The economic case for investment in **walking**

ARUP

Victoria walks

This report was prepared by Yostina Badawi, Dr Francesca Maclean, and Ben Mason, for Victoria Walks and Arup, November 2018.

Victoria Walks Inc is a walking health promotion charity working to get more Victorians walking more every day. Our vision is people walk whenever and wherever possible, within strong and vibrant communities, with resulting health benefits. Victoria Walks is supported by VicHealth.

Level 7, 225 Bourke Street, Melbourne VIC 3000
P: 03 9662 3975
E: info@victoriawalks.org.au

www.victoriawalks.org.au

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1. Executive Summary

Walking is an indication of a city's liveability, vibrancy, and health. In Victoria, walking accounts for 1 in 6 weekday trips, and is the most popular recreational activity with over a million participants a year. Despite its potential to deliver significant benefits to cities and people, walking is typically overlooked in planning and investment decisions – most likely due to its routine nature.

Walking can yield health benefits, which is critical to unlocking economic savings for an ageing population such as Australia. It can also provide benefits for community, equality, the environment, and economic development, with relatively low cost infrastructure as compared to other modes of transport.

We have identified key issues with the current investment process that present barriers to appropriate levels of investment in walking, including:

- Exclusion of walking benefits in infrastructure business cases
- Insufficient delineation of current walking spend by governments
- A lack of overarching responsibility for walking investment
- A lack of focus on walking for transport and recreational trips, as well as using walking to access services

To this end, we recommend the Victorian Government:

- Increase investment in walking projects through a dedicated funding stream
- Adopt a target for increasing the proportion of short trips undertaken by walking
- Establish a clear governance group responsible for the strategy, planning, investment, and reporting of walking projects
- Develop a clear strategy and associated action plan for walking in Victoria
- Develop a clear, consolidated set of monetisation factors for the economic justification of walking projects
- Clearly delineate investment in walking in both budgeting and annual reporting
- Collect better data on walking both as a transport mode and as a crucial element of multi-model trips

These recommendations would help drive further or more targeted government investment in walking, to create walkable cities that are safer, healthier, and more accessible for all Victorians.

2. Introduction

Walking is the foundation of human physical activity and an omnipresent transportation mode. The dual function of walking as a recreational activity, as well as a mode of transport, highlights the exciting potential for walking to create healthier, safer, and more accessible communities.

As cities such as Melbourne experience rapid population growth, they are faced with issues including over-crowding, safety, restricted mobility, and the need for a space-efficient urban environment.[1] Combined with the health costs associated with an inactive and ageing population, there is a clear need to invest in walking to maintain and extend the vibrancy, health, and economic prosperity of cities. However, due to its routine nature, walking is often overlooked in planning and investment decisions, despite its potential to deliver significant benefits to cities and people.

A walkable environment is one that supports all population groups to participate in an active lifestyle, and walking has a multitude of benefits which rarely exist in isolation. Increased walking for transport or recreation can improve physical activity, mental health and social connectedness, safety, and local business activity. Shifting transport trips from driving to walking also has a range of benefits including reduced traffic congestion, noise, emissions and infrastructure costs. These benefits may not be new, but their economic assessment is not generally considered or captured in the process of government investment decision-making for walking projects.

Identifying and including walking benefits within the planning and appraisal stages of major transport projects will help to fulfil the walking needs and targets of Infrastructure Victoria's 30-year Strategy.

This report will:

- Investigate the prevalence of walking within Victoria (Section 2)
- Explore the strategic importance of walking in Victoria (Section 3)
- Assess the benefits associated with walking (Section 4)
- Investigate sucessful case studies of investments in walking infrastructure (Section 5)
- Assess current approaches for Government investment (Section 6)
- Identify recommendations to drive Government investment in walking (Section 7)

2.1 The invisible transport mode

Whilst it is a part of almost every transport trip, walking could be aptly described as the invisible mode, left largely uncaptured in transport data collection, and too often aggregated with cycling under 'active transport'. Understanding the large number of walking trips is crucial for driving investment in walking infrastructure and programs for a healthier city.

2.1.1. Journey to work

To get to work, most of us would walk to and from our car, bus, tram, or train, but data reporting focuses on the main trip to work. In this context, walking becomes largely invisible.

Over 900,000 Australians use public transport to travel to work and, most, if not all, would walk to or from public transport. While this complexity is captured in the Census and data on multi-mode trips can be purchased from the Australian Bureau of Statistics, typically only the main mode of travel is publicly reported. With the trips to work by only walking standing at 370,427, we are potentially only recognising less than a third of walking trips to work, and subsequently underestimating the prevalence of walking.[2]

The focus on the journey to work in the collection of census data significantly disadvantages the assessment of walking. The journey to work is typically a comparatively long trip, unsuited to walking alone, whereas walking is commonly the main mode of travel to more local destinations like shops and schools. Based on Victorian data 17% of students walk to either primary school or secondary school in a week.[3] Therefore, with Census reporting focusing on journey to work, we are not capturing the high volumes of Australians that rely on walking for transport to access education, shops or services, let alone walking for recreational reasons. As such, by focussing on the journey to work and main mode of travel, we underestimate the significance of walking in the transport system more generally.

2.1.2. Active transport

When walking trips themselves are captured, they are often aggregated with cycling under 'active transport' trips. Active transport accounts for a total 2.61 million weekday trips (Figure 1), compared to 1.61 million trips on public transport in Melbourne, Geelong, and Regional Victoria. Although active transport included both walking and cycling, the latter often dominates our perception of this transport mode.

However, when we separate active transport trips into walking and cycling, walking trips are significantly more common than cycling trips: 90% of recorded active transport trips in Victoria are walking trips (Figure 2). In fact, a total of 1 in 6 trips in Victoria are on foot. This aggregation of walking with cycling under active transport leads to another underestimation and undervaluation of the prevalence of walking.

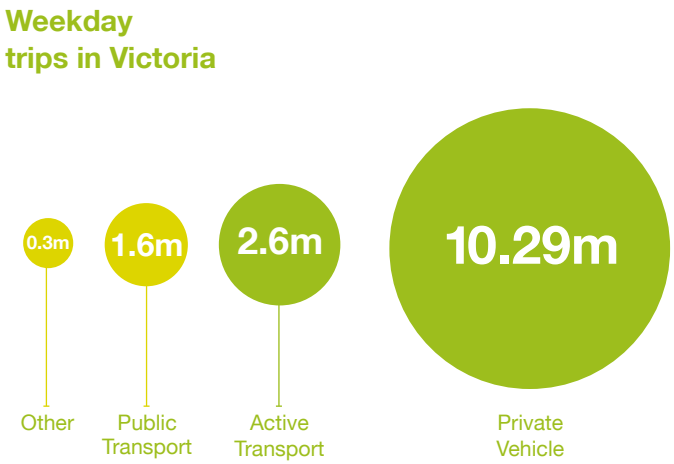

Figure 1: Weekday trips in Victoria by mode[4]

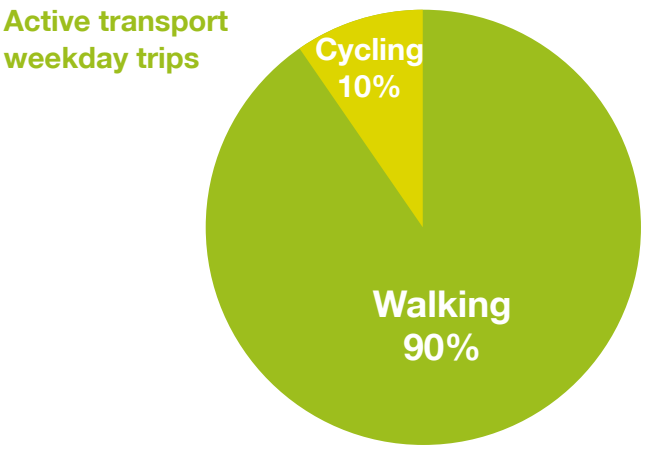

Figure 2: Weekday active transport trips broken down into walking and cycling[4]

17% of students walk to either primary school or secondary school in a week

A total of 1 in 6 trips in Victoria are on foot

Active transport investments often provide 'shared use' paths which can pose safety and user experience issues for walkers.[5] Active transport combines walking and cycling, and investment in projects such as shared paths may be beneficial for cycling users, without providing substantive benefits for walkers.

An accurate understanding of the prevalence of walkers and considering this in infrastructure planning would help to guide investment in targeted infrastructure for walking.

Walking accounts for a total 3.6 million weekday trips compared to **1.61 million trips on public transport in Victoria**

2.2 The most popular recreational activity

Walking is the most popular recreational activity in Victoria and Australia, but does not receive a corresponding level of investment. Exercise is typically organised ahead of time as a specific activity.
In Victoria, walking makes up the majority of non-organised physical activity (51%), compared to jogging / running (14%) and cycling (12%).[6]

Over a million Victorians walk for recreation or sport,[7] and an increasingly important physical activity for an ageing population, with almost half a million Victorians aged 55 and over walking for recreation /sport.

2.3 Women and walking

Interestingly, there is a large representation of women who walk in Australia compared to men. More than 55% of women participate in walking as a form of physical activity on a weekly basis, compared to 47% of men.[8] Whilst women walk more than men, they have unequal perceptions of safety when walking around their neighbourhood. In the OECD's Better Life Index,[9] Australia had the greatest gender inequality for feeling safe walking alone at night: men feel significantly safer than women. The potential for women to reap the health benefits from this activity is reduced when their perceptions of safety are compromised. Designing and investing to create a safer experience for women when walking can result in further health benefits from women's physical activity, and help both the Federal and State Governments deliver on their Gender Equality Strategies.

More than **55%** of **women** participate in walking for physical activity, compared to **47% of men**


52.7% of Victorians walk at least twice a week for recreation

3. Strategic importance of walking

The strategic importance of walking has been highlighted in many Victorian strategies and plans, with key items listed below.

Infrastructure Victoria's 30-year strategy[10]

Need 4
Enable physical activity and participation

Recommendation 4.1
Increase walking and cycling for transport, 4.1.3 Cycling / walking corridors improvements

Need 10
Meet growing demand for access to economic activity in central Melbourne

Recommendation 10.3
Encourage people living along congested corridors and in high density areas to shift to active travel to reduce the demand on other transport modes, 10.3.2 Cycling / walking corridors improvements.

Plan Melbourne

Principle 7
Strong and healthy communities – "Melbourne needs to ensure its neighbourhoods and suburbs are safe and walkable."

Policy 3.3.1
Create pedestrian-friendly neighbourhoods

Policy 3.3.4
Locate schools and other regional facilities near existing public transport and provide safe walking and cycling routes and drop-off zones.


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4. The benefits of walking

Physically active people have up to **30% reduced risk of becoming depressed**

4.1 Health

More than half of the Australian adult population are currently considered insufficiently active, with 54% of women and 51% of men insufficiently active from a health perspective. Only 30% of children aged 2-17 met Australian physical activity guidelines, indicating there is potential for both adults and children in Australia to become more active.[11] According to the World Health Organisation (WHO), physical inactivity has been identified as the fourth leading risk factor for global mortality, causing an estimated 3.2 million deaths globally. WHO recommends 150 minutes of moderate-intensity aerobic physical activity a week for adults. Promoting 30 minutes of walking a day into activities such as recreational walking, walking to access activity centres or walking to public transport can alleviate the costs associated with inactivity, obesity and chronic disease.

4.1.1. Tackling the obesity crisis and chronic disease

Obesity can have a significant impact on quality of life, reducing life expectancy by an average of three years.[12] According to the Australian Institute of Health and Welfare (AIHW) almost 2 in 3 Australians are either overweight or obese with levels expected to increase.[13] This puts an economic burden on Australians through continued health costs, as excess weight is a risk factor to cardiovascular disease, type 2 diabetes, musculoskeletal conditions and some cancers. The total direct cost of overweight and obese Australians was estimated at $21 billion in 2005, with indirect costs of $35.6 billion, resulting in an overall annual cost of $56.6 billion.[14]

Participating in walking can reduce the impact of obesity in Australians of all ages. Studies have shown that walking for 3 kilometres three times a week can reduce weight by half a kilo over three weeks.[15] This has been reinforced by research over the past 20 years which has identified clear links between walking for transport and public health.

54% of Australian women & 51% of men are currently insufficiently active

4.1.2. Reducing the prevalence of chronic disease

The burden of physical inactivity and chronic disease is felt by Australians of all ages and groups. The 2011 Australian Burden of Disease Study found that 12% of Australian disease burden can be attributed to high body mass index and physical inactivity.[16] The burden of physical inactivity is highest amongst individuals in lower socioeconomic groups, experiencing a disease burden 1.7 times greater than those in the highest socioeconomic group.

Research finds that by participating in 15 minutes of walking a day, 5 days a week the disease burden from physical inactivity would reduce by about 13%. If this is increased to 30 minutes, the burden can be reduced by 26%. These benefits would most likely be felt by individuals who live a sedentary lifestyle, and those aged 65 and over.[17] However, seniors are also over-represented in pedestrian crashes with vehicles. This reinforces the need to provide safe and encouraging walking environments for older Australians.

If Australians reduced physical inactivity by 10% through walking this would result in 6,000 fewer incidents of disease, 2,000 fewer deaths and 25,000 more DALYs (disability-adjusted life years). The impact on the economy would be substantial, providing gains in working days of 114,000, home based production totalling 180,000 days and a reduction of $96 million per year in healthcare.[18]

In 2008, the total annual economic cost of physical inactivity in Australia, including healthcare, productivity and mortality costs, was estimated at $13.8 billion (Medibank 2008).[19]

4.1.3. Supporting mental health

Walking can improve the mental health of people of all ages. It can boost happiness, self-esteem and reduce stress levels. Car dependency can generate feelings of isolation, which is a major risk factor for depression. Evidence has shown that by participating in walking, an individual is less likely to experience anxiety and depression.[20] According to Walking for Health UK, physically active people have up to 30% reduced risk of becoming depressed. Walking can improve mental health across the spectrum, ranging from improving self-perception and self-esteem, to mood and sleep quality.

If Australians reduced physical inactivity by 10% through walking this would result in **6,000 fewer incidents of disease, 2,000 fewer deaths and 25,000 more disability-adjusted life years**

4.2 Community

4.2.1. Creating social cohesion

Walkable environments can foster a sense of social connectivity within cities, and create the sense of a vibrant community, where conversations and friendships can be developed. For example, one study found that in areas with 2,000 vehicles per day residents were more likely to have three times more friends as compared to an area with 16,000 vehicles per day. [21]

Walking for both transport and leisure is positively associated with sense of community.[22] Walkable environments are particularly important for the elderly and people with disabilities, as walking is a low-impact activity that can address mobility constraints associated with other physical activities. Such environments ensure the elderly population can live an independent and social life. Cardio-vascular exercise such as walking also has the potential to improve endurance and reduce breathlessness and fatigue in older adults. This reduction in functional limitations helps the elderly to maintain functional independence.[23]

Walking promotes social connections amongst the elderly population, providing opportunities for socialising and meeting new people.[24] A walkable community, where people live close to transport options, shops and community activities can ensure the elderly maintain an active and social lifestyle. It is essential that the older population are confident being outside and participating in community life.

Helping older people live healthier, more independent lives for longer will have important benefits for themselves, their support networks and wider society (through reduced health and aged care costs).

A walkable community, where people live close to transport options, shops and community activities can ensure the **elderly maintain an active and social lifestyle**

4.2.2. Improving safety within communities

Walking improves both the perceived and actual levels of safety in communities. Walking creates a sense of passive surveillance, working to prevent crimes. When there are sufficient number of people on the street and walkways this improves the perception of safety and confidence within communities, particularly after dark. In Victoria 55% of people do not feel safe walking at night. There is a clear gender imbalance in these figures with 63% of women not feeling safe walking at night compared to 27% for men.[25] In Glasgow in the UK, people who felt safe walking after dark were 70% more likely to walk at least five times a week, so there is the potential to create safer and more active cities in Victoria through enhanced investment in walking infrastructure.[26]

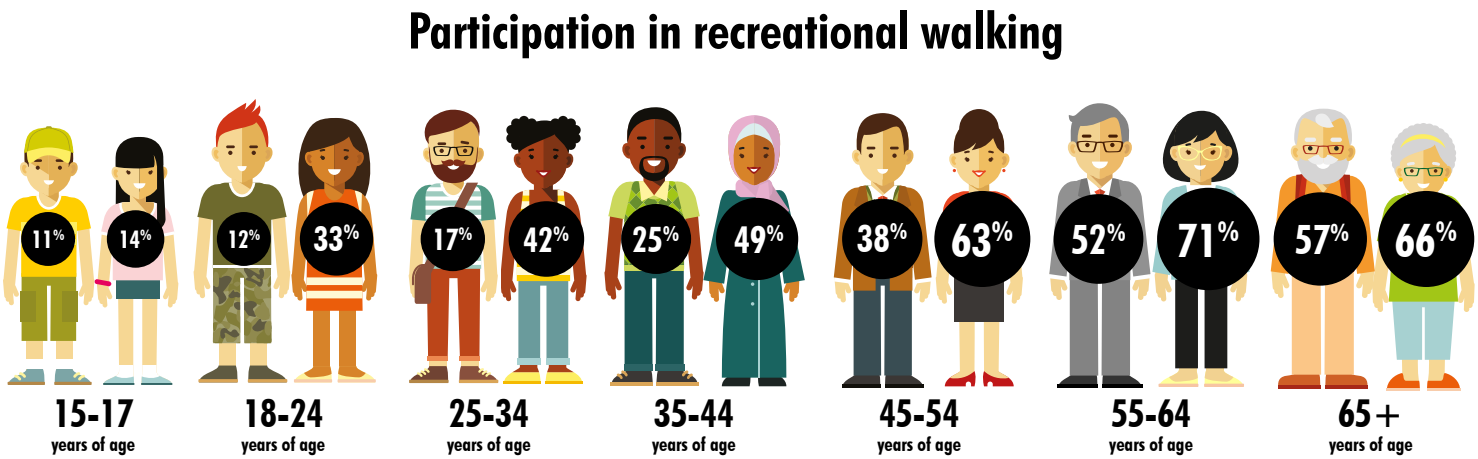
Investing in a walkable environment can dramatically decrease the number of traffic related pedestrian injuries and deaths. Designing for walking in New York by investing in traffic calming measures such as painted medians reduced pedestrian injuries by 67%.[27] This illustrates the potential for a more holistic approach that designs in safety for vulnerable users.

There is a clear **gender imbalance** in perceptions of safety, with 63% of women not feeling safe walking at night compared to 27% for men[24]

4.3 Equality

4.3.1. Enhancing gender equality

A walkable environment supports both men and women of all ages. Women between the ages of 18 and 54 are twice as likely as men to participate in recreational walking as a non-sport activity. This gap closes significantly for elderly people 54 years and older.[28] This can be partially attributed to the lack of time that women have for activities. Investing in walking can ensure that woman have a city that supports their needs.



Women between the age of 18 and 54 are twice as likely to take part in non-sport activities such as walking

4.3.2. Intergenerational connections

The 8-80 cities concept holds that creating a city that supports independent mobility for both an 8-year-old and 80-year-old is beneficial for all people and the only way to equitably cater for all of society.

The elderly population are more likely to engage in walking than other forms of exercise. As people age, the number of men and woman who undertake walking for physical activity becomes more equal (for younger age groups, women are more likely to walk than men). It can have positive benefits to the health, wellbeing, independence, personal mobility and social connectedness of seniors.[29]

The median age in Australia is increasing as the proportion of younger people is declining and the older population is increasing. As the ageing population increases, so will the demand for health services and associated health costs. By investing in walking that is accessible for an elderly population, health and wellbeing amongst this population group can be improved.[30] Regular walking can halve the number of people over 45 who fracture their hip, and can prevent conditions such as osteoarthritis and osteoporosis.[31]

Children need a walkable community to achieve independent mobility unaccompanied by adults. Children who walk to school are more likely to be fitter and active than others. Walking can help ensure that children get the recommended 60 minutes of exercise a day to stay healthy and be more focused. The effect that walking can have on the focus of children can be dramatic, with children who are diagnosed with ADHD receiving as much benefit from walking in a park as leading medication therapies.[32]

Walking can also help children get to know their local area and meet other children in the neighbourhood. It can be a platform for children to gain confidence in their own abilities to travel independently.[33] Therefore urban areas and the associated walking infrastructure needs to be child-friendly, catering for each stage of their development.

4.3.3. Creating opportunities for the socially disadvantaged

A walkable environment can contribute to social inclusion by addressing the physical, economic and social isolation of disadvantaged populations.[34] People who are physically, economically or socially disadvantaged often rely on walking. Improving infrastructure for walking helps achieve social equity and economic opportunities for all groups.[35] This is particularly important as walking is the only form of exercise and transport which is accessible across the entire socio-economic spectrum. The amount of time spent walking for transport is similar across all socio-economic groups,[36] whereas other forms of exercise are less likely to be undertaken by disadvantaged groups.

In outer suburbs and low-density housing development residents are often forced into car dependency, having to travel long distances to work or activity centres. This reliance on cars for travel reduces time for physical activity, or incidental exercise in the form of walking to destinations or when using public transport.[37] Living in the outer suburbs can take away the opportunity to participate in walking for transport, which provides an affordable basic form of transport and exercise. Building walkable environments through design – either for new developments or the retrofit of existing areas – can ensure that there is universal accessibility for people of all backgrounds who live in a city, town or suburb.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4.4 Environmental

4.4.1. Creating positive environmental impacts

Creating a city that is walkable can have positive environmental benefits such as reduction in vehicle emissions and improvement in air quality. When people walk for transport instead of drive, energy consumption of non-renewable fuels can be minimised.

There are a range of externalities and public costs associated with motor vehicle travel. Externality costs refer to the wider environmental impact of motor vehicles, including the need for parking facilities as well as the associated traffic congestion and crash risk.

As an example, the environmental impact from transport emissions is increasing more rapidly than any other sector, with transport emissions responsible for 16% of emissions in Australia.[38] With more than 1 billion people exposed to air pollution each year, it is costing an approximate 2% of Gross Domestic Product (GDP) of developed nations and 5% of GDP of developing countries.[39]

It is possible that in the future some externality costs of driving will be reduced by technical or business innovations such as automated and/or electric vehicles and ride/car share. However, these potential benefits have a high level of uncertainty. By comparison, it is clear the externality costs associated with motor vehicles can be significantly reduced by shifting towards walking. The Victorian Transport Policy Institute (based in Canada) has suggested that this reduction results in average savings of 15 cents per vehicle kilometre, and 30 cents per vehicle kilometre in urban peak conditions, as outlined in Figure 4.[40]

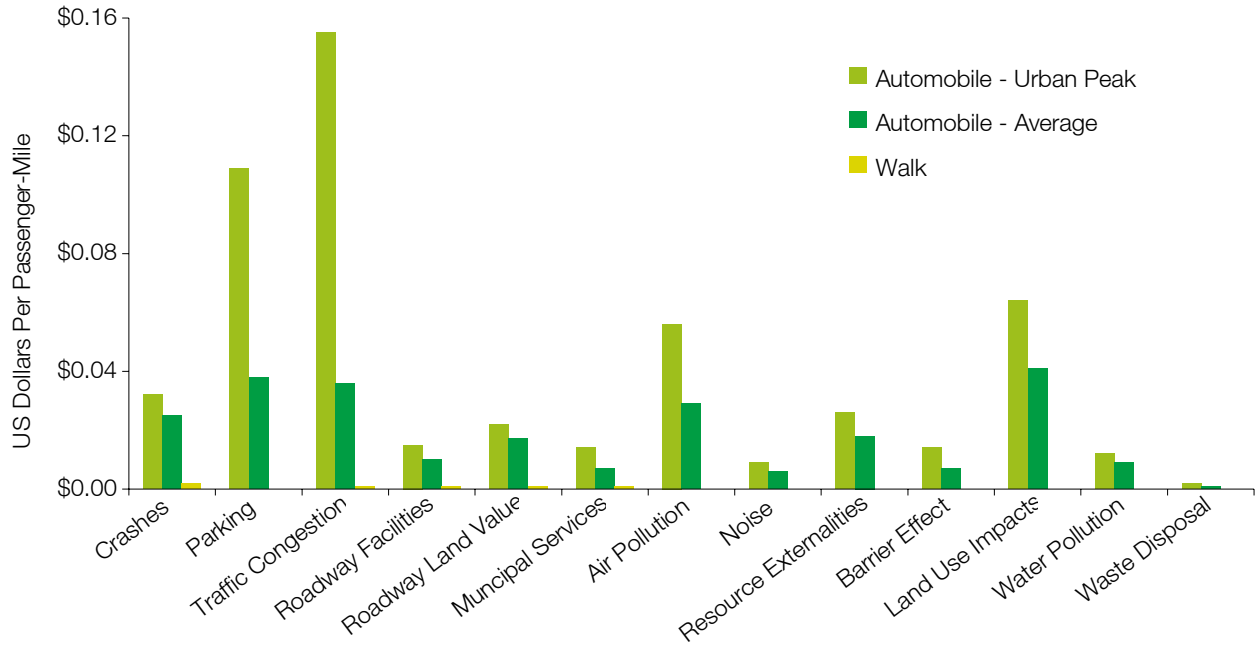

Figure 4: Estimated external costs of automobile travel and walking[41]

Walking interventions can increase the number of people entering shops and trading by up to **40% and retail rents by 20%**

Young people under the age of **25 are less likely** to get a driver's licence, with rates declining approximately **10% between 2000 and 2013**

4.5 Economic development

4.5.1. Boosting economic development

Improved walkability can impact on placemaking, increasing retail spend, rental income, land value and economic development.

Research has shown that walking interventions can increase the number of people entering shops and trading by up to 40% and retail rents by 20%.[42] When using the sales receipts to compare retail activity before and after street redesign in New York City, transforming streets into pedestrian plazas led to an increase of 172% in sales.[43] On a more local scale, research for the City of Melbourne found that if the walking connectivity within the Hoddle Grid was increased by 10%, the value of the economy of the Hoddle Grid would also increase significantly.[44]

Areas with high pedestrian activity tend to have higher perceived safety and accessibility. One study found that investment in a walkable environment can drive increases of $US9 per square foot in annual office rents, $7 for retail rents and increases of $82 per square foot of homes.[45]

A study completed in Auckland, NZ found a positive relationship between effective job density in walkable areas and productivity.[46] It was found that a 10% increase in walking effective job density is associated with a 5.3% increase in productivity.[47] This would mean that for every 1% increase in effective job density, the value of the economy increased by 0.53%, or approximately $42 million based on the GDP of the study area.[48]

In Victoria, young people under the age of 25 are less likely to get a driver's license, with rates declining approximately 10% between 2000 and 2013. As these young people move away from car ownership and prefer to live in a walkable environment, it is likely that walkability and public transport will start to become one of the main factors driving property value.[49] This young population cohort also offers an opportunity to re-orient towards a less congested and car dependent future.

4.5.2. Transport savings

Investing in better walking infrastructure can provide a higher return than other transport projects such as rail and road. Evidence from 20 different studies has suggested that the benefit cost ratio of walking interventions is 13:1 - $13 of benefit for every $1 of expenditure.[50] Based on a study completed by the Queensland Government in 2011, for each person who walks 20 minutes to work and back, the economy benefits $8.48.[51]

Households that are car-dependant spend 50% more on transportation than households with more accessible land use and multi-modal transportation systems. In 2006 car-dependant households spent more than $8,500 on transport compared to households that were not. These households tend to spend less than $5,500 a year.[52] This is a global trend, with residents in Portland, for example, saving more than $1 billion by driving 20% less than the rest of the United States.[53]

Promoting walking could have a significant impact in reducing congestion in peak times, as there are generally low occupancy rates per car. Time spent in traffic in Australia's eight capital cities has been estimated to result in nearly $16.5 billion in travel delay cost. As this cost is expected to rise to $10.2 billion by 2030 in Melbourne alone, and $30 billion for the eight capital cities, large economic benefits can be realised by investment in walking.[54]

Savings to the economy from 1km of individual walking [55]

Benefit	Savings (2010 prices)	Savings (escalated to June 2018 prices)
Decongestion	21 cents / km	23 cents / km
Health	168 cents / km	190 cents / km
Vehicle operating costs	35 cents / km	40 cents / km
Infrastructure savings	7 cents / km	8 cents / km
Environment	6 cents / km	7 cents / km
Total savings	**236 cents / km**	**268 cents / km**

5. Case Studies

Yarra Free Range Kids[56]

Background

The six-week Free Range Kids program aimed to increase walking amongst primary school children by encouraging active travel and independent mobility. The project was undertaken by Yarra Ranges Shire Council as part of the Change to Walking program, supported by VicHealth, in the outer suburbs of Mooroolbark and Kilsyth in Victoria. Two schools were involved – Bimbadeen Heights Primary School (537 students) and Kilsyth Primary School (187 students). Both these schools would be described as having adequate infrastructure and footpath connections surrounding them.

Intervention

The program used 17 elements to encourage walking to school including:

- Audit of twelve walking routes for safety
- Drop off points on each route
- Routes were given catchy names, with signs stating the number of minutes to school and chicken feet on the footpath
- Brochure that was sent to parents to encourage participation in the program.

The highest rated part of this project was the adventure stories element, where children could re-imagine their journey to school as an adventure, to help conjure up positive memories. Additionally, when parents were encouraged to re-imagine their own childhood by the brochures they were more likely to participate. When parents read about the health and developmental benefits this also increased participation.

Result

The program was quite successful in encouraging children to walk to school by simply creating a walkable environment that is exciting. A follow up survey found 71% of parents intended to walk more after taking part in the program.

During the program there was an overall 35% increase in walking in Bimbadeen Heights School, highlighting the success of promotion. Additionally, interest in the program did not decline as time went on, it actually increased. Children wanted to walk to school, with more than 30% of parents using one or more of the drop off points to school.

This intervention is one that can be designed and replicated in schools across Victoria with support from local councils, or included as part of VicHealth's Walk to School program.


Effective nudge approaches that influenced parents participation in the **Free Range Kids Project**
87%
Child development benefits
72%
Reading about the health benefits
58%
Re-imagining their own childhood

Oxford Circus Diagonal Crossing[57]

Background

Oxford Circus is an intersection in London that is between two of the busiest retail streets. It is also a major transport hub for the London Underground rail network. Approximately 60 million passengers use Oxford Circus underground each year, with around 200,000 pedestrian movements each day.

Footpaths were overcrowded and there were severe delays to the bus services prior to the investment in walking infrastructure. An audit found there were over 150 items of street furniture in Oxford Circus, each creating 1.2 metres squared of dead space.

Intervention

This investment removed the street clutter on the footways to improve pedestrian movement. Pavement in the area was increased by 63% and crossings were re-aligned to minimise detours taken by pedestrians who continue along Oxford Street to Regent Street. Additionally, new signalled diagonal crossings were installed, based on the Shibuya crossing in Tokyo, Japan. These crossings were re-phased to allow pedestrians to all cross at the same time with no directional staggering during the crossing periods.

Result

Investment in the diagonal crossings created an environment that prioritised pedestrians. This has seen increases in walking speeds, and a reduction in the journey time from one side of Oxford Circus to the other. A year after completion there was a 10% reduction in pedestrian injuries.

The total cost of the project was £3.9 million and expected benefits for the project were more than £5.1 million. However, once the actual journey times were captured the benefits increased by 4.5% to £5.4 million. Additionally, this investment had a dramatic impact to retail turnover, increasing revenue by 25% in some stores a year after the completion of the scheme.

Converting vehicle trips to walking

If 50% of short private vehicle trips (0-0.9 km) were converted to walking, there would be 2.4 million more walking trips each week. If we were to assume these trips were 0.5 km, there would be, for example, approximately $165 million (inflation adjusted) in savings to the economy each year (associated with decongestion, health, vehicle operating costs, infrastructure savings, and environmental benefits). Whilst there are clear benefits associated with this potential reduction in vehicle activity and increased physical activity, substantial investment in walking infrastructure, pedestrian priority and associated behaviour change programs would be required to support such a dramatic increase in walking.

Implications for Victoria

Whilst there is a large proportion of Victorians walking for active transport and recreation, there is potential to convert short trips currently taken by private vehicle, to walking trips, particularly if barriers to walking are removed. This can be achieved through various interventions including:

- Raised pedestrian crossings at intersection and roundabouts;
- Kerb extensions and median refuges at pedestrian crossings;
- Increased pedestrian crossing time at traffic lights and pedestrian user friendly intelligent crossings;
- Removal of obstacles along the footpath (such as phone booths or parking titcket machines).

In addition to infrastructure treatments, a broad scale conversion of vehicle trips to walking would require behaviour change programs to address real or perceived barriers to walking. These barriers commonly include concerns about personal safety, time pressures, accommodating complex personal routines and multiple destinations and overcoming ingrained habits.[58]

If 50% of short private vehicle trips (0-0.9 km) were converted to walking, there would be 2.4 million more walking trips providing **approximately $3.2 million (inflation adjusted) in savings to the Victorian economy each week**

6. Government investment decisions for walking

6.1 The process for investment decisions

Investment in walking is typically required to follow the investment frameworks set out by the Federal Government, State Government and local councils. Although investment in walking should be a priority of all levels of government, it tends to fall through the cracks entirely, with no agency taking responsibility.

There appears to be a circular problem in investment in walking, which originates from a lack of dedicated resource in all levels of government focusing on walking. Walking tends to be considered a local matter rather than State or Federal. This then translates into lack of consideration in planning and strategy development, few budget bids, limited data collection, all which negatively impacts on the level of funding secured for walking investment. The result is that walking is a low priority for government, bringing it back to the initial issue, of walking investment being, at best, tokenistic.

In addition to this lack of funding and government focus, standalone walking infrastructure[59] is required to overcome the hurdle of the business case process. The business case process requires a proposed investment to start from a problem, have a clear idea of the benefits being targeted and consider a range of potential solutions. The preferred solution then needs to be justified on the basis of an integrated analysis which combines social, economic, environmental and financial considerations.[60]

The methodology most commonly deployed for the economic justification of the walking investment options is a cost-benefit analysis. As the name suggests, a cost-benefit analysis profiles both the costs (principally capital costs and maintenance costs) and the tangible benefits (this can be a range of impacts) in monetary terms.

The Australian source of benchmarks to reach a monetary value for benefits relating to transport projects are the Australian Transport Assessment and Planning (ATAP) guidance. This guidance includes an Active Transport section with a number of benefit benchmarks, which include:

- Decongestion
- Physical and mental health
- Air pollution
- Noise reduction
- Greenhouse gas reduction.

The ATAP guidance does not capture all the benefit streams detailed in this document, missing benefits such as placemaking, social cohesion and equity. There are three key caveats to the guidance, outlined below:

1. Whilst there are clear parameter values to monetise the benefits of walking, the current guidance is complex. The mode-specific guidance relating to active transport is 97 pages in length and lacks clarity in terms of benchmarks which should be applied to a cost-benefit analysis.
2. The benchmarks specifically for walking are not sufficiently nuanced to allow differentiation between different types of walking investment. For example, applying the guidance would not distinguish between the benefits from projects targeted at either commuters, the elderly walking for exercise or seasoned hikers, despite them being clearly distinct.
3. Having benchmarks to monetise impacts is only half of the equation. Data is also required on the number of people, or trips, which are impacted by a potential project. Walking has a relative paucity of data with regards to numbers of trips, particularly compared to road vehicles and public transport. This can make it difficult to robustly justify walking projects.

An issue which should be highlighted is the challenge of justifying a walking project that results in a trade-off with another transport mode. For example, a potential project increasing the crossing time for pedestrians at a set of traffic lights could bring clear benefits for pedestrians, decreasing their journey time. From a cost-benefit analysis point of view, travel time costs for vehicle users could potentially exceed the benefits which can be quantified for pedestrians. At a minimum, this would reduce the benefits of the project for cost-benefit analysis (CBA) purposes. This reflects a key flaw of current CBA practice as the key benefit stream to justify transport investment is journey time savings. The clear shortcoming of the process is that it is not well suited to walking interventions. A further shortcoming is that reduced journey time for pedestrians is often not taken into consideration in transport economics, as derivation of benefits seldom stems from a multi-modal transport model.

Purely considering investment in walking in isolation does not capture a whole host of broader benefits. The effectiveness of investing in a walkable environment is linked to a number of other factors in the broader planning processes. Investment in walkable environments is necessary within the planning phase of a city, as individual interventions will not yield the same benefits as a city designed for walking. This is due to the fact that planning can influence the creation of an environment which is either walkable or favours high levels of car usage. It is much more efficient to foster walkable environments rather than retrospectively investing to seek to boost walking in an area best suited to car trips. Current investment appraisal methods are not well suited to justifying investments based on planning considerations and wider benefits.


MANGO

Best practice - international

Department for Transport, UK

The Department for Transport in UK's transport appraisal guidance is widely viewed as being international best practice, with regular updates to keep up with advances in the field.

The most recent active mode guidance, along with an active mode appraisal toolkit, was released in May 2018. It includes the following advice which whilst seemingly obvious is nevertheless useful to make explicit:

'Specific cycling and walking schemes are often relatively small. The amount of effort devoted to the analysis of such schemes should be proportional to the scale of the project or the scale of impact on cycling and walking modes.'

The guidance also outlines pragmatic methodologies for reaching estimated usage of walking projects through either using comparative study or 'rule-of-thumb' calculations based on available data including Census journey to work data and other high-level travel mode data sets.

In addition, the guidance includes the following benefits categories:

- Physical activity impacts – changes in mortality resulting from changes in level of physical activity
- Absenteeism impacts – based on evidence that increased physical activity can lead to reductions in short term absence from work
- Journey quality impacts – includes elements relating to infrastructure and environmental conditions together with fear of potential accidents
- Accident impacts – based on different accident rates for different modes of transport
- Decongestion and indirect tax impacts – mode switch impacts, particularly from car trips
- Time saving impacts on active mode users – for projects which provide quicker or shorter routes.

Of these benefit streams, each has specific benchmark data to monetise the walking benefits. This is a clear strength compared to other guidance which has a tendency to provide a single monetisation factor to apply to both walking and cycling despite their benefits being quite distinct.

Source:
The Transport Appraisal Process

$100m of funding was allocated to walking and cycling over 4 years as part of the Safer Cyclists and Pedestrian Fund. From this funding **70% was allocated to cycling**

6.2 Current Government investment in walking

Current Government investment in walking at all levels is difficult to assess because spend on walking by the public sector bodies is typically not isolated. It is often considered as active transport with cycling, or may be part of a large public transport project. The overriding issue in Government investment on walking appears to be that walking is on the fringes of a number of public sector bodies. This means that investment in walking is largely taken for granted, as opposed to a proactive approach that ensures that walking is given due consideration in both the strategic planning and investment process.

6.2.1. Walking overlooked in current investment

Walking investment has been overlooked as both an investment in its own right and underplayed in multimodal and city shaping projects. Whilst walking isn't the only core investment for city shaping transport projects, it is a crucial component. For example, the vast majority of trips on Melbourne Metro will include a walking trip for access to and/or from the rail system. However, the economic evaluation for Melbourne Metro does not include a specific category for walking benefits.

Investment in walking is typically combined with cycling and considered as active transport. Research completed by the University of Queensland[61] found that in Melbourne, data is combined for footpaths and cycleways, rather than focusing on walking investment specifically. The key finding was that the national budget for footpaths and cycleways is expected to fall from $8.8bn 2017-18 to $6.8 bn by 2020-21. There is clearly a lack of regular and consistent long-term funding at a State Government level for walking investments. A clear indication of this was the $100 m of funding that was allocated to walking and cycling over 4 years as part of the Safer Cyclists and Pedestrian Fund. From this funding, approximately 70% was allocated to cycling focused projects, further reinforcing the lack of focus on walking investment alone.

The 2018/19 Victorian Government budget included $22.7m 'to connect missing links in Victoria's walking and cycling network.' However, this is not investment in a walkable environment specifically, as the announcement is for shared use paths rather than standalone walking infrastructure. Another relevant fund administered by the Transport Accident Commission provides grants to local councils for works relating to active transport safety. The Commission reports on the local government grants they've awarded, with some related to walking initiatives with a safety focus. However, most funding is directed to cycling safety, despite the fact that between 2016 and 2017 there were more than four pedestrian deaths for every cyclist death.[62]

It is notable that funding for initiatives such as the Safer Cyclists and Pedestrians Fund are one-off funding sources for a defined period of time. There is no consistent, long-term stream of funding that agencies or councils can rely on for walking projects. The latest Victorian budget does specifically outline the number of pedestrian projects completed or planned each year, for a three-year period, however the scale of the projects is not detailed.[63]

At a Federal level the current Infrastructure Australia Infrastructure Priority List (dated April 2018) includes over 80 transport projects and none of these projects are explicitly walking, or even active transport projects. Similarly, the Federal Department of Infrastructure, Regional Development and Cities (DIRDC) do not have any specific strategy documents relating to walking. The research arm of DIRDC, the Bureau of Infrastructure Transport and Regional Economics, have only one publication relating to walking. This is a document entitled 'Pedestrians and Road Safety' rather than focusing on taking a proactive approach to including walking in the transport mix. This research paper is also indicative of a broader problem: a tendency to view walking predominantly through a safety lens, rather than walking as a useful and positive transport mode to be encouraged.

6.2.2. Lack of clear governance for walking

Under the current scenario walking slips through the cracks from a governance point of view. The State Government takes limited responsibility for walking investment, largely passing it onto local councils, that may not have the resources to invest thoroughly in walking interventions. When Government authorities are considered, there is no clear body that advocates for walking investment. Transport for Victoria (TfV) has a clear remit for Victoria's transport system. TfV have a unit called Active Transport Victoria (ATV) whose remit is 'increasing the number of people walking and cycling as a form of transport,' but this unit is very small and has no budget to allocate to infrastructure. ATV has produced Victoria's Cycling Strategy, but not an equivalent for walking.

VicRoads play a vital role in the management of the road network and the planning and delivery of pedestrian infrastructure. However, VicRoads currently has five strategies, none of which specifically relate to walking. VicRoads have been developing a Movement and Place framework which seeks to take a more holistic approach to their planning. This framework does have a walking category for the classification of movement, however it is unclear if the framework will feed into walking investment by VicRoads going forward. Recently VicRoads has recognised a need to better provide for walking and is currently developing a Pedestrian Framework as well as considering data requirements for walking and cycling.

Local councils are also relevant authorities for provision and maintenance of pedestrian infrastructure. At a local council level, the current strategic approach is mixed. Some councils have specific walking strategies, for example:

- The City of Melbourne had a Walking Plan covering 2014 to 2017 (and are prioritising walking in developing a new Integrated Transport Plan)
- The City of Yarra has a document entitled 'Encouraging and Increasing Walking Strategy' though this dates back to 2005
- The City of Port Phillip has a dedicated Walk Plan 2011-2020, an update of an earlier plan
- Darebin is preparing a Walking Strategy 2018-2028

However, outside inner metropolitan areas, other councils in Victoria more commonly have overarching integrated transport strategies rather than walking specific strategy.

6.2.3. Valuing walking for recreation

Thus far, the focus of this section has largely been on the transport element of walking. Walking also has a clear health and sports and recreation value. VicHealth is a key funder of Victoria Walks, but this funding is a very small fraction of health spending in Victoria. It is notable that there is a global trend towards doctors prescribing exercise for a range of health issues. This can provide one way in which walking can be embedded within healthcare and provide a catalyst for additional walking investment.

Sport and Recreation Victoria's strategic framework, entitled Active Victoria, points towards benefits including healthier Victorians, economic growth & jobs, community cohesion and liveability. The strategy identifies walking for exercise as the most common form of exercise for women and the second most popular for men. Yet, while Sport and Recreation Victoria has allocated tens of millions of dollars on upgrading sports stadia, there has been minimal funding of walking. In 2017 the Government advised:

"Total funding of $222,500 has been allocated in the current funding cycle to support activities of Victoria Walks, Bushwalking Victoria and Outdoors Victoria.

The 2016-17 and 2017-18 rounds of the Community Sport Infrastructure Fund is contributing $1,053,000 towards the development of walking trails and other infrastructure to support walking." [64]

A contributing factor is that walking is not typically a member-based activity like most sports, which are able to directly track participation in response to grant funding. Walking is not club-based and cannot require participants to pay or source funding via spectators or broadcast rights.

7. Recommendations

Due to the enormous potential benefits walking can have for health and wellbeing, state and federal governments need to support local government and other agencies to improve walking infrastructure, amenity and personal safety.

To achieve a better approach to government planning and decision making for investment in walking the following steps are suggested:

- Increased investment for walking through a dedicated funding stream that is for walking/pedestrian projects only. In addition, a commitment for a transition to 20% of the State transport budget being spent on non-motorised transport as per UN recommendations
- Adopt a target for increasing the proportion of short trips undertaken by walking
- Establish a clear governance group to a take a coordinated, strategic approach to planning, investment and budgeting/reporting specifically for walking. It is suggested that this comprise of Transport for Victoria; VicRoads; the Department of Environment, Land Water and Planning; Department of Health and Human Services (public health); Sport and Recreation Victoria; VicHealth and the Municipal Association of Victoria
- The development of a 'clear strategy' for walking, that is followed by an action plan that makes government accountable
- Develop a clear, consolidated set of monetisation factors for the economic justification of walking projects or a consolidation of the Australian Transport Assessment and Planning (ATAP) guidelines to allow for simple, consistent Cost Benefit Analyses (CBAs) to be built for walking investment
- Clear delineation of investment in walking (separate from cycling) both in budgeting and annual reporting
- Collect better data on walking to enable it to be fully considered in transport decision making, both as a transport mode in its own right and also as a crucial element of multi-modal trips.

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