so improved opportunity for part time and casual work
Family Cohesion (improve family life)	✓			Improved opportunities to enjoy outdoor activity and improve health and fitness as a family unit in safety and comfort
Housing (effect opportunity for decent affordable home)	✓	✓		May change the price structures of homes in general in Leopold and create variation in respect of proximity to the route
Recreation (effect exercise, social contact, cultural activities, other)	✓			Improve opportunities for exercise, social interaction and inclusion
Income (effect on poverty levels)	✓			Impact on those with limited incomes by providing a more affordable accessible exercise and transport opportunity
Social Cohesion	✓			Provide opportunity for people to meet each other
Other (Access for all)	✓			Provide accessible active transport opportunity for all
Transport	Positive	Negative	No Effect	Health Link
Pollution (including greenhouse gas)	✓			Reduce local car emissions thus reducing greenhouse gas
Exercise (encouraging car substitution)	✓			Encourage exercise, improve exercise amenity and infrastructure
Accident Levels	✓	✓		Possible short term transition issues in re-balancing pedestrian and car transport

Title of Policy or Program	Leopold Strategic Footpath			
	Positive	Negative	No Effect	Health Link
				use within the community
Health Care	Positive	Negative	No Effect	Health Link
Access to Health Services	✓			Improved pedestrian access
Access to amenities	✓			Improved pedestrian access
Population affected	Positive	Negative	No Effect	Health Link
Whole population	✓			Better overall healthier exercise opportunities
Sub populations including;				
Children 0-5 years	✓			Better overall healthier exercise opportunities
Children 5-12 years	✓			Better overall healthier exercise opportunities
Children 13-18 years	✓			Better overall healthier exercise opportunities
Older persons 65 +	✓			Better overall healthier exercise opportunities
Older persons 75+	✓			Better overall healthier exercise opportunities
Persons with dependants			✓	Better overall healthier exercise opportunities
Marital Status			✓	No differential impact
Political Opinion	✓			No differential impact
Religious Belief	✓			No differential impact
Chronically ill	✓			Better overall healthier exercise opportunities
Economically disadvantaged (including low income, no income, pensioner, unemployed)	✓			Better overall healthier exercise opportunities Accessible means of local transport
Gender (Male)			✓	No differential impact
Gender (Female)			✓	No differential impact although women are more likely to identify weight as an issue
Homeless	✓			No differential impact although potentially nicer places to rest
Sexual Orientation	✓			No differential impact
Persons with disabilities	✓			Better overall healthier exercise opportunities Accessible means of local transport
Racial and Ethnic Minorities	✓			No differential impact
Rural populations				Accessible means of local transport
Isolated persons	✓			Better overall healthier exercise opportunities Accessible means of local transport Improved opportunities to meet people and participate in community life
Transport disadvantaged	✓			Accessible means of local transport

Title of Policy or Program	Leopold Strategic Footpath
Describe links between policy, practice, specific populations and health. List potential broad desirable and undesirable equity outcomes of proposal	
Identified opportunities for change to the policy or practice	Current footpath provision policy is under review as is method of prioritisation of components, and provision of amenity. Desirable outcomes include access for all abilities footpaths in this and other locations. These footpaths should be more than functional and encourage or facilitate walking in a community by the whole of the population by offering high amenity active and passive recreational opportunities.
Identified new course of action (Screening Method)	Screening will be undertaken in consultation with the community to test whether outcomes considered possible or likely above are likely outcomes for the community.
Possible Recommendations	
1. There are likely to be only negligible or differential (potential) health impacts following the implementation of the policy or practice. There is no need to adjust the proposal or proceed to an equity focused health impact assessment (EFHIA) in this instance	
2. There are no negligible (potential) health impacts and differential impacts. It is recommended that there is no need to undertake an EFHIS but the following adjustments should be made to minimize the negative and maximise the positive impacts on health and make the policy or practice more equitable.	
3. There is considerable uncertainty about the (potential) impacts, the differential impacts the extent of the non-negligible impacts, or the opportunities for adjusting the proposal (select as appropriate) therefore an EFHIA is recommended for addressing the following aspects:	It was recommended that the full EFHIA be undertaken in this instance in order to address; <ul style="list-style-type: none"> • Potential safety concerns caused by the combination of active transport with traffic • Potential for Negatives if this project doesn't work out (Council is unlikely to consider such an approach again if this is unsuccessful – this in turn has implications for other communities) • Considerable uncertainty around how the plans will be funded. Depending on how it is done there may be impacts on existing residents (through special rates and charges, if this is enacted) or new residents through DCPs.

16 Appendix 2

16.1 City of Greater Geelong Scoping Tool

Scoping Tool	
Establish a Committee and reach agreement on core issues	<ul style="list-style-type: none"> Established as a collaborative project for the Leopold Strategic Footpath Network by Community Development and Engineering and expanded for this process to include the Health Promotion Officer, Leopold Community Reference Group the Barwon Primary Care Forum and Surfcoast Shire Council Purpose to undertake a HIA of the proposed 'Strategic Footpath' route for Leopold to ensure that there are no unintended or unforeseen access consequences Equity Core issues are testing the 'strategic footpath' concept draft design as an equitable solution for whole of community with a focus on access for those least able to currently access existing footpath network
Articulated values	Equity Focused Health Impact Assessment with the particular aim of getting more people walking more often, paying particular attention to those who are currently access or mobility disadvantaged, or active transport dependant
Agreed process issues including process evaluation	<ul style="list-style-type: none"> To undertake most steps except for the preliminary screening and scoping with the Leopold Community Reference Committee if / where possible. To include evidence gathering options from public comment opportunities including surveying, comments on draft routes and final routes. Assess proposed route at draft stage. Modify draft route where appropriate given assessment. Make recommendations about construction impacts given draft route Monitor and evaluate over time over implementation time frame and beyond. Key accountabilities Production of report Implementation of monitoring and evaluation processes as route is constructed
Approach to obtaining evidence	<ul style="list-style-type: none"> Much of the literature review has been completed in the background paper that discussed the 'Strategic Footpath Approach' written by Social Planner, City of Greater Geelong, in 2006/ 2007. This will be modified and added to where appropriate. Additional material has been collected for the screening phase for particular evidence on physical activity, physical inactivity and urban sprawl, physical inactivity with related health outcomes. Evidence of actual improved health and community well-being will not be available at any time in the course of the project. Evidence relied on will be community perception of their own health and the health of the community. Questions asked in initial surveys will be repeated over time to evidence change. Evidence gained in the initial surveys will be included in questions in subsequent surveys to determine the perceived benefits or dis-benefits of the implementation of the Strategic Footpath.
Agreed Methods to be used	<p>Evidence in this case is based on what is possible and available at township level and includes;</p> <ul style="list-style-type: none"> ABS population data 2001, 2006, 2011, 2016 Community Survey 2005 Walkability Survey 2007 Annual house construction data in Leopold Holding Focus Groups and utilising skilled survey persons at destinations annually Quarterly counts at particular identified points on the route as it is built

Scoping Tool	
What level will assessment be undertaken?	Full EFHIA over time
Methods for obtaining information	<ul style="list-style-type: none"> • Surveys • Focus Groups
Differential and unintended consequences	<ul style="list-style-type: none"> • Seeking information on whole of population use and change in walking habits and consequential changes in fitness, happiness, weight management as well as increased social capital. • Seeking particular changes in health outcomes for those currently mobility impaired or with limited mobility as a result of the environment
Level of consultation sought and from whom	<ul style="list-style-type: none"> • Consultation with Leopold Community Project Reference Group • Community Input sought through; • Surveys • Comments on concept and on draft • Comments on final plan • Post Build • Annual surveys • Quarterly walking counts • Annual Focus Groups
Management structures required	Loose Collaboration managed by Social Planner with input from Project team
How are core terms defined	<ul style="list-style-type: none"> • Core terms include • 'Strategic Footpath' – a wide, high amenity footpaths, of material that is not necessarily concrete that gets most people to where they want to go most often. • 'Sprawl' Dispersed, auto dependent, development outside compact urban and village centres, along highways, and in rural countryside • 'Leopold" township of approximately 9,000 persons, expected to grow to 15,000 east of Geelong on the Bellarine Peninsula

17 Appendix 3

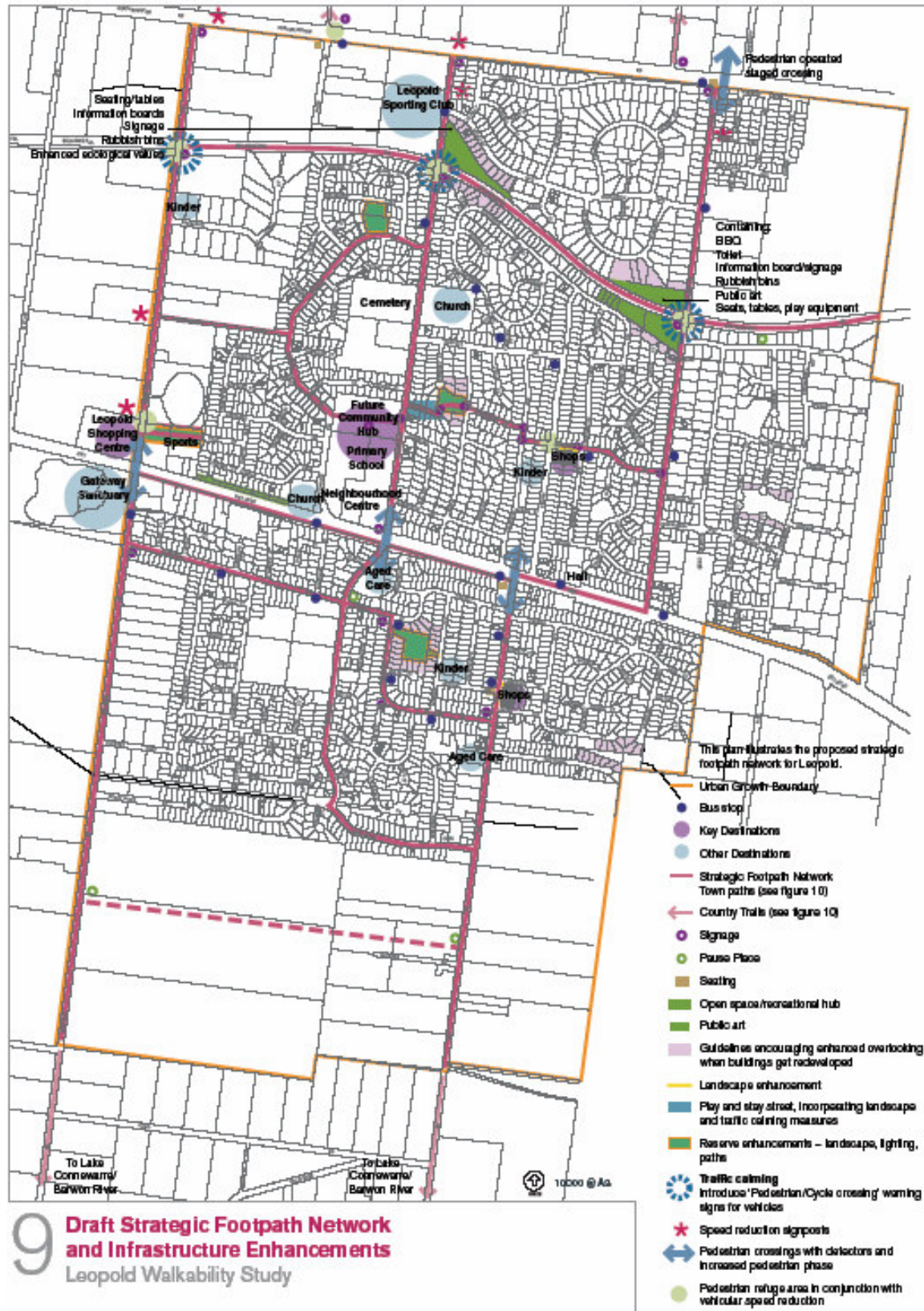
17.1 Impact Identification

Issue	Access	Social Influences and Environment	Lifestyle and Personal Circumstances
Pedestrian Traffic Conflict	Rebalancing current road / car prioritising environment	Traffic count reduction, traffic speed reduction in some areas	Potential for crossover conflicts, potential for pedestrian car conflicts, road rage
Hill	Ski Lift, home delivery		Promote physical health and fitness in those that are well, impact of mobility for those that are unable to negotiate the gradient
School	Vicarage Road below the school not included in the network Promote fitness, access, mobility, independence	Encourage children and parents to walk to school, neighbourhood centre	Promote fitness, access, mobility, independence
Melaluka Road construction and construction in general	Minimize disruption in construction as will impact on both locals walking, driving and all Bellarine population driving through, and St Albans Park and Breakwater traffic flows	Limited access, interaction and social capital building opportunities during construction Healthier plants post construction	Limit mobility during construction and increase driving to shopping centre in particular
Distance from route	Staging will influence outcomes Not built for everyone outside every home so not equitable	Potential for significant or no impact depending on where you are in Leopold	Privacy impacts, charging dogs, flower thief Better surveillance of property, reduction in crime on route
Community perception of value	Not equal for everyone, disadvantaging rural Leopold	Maintenance of vegetation and pathways Feeling better about place Of general benefit for people close to the route	Ability to pay, individual access, hardship, cost of maintenance Village feel might turn it into Carolyn Springs
Increased employment locally	Increase in small business opportunities for local business, local construction, employment opportunities after school for teenagers	Reinforce the need / viability of a café Make the rail trail a destination rather than a place to pass through	
Shared Footpaths	Both beneficial and detrimental impacts depending on how it works for you and how safe you feel / ? design / chicanes	Intergenerational and sustainable transport integration	Cross over conflicts Some people don't feel safe Walking routes\
Melaluka Road by the Reserve	Main road routes	Perception of safety improved by lighting and well maintained vegetation	Increase in users
Community Infrastructure	Community integration	Connection	Misses one church but gets to the hub

Issue	Access	Social Influences and Environment	Lifestyle and Personal Circumstances
Perception of Safety	Lights over footpaths instead of just roads	Way finding infrastructure encourages walking to destinations Solar powered lighting infrastructure	
Economic Impact	Saves money for people on low incomes particularly those currently walking as main transport option	Increase in house prices, issues with current level of affordable housing	Reinforce shopping locally, reducing costs to residents Potential cost share issues for those least able to afford to pay
Public Transport	Increase public transport use	Increased patronage on public transport	Potential to build out the bus route and emergency vehicles, garbage truck
Crossing points	Better access	Better access, better safety	Better access, community

18 Appendix 4

18.1 Draft Route



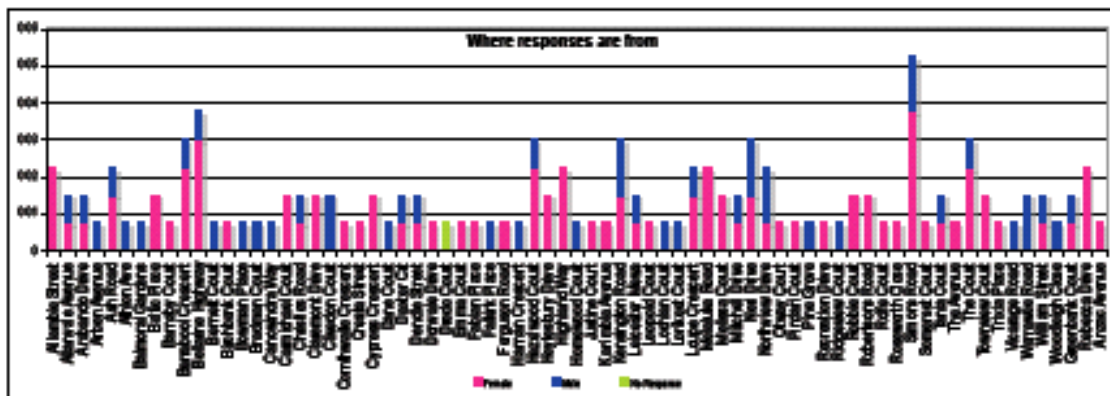
19 Appendix 5

19.1 Survey Results

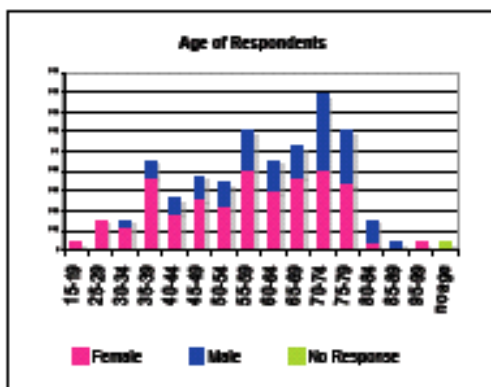
Leopold Strategic Footpaths Walkability Survey Results, 2007

In August 2007 the Lions Club assisted the City of Greater Geelong distribute 3,300 surveys to all households in the walkable catchment of Leopold. Surveys contained an explanation of the Strategic Footpath concept, and invitation to a community meeting and instructions on how to hand the survey forms back when completed. The following is a summary of the results of 133 respondents, or 4.02% of the those households surveyed.

Respondent households came from across the Township. The most enthusiastic respondents came from Bimons Rd, Nerl Drive, the Bellarine Highway, Kerstington Rd, Hazlewood Court, the Court and Barabool Crescent. No single street respondents comprised more than 5.20% of the sample. Almost two thirds of the respondents (85.41%) of respondents were female.



Age Range of Respondents

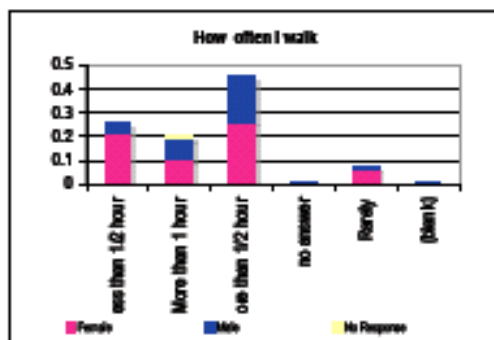
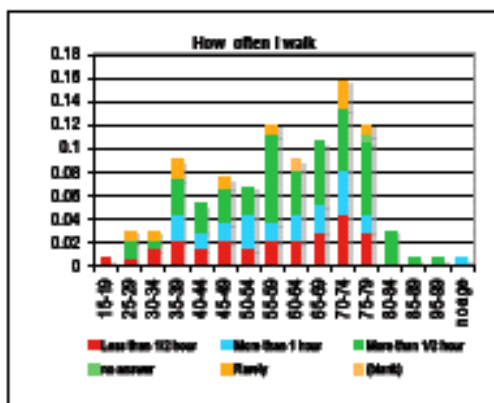


Leopold's population profile most reflects a normal population profile than any other population on the Bellarine Peninsula. The population of respondents to the walkability survey was heavily skewed. More females than males responded in every age group except for 80-84 year olds. Most respondents (38.35%) fell into the post retirement active aging profile 65 to 79 years of age, with a further 37.82% being typically working people with grown families, empty nesters, or early retirees between 55 and 64 years of age. A further 9.02% of respondents were 35-39 years of age.

Walking Patterns

The National Physical Activity Guidelines for Adults recommend that adults put together at least 30 minutes of moderate intensity physical activity, on most preferably all days. They recommend adults 'make a habit of walking or cycling instead of using the car, or do things yourself instead of using labor-saving machines'.

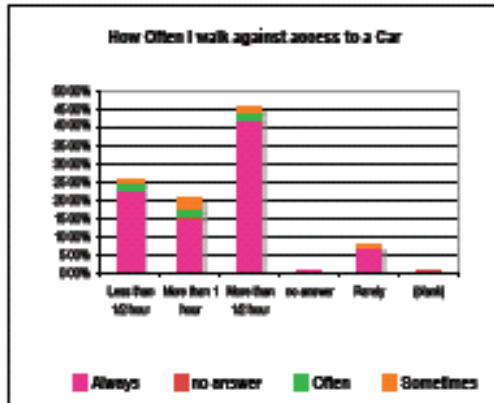
Walking Patterns by Age Range



Although more than 25% of respondents, and respondents across all age ranges, walk less than the recommended daily physical activity it is possible they do other forms of exercise. 55-59 and 70-74 year olds are most likely to walk for more than half an hour, and 70-74 year olds are most likely to walk for the longest period.

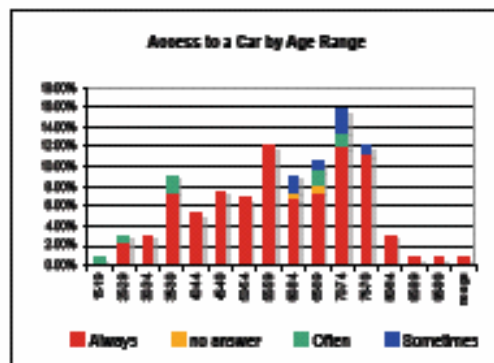
Leopold Strategic Footpaths Walkability Survey Results, 2007

Walking and Car Access



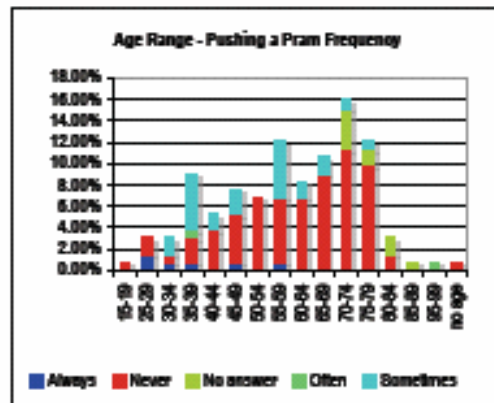
The length of time spent walking was connected to car availability. Of the 20.3% of the population walking more than one hour per day, and double the daily physical activity guidelines, just over three quarters (74.07%) had access to a car often, or sometimes, rather than always. Almost half the sample (42.11%) walked more than half hour per day meeting the daily physical activity guidelines. Of these 93.33% of people had access to car always. Of those rarely walking 90% always had access to a car.

Access to a Car by Age

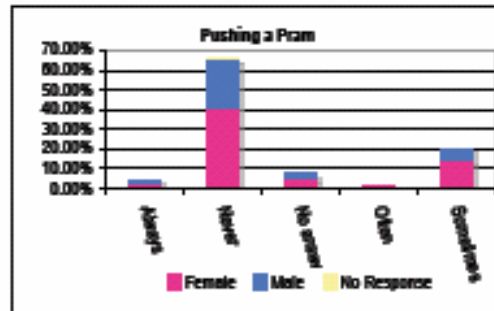


Respondents in the 15-39 years, and 60-75 years were the most likely respondents not to have access to a car always. However respondents in the 15-19 years age range were still likely to have access to a car often. As people age they were less likely to have access to a car often, and more likely to have infrequent access. This has implications for the type of network built, and the amenity it provides for an aging user group, some entirely reliant on the network for access without alternate means of transport.

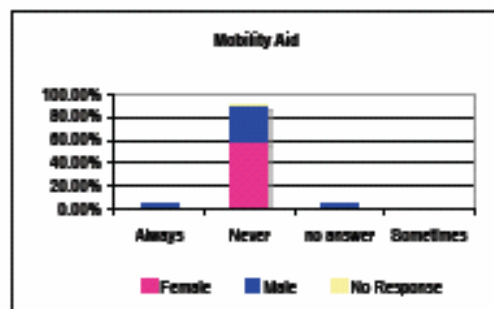
Pram Pushing Path Users



Many footpath users travel with children. Walkers from 25-39 years, and again in the 45-59 years age range, both parents and grandparents identified as pushing a pram always. Respondents in most age ranges identified as pushing a pram sometimes from 30-79 years of age. Most respondents pushing prams were women.



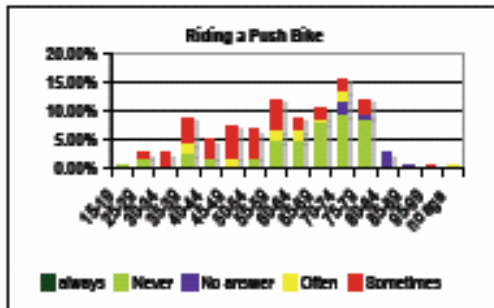
Walking with a Mobility Aid



Only a small proportion of respondents (3.70%) always or sometimes (0.70%) walk with a mobility aid. Of these all are aged 65-89 years of age and two thirds were women (66.67%)

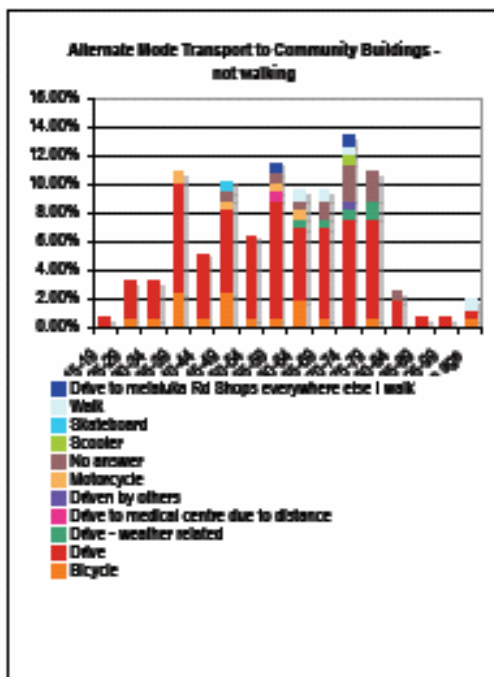
Leopold Strategic Footpaths Walkability Survey Results, 2007

Riding a Push Bike



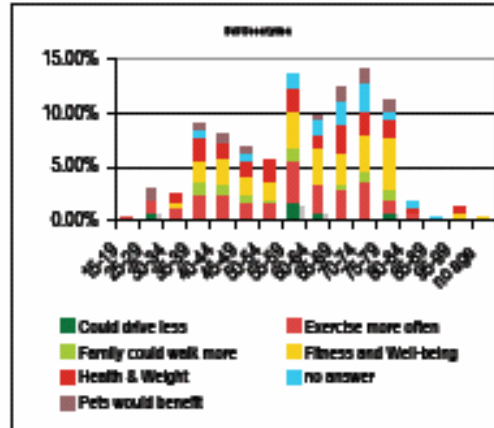
Almost half the respondents (48.87%) identified as never riding a push bike. These included people across all age ranges, but became increasingly likely as people grew older. 34.59% of the population identified as riding pushbikes sometimes. Just over half of these people were aged over 50 years (54.34%). Only 1.5% of the respondents identified as always riding a pushbike. Surprisingly they were aged 60-74 years.

Other Travel Modes



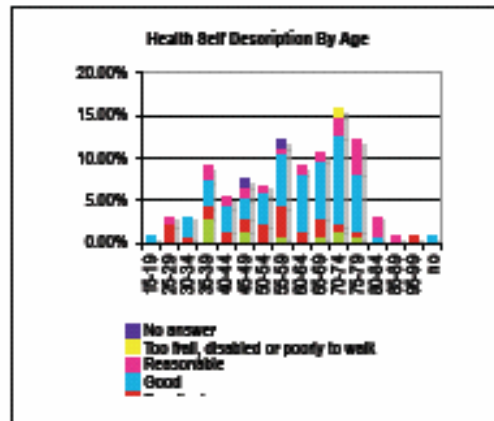
Most respondents in all age ranges (87.52%) drive as an alternate to walking to community buildings. Only 12.10% of respondents would ride a pushbike instead. A further 5.1% would normally walk gave qualified answers dependant on weather and distance, and with Melaleuca Rd a range of possible factors including no footpaths, busy road, the hill and possible grocery load.

Fitness and Walking



Respondents clearly understood the benefits of walking more often. More than a quarter (26.81%) identified that they could improve their Fitness and well-being. A further quarter (24.68%) identified that they could exercise more often. 17.87% identified that their health and weight could improve from increased physical walking.

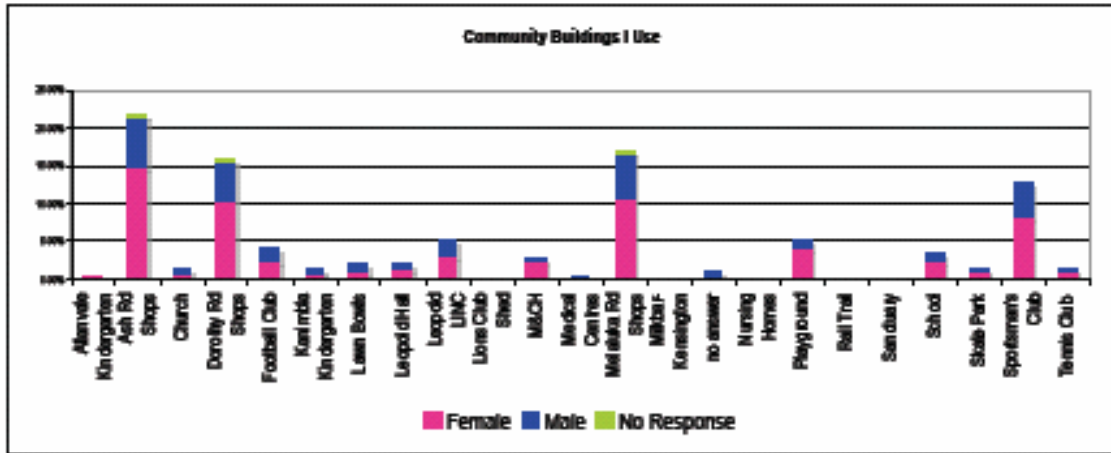
Health and Walking



Almost three quarters of respondents self-identified as being in good or excellent health (72.93%). A further 24.81% identified as being in reasonable health, or health that could be better. Less than one percent of respondents (0.79%) identified as being too frail, disabled or poorly to walk. Capacity to walk was not a limiting factor for respondents.

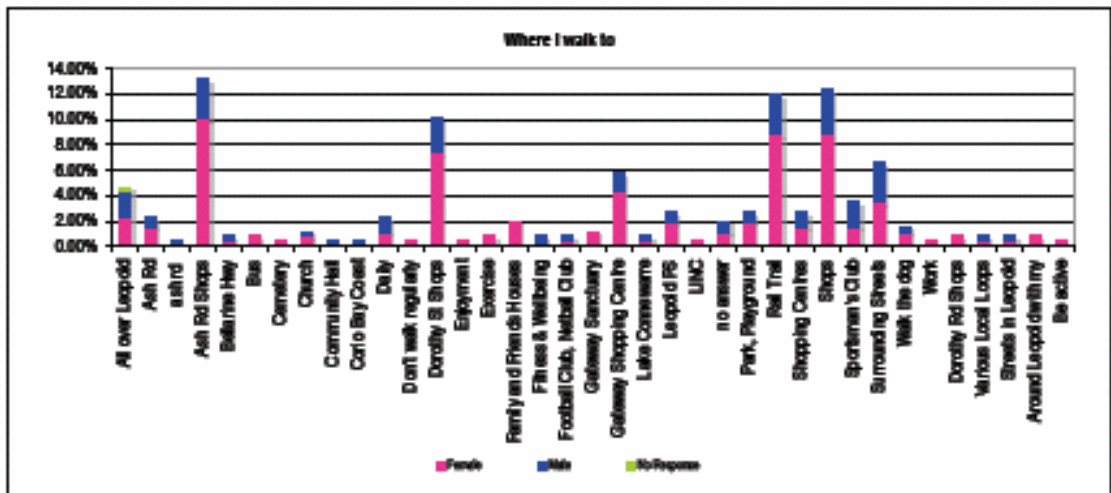
Leopold Strategic Footpaths Walkability Survey Results, 2007

Opportunities for Change



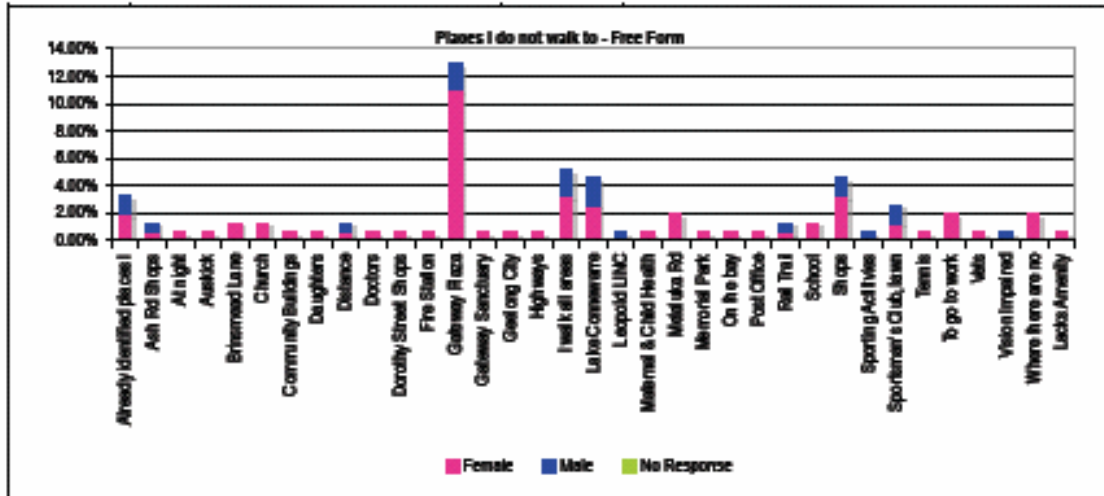
The most well used community assets in Leopold identified in the survey were shopping centres. More than half the community identified as using them (54.35%) Clearly these provide a significant opportunity in encouraging people to walk more often.

When asked where people walk to, again the most significant response from residents was either to a specific shopping centre, or to shops in general (42.08%). A further group of residents walked the Rail Trail (11.97%), and surrounding streets (8.11%), or all over Leopold (4.63%).



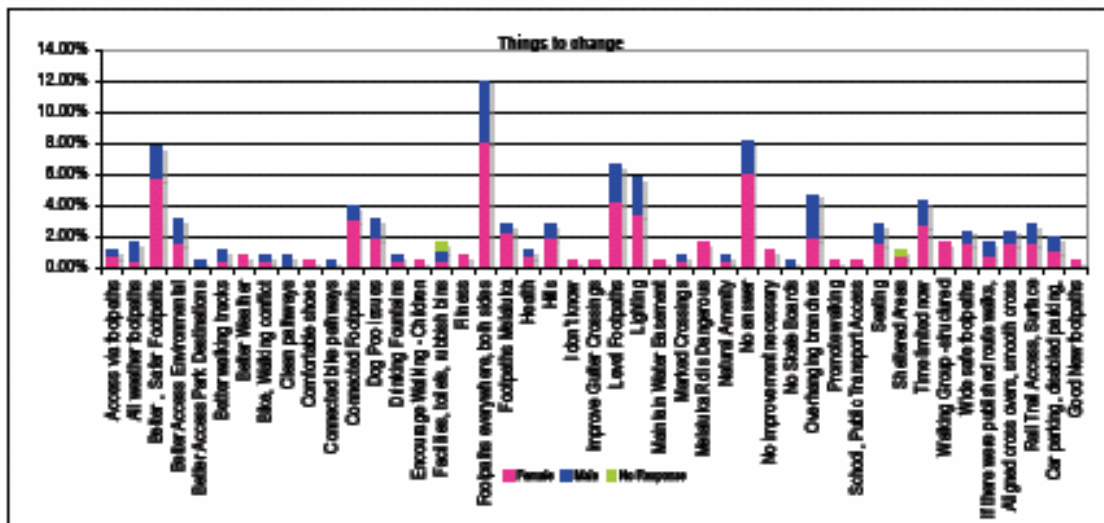
Leopold Strategic Footpaths Walkability Survey Results, 2007

Places I don't walk to



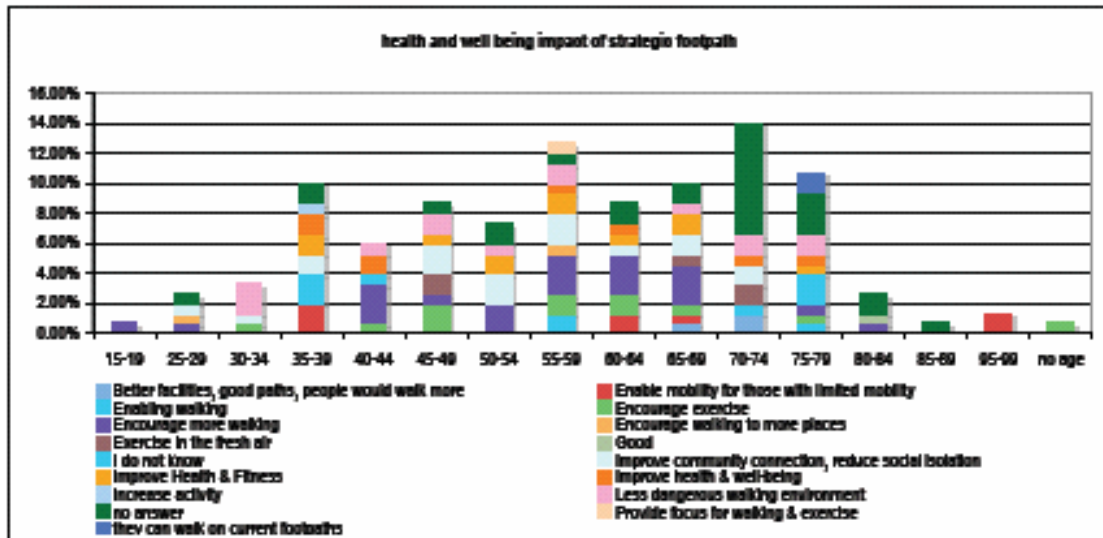
Respondents identified Gateway Plaza as the place they didn't walk to (12.99%) at more than twice the rate of any other place. Other places identified included more generic shops (4.55%), Lake Connewarre (4.55%), and the Sportmen's Club or Lawn Bowls (2.88%). In other parts of the survey the impact of carrying both shopping and lawn bowls was identified as a barrier to walking.

People had constructive suggestions for changing the walking environment. These included putting footpaths both sides of every street (12.02%), better safety (7.75%), level (8.50%) and connected footpaths (3.88%), constructing footpaths on Mealsluka Rd (2.71%), improving lighting (5.81%), pruning overhanging branches (4.05%), and providing access to environmental destinations (7.75%).



Leopold Strategic Footpaths Walkability Survey Results, 2007

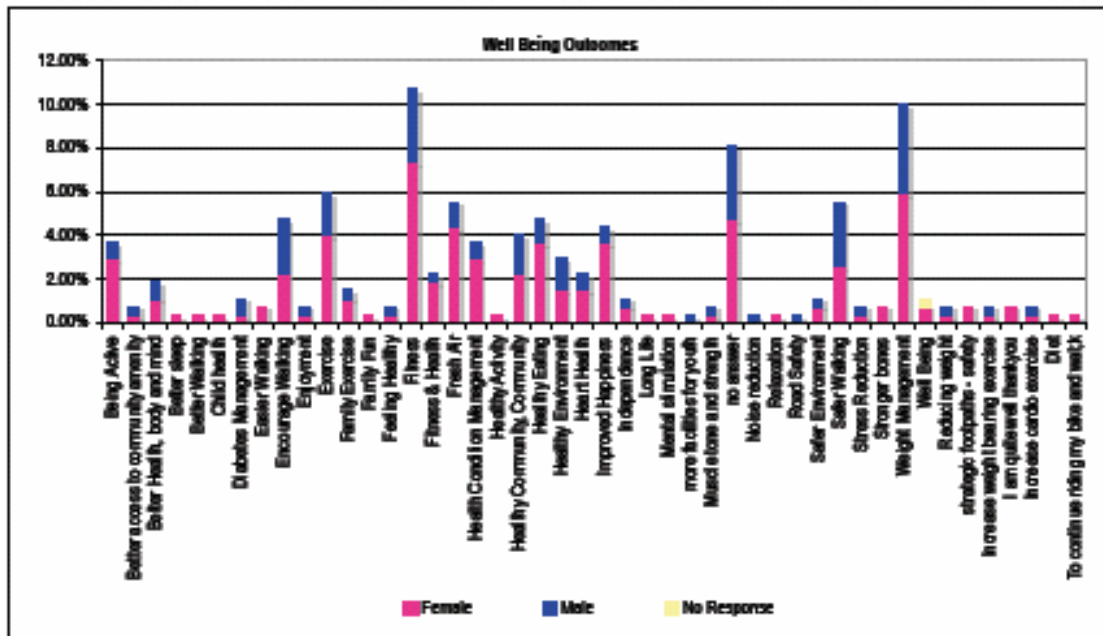
Expected Impact of a Strategic Footpath



As part of the assessment of the merits of the strategic footpath concept and design, we sought to understand peoples acceptance of the notion, their sense that it would make a difference, and an indication of what this might be. We asked two questions, one about how a strategic footpath would impact, and the other about any health and well being outcomes a strategic footpath might have.

Above we have the response to the strategic footpath question which indicates that people understand the function of the infrastructure in enabling walking across the community. Almost all responses relate to the strategic footpaths capacity to enable walking, some generally, some more specifically.

Below are the responses relating to the health impact, Leopold residents understand the capacity of the infrastructure proposed to directly impact on weight management (9.96%), fitness (10.7%), safer walking environments (5.54%), exercise, to encourage walking (4.80%), to increase happiness (4.43%) and a healthy community (4.06%).



20 Appendix 6

20.1 Community Consultation Results

Question	Comment
How will the proposed route increase community access	<ul style="list-style-type: none"> • Better access to Gateway Plaza • By linking the North Melaluka Road to Vicarage Road • Proposed strategic footpath network covers most of Leopold township however I would like to see some supplementary feeder strips from some of the outer areas to the east and south west to allow for access from all areas. • It will create linkages between community centre's and recreational areas • Presume the route is that shown on unmarked page 38 shown as 9. It will not unless Meleluka Road is made a combined bike and footpath allowing people to carry greater shopping loads on the bike versus foot. People will only walk to the shops if they can carry their goods comfortably.
will the proposed route change social and environmental outcomes	<ul style="list-style-type: none"> • May encourage more walking along Melaluka Road both ends • May encourage more walkers perhaps a few daily walking groups to see more ? Within town area • It will encourage people to walk and exercise. • The proposed route is already there. If the intent is to artificially surface the route there could be an increase in hip and knee joint problems over time.
How will the proposed route influence peoples lifestyle and personal circumstances	<ul style="list-style-type: none"> • Encourage people to walk may encourage more walkers perhaps a few daily walking groups to see more ? Within town area • It will encourage people to walk and exercise. • The proposed route is already there. If the intent is to artificially surface the route there could be an increase in hip and knee joint problems over time.
Any other comments	<ul style="list-style-type: none"> • Ideally walking and cycling routes should be developed together. Cycling strategy for Bellarine Peninsula. I was thinking about the issue of no North access in/out of the new subdivision in Melaluka Road. Could the issue be "handballed" to the developer? Sometime over the next few years a suitable property would be likely to come up for sale and if the developer were "encouraged" to purchase it, the cost could be amortized into the total cost of the subdivision. It would surely be in their interests as it would increase the desirability of the total subdivision. • Survey and Phrasing Flawed to East of Christies and Ash Roads, whole areas with no plans, why? Future development east of Christies Land locked subdivisions again! Como Road needs footpaths while lake is developed. Perhaps we could have use of Barwon Water Easement , Melaluka to Hazelwood for a start • P. 51 of my copy under sketch plan 7 indicative signage says Ash Street Shops, should read Ash Road • The work to date on the LSFN has been well done. I am looking forward to working with you in the future to see the vision become a reality. To provide for those who are able to walk greater distances I would like to see a similar emphasis placed on the 'country trails' to important destinations e.g. lake Connewarre and the Bay • I do a lot of walking and would much prefer a dirt track in the Otway's to a concrete path in Moorabool Street. Greater use should be made of the pipeline reserve for walking (cut grass only) running from Meleluka through to Ash Road. Map has an error in not showing open space in Carmichael Court. I have just looked at 101 pages telling me what I want and what is good for me and my fellow citizens. On enquiring at the locations no-one else has read it. I defy anyone to grasp what is proposed and be able to assess the approximate cost to the community if a blanket Ok is given. I hope all commenter's are kept informed of developments.

21 Bibliography

Aldrich, Rosemary, Mary Mahoney, Elizabeth Harris and Jenny Stewart Williams. 2004. "Equity Focused Health Impact Assessment Framework." ed. Newcastle Institute of Public Health: Australasian Collaboration for Health Equity Impact Assessment.

Barton, Hugh and Catherine Tsourou. 2000a. *Healthy Urban Planning, A WHO guide to planning for people*. London and New York: Spon Press.

Barton, Hugh and Catherine Tsourou. 2000b. "The links between Health and Urban Planning." In *Healthy Urban Planning*. 2006 Edition. London, New York: Spon Press / World Health Organisation.

David Lock Associates and PBAI. 2007. "Leopold Strategic Footpath Network, Getting more people walking more often." Geelong: City of Greater Geelong.

Department of Health and Aging. 1999. "An Active Way to Better Health, National Physical Activity Guidelines for Adults." ed. Commonwealth of Australia Department of Health and Aging: Commonwealth of Australia.

Frank, Lawrence D., Peter O. Engelke and Thomas L. Schmid. 2003. *Health and Community Design, The Impact of the Built Environment on Physical Activity*. Washington: Island Press.

Frumkin, Howard. 2002. "Urban Sprawl and Public Health." *Public Health Reports* 117(3):201-217.

Frumkin, Howard, Lawrence Frank and Richard Jackson. 2004. *Urban Sprawl and Public Health, Designing Planning and Building for Healthy Communities*. Washington: Island Press.

Gebel, K., L. King, A. Bauman, P. Vita, T. Gill, A. Rigby and A. Capon. 2005. "Creating Healthy Environments. A review of links between the physical environment, physical activity and obesity." eds. NSW Centre for Overweight and Obesity, NSW Centre for Physical Activity and Health, NSW Centre for Public Health Nutrition and The University of Sydney: NSW Health Department and NSW Centre for Overweight and Obesity.

Harris-Roxas, Ben F and Patrick J Harris. 2007. "Learning by Doing: The value of case studies of health impact assessment." *NSW Public Health Bulletin* 18(9-10):161-163.
Ireland,

The Institute of Public Health in. 2006. "Screening Tool." ed. The Institute of Public Health in Ireland: Ireland, The Institute of Public Health in.

Walter Kulash, Joe Anglin and David Marks (1990), "Traditional Neighborhood Development: Will the Traffic Work?" *Development* 21, July/August 1990, pp. 21-24.

Lavin, Teresa, Claire Higgins, Owen Metcalfe and Angela Jordan. 2006. "Health Impact of the Built Environment, A Review." ed. The Institute of Public Health in Ireland: The Institute of Public Health in Ireland.

Mead, Elspeth, Jago Dodson and Claire Ellway. 2006. "Urban Environments & Health: Identifying Key Relationships & Policy Imperatives." Griffiths University, Queensland Health Queensland Government.

Stephenson, John, Adrian Bauman, Tim Armstrong, Ben Smith and Bill Bellew. 2000. "The Costs of Illness Attributable To Physical Inactivity In Australia, A Preliminary Study ", eds. Commonwealth Department of Health and Aged Care and Australian Sports Commission: Commonwealth of Australia.

World Health Organisation. 2007. "Tackling Obesity by Creating Healthy Residential Environments." eds. S. Schoepp and M. Braubach: WHO Regional Office for Europe.