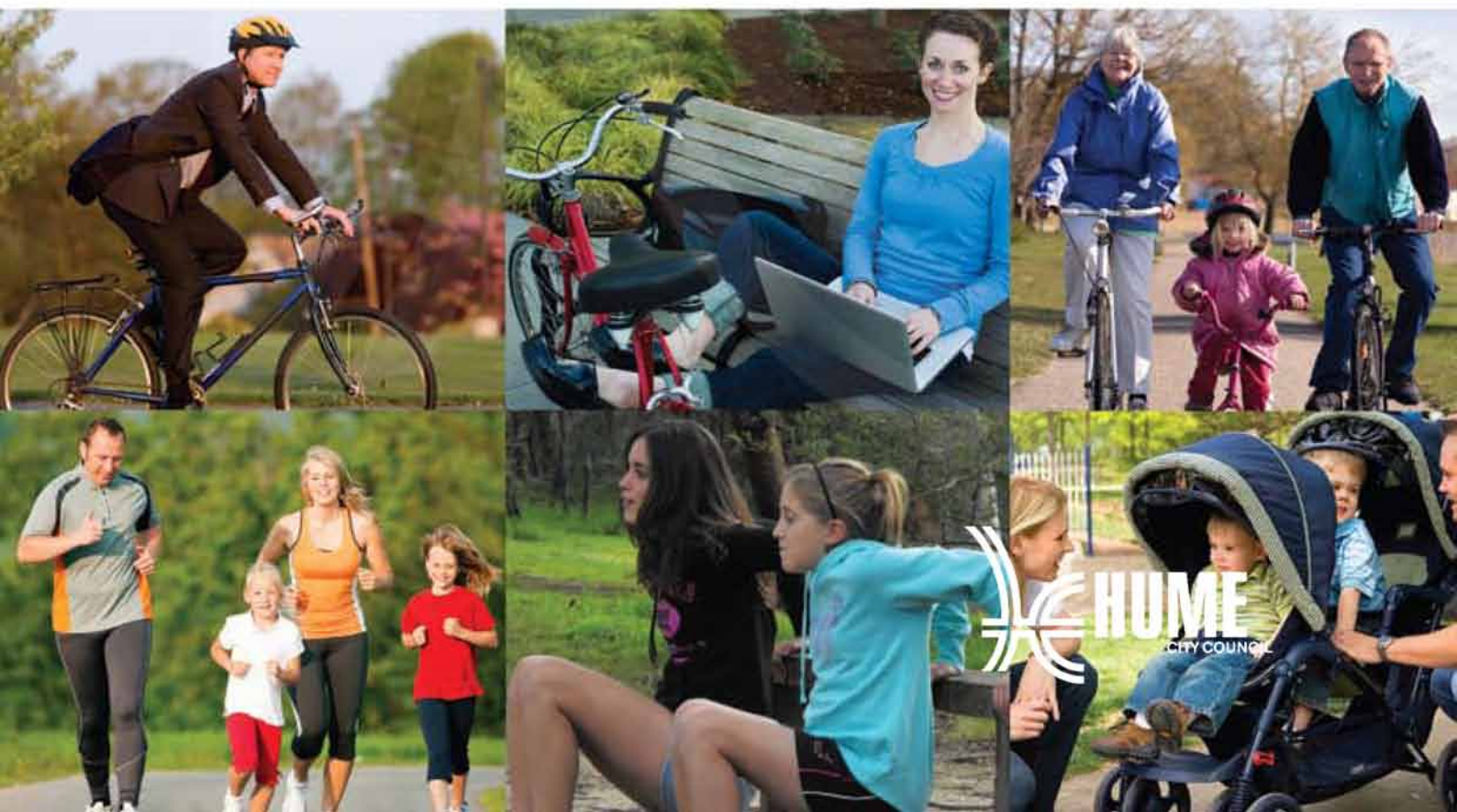




HUME CITY COUNCIL WALKING AND CYCLING STRATEGY 2010 - 2015

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**A framework for the provision of walking
and cycling paths across Hume City**

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Definitions

Term	Definition
Activity centres	Refers to community hubs such as transport hubs, education / school hubs, retail hubs, recreation hubs etc.
Active transport	The term given to describe transport or commuter options that require physical activity e.g. cycling or walking to work or school.
Commuter cycling and walking	Cycling and walking for the primary purpose of accessing work, school or routine activities. These activities are distinct from walking or cycling activities undertaken for recreation or fitness purposes.
Footpaths	Paths that are provided along roadsides for the use of pedestrians and cyclists under the age of 12.
MTN	The Metropolitan Trails Network – Trails (walking and cycling) recognised by the State Government as key linkages to destinations in and around Melbourne. These paths are primarily off-road.
Off-road paths	Paths that are physically separate from road carriageways. These paths might be located on road reserves or they may follow natural features such as waterways.
On-road paths	These are typically known as bike lanes and are provided as part of the road infrastructure. Some bike lanes are for the sole use of cyclists while others are shared by cyclists and motorists (e.g. for parking, turning)
Path	A <i>generic term</i> used to describe footpaths, on-road paths, shared paths, trails etc. Note: Some Council documents refer to 'trails' rather than 'paths'.
PBN	Principal Bicycle Network – Trails / paths recognised by the State Government as key cycling linkages to destinations in and around Melbourne. These paths are primarily on-road.
Shared path shared use path)	A path that can be used for a number of activities including walking, cycling, inline skating, jogging, dog walking etc.

Executive summary

The Walking and Cycling Strategy has been prepared to guide the development of a network of quality paths that encourage residents, workers and visitors to become more involved in walking and cycling as part of their daily recreation, health and commuter routines.

The document has been prepared in two parts. The Strategy establishes the context for Council's role in the provision of walking and cycling paths, and clearly establishes the vision, principles and strategies to achieve improved health, social and commuting outcomes.

The accompanying Walking and Cycling Strategy Action Plan proposes a five-year path development and upgrade program that addresses barriers in the existing path network and ensures barriers are minimised in new path networks. The Action Plan will be reviewed and updated annually to reflect planning changes in response to urban growth occurring across Hume. The Action Plan also includes a proposed network map that will guide ongoing advocacy and development of the network as the City continues to grow.

Council will need to work closely with developers to ensure new estates or green field subdivisions include provision of both on-road and off-road paths. These paths will provide effective linkages within new residential areas and to existing paths and activity centres in the wider region. They will also need to comply with the requisite development standards designed to ensure paths meet community needs.

Local communities and interest groups such as the Hume Bicycle User Group, resident associations, open space management groups, retailers and service clubs will also be key to identifying additional path development opportunities and addressing barriers in the network.

Paths are an important component of the City's recreation infrastructure and are becoming a key element in the City's transport network. Paths provide for the most popular recreation activities undertaken in the community, namely walking and cycling.

These activities have all experienced a phenomenal growth in participation over the last 5-7 years indicating a significant trend towards casual or non-organised recreation activities rather than organised sport.

Paths are popular for recreation because they allow people to exercise in their own time, there is no cost to use them, they are in safe spaces that are inviting of social engagement, and they are in the natural environment. Paths are also becoming increasingly popular as commuter routes for people who are looking for healthier options to access their workplace and recreation facilities. They are also critical in relation to initiatives that aim to reduce the use of vehicles.

Council faces significant challenges in providing for a growing community that has increasing expectations about the standard to which paths will be constructed, the range of different activities paths will accommodate, the range of age groups and abilities, paths will cater for, the quality of path environments and the connectivity of paths to important destinations in the local and wider community.

The Walking and Cycling Strategy Action Plan identifies on-road and off-road path development priorities to be delivered between now and 2015. It also identifies those paths required in the future to reflect green field development and recent changes to the urban growth boundaries. The path network audit will further inform Council's asset management plans, and guide the necessary future resource allocations for the provision, upgrade, renewal and maintenance of the path network.

Council has allocated \$1,205,000 for the development of paths (excluding the maintenance of footpaths) over the next four financial years - \$225,000 in the 2010/11 financial year and

\$250,000 in the 2011/12 financial year \$325,000 in the 2012/13 financial year and \$405,000 in the 2013/14 financial year.

The Walking and Cycling Strategy has not made works recommendations in relation to the footpath network because these are addressed in Council's footpath maintenance works plan. The Strategy does however highlight the need for the footpath network to be well connected to the wider off-road and on-road path networks.

1. Purpose

The Walking and Cycling Strategy has been prepared to guide the development of quality path infrastructure to encourage residents, workers and visitors to become more involved in walking and cycling activities.

The Walking and Cycling Strategy provides a five-year Action Plan to encourage and plan the use of paths for recreation, health and wellbeing and commuter activities.

While there is a considerable use of paths in Hume, the Walking and Cycling Strategy recognises a number of barriers that restrict use. These barriers include:

- missing links and detours that make it difficult to navigate the path network to community destinations such as schools, work places and recreation facilities
- paths that are indirect and do not respond to residents' preferred routes of travel to facilities and transport connections such as railway stations
- a lack of secure bike storage facilities at schools and transport interchanges, and a transport system that does not have bike transportation facilities
- poor condition of path surfaces
- poor infrastructure including a lack of seating, and directional and distance signage
- pathways that are congested because they have not been designed to cater for the level and type of use required by the community
- congestion at end of trip destinations e.g. between bikes, cars and pedestrians at schools
- a lack of separation between pedestrians, cyclists and motor vehicles, particularly between cars and bicycles along some on-road paths and between cyclists and pedestrians along some shared paths.

The Strategy provides Council, the community and in particular developers with a framework for the future provision of pathways. It also provides the information required to evaluate future path network proposals and to determine planning and development priorities.

2. Scope

The Walking and Cycling Strategy considers all on-road and off-road path opportunities including those located:

- | | |
|--------------------------|-------------------------------------|
| ▪ alongside waterways | ▪ on road carriageways (bike lanes) |
| ▪ on service easements | ▪ in reserves |
| ▪ in environmental areas | ▪ in open spaces. |

The Strategy examines opportunities associated with shared-use paths (e.g. walking and cycling) and single use paths (e.g. pedestrian or bike only), and discusses the potential and process for considering further dedicated off-road cycling opportunities in the future.

The Walking and Cycling Strategy does not address footpath planning and development as this is the subject of Council's footpath provision and maintenance program. The Walking and Cycling Strategy does however advocate for the need to ensure footpaths are well connected to the entire path network both within Hume and in the wider region.

The Walking and Cycling Strategy supports Council's broader transport planning role in identifying alternative transport choices, and incorporates opportunities to support Council's alternative transport initiatives (e.g. commuter cycling), as identified in the Draft Hume Integrated Land Use and Transport Strategy.

The Walking and Cycling Strategy reinforces the need for a whole-of-council and whole-of-network approach to the planning and development of paths.

3. Project context

3.1 Policy and planning

Federal, State and Local governments all recognise their role in the planning and provision of path networks. This is evident from the planning and policy documents that identify path related strategies for addressing a range of social, economic and environmental needs.

Of particular relevance to the Hume Walking and Cycling Strategy is the State Government documents *Melbourne 2030 - Planning for sustainable growth (2002)*, and *Melbourne 2030: a planning update – Melbourne @ 5 million (2008)*. The population of Broadmeadows and immediate surrounding areas may become the main commercial and service centre for the northern metropolitan region. Further, changes to the Melbourne Urban Growth Boundary in 2010 released additional green field (undeveloped) sites for residential sub-division around Sunbury and the area north of Craigieburn extending to Mitchell Shire and Whittlesea councils. Council has an ongoing planning and advocacy role in guiding State Government's structure plans for these areas, including the provision of walking and cycling infrastructure. More detailed planning across these communities is required to further inform the future expansion of the walking and cycling network across Hume.

Key reference documents relevant to the planning and development of paths in Hume:

- The Hume Open Space Strategy 2010 (Hume City Council)
- Guidelines to the Planning, Design and Construction of Open Space (2003, Hume City Council; Section 8 – Paths and Bicycles Facilities)
- Draft Hume Integrated Land Use and Transport Strategy
- Precinct Structure Plans
- Cycle Notes – Bicycle Design Information for Engineers and Planners (VicRoads)
- Guide to Traffic Engineering Practice (Austroads, Part 6A: Pedestrian and Cyclist Paths 2009)
- Vic Roads PBN.

Other guiding State Government strategies include *Planning for Community Infrastructure in Growth Areas (2008)*, *Pedestrian Access Strategy 2010* and the *Victorian Cycling Strategy (2009)*. The Principal Bike Network (PBN) is currently under review with a stronger focus on increased use of local roads and off-road paths, more destination-focussed routes to activity centres and separation between cyclists and motorists. The Walking and Cycling Strategy actions will help in the planning of and advocacy for an expanded PBN across the City.

Council's *Open Space Strategy (2010-2015)* provides the framework for the development and distribution of open space in the City. The Strategy identifies, as a guiding principle, the role of open space corridors as important networks and linkages providing for shared use pathways. The *Leisure Strategy Plan (2006-2010)* (currently under review) maps out Council's role in the provision of healthy lifestyle activities and facilities. Both of these documents include recommendations that are relevant to the Walking and Cycling Strategy.

Other documents such as the Draft Hume Integrated Land Use and Transport Strategy (HILATS) will continue to inform the Walking and Cycling Strategy as it is implemented. Priorities identified through preliminary work undertaken as part of the HILATS have been incorporated in the Walking and Cycling Strategy Action Plan.

The Walking and Cycling Strategy supports other Council initiatives relating to:

- improving health and wellbeing outcomes via *Municipal Public Health and Wellbeing Plan (2009-2013)*
- environmental protection and enhancement via *Pathways to Sustainability (2009-2013)*, and
- community safety = *Community Safety Strategy (2009-2013)*.

These documents recognise the opportunity paths afford in relation to:

- improved community health and fitness outcomes because they provide access to low / no cost recreation and health and wellbeing opportunities;

- safe and attractive environments that encourage people to engage with each other;
- decreasing *road congestion* and associated noise and chemical pollution because they provide an alternative transport option;
- improving connectivity between communities and to community facilities and points of interest; and
- environmental enhancement because they provide opportunities for increased vegetation plantings and wildlife protection.

To optimise these outcomes Council will work with the community, neighbouring councils and state authorities to ensure an integrated approach to the planning and provision of path infrastructure in the region.

3.2 Demographics of Hume City

By 2021 the population of Hume is expected to reach 204,931 and by 2031 it is expected to reach 244,575. Based on current projections the population of Hume will have increased by 76,240 people, or 45% from 2010 to 2030. The suburbs that will experience the most significant growth are:

- Craigieburn - 13,330 additional dwellings
- Sunbury - 10,270 additional dwellings
- Greenvale - 4,180 additional dwellings
- Airport-Rural - 1,940 additional dwellings
- Roxburgh Park - 1,660 additional dwellings
- Broadmeadows - 1,140 additional dwellings

Table 1 – Projected Population Growth in Hume

Year	Projected Population for Hume
2010	168,331
2021	204,931
2031	244,571

The Craigieburn Planning Precinct will experience the most significant increase in population (55,307 new residents by 2030) followed by the Sunbury Planning Precinct (24,843 new residents by 2030).

Because of the population growth across all age groups there is significant pressure for the development of new paths and the upgrade of existing paths.

Table 2 – Projected Population Growth in Hume Planning Precincts

Planning Precinct	2006	2030	Increase 2006-2030
Sunbury	33,753	58,587	24,834
Craigieburn	52,566	107,873	55,307
Broadmeadows	68,038	69,750	1,712

This is particularly the case in the Sunbury and Craigieburn Planning precincts where there is significant green field subdivision development occurring. To encourage residents into commuter cycling, then to use safe on-road bike lanes will be a priority in these developing areas.

This however does not account for recent Urban Growth Boundary change impact north of Mt Ridley or the proposed Broadmeadows Central Activity and associated anticipated population growth.

3.3 Car ownership in Hume

The Walking and Cycling Strategy provides an opportunity to encourage a lesser reliance on the car and encourage people to walk and bike ride as a preferred mode of transport.

According to the Victorian Transport Statistics Portal, Hume City has a significantly higher level of car ownership than the adjoining City of Moreland and the Melbourne metropolitan area. In Hume City 59% of households own 2 or more cars compared to 39% in

Table 3 - Level of vehicle ownership in the Cities of Hume and Moreland and metropolitan Melbourne

No. of Motor Vehicles	% of households in HUME	% of households MORELAND	% of households METROPOLITAN MELBOURNE
None	6%	16%	10%
1 vehicle	31%	42%	35%
2 vehicles	40%	29%	37%
3 vehicles	13%	7%	10%
4 or more vehicles	6%	3%	5%
Not stated	4%	4%	4%

Reference: Victorian Transport Statistics Portal, www.transport.vic.gov.au

the City of Moreland and 52% metropolitan Melbourne.

There are a number of factors that may contribute to this scenario including distance from home to the workplace, and a lack of effective commuter options. The impact of this high level of car ownership is twofold. The City's roads are likely to experience greater congestion than surrounding LGAs, and Hume motorists are likely to be significant contributors to congestion on the wider metropolitan road network.

Strategies that reduce this reliance on the private motor vehicle will be critical, particularly given the increase in the number of households forecast for development in Hume.

Council's Draft Integrated Land Use and Transport Strategy (HILATS) identifies an additional impact of a poor public transport network. The Strategy recognises there are Hume households that are required to own a motor vehicle despite not having the financial means. This is due to the lack of other transport options.

'Required' vehicle ownership and an inability to access an effective transport network is recognised in the Draft HILATS as 'transport disadvantage'.

An effective path network, an effective public transport network and community transport initiatives (e.g. ride sharing, and active transport) will contribute to overcoming transport disadvantage in Hume. They will also encourage a decrease in car ownership and road congestion in Hume.

3.4 Financial capacity of Council

Council has prepared a number of key service planning documents to guide decision making over the next five to ten years. Similar to the Walking and Cycling Strategy, most of these documents propose significant infrastructure works relating to roads, recreation facilities, family and children's centres, new estates and the upgrading of existing infrastructure.

One of Council's challenges is to balance competing community demands and expectations for facilities, services and programs, including those relating to paths.

Infrastructure for walking and cycling will be incorporated into Council's asset management plans to ensure a program of capital investment (including replacement) and the maintenance of paths are in place, and that the quality and standards of provision meets community needs. The asset management plans guides Council's long-term financial decision-making for the initial construction and ongoing service costs across all community assets.

Council has allocated \$1,205,000 for the development of paths (excluding footpaths) over the next 4 financial years. This includes:

- \$225,000 in the 2010/11 financial year
- \$250,000 in the 2011/12 financial year
- \$325,000 in the 2012/13 financial year and
- \$405,000 in the 2013/14 financial year.

Path developments priorities for the next four financial years have been determined using the criteria outlined in section 9 of this document. Many of the priorities identified in the Action Plan will require developer contributions reducing the financial impost on Council for new infrastructure, however the cost of ongoing maintenance after handover and end of life replacement will become Council's responsibility.

A key challenge for Council is ensuring there is an appropriate allocation for the regular maintenance of paths. While there is a significant cost for the establishment of paths, the maintenance of paths is an ongoing and significant mandatory inclusion in Council's annual budget. The 'asset renewal gap' for paths will be identified in the asset management plan..

3.5 Partnerships

Council has a limited financial capacity to address all path development needs within the desired timeframe without assistance from other community, private and government stakeholders.

These partnerships will be important in identifying walking and cycling infrastructure priorities and in developing the City's network of paths.

The Hume Bicycle Users Group (BUG) has been significant in identifying opportunities to enhance the path network, particularly in relation to recreation and commuter cycling. Submissions made by the BUG group have informed a number of the recommendations in the Walking and Cycling Strategy.

Council recognises the need to work with local community interest groups such as the Hume BUG group, residents groups, service groups, schools and retail associations. This will ensure the integration of cycling into public environments and will develop and promote participation strategies.

Partnerships with land developers will also be critical so they understand the basis of Council's recreation, health and wellbeing and transport objectives relating to paths. Paths will be progressively installed by developers in green field areas as these areas are subdivided.

Council will continue to work closely with adjoining councils and government departments such as Parks Victoria and VicRoads. This will ensure the needs of the Hume community are understood and incorporated into future regional and State Government path projects. This is particularly relevant in relation to the State's Principal Bicycle Network and the Melbourne Metropolitan Trail Network.

4. Definitions

4.1 Hierarchy of paths

Paths have been classified according to their role in the overall path network. This will assist Council to determine the level to which paths will be developed. These classifications are based on the open space hierarchy (Hume City Open Space Strategy 2010-2015) but have been refined so they are more relevant to the planning and development of the path network.

In some cases a path will provide for regional, district and local needs because of its location along a particular route. In these cases development standards for the higher level of path will apply.

Classification 1 - Regional / State paths

These paths will be significant in terms of the regional path network. They are likely to link with paths in adjoining municipalities, to major facilities in the region and may also be part of the statewide or national path network.

Included in this classification are paths that are part of:

- the Principal Bicycle Network (PBN) - a network of on-road and off-road cycle routes that provides access to key destinations within the Melbourne metropolitan area and
- the Metropolitan Trail Network (MTN) – a network of recreational routes in metropolitan Melbourne largely consisting of shared pedestrian and bicycle paths.

Examples of these paths are: Moonee Ponds Creek Path, Merri Creek Path, Broadmeadows Valley Park Path.

Classification 2 - District paths – These paths will link suburbs and neighbourhoods to each other and to major community, commercial and transport hubs. District paths will typically link into the regional / state network of paths.

Examples of these paths are: Blind Creek Path (Sunbury), Merlynston Creek Path.

Classification 3 - Neighbourhood paths – These paths provide residents with access *through* their neighbourhood and *to* facilities such as schools, local shops and parks. Neighbourhood paths will typically link into the district network of paths.

Examples of these paths are: Aitken Creek Path (Craigieburn), Attwood Creek Path.

Classification 4 - Site specific paths – These paths are located within the bounds of parks or reserves and may or may not be part of the wider path network. They add to recreation opportunities provided in parks and reserves and support activities such as walking, inline skating and bike-riding for children and families.

4.2 Types of walking and cycling

The challenge for the Walking and Cycling Strategy is the need to consider a diverse range of walking and cycling needs and community expectations. Table 4 highlights the range of walking and cycling activities and the different environments required to support these.

For example the local family may choose to use the local path for introducing their youngster to their new bicycle, the local jogger as an opportunity to take a run with their dog while the commuter cyclist sees the path as a safe off-road option to quickly access the railway station.

Table 4 - Environments required to support different types of walking and cycling

	Examples of Typical Activities	Environments and Infrastructure Required to Support Activities
Casual walking / cycling	<ul style="list-style-type: none"> ▪ Reflective walking / cycling environments that minimise need for 'alertness' and where people can relax e.g. paths through the nature reserve. ▪ A casual walk with the pet dog ▪ Introducing children to new recreation activities e.g. bike riding, skateboard riding 	<ul style="list-style-type: none"> ▪ Local footpaths that eliminate / minimise the need for walking / cycling on roads ▪ Strong pedestrian linkages around local neighbourhoods ▪ Natural surveillance ▪ Ambling paths or paths that traverse through different environments ▪ Seating, shade, green spaces, drinking water ▪ Access to quiet, calm, reflective green spaces ▪ Signage- directional/ points of interest
Walking / cycling to access local destinations	<ul style="list-style-type: none"> ▪ Walking / cycling to the local shops, reserve, maternal child health centre or pre-school ▪ Walking / cycling to school 	<ul style="list-style-type: none"> ▪ Local footpaths that eliminate / minimise the need for walking / cycling on roads, and eliminate / minimise need to use private motor vehicle ▪ Integrated path network that accommodates multiple and uses e.g. parent/carer with pram, child on bike ▪ Secure bicycle storage facilities at shops and schools ▪ Paths within parks for children's bike riding, inline skating, prams, walking etc. ▪ Appropriate amenities (e.g. seating, shade, water, bike parking) and environment (landscaping, trees) at destinations ▪ Bike hire opportunities ▪ Accessible
Recreational distance destination walking / cycling	<ul style="list-style-type: none"> ▪ Walking / cycling to the regional park, or sporting reserve ▪ Social (group) outings with friends or as part of walking and cycling clubs ▪ A casual walk with the pet dog ▪ Experience natural environment ▪ Discover local community /area of interest 	<ul style="list-style-type: none"> ▪ Integrated footpath, path network that accommodate multiple and required uses e.g. dog walking, bike riding ▪ Secure bike storage facilities at relevant destinations ▪ Appropriate amenities (e.g. seating, shade, water) and environment (landscaping, trees) at destinations and along routes ▪ On-road bike paths / lanes ▪ Bike hire opportunities ▪ Accessible ▪ Signage- directional/ points of interest
Walking / jogging / cycling for fitness	<ul style="list-style-type: none"> ▪ Speed cycling, running or walking to achieve physical fitness/health outcomes 	<ul style="list-style-type: none"> ▪ Paths that accommodate multiple uses and consider extremes of use e.g. speed cycling, joggers, walking ▪ Secure bike storage facilities at relevant destinations ▪ Appropriate amenities (e.g. water) and environment (landscaping, trees) at destinations and along routes ▪ On-road bike paths that provide separation between vehicles and commuter cyclists
Commuter walking / cycling	<ul style="list-style-type: none"> ▪ Walking / cycling to access other transport links such as trains or buses ▪ Walking / cycling to work or school ▪ Walking / cycling to access local services or routine activities e.g. the gym, sport 	<ul style="list-style-type: none"> ▪ Paths that accommodate multiple uses ▪ Bike paths that accommodate 'speed cycling' and/or separate pedestrians from cyclists ▪ Secure bike storage facilities at relevant destinations such as railway stations, transport interchanges and workplaces ▪ Relevant amenities e.g. showers / toilets incorporated into public and private infrastructure ▪ Integrated transport options for bikes e.g. ability to transport bicycles on buses and trains ▪ Bike hire opportunities

Appendix 1 provides detailed definitions of the type and typical characteristics that support different types of walking and cycling.

4.3 Types of paths

Paths will differ depending on their primary function. Some paths have a transport focus (e.g. cycling to access work, school, shops), while others are mainly for recreation (e.g. walking or cycling to get fit, see the countryside, enjoy the outdoors).

Table 5 provides examples of different types of paths and the type of activities they generally cater for.

Table 5 – Different types of paths

Type of Path	Description
Pedestrian Path	<p>Pedestrian paths are for the exclusive use of pedestrians. Cyclists under 12 years of age are permitted to ride on footpaths.</p> <p>Pedestrian paths can be found in built-up environments such as in residential areas, in natural environments such as along waterways or in roadside reserves. On these paths there is a physical separation of pedestrians from vehicles and bicycles.</p>
Bicycle Path	<p>Bicycle paths are for the exclusive use of cyclists. Bicycle paths can be provided on-road (e.g. bike lanes) or off-road. The exact nature of bicycle paths (e.g. width, amenities) will depend on the level of use and the degree of separation needed between cars and bicycles. These paths will generally cater for both recreation and commuter ('at speed') cyclists.</p>
Shared Path	<p>Shared paths are designed to cater for a range of different users. Generally these paths are shared by walkers and cyclists but they will also be used for activities such as skateboard riding. A shared path may be along a roadside or it may travel through parkland.</p>

Appendix 2 provides information on path network hierarchies as proposed in the Draft Hume Integrated Land Use and Transport Strategy.

5. Participation in walking and cycling

5.1 Benefits of walking and cycling

The benefits of walking and cycling are extensive and well documented. These benefits include:

- increased health and fitness outcomes particularly in relation to 'lifestyle' illness (e.g. obesity and diabetes)
- the opportunity for enhanced social / neighbourhood interaction and 'conversation'
- the opportunity for involvement by a diverse range of age groups and physical abilities
- minimal or no financial outlay or requirement for specialised equipment
- the opportunity for increased activity in local neighbourhoods which enhances perceptions of safety. It also increases the passive surveillance of private and community infrastructure
- an opportunity to decrease the pressure on the public transport system
- an opportunity to lessen the impact of traditional modes of transport (e.g. noise and air pollution) on natural environment and urban amenity

These benefits can only be realised if there is a safe, popular and well publicised path network that is well connected to key community destinations.

5.2 Recreation trends

In Australia, participation in 'casual' or 'non-organised' physical activity (e.g. walking, cycling) has increased at a significantly greater rate than participation in 'organised' activity (e.g. competitive sport).

Between 2001 and 2008, participation in non-organised activity increased by 12%. This compares to the relatively small increase of 1.5% in the same period for organised activity. Over this period, there was a 50% increase in participation in walking, a 57% increase in running and a 36% increase in cycling.

Of the top ten *most popular* non-organised physical activities undertaken at least once in the past 12 months, walking was the most popular, with cycling (fourth) and running (fifth) very popular across Australia.

Walkers are likely to be the most active of all participants walking an average of three times a week followed by joggers who are likely to exercise an average of twice a week. The only activity to have experienced a larger increase in participation is aerobics / fitness with an increase of 152%.

Unlike aerobic / fitness activities, walking and cycling does not require access to an indoor facility, participation at prescribed times or membership/user pays. As a result, residents can choose their fitness or recreation time to suit other lifestyle demands and can participate without having to pay a fee.

Data also shows how important paths are as people age. Participation in activities such as walking increases with age. Participation by women in walking is high across all age groups, indicating the important role paths play in providing flexible recreation and fitness opportunities.

This data highlights the important role paths play in supporting and encouraging participation in three of the top five most popular recreation activities in 2008.

Reference: Participation in Exercise, Recreation and Sport Survey, Annual Report 2008, Australian Government

The Hume City Leisure Strategy Plan 2006-2010 identified through a household telephone survey that walking was the most popular physical activity in Hume with a participation rate of 34% and cycling the equal fourth most popular at 5%. Participation levels however were lower compared to the Victorian average of 39.9% and 11.6% respectively.

5.3 Commuter trends

Across Melbourne, travel distances for work vary dramatically depending on home location. In Hume, the median journey to work distance is 22.7km, far greater than the Melbourne metropolitan average of 14.3km. Other growth area councils experience similar median travel distances.

Of the six growth area Councils, Hume has the third lowest number of walking or cycling trips at 9.2% of all trips, compared to Cardinia (6.3%), Casey (11.3%), Melton (6.5%), Whittlesea (7.7%) and Wyndham (10.8%). The Melbourne metropolitan average is 14.7% and neighbouring Moreland is 23.4% of all trips. The greater distances across Hume, transport disadvantage and reduced access to destinations (work, school, transport) significantly impacts on residents' capability to choose walking or cycling as the preferred mode of transport compared to more established, inner-urban communities.

Table 4 - Mode of Transport for Hume and Moreland in 2007 as a % of all trips made

Mode of Transport	City of Hume	City of Moreland
Vehicle Driver	53	42
Vehicle Passenger	29	18
Walking	8	19
Public Transport	7	15
Bicycle	1	4
Other	1	1

Reference: Victorian Integrated Survey of Travel and Transport 2007

Statewide, the number of students walking and cycling to school remains low. However, there is an increase in the number of people cycling to work.

Between 2001 and 2006 there was an increase of 11.7% in the number of 'cycle only' journeys to work in the City of Melbourne. There was also an 8.5% increase in 'cycle only' journeys to work in nine of the inner Melbourne municipalities.

While this data cannot be directly extrapolated to Hume City there are a number of trends that have potential implications for the Hume City even if on a smaller scale. The key reasons attributed to the increase in commuter cycle journeys in these areas include:

- safer and more direct bicycle routes to the workplace
- supporting infrastructure such as secure bike storage, showers
- the development of commercial districts which result in local employment hubs
- bicycle routes that connect with other modes of transport
- road and transport congestion and
- costs associated with traditional commuter travel.

Research shows that during the 1990s 60% of all weekday bicycle trips in Melbourne were less than five kilometres and 38% were less than two kilometres. This provides valuable information for urban planning. Ensuring key community facilities are within a two kilometre reach will encourage greater use of the bicycle as an alternative local transport option.

There has also been a significant shift in the way children access school. In 1974 only 7.7% of parents drove their children to school. In 2005 this had increased dramatically to 91%. It is estimated that 17% of all morning peak period vehicle travel is now school related. The reasons for this shift are various but include concerns about road crossings, distance and directness of the route to the school, concerns about children obeying road rules, poor condition of paths, traffic congestion around the school and a lack of secure bike storage at schools. There are a number of non-path related concerns (e.g. stranger danger) that prevent parents allowing children to walk or cycle to school. However, many of the barriers can be addressed by improved path and bicycle infrastructure and community education initiatives.

Encouraging greater use of the bicycle for commuter use will require safe on-road and off-road routes that are direct. It will also require end of journey facilities such as bike storage facilities. Community education and awareness programs and safe off-road paths will also be a key requirement if an increase in the number of children walking and cycling to school is to be achieved.

Reference: Victorian Cycling Strategy, 2009 Victorian State Government

6. Discussion of key issues

6.1 Barriers to walking and cycling

Research commissioned by the State Government* identifies a number of barriers that can discourage people from walking and cycling. These are:

- gaps in the walking and cycling path network
- a lack of connectivity between on-road and off-road cycle paths
- indirect routes to key community destinations
- inadequate infrastructure such as a poor separation of cyclists and cars or cyclists (on roads) and pedestrians (on paths), poor design of paths (isolated areas, poor lighting, blind corners for cyclists)
- poor circulation through suburbs such as streets with cul-de-sacs with no access to other streets and
- a lack of end of trip facilities such as storage and showers (for cyclists).

In addition to these practical barriers research identified attitudinal barriers that discouraged participation in walking and cycling. These barriers include the greater convenience afforded by car travel (e.g. when shopping and for multi-destination trips), exposure to bad weather and perceptions of risk. The latter is particularly relevant to parents who are concerned about unsafe road crossings and 'stranger danger'.*

**Reference: Encouraging Walking and Cycling Focus Group, Wallis Consulting as cited in The Victorian Cycling Strategy, 2009*

6.2 Whole of network planning

This Strategy focuses on both on-road and off-road paths to ensure the two networks are well integrated, duplication is minimised and a range of options for accessing community facilities included.

Whole of network planning will ensure the need for local paths within and between neighbourhoods is considered alongside the need for cross city and regional paths. Regional paths will optimise connections to destinations east and west of the City as well as destinations to the north and south (e.g. Melbourne).

Regional and cross city path infrastructure supports Council and the State Government's transport and 'liveable city' initiatives. These relate to cycling as a practical transport option particularly between commercial and business activity hubs in the region.

Neighbourhood paths allow residents to access community facilities such as schools and sporting grounds without the use of a car. Given Council and the Victorian Government's objectives to encourage more active lifestyles, infrastructure that supports these initiatives is required. This infrastructure will also support school initiatives to increase physical activity through 'walk to school / walking school bus' and bike education programs.

Council will continue to ensure that urban and business centre planning (activity centres) strategies identify opportunities to incorporate path networks and associated amenities. These strategies are critical for achieving Council's objectives relating to increasing alternative transport options, relieving traffic congestion and providing accessible healthy lifestyle opportunities.

The Walking and Cycling Strategy Action Plan and implementation priorities will be regularly reviewed in line with the development of key Council plans and strategies including the Hume Integrated Land Use and Transport Strategy, Broadmeadows Structure Plans, Hume Integrated Growth Areas Plan incorporating the Sunbury growth and Hume corridor, and Leisure Strategy 2011-16 (under development), and changes to state planning documents as they relate to walking and cycling.

Many proposed paths detailed in the proposed path network plan (see Action Plan) have not been prioritised for delivery in the five-year Action Plan. Further direction is required from State

Government, VicRoads and Council via Precinct Structure Plans. Council will use the proposed network in advocating for an expanded network to reflect urban growth and changing community needs.

6.3 Footpaths and shared paths

Shared paths are particularly important for those communities that have no or poor access to footpaths. Hume City suffers from a past era of subdivision planning that has left many communities with a poor footpath network. In some cases this includes the encroachment of private property onto roadsides, reducing the opportunity for the retrofitting of footpaths.

In some areas Council is looking to address this matter but faces a number of challenges (including potential need to purchase private land) in doing so. In these areas it is important that opportunities for a comprehensive shared path network to partly redress the situation be optimised.

Shared paths do not replace footpaths but rather should be an adjunct to them. It cannot be assumed that in the absence of a footpath residents will automatically use a shared path. If a shared path does not provide a direct route to a desired destination as does a footpath, then it is unlikely to be a substitute route. Instead pedestrians will resort to using local roads.

In Hume City there is a lack of footpaths alongside arterial roads. As a result residents use bike paths that were not intended for use by pedestrians. These paths were designed primarily for commuter cycling so are not appropriately designed and suited for use by pedestrians (e.g. they are very close to main roads and not of a width to cater for both pedestrians and commuter cyclists). VicRoads is the State Government agency responsible for the planning and provision of paths associated with arterial roads.

Research shows that a comprehensive footpath network is a key factor in encouraging people to be active as part of their every day routine - such as walking to the shops or walking for fitness.

It is important the planning of new green field subdivisions considers opportunities for on-road and off-road (shared) paths. This will ensure an integrated pedestrian and recreation bicycle network. It should be noted that commuter cyclists are likely to use on-road cycle paths in preference to off-road paths. On-road cycle paths take cyclists directly to their destination and are more continuous (e.g. less road crossings). This recognises the different role that off-road and on-road paths play as part of a transport network.

6.4 Commuter cycling

Hume City currently does not have a path network that encourages commuter cycling. There is a lack of connected on-road bicycle lanes on arterial and local roads. Cycle lanes appear on some roads only to disappear on the next, offering no consistency for on-road cyclists. Many on-road bike paths are shared with both moving and parked vehicles. This means parked cars intrude into bike lanes forcing cyclists to merge with fast moving traffic in adjacent lanes.

Currently many commuter cyclists are forced to take indirect routes to their destination to avoid cycling on busy roads. As a result the commuter cyclist has to deal with pedestrians, indirect routes to key community destinations, road crossings and not being able to travel at speed.

Conflict arises between pedestrians and commuter cyclists on 'shared paths' that are not designed for both pedestrian and bicycle use. Generally, these paths tend to be too narrow or have inadequate site lines and so are less suitable for a mix of activities (e.g. speed cycling and walking activities).

Conflict between pedestrians and cyclists also arises on some bike paths that are designated 'bicycles only'. Pedestrians use these paths because there is no alternative option for them. As

a result the path cannot be used for its designed purpose - commuter / speed cycling because of the presence of pedestrians.

Commuter cycling will be further encouraged when there is better provision for bicycles on the public transport system. Generally cyclists have to cease their travel by bike at a transport interchange because trains and buses have poor or no ability to accommodate bicycles. The City of Melbourne's bike-share scheme may better provide for cyclists accessing the city by public transport.

Cyclists need to be assured of either secure bike storage facilities at transport hubs or the ability to transfer, together with their bicycles, to public transport.

6.5 Connectivity of paths

The Hume City municipality contains key sections of the Melbourne metropolitan area's waterways and green corridors and key path routes. Although several key shared paths are located in these corridors, they are not complete and have major missing links.

In some areas the existing walking and cycling networks lack good connectivity and linkages - both at the local level and to the regional network. Sections of walking and cycling paths have been well developed. However, in contrast to the road network with its clearly defined hierarchy, there has not been the same co-ordinated approach to the planning and development of the network.

Some sections of footpaths paths and cycle routes along road reserves are missing and connections between on road and alongside road paths with paths in other open space corridors is often poor. This lack of connectivity is a disincentive to the use of paths in Hume City.

6.6 Path infrastructure and amenity standards

There is little consistency in development standards for similar types of paths across Hume City. This has resulted in significant contrast in the quality of development in different areas. The reasons for this are various and include a lack of appropriate resourcing to develop the path to the requisite standard, and a lack of understanding as to the role of the path in the overall network.

Planning often appears to have been undertaken without a full understanding of user needs. Often path design does not address the requirement of the different user segments such as commuter cyclists, recreational cyclists and older walkers. Key destinations catering for walkers and cyclists, such as many railway stations and activity centres, are of a low standard with few amenities and / or are poorly maintained.

Broadmeadows and Jacana stations in particular, are examples of railway stations that could be better designed, to encourage walking and cycling. This would improve perceptions of safety and encourage access by bicycle or on foot.

In many cases it is a lack of support infrastructure that will impact on the level and type of use of a path even if it is well located and should therefore attract a high level of use. If a path traverses through dark and isolated areas and has no lighting, if the path lacks seating for older residents, signage or if it is unattractive because of a lack of shade or vegetation, the level of use will be lower than desired or expected.

Typically, the planning and development of paths in Hume City has focused on core path infrastructure such as the width and surfacing of paths. In some cases planning has considered important amenity and support infrastructure such as seating and signage. However, it has often not been installed because of a lack of funding which if not delivered does not encourage people to access these paths.

Signage is particularly important because it creates an awareness of the path, it provides a clear understanding of opportunities (e.g. cycling, walking) and user requirements (e.g. physical fitness, time to reach destinations) and communicates information about the safe use of the path. There is a need to develop a program for ensuring all existing paths are fitted with relevant signage and to ensure signage is installed as part of all new path developments.

Council's Guidelines for the Planning, Design and Construction of Open Space recommends development standards. There is a need to review these standards to ensure they address industry best practice guidelines and incorporate additional infrastructure requirements identified in the Walking and Cycling Strategy (e.g. seating, drinking fountains and signage).

6.7 Path planning and management

There are a number of Council and industry guidelines relating to path development standards. In Hume City these standards have not been applied in a consistent manner. The classification of paths according to the role they play in the path network will determine features (e.g. width and location) required in the development of new paths, or the upgrading of existing paths.

The Walking and Cycling Strategy has identified a number of completed paths that are not recorded on Council's GIS system. It has also identified a number of paths that have been included as part of future precinct structure planning and development but again, not noted on the central GIS system.

There is need for more detailed information on the path network. Information relating to the existing condition of many paths and the gap between recommended standards and current provision is unclear for much of the network. Accurate information will provide Council with a clear picture on path provision, upgrade and maintenance costs to meet the service needs and standards desired for Hume City.

A formal process for referring completed path development and upgrade works to Council records is required. This will ensure Council has up-to-date information on the status of the path network in the Hume City. It will also mean that maintenance works are appropriately scoped and programmed to maintain the integrity of the path network.

Additional resources is required to ensure all paths are mapped on a central database, and that there is an appropriate maintenance budget reflecting service needs for the growing path network. Full life-cycle costings will further inform Council's service-driven asset management planning and long-term financial plans.

The Walking and Cycling Strategy recommends the formation of an interdepartmental working group to ensure a co-ordinated approach to the planning, development and management of paths and to address a number of issues raised in the Strategy.

6.8 Encouraging the use of paths

There is an opportunity for Hume City to work with a range of community stakeholders to develop a unique citywide campaign to increase participation in walking and cycling activities. This should incorporate existing programs such as the 'Ride to Work Day' and the 'Walking School Bus' program.

Expanding the promotional program to encourage different demographics and abilities into regular walking and cycling should be considered.

The State Government's TravelSmart program has developed a number of initiatives with local government including municipal TravelSmart maps and travel plans. These aim to reduce dependence on cars by encouraging more sustainable modes for commuting. In the past, Hume City has been involved in programs such as TravelSmart with Kangan Batman TAFE in Broadmeadows.

Council can actively support the emergence of walking and cycling groups that target specific interests and needs (e.g. introduction to bike riding for the over 60s, fitness / jogging groups and ride to work groups), profile bike riding, walking activities and clubs in the community.

These groups will increase the range of walking and cycling options available and will provide forums through which the community can provide comment on path development needs and priorities.

A positive example of this is 'Victoria Walks' - a walking-for-transport health promotion charity aimed at increasing the number of people who walk. The aim of this program is to encourage vibrant, supportive and strong neighbourhoods and communities where people choose to walk wherever possible. 'Victoria Walks' encourages residents to undertake 'walking audits' to identify walking opportunities and challenges in local neighbourhoods. They also provide the platform for people to meet and form walking groups for health and fitness.

6.9 Consideration of dedicated cycling facilities

Hume City does not currently have any dedicated cycling facilities to cater for track racing, criterium cycling or mountain bike riding.

There are currently five BMX tracks located in Broadmeadows, Coolaroo, Jacana, Sunbury and Tullamarine, with a sixth proposed for Craigieburn. There are currently seven skate parks regularly used by BMX riders located in Craigieburn, Gladstone Park, Greenvale, Jacana, Meadow Heights, Roxburgh Park and Sunbury. Council will address issues relating to skate and BMX in a separate strategy.

Mountain bike trails tend to be located in areas which have larger more suitable tracts of land for this purpose. The natural landscape / environment is a major influence on the location of mountain bike trails as the natural features of a site form a significant part of the trail. Further investigation would be required into the potential development of this type of facility.

Criterium is a form of cycle racing that is conducted on a specifically designed track or closed-off streets. The race length is determined by the number of laps or by a determined time. An area in the Campbellfield industrial precinct is currently used as a criterium circuit however requires a road closure permit for each event. Ongoing use of this site is unsustainable in its current format. This site serves a regional catchment.

The provision of a purpose built off-road circuit for cycling will provide space for hosting bicycle races as well as providing a safe space for the community to ride without potential conflict with other road users. An off-road circuit will allow children and others who are new to cycling to learn bicycle riding skills and gain confidence in a safe environment.

It is recommended a detailed feasibility study be undertaken to better serve the needs of criterium cycling, and that community demands for other dedicated cycling facilities be further investigated during the development of the Leisure Strategy 2011-2016, and BMX and Skate Strategy.

7. The future provision for walking and cycling

7.1 Guiding vision, principles and strategies

The vision for the Hume City path network is for:

An attractive and functional network of paths that people of all ages and backgrounds are drawn to use because it provides a variety of opportunities, it is safe and easy to access, it provides great connection to places in the community and because trails are pleasant and attractive places to be.

The principles for achieving this vision are as follows:

Principle 1 Walking and cycling routes will be planned and developed on a whole-of-network basis.

Strategy: There will be a planned hierarchy of local, district and regional paths to provide an effective on-road and off-road network. This network of paths will accommodate a diverse range of recreation, health and wellbeing and commuter needs. Whole-of-network planning will explore path options along natural waterways, rail and utility reserves, along roadsides and in parks.

Principle 2 A priority is to ensure all paths are well connected and linked with key community points of interest.

Strategy: Gaps in the existing path network will be closed. Future paths will be continuous and well connected to each other and to destinations in the region.

Principle 3 Paths will be designed according to prescribed standards and in consideration of the primary function or use of the path.

Strategy: Paths will be identified according to their role in the network as recreation or commuter paths and designed to relevant standards. Provision guidelines will address considerations such as the type of path surface; directional, distance, safety and interpretive signage; shade and access to seating, water and toilets across the network.

Principle 4 Opportunities to increase walking and cycling will be incorporated in all urban and town planning projects.

Strategy: All urban planning undertaken by Council (e.g. precinct / activity centre plans) or proposed to Council (e.g. by developers) will be required to consider opportunities to optimise the incorporation of paths for future recreation, health and wellbeing and commuter benefits. This will require consideration of design, connectivity between on-road and off-road paths and design for safety.

Principle 5 Paths will be managed to ensure safe, clean and attractive environments and usage will be reviewed on a regular basis to ensure they continue to address community needs.

Strategy: The allocation for both the capital and ongoing maintenance costs associated with paths will be identified in asset management plans and inform Council budgets.

Principle 6 Paths will be promoted and developed to optimise use and benefits to the community

Strategy: Promotional initiatives will be developed with community organisations (e.g. schools, recreation clubs, transport agencies) and the media to optimise social, economic and environmental outcomes.

Principle 7 Community, government and private partnerships will be sought and encouraged to develop the path network.

Strategy: The City's walking and cycling networks will be planned and developed in association with other management agencies (e.g. VicRoads, Parks Victoria), neighbouring councils, and with local interest groups such as the Hume BUGs group. This will ensure integration of routes and infrastructure standards. Developers will be principal providers of walking and cycling network through green field sites.

Principle 8 Council will advocate for the provision of diverse and accessible walking and cycling opportunities throughout the City.

Strategy: Engage other levels of government, community groups, developers and peak bodies in providing, management, maintenance and promotion of the City's walking and cycling network to meet the community's recreation and wellbeing needs.

7.2 Future path development requirements

Any proposals for future paths, including path upgrades will have to demonstrate how they address Council's path planning and development requirements. These requirements are outlined below and are detailed in documents referenced in section 3.1.

Future path development proposals must demonstrate:

1. An understanding of how the path fits into the overall path network and addresses development requirements.

Example

- Path developed to the requisite standard for state / regional, neighbourhood and local paths in Hume City e.g. relevant widths, surface
- Appropriate provision of both on-road and off-road paths, commuter and recreation paths etc.
- Direct path routes to relevant destinations.

2. Design and provision requirements as per the role of the path in the overall network.

Example

- Design of pedestrian only, bicycle only and shared pathways to address different use requirements.

3. Specific design and safety requirements for different types of paths.

Example

- Bicycle only commuter lanes on arterial roads as opposed to bike lanes that are shared with parked and / or turning vehicles
- Safety signage at intersections and road crossings.

4. How intersections with other paths and vehicle carriageways will be designed and developed.

Example

- Pedestrian islands
- Traffic calming measures.

5. Strategies for connecting new paths to existing paths.

Example

- Ensuring paths in new estates are linked or can easily be linked to existing paths

6. Walkable / bikeable' neighbourhoods.

Example

- Continuity of access through local neighbourhoods e.g. no 'deadend' walking routes such as at the end of cul-de-sacs or at estate boundaries.
- Access to both recreation and commuter paths
- Off-road pedestrian access.

7. Appropriate 'end of destination' design and facility provision.

Example

- Separation of pedestrian, bicycle and vehicle traffic, particularly at school arrival points
- Secure and easily accessible bike storage/lock-up facilities e.g. transport hubs and schools.

8. Landscape and amenity provision.

Example

- Vegetation plantings
- Landscaping
- Seating
- Water provision

9. Risk minimisation strategies.

Example

- Route of path / site lines
- Line marking
- Width and surfacing of paths
- 'Safety' signage e.g. on approach to road crossings, pinch points, where there may be a conflict between different users such as dog off-leash and cycling.

10. Relevant provision of signage.

Example

- Safety / potential risk awareness signage
- Directional signage
- Distance signage
- Interpretative signage.

11. How the path addresses Council's policy objectives.

Example

- 'Active transport' / alternative transport initiatives
- 'Getting Hume active' programs
- Liveable neighbourhoods
- Health and wellbeing outcomes
- Community safety.

7.3 Criteria for determining path development priorities

The Walking and Cycling Strategy Action Plan has identified in excess of forty paths (excluding footpaths*) for development over the next five years. These projects vary significantly in length and the standard to which they will be developed (that is, in line with the path hierarchy). As a result the installation of these longer paths will be staged in accordance with the resources available.

The following criteria have been developed to guide the setting of priorities for development of paths and associated infrastructure including car parking, disability access, landscaping, signage and toilets to ensure desired outcomes.

** Footpath development priorities as identified in Council's footpath works plan*

1. Minimises risk associated with paths

E.g. Works make the path safer for users and / or minimises risk implications for Council.

2. Completion of gaps in the existing path network

E.g. Gaps in existing paths and to key destinations.

3. Improves access to key destinations

E.g. Works will improve pedestrian and cyclist access to activity centres, residential areas, education hubs, transport connections including those located in adjoining suburbs and neighbourhoods.

4. Path identified in planning documents

E.g. The path has been identified as a priority in Council or State Government planning documents such as precinct structure plans or the Principal Bicycle Network development plan.

5. No / minimal alternative options to paths for pedestrians and young cyclists

E.g. Works provide the community with a pedestrian pathway (and pathway for young cyclists) that is not otherwise available in the community such as in areas with no footpaths.

6. Current and future demand

E.g. Works are needed to provide more appropriately for the existing level of use and to plan for future projected use and / or the path is part of a higher order path (e.g. regional path) or is a commuter path.

7. Poor / inadequate level of path provision in the area

E.g. paths are narrow, have poor surveillance or do not have a sealed surface.

8. Cost of ancillary infrastructure required

E.g. Cost of providing required ancillary infrastructure such as car parking, disability seats, water fountains, signage, toilets to ensure desired outcomes.

9. Path is of cultural / heritage / environmental value

E.g. The path adds to the preservation or enhancement of indigenous heritage or the greening of the area.

8. Review of the Walking and Cycling Strategy

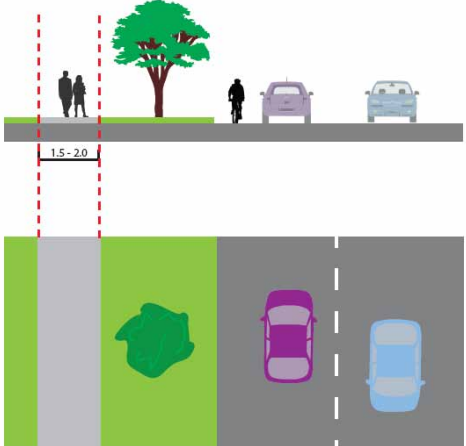

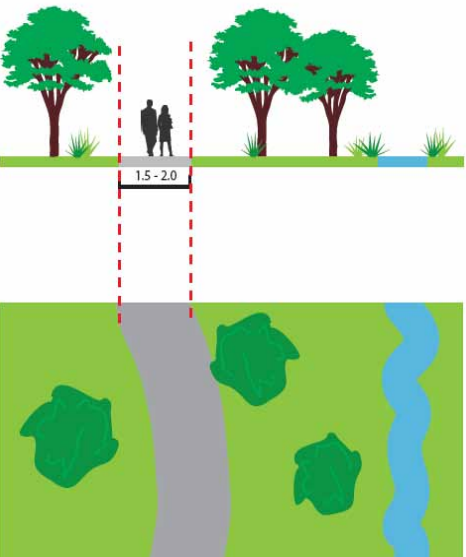
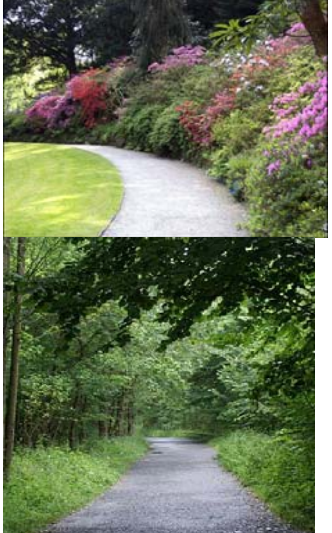
The Walking and Cycling Strategy will be reviewed regularly to ensure the Strategy remains relevant and up-to-date. It is important the principles and actions included in the Strategy reflect the changing needs and priorities of Council, the community and other stakeholders.

The Walking and Cycling Strategy Action Plan and path network maps will be reviewed and updated annually. This will provide the opportunity to identify new priorities and reassign current priorities based on resourcing availability, changing priorities, additional research and needs assessment, changes to other key strategic planning documents, and emerging issues that were not apparent during the development of the Strategy.

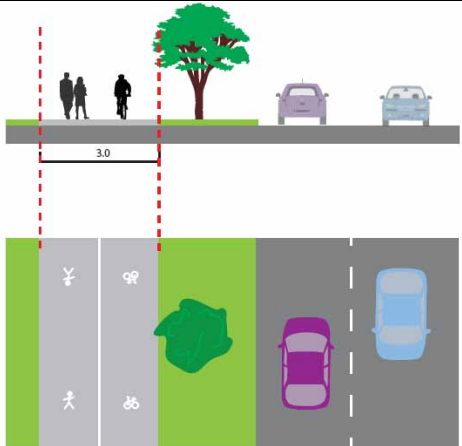
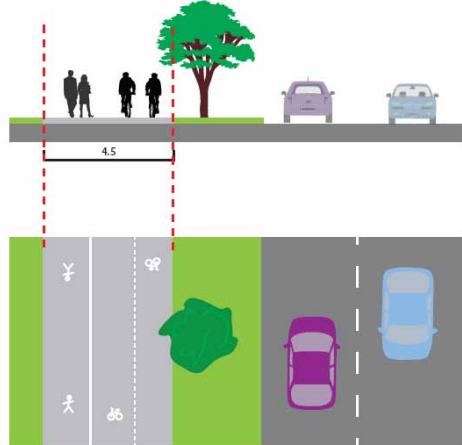


A comprehensive review of the Strategy, including full community consultation process, will be undertaken in 2016.

9. Appendices

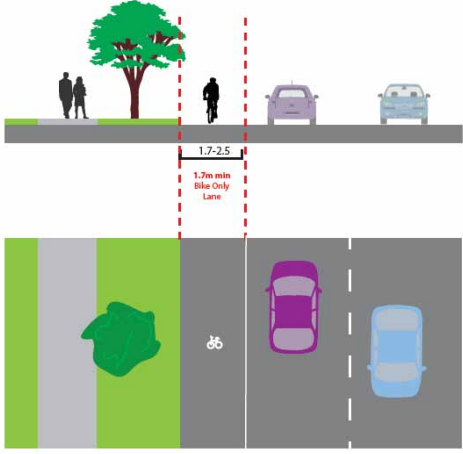

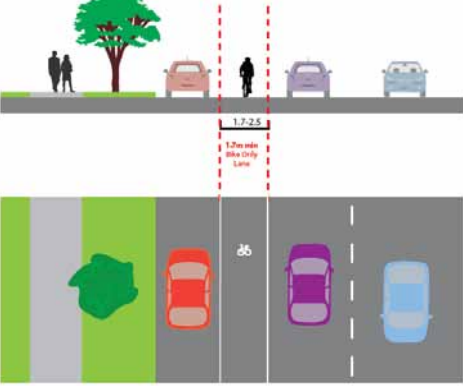

Appendix 1 – Detailed definition of path type

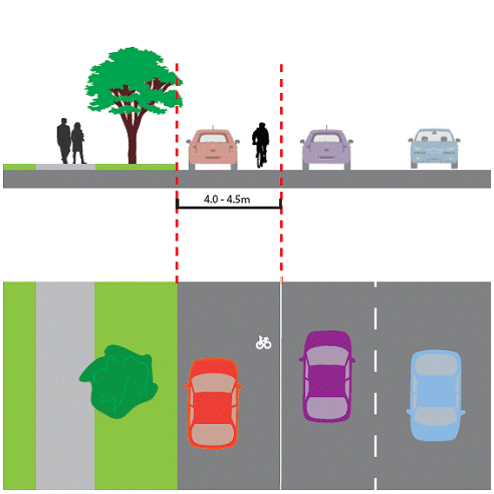

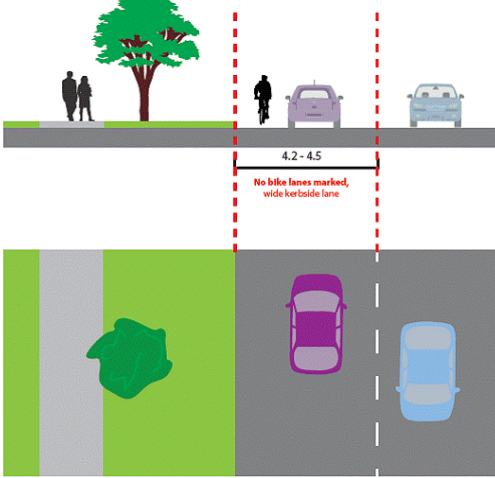

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Pedestrian Path	Footpath	Off-Road	<ul style="list-style-type: none"> For exclusive use of Pedestrians Allow Cyclists only under 12 years-old HIGH degree of separation All roads should have footpaths Width: 1.5m – 2.0m (Planning Scheme) 		
	Pedestrian trail	Off-Road	<ul style="list-style-type: none"> For exclusive use of Pedestrians Cyclist only under 12 years-old Run along water bodies, linear tracks and in a nature environment Link neighbourhoods into the existing walking and cycling networks HIGH degree of separation Footpath width: 1.5m – 2.0m (Planning Scheme) Minimum width of 2.5m for shared path, see specifications below 		

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Shared path	Shared path (Nature environment)	Off-Road	<ul style="list-style-type: none"> • Pedestrians and cyclists share the path, bicycle users must give way to pedestrian path users • Path can be lined marked or not • Paths would be signed • Run along parks, rivers, railways, etc • HIGH degree of separation of separation of pedestrians/cyclists from vehicles, but MEDIUM degree of separation between pedestrians and cyclists • Width: 2.5m – 4.0m (Cycle Notes No.21) 		
	Shared path (Built-up environment)	Off-Road	<ul style="list-style-type: none"> • Pedestrians and cyclists share the path, bicycle users must give way to pedestrian path users • Paths would be signed as shared paths • HIGH degree of separation of separation of pedestrians/cyclists from vehicles – care must be taken at intersections and designed to minimise vehicle crossovers (driveways) • MEDIUM degree of separation between pedestrians and cyclists • Width: 2.5m – 4.0m (Cycle Notes No.21) 		<p>Grand Bvd, Craigieburn</p>

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Separated path	Separated One-way or Two-way path	Off-Road	<ul style="list-style-type: none"> • Pedestrians and cyclists are separated • Paths would be signed as shared paths • HIGH degree of separation between pedestrians and cyclists • HIGH degree of separation of separation of pedestrians/cyclists from vehicles – care must be taken at intersections and designed to minimise vehicle crossovers (driveways) <p><u>One way: Separated footpath and bicycle path</u></p> <ul style="list-style-type: none"> • Minimum width total: 3.0m • Desirable minimum Width Footpath: 1.5m • Desirable minimum width bike lane: 1.5m (Austroads Part 6A) <p><u>Two way: Separated footpath and bi-directional bicycle path</u></p> <ul style="list-style-type: none"> • Desirable minimum width total: 4.5m • Desirable minimum width Footpath:2.0m • Desirable minimum width dual bike lane:2.5m (Austroads Part 6A) 	 <p><i>Standard Separated Path</i></p>  <p><i>Two-way bike traffic on separated path – for high volumes of pedestrian and bicycle traffic</i></p>	  <p><i>O’Hea St, Moreland (bi-directional bike path adjacent to footpath)</i></p>

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Bicycle path	Separated Bike Lane	Can be either On-Road (separated by buffer), or Off-Road	<ul style="list-style-type: none"> For exclusive use of Cyclists One-way bicycle traffic Requires minimum 0.5m buffer zone from traffic HIGH degree of separation Desirable Width: 2.0m – 2.50m, includes buffer 0.5 (Cycle Notes No.7) 		<p>Swanston St, Melbourne</p>
	Separated Bi-Directional Bike Lane	Can be either On-Road (separated by buffer), or Off-Road	<ul style="list-style-type: none"> For exclusive use of Cyclists Two-way bicycle traffic Requires minimum 0.5m buffer zone from traffic HIGH degree of separation Desirable Width: 3.0m – 3.50m (Cycle Notes No.7) Width: 2.5m – 4.0m (Austrads Part 6A) 		<p>Fitzroy St, St Kilda</p>

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Bicycle path	Exclusive Kerbside Bike Lane	On-Road	<ul style="list-style-type: none"> For exclusive use of Cyclists One-way bicycle traffic HIGH degree of separation Desirable Width: 1.7m – 2.50m (Cycle Notes No.7) 		
	Exclusive Bike Lane with Parking adjacent	On-Road	<ul style="list-style-type: none"> For exclusive use of Cyclists One-way bicycle traffic HIGH degree of separation Desirable Width: 1.7m – 2.50m (Cycle Notes No.7) 		 <p><i>Albert Rd, South Melbourne</i></p> <p><i>Dandenong Rd, Dandenong</i></p>

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Bicycle path	Widened Parking Lane	On-Road	<ul style="list-style-type: none"> Cyclists ride next to parked cars and share a wider left traffic lane with them. MEDIUM degree of separation <p>Limitations: Cyclists can feel squeezed and there is often not enough of a buffer zone between cyclists and car doors. Employ a wider width to allow more room to clear the “door zone”.</p> <ul style="list-style-type: none"> Desirable Width: 4.0m – 4.50m (includes parking requirement) (Cycle Notes No.7) 	 <p>The diagram shows a side view of a road with a tree on the left, a pedestrian, a cyclist, and a car. A dimension line indicates a 4.0-4.5m width between the tree and the car. Below it, a top-down view shows a green area, a red car, a cyclist, a purple car, and a blue car.</p>	 <p>Two photographs showing a road with a white bicycle symbol painted on the pavement. The top photo shows a car parked next to the marking, and the bottom photo shows a road with a clear lane and a cyclist.</p>
	Wider kerbside Bike lane	On-Road	<ul style="list-style-type: none"> Cyclists ride in a wider left traffic lane sharing with vehicles. LOW degree of separation <ul style="list-style-type: none"> Desirable Width: 4.2m – 4.5m (Cycle Notes No.7) 	 <p>The diagram shows a side view of a road with a tree on the left, a pedestrian, a cyclist, and two cars. A dimension line indicates a 4.2-4.5m width between the tree and the first car. A red note below the dimension line says "No bike lanes marked, wide kerbside lane". Below it, a top-down view shows a green area, a purple car, and a blue car.</p>	 <p>A photograph showing a cyclist in a yellow jacket riding in a wide lane next to a line of cars on a road.</p>

Type of path	Name of path	On/Off Road	Description & design characteristics	Typical cross Section	Picture
Bicycle path	Shared Bike / Parking lane * NOT ACCEPTABLE	On-Road	<ul style="list-style-type: none"> • Cyclists ride in the parking lane, but are forced into the traffic lane when a car is parked in the lane • LOW degree of separation <p>Limitations:</p> <ul style="list-style-type: none"> • Parked cars take up the bike lane forcing cyclists merge into traffic lane • These do not meet best practice standards as drivers might not be expecting cyclists to merge into traffic lane. • Width: 2.0m (Parking lane width) 		

Appendix 2 – Path network hierarchy

Group	Name	Description	Responsibility	Group
<p>CHILDREN</p> <p>FAMILY GROUPS</p> <p>TRAINING</p> <p>RECREATION</p> <p>COMMUTING</p>	PBN (on-road)	<p>The Principal Bicycle Network (PBN) is a network of cycle routes that provide access to key destinations within the Melbourne metropolitan area.</p> <p>The PBN was primarily concerned with on-road bicycle infrastructure (mostly bicycle lanes on arterial roads) , however, the PBN is currently under review and now has a focus more on:</p> <ul style="list-style-type: none"> - increased use of local roads - increased use of off-road paths (in some cases utilising the MTN, railway corridors and nature reserves) - more 'destination-focused', connecting activity centres, Central Activity Districts and the CBD to their cycling catchments - design principle of maximising separation between cyclists and motorists, as well as other priority treatments 	<p>VicRoads</p> <p>(Council to identify projects, plan and advocate)</p>	
	MTN & PBN (off-road)	<p>The Metropolitan Trail Network (MTN) is a network of recreational routes in metropolitan Melbourne, largely consisting of shared pedestrian bicycle paths.</p> <p>The majority of routes on the MTN are off-road, but there are a number of short sections of on-road routes that link sections of off-road paths.</p> <p>While the primary function of the MTN is to provide for recreational use, there are a number of routes that are popular with commuter cyclists as well. These routes can serve an arterial cycling function. The MTN is also integrated with the Principal Bicycle Network.</p>	<p>Parks Victoria has the primary responsibility for coordinating the development of the MTN</p> <p>VicRoads and local councils may fund and implement MTN projects on land they manage.</p>	<p>COMMUTING</p> <p>RECREATION</p> <p>TRAINING</p> <p>FAMILY GROUPS</p> <p>CHILDREN</p>
	Local Networks	<p>Consist of local routes that link neighbourhoods, these can be on or off-road. They provide access to parks, schools, housing, jobs and link into the PBN and MTN networks.</p>	Council	

CYCLING USERS

WALKING USERS