Heart Foundation®

Healthy by Design®

A guide to planning and designing environments for active living in Tasmania

Foreword

Through the work of the Tasmanian Government and the Premier's Physical Activity Council, I am committed to creating a community where all Tasmanians are physically active as part of their everyday lives. An increase in physical activity levels will provide physical and mental health benefits to community members while also providing economic, environmental, social and health benefits to the whole of Tasmania.

The Tasmanian Physical Activity Plan, 'LIVE LIFE get moving', identifies the development of built and natural environments that encourage physical activity as an important factor in creating a more active Tasmania. For this reason the Tasmanian Government is proud to have supported the development of the *Healthy by Design*® guidelines.

These guidelines will play an important role in assisting Tasmanian communities to create environments that support physical activity. I encourage you to use these guidelines to help your community and our state to 'get moving'.

David Bartlett
Premier of Tasmania

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Tasmania
Explore the possibilities

A message from the Planning Institute of Australia (Tasmanian Division)

Tasmanians have access to some of the best passive recreational opportunities and natural environments within Australia. However, as a community we often underestimate the importance of creating opportunities within our urban environment to improve our physical and mental wellbeing.

Planners are well aware of the effects that our urban areas have on our physical and mental health. However, in the absence of any policy or direction within the Tasmanian context, the profession in its day-to-day work is often forced to overlook the health implications of our urban planning decisions due to more immediate planning and economic pressures.

We believe that these guidelines will provide a resource and confidence for our planners, particularly those in local government, to address the health implications of our planning decisions.

The more that planners address these issues, the closer we get towards regulatory changes that formally recognise the importance of placing a high priority on health issues in our planning decisions.

The importance of creating an urban environment that encourages walking, cycling, social interaction and other physical activity in a visually stimulating and attractive manner cannot be underestimated. It will improve the wellbeing of our community and help to foster a prosperous economic future for Tasmania.

The Tasmanian Division of the Planning Institute of Australia congratulates both the Heart Foundation and the Premier's Physical Activity Council for their foresight in preparing these guidelines and look forward to healthy, liveable and prosperous communities.

Emma Riley
President, Planning Institute of Australia (Tasmanian Division)

A message from the Heart Foundation (Tasmania)

The Heart Foundation (Tasmania) has embraced the opportunity to join the Premier's Physical Activity Council in developing customised *Healthy by Design®* guidelines for our state. Following the success of *Healthy by Design®* in Victoria, we are eager to engage in the discussion these guidelines will bring, and to partner with a range of professionals who have responsibility for planning and designing our built environment.

Healthy by Design®. A guide to planning and designing environments for active living in Tasmania is all about people. It is about our health, the communities in which we live, and our ability to move about on foot or bike for leisure or transport. These research-based guidelines aim to assist planners, urban designers and associated professionals by bringing focus to the aspects of the built environment that encourage people to walk and cycle as part of daily life.

The implications for a state that can accomplish this are significant. This resource demonstrates that when we integrate planning with health, a range of health, social, economic and environmental benefits will follow. Well planned and designed communities that increase the ability of people to walk or cycle to shops, schools, parks, services and public transport contribute to the creation of physically active and socially vibrant communities. This is especially critical as regular physical activity is an important means of preventing a range of chronic diseases, including coronary heart disease.

The Heart Foundation (Tasmania) is delighted to have been involved in the development of this resource, which we hope will help enhance your planning and design practice and result in the creation of healthy and active communities.

Graeme Lynch
CEO, Heart Foundation (Tasmania)

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Healthy by Design® includes design considerations and case studies to support professionals and other people who have a role in the planning, design and development of the built environment used for walking, cycling and similar activities.

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Introduction

Healthy by Design®. A guide to planning and designing environments for active living in Tasmania aims to assist planners, urban designers and related professionals to design a built environment that enables people to incorporate incidental physical activity—such as walking and cycling for transport—into their daily routine.

This resource has wide application to the planning and design of the public realm. It contains discrete chapters on design considerations, evidence, tools and case studies that can be referred to and applied to a variety of settings. The strategies within this reference document apply to Tasmania's urban environments, but also address Tasmania's unique characteristics such as its broad open spaces and hilly topography that influence physical activity on a daily basis.

Healthy by Design® aims to support professionals who have a role in the planning, design, development and maintenance of the public domain. These professionals include, but are not limited to:

- local and state government planners
- private planners
- planning consultants
- developers
- urban designers
- civil engineers
- road and traffic engineers
- landscape architects
- land managers
- land surveyors
- health planners
- elected representatives in local and state government.

The guidance provided here makes it easier for planners and related professionals to incorporate design considerations that will have a positive impact on the health and wellbeing of Tasmanians in their daily planning decisions.

Healthy by Design® is produced by the Heart Foundation (Tasmania) and the Premier's Physical Activity Council.

Background

Initially developed in Victoria with support from the planning, transport, recreation, health and community building sectors, *Healthy by Design®* draws on 10 years of Heart Foundation research into providing tools to assist in planning and implementing urban design that promotes active living.

Healthy by Design®: A planners' guide to environments for active living was released in Victoria in 2004 and won a Planning Institute of Australia (Victoria) Award for Planning Excellence. This Tasmanian edition of *Healthy by Design®* is also underpinned by the Supportive Environments for Physical Activity (SEPA) project initiated by the Heart Foundation, which has worked in close partnership with local and state government in progressing environments that support active living.

The Heart Foundation encourages urban planners and designers, transportation planners and the wider land development industry to prioritise the needs of pedestrians, cyclists, public transport users and recreational walkers when designing and redesigning residential environments.[1]

The Heart Foundation has also collaborated with the Australian Local Government Association and the Planning Institute of Australia to develop *Healthy Spaces and Places*—a national guide for planning, designing and creating sustainable communities that encourages healthy living (see www.healthyplaces.org.au). *Healthy Spaces and Places* presents a complementary set of guidelines to those of *Healthy by Design®*, which is differentiated by its state-specific focus.

How to use this resource

The focus of *Healthy by Design*® is the public domain—the public spaces of our cities, towns and municipalities. It includes walking and cycling routes, streets, open spaces, parks and urban spaces. *Healthy by Design*® contains a wide range of strategies that cater for the diversity in local government areas and their individual capacity to address environments for active living. Using it as a reference document, planners, designers and related professionals can select specific design considerations and detailed strategies that best suit the needs of each individual planning project.

Healthy by Design® may be used as a tool for:

- assessing retrofitting opportunities in public spaces
- preparing plans (such as open space master plans)
- influencing planning scheme provisions
- assessing development proposals
- influencing strategic directions of state and local government
- embedding supportive environments for physical activity into Council Strategic Plans
- ongoing development and enhancement of the public realm
- developing design guidelines or checklists
- designing proposed developments
- developing innovative built-environment projects
- educating tertiary students—including engineers, health planners, urban planners and designers, recreation officers and landscape architects
- educating the community—including local government councillors—about the ways in which development decisions influence active living.

This Tasmanian edition of *Healthy by Design*® has a particular emphasis on 'retrofitting'. In the context of these guidelines, retrofitting refers to the installation of new or improved infrastructure or undertaking of additional works to existing structures within the built environment to enhance opportunities to engage in physical activity.

Retrofitting strategies have been incorporated throughout each of the 'Planning and design considerations' detailed in *Healthy by Design*®. They have been referenced with an '**R**' (retrofitting) or '**N/R**' (new development and retrofitting) so they may be easily identified and incorporated into local government strategies and plans for revitalising public places. Strategies referenced with '**N**' are applicable primarily to 'new development'.

A number of case studies within these guidelines illustrate retrofitting projects that are currently underway in Tasmania. They include retrofitting open space areas, city centres and main streets in small towns; modifying existing roads to provide bike lanes; improving linkages between urban streets recreational tracks and other facilities; and retrofitting a railway easement to provide an intercity cycleway.

An integral element of *Healthy by Design*® is the 'Implementation' section towards the end of the document. Local and state government planners and designers in particular have the scope to draw together relevant professionals and ensure environments that support active living are planned from the outset.

You can find an action checklist, which can be used as a quick reference tool, on page 66.

The need for environments to support active living

Tasmania's current health status

Population health underpins the social and economic wellbeing of a community. Tasmania currently ranks poorly against the national average on many measures of health. Tasmania has higher rates of cardiovascular disease and preventable risk factors—including obesity and smoking—than the Australian average. Indications are that these trends will continue into the future.[2]

In 2004 the total cost of cardiovascular disease alone in Tasmania was $322 million. Of the total cost, 36% was borne by the Commonwealth Government, 8% ($26 million) by the Tasmanian Government and 56% by the non-government sector. In addition, the value of suffering and premature death (the burden of disease) was estimated at $2.4 billion.[3]

Up to 80% of coronary heart disease, 90% of type 2 diabetes and up to 34% of cancers could be prevented by increasing tobacco control, and encouraging the consumption of healthy foods, maintenance of healthy weight and increased physical activity levels in the community.[4]

Relationship between health and the physical environment

Physical inactivity doubles the risk of cardiovascular disease, type 2 diabetes and obesity, and increases the risk of breast and bowel cancer.[5] In addition, engaging in physical activity has been shown to alleviate depression and anxiety and increase social interaction and integration.[6] Being outdoors and active in the public domain also increases social connectedness, builds social capital, creates a sense of community safety, and can help to address climate change by minimising private vehicle travel.

Tasmania's health fact file

- Tasmania has the second-highest rate of cardiovascular disease in Australia. In 2004 an estimated 86,000 Tasmanians were living with the disease (17.9% of the population), projected to increase to over 134,000 Tasmanians by 2051 (27.6% of the population).[7]
- Tasmania had the second-lowest life expectancy for all states and territories for the period 2002–2004. Cardiovascular disease and cancer were the top two causes of death.
- Mortality rates for cardiovascular disease, cancer and diabetes were significantly higher than the Australian average.[8] Risk factors that increase the likelihood of these conditions include insufficient physical activity, unhealthy eating, smoking and obesity.
- Research in Tasmanians has shown that:
  - 71.7% aged 15 years and older are not sufficiently physically active (72.2% for 18 years and older)
  - 87.3% aged 15 years and older do not have adequate fruit and vegetable intake (88.8% for 18 years and older)
  - 23.9% aged 15 years and older smoke (24.9% for 18 years and older)
  - 37.2% aged 18 years and older are overweight and 26.7% are obese, using measured body mass index.[9]

The built environment can hinder or help an individual to be more active and healthy. In recent decades the segregation of land uses and activities, the huge emphasis on facilitating private vehicle travel and the scaling back of public transport—along with technological and wider social changes—have resulted in less daily walking and cycling. Incidental activity can also be achieved through engaging in outdoor activities in open spaces, such as community gardening, urban conservation work and play.

Healthy by Design® provides a foundation to shift these trends so that well-integrated and accessible public transport, walking and cycling routes are provided to enable people to be more active in their daily lives. With Tasmania's population ranking as the oldest in the country, keeping people healthy and active across all life stages is vital to reduce the strain on the state's health services.

Active living and climate change

Two of the largest challenges we will face in coming decades are climate change and increasing fuel prices.

Current status

- Transport is the second-largest producer of greenhouse gas emissions in Tasmania, contributing around 21% of Tasmania's overall emissions in 2007.[10]
- Transport emissions have grown by more than 12% since 1990.[10]
- Road transport contributes 92% of transport greenhouse gas emissions in Tasmania, with cars being the largest contributors.[10]
- Greenhouse gas emissions by cars have grown by 21% Australia-wide since 1990 and are expected to rapidly increase without any form of active intervention.[10]

Future projections

- Tasmania has a legislated target to reduce greenhouse gas emissions to at least 60% below 1990 levels by 2050.[11]
- Continuing growth in travel demand means that a shift to lower-emission transport modes such as walking, cycling and public transport will be necessary to avoid increasing emissions further.

Walking, cycling and public transport generally produce fewer emissions than private vehicle travel.

The built environment, such as buildings and roads, is also a major source of emissions. These emissions are generated through the use of energy in buildings, e.g. air conditioning, heating and lighting, or energy to produce concrete and other products used in construction. Lower-emission modes of transport such as walking, cycling and public transport often require less infrastructure than other higher-emission modes of transport, thereby contributing to a cleaner and greener environment. For these reasons it is important to consider the relationship between climate change, the built environment and modes of transportation.

Providing infrastructure to support the lower-emission transport modes makes a contribution towards improving air quality, reducing greenhouse gas emissions and moving towards a more sustainable environment. Facilities that make it easier for the community to use lower-emission modes of transport (such as shower facilities in workplaces, for instance) should also be encouraged.

The Tasmanian context

Tasmania has some unique characteristics that influence the planning and design of environments for active living. Some Tasmanian towns feature heritage buildings or precincts where the existing built fabric must be retained. Tasmania also has a relatively small and dispersed population. In most parts of the state, development occurs at a slow rate and to a small scale compared with mainland Australia. Many local governments in Tasmania are relatively small, with limited resources.

Tasmania's climate and topography also influence the planning and design of environments for active living. The cool climate and often hilly topography are sometimes cited as factors discouraging physical activity. However, most of the state has a benign climate in comparison with other Australian states, where extreme summer heat or winter cold can make outdoor activity unpleasant.

Many easy-grade walking and cycling routes can be found in Tasmanian cities and towns. A good example is the increasing number of cycle and pedestrian routes being constructed along foreshores or disused railway easements for recreation or active transport.

With an increasingly ageing population in Tasmania, active transport options for older people will grow in demand. For those who find inclines difficult or who are unable to walk longer distances, additional public transport options will assist. For example, public transport stops at the base of a steep descent will provide the option to walk downhill and ride the bus uphill.

Integrated planning and the role of government

Local government planners play an essential role in planning or revitalising public spaces that encourage activity in daily life. Considering Tasmania's unique characteristics, it is important for local governments to plan ahead, make the most of small, incremental developments, use resources wisely and place greater emphasis on retrofitting.

To ensure the strategies detailed in *Healthy by Design®* are sustainable and are embedded into planning practice for years to come, it is essential that local government incorporates these strategies into local area plans and the council strategic plan. Ultimately, strategies need to be incorporated into higher-level state planning policy — policy that clearly recognises the importance of health, physical activity and wellbeing, opportunities for active transport and good urban design for pedestrians and cyclists.

Successful integration of *Healthy by Design®* into planning policy relies on a shared vision between local and state government, extending to external stakeholders. An integrated approach to planning for healthy built environments involves a range of players, across planning, design, engineering, recreation, health and community sectors.

Although the strategies in these guidelines fall primarily within the scope of planning and design professionals, health and community planners play a key role in helping to ensure that planning decisions are informed by community views.

Within local government, engaging internal business units that have a role to play in implementing *Healthy by Design®* principles will provide a base for integrating the shared vision through council policies and plans. The establishment of an Integrated Planning Reference Group may be a starting point to bring together internal stakeholders. Identifying commonalities between *Healthy by Design®* and existing council plans and strategies—in addition to those of state government and external stakeholders—will help to clarify the strategies required. By incorporating these strategies into both council policy and the planning scheme, the process of planning for pedestrians and cyclists will be simplified. This will lead to plans being more easily regulated when negotiating with private developers (see 'Implementation' on page 62 for further local and state government actions).

Retrofitting

What is retrofitting?

In the context of these guidelines, retrofitting refers to the installation of new or improved infrastructure or the undertaking of additional works to existing structures within the built environment to enhance opportunities for people to engage in physical activity. Retrofitting generally occurs within brownfield sites that are undergoing a change of use, an intensification of use (densification of housing), or redevelopment (provision of additional or improved infrastructure).

Which aspects of the built environment can be retrofitted?

Retrofitting can take place at a specific site (micro-level) within a neighbourhood, such as through the construction of a shared linked pathway in a park, or at a metropolitan level (macro-environment) through the expansion of public transport networks and infrastructure. Components of the built environment that can be retrofitted include public open space, road networks, city precincts and main streets in small towns.

Why is retrofitting important in Tasmania?

- Tasmania's generally dispersed population makes retrofitting a more appropriate and equitable response than a focus on new development that occurs in only a few growth areas.
- Resources to develop new areas or implement substantial renovations to existing areas are limited, especially at local government level and in small towns and villages.
- Tasmania's pace and scale of development is generally slower and on a smaller scale than mainland Australia.
- Scope exists within many areas to improve the opportunities for physical activity without major redesigns of the built environment.
- Many parts of Tasmanian cities and towns have important heritage buildings or heritage precincts where the existing built fabric must be retained.
- Public transport options in Tasmania are currently limited to bus transport and a few ferries. Improvements in bus transport, cycling and pedestrian routes generally involve retrofitting rather than the provision of new infrastructure.

How does one go about retrofitting?

The following principles may be used to guide retrofitting initiatives.

- Acknowledge and embrace existing movement patterns and behaviour by identifying desire lines, well-utilised services and facilities, focal points and areas where people informally congregate.
- Successful retrofitting may be associated with small, localised initiatives and does not necessarily need to involve large-scale refurbishment or replacement of existing infrastructure (e.g. inclusion of street furniture, signage).
- To streamline the retrofitting process, promote the existing infrastructure to encourage greater use and increased opportunities for people to be physically active.

Retrofitting strategies in *Healthy by Design®*

Retrofitting strategies have been incorporated throughout each of the 'Planning and design considerations' detailed in *Healthy by Design®*. They have been referenced with an '**R**' (retrofitting) or '**N/R**' (new development and retrofitting) so they may be easily identified and incorporated into local government strategies and plans for revitalising public places. Strategies referenced with '**N**' are applicable primarily to 'new development'.

A number of case studies within these guidelines illustrate retrofitting projects that are currently underway in Tasmania. They include retrofitting open space areas, city centres and main streets in small towns; modifying existing roads to provide bike lanes; improving linkages between urban streets, recreational tracks and other facilities; and retrofitting a railway easement to provide an intercity cycleway.

The following planning-related strategies may be considered prior to undertaking more specific retrofitting initiatives:

- engage with existing users and stakeholders during the planning, monitoring and review stages of retrofitting initiatives
- prioritise retrofitting of infrastructure, sites and facilities that are accessible by public transport, can satisfy diverse needs, can be linked through shared pathways, lead to local destinations and incorporate points of interest
- understand the needs and desires of existing and potential users by preparing a community profile; consider incorporating a travel behaviour-change program to encourage uptake.

Land use planning

Land use planning plays a significant role in constraining or encouraging physical activity in communities. Local, regional and state plans, and particularly planning schemes, should require the development of environments that enable people to walk and cycle in safety and with ease as part of daily life.

The land use planning decisions of the past have resulted in high motor vehicle dependency, segregated land use, disconnected streets, low residential density and limited public transport services. These neighbourhood characteristics are associated with low levels of walking.[12]

Healthy by Design® addresses the significant social and environmental impacts of such development through a series of design considerations and associated strategies. The strategies detailed here aim to create higher residential densities with mixed-use zoning (combining residential and commercial uses), interconnected streets and access to public transport. Implementation strategies can result in precincts that are more liveable and provide greater opportunities for walking and cycling.

The reservation of land designated for public open spaces is also necessary to achieve this. Public open spaces provide a range of recreational and through-way opportunities for residents and visitors, in addition to contributing to the liveability and appeal of a municipality or subdivision. For subdivisions, upholding a minimum of 5% public open space contribution (and preferably seeking more) is recommended to ensure opportunities for physical activity are planned from the outset in the best possible location.

The strategies outlined in *Healthy by Design*® are consistent with walkable communities, where in urbanised areas people have the opportunity to walk no further than 500 metres to a local park (see 'Open space' on page 36). For local government, upholding this allocation in each subdivision—rather than negotiating a cash allocation to be invested in open space elsewhere—is necessary and vital. This will ensure equitable distribution of open space in each subdivision, providing easy walking access for most people. Local government, in negotiation with developers, can begin to improve the health as well as social and economic viability of each subdivision

by ensuring an allocation of **quality** open space. The more attractive and useful the land is for recreation and leisure, and as a point of interest to walk to, the more buy-in and appeal developers will attract for the area.

The Tasmanian Government has produced a *Compendium of State Interest* designed to support regional and local-level planning and explain matters to be considered in the preparation of planning schemes.

In respect of open space, key elements of the compendium are that:

- legislation provides for allocation of public open space in subdivision development
- planning schemes should incorporate provisions for the allocation of public open space
- councils should prepare open space strategies to specify the public open space contributions expected from subdividers.

Recreation plans prepared by councils consider the sport, recreation and physical activity needs of communities and help guide the provision of settings, services and programs to support participation.[14]

It is important to recognise that *Healthy by Design®*, open space strategies and recreation plans are complementary, and important informants to planning for active environments.

The 'Implementation' section of these guidelines includes detailed actions that demonstrate how *Healthy by Design®* principles can be incorporated into land use plans, strategies and policies. These actions expand on the following key strategic planning issues: structure plans, transport planning, settlement strategies, planning schemes and regulation of development.

This information highlights the importance of land use planning in implementing *Healthy by Design®* principles and offers guidance for local government and the development sector to assess the extent to which design solutions encourage active living.

State government projects

The state government is currently undertaking several key projects that will influence transport and land use planning outcomes. These projects include the:

- Regional Land Use Strategy for Tasmania's three regions (Department of Justice)
- Tasmanian Urban Passenger Transport Study (Department of Infrastructure, Energy and Resources, or DIER)
- Tasmanian Passenger Transport Framework (DIER).

The Tasmanian Urban Passenger Transport Study includes the development of a Draft Tasmanian Transport Walking and Cycling Strategy. The strategy sets out actions that provide a starting point from which we can ensure that our transport and land use systems create a more supportive and encouraging environment for pedestrians and cyclists.

The Tasmanian Passenger Transport Framework provides the direction to shape our future for sustainably moving people and creating liveable and well-connected urban communities. In developing the framework, the government is focused on improving outcomes in the following key areas which complement *Healthy by Design*® strategies.

- **Liveable and accessible communities**—we need more compact, connected communities that integrate with existing public transport corridors, reduce overall distances travelled, and reduce car reliance through the provision of safe walking and cycling opportunities.
- **Healthy, active communities**—many car-based trips are short journeys. There is significant opportunity to substitute many car-based trips with walking and cycling.
- **Integrated transport and land use planning**—we need to ensure our land use decisions support our passenger transport system. While we cannot change the land use planning decisions of the past, we can make our existing metropolitan areas more sustainable.

Planning and design considerations

The objectives and design considerations in *Healthy by Design®* support and inform environments for active living. The following sections suggest optimal design approaches that encourage active living in the areas of:

- walking and cycling routes
- streets
- local destinations
- open space
- public transport
- supporting infrastructure
- fostering community spirit.

In planning and designing for active environments, it is important that the following principles and values are incorporated:

- **safety and security**—using the principles of Crime Prevention Through Environmental Design (see *Designing Out Crime, Designing in People: A guide for safer design by Launceston City Council*[15]).
- **accessibility**—the ability of people to safely access places, goods and services using an acceptable amount of time, cost and ease; it also refers to enhancing access for the mobility-impaired and linking destinations
- **diversity**—responding to the social and cultural needs of our diverse communities
- **equity**—fairness and justice, where resource distribution is guided by community need; it aims to create equal opportunities for physical activity and its associated benefits
- **social connectedness**—the importance of fostering community spirit and wellbeing.

Walking and cycling routes

A well planned and designed network of walking and cycling routes allows people to travel safely and with ease, whether on foot, bike or other off-road wheeled transport. 'Walking and cycling routes' includes a well-connected network of footpaths along streets, shared paths for pedestrians and cyclists, and paths for commuting, recreation and leisure.

Planning and design considerations

Objective

To provide an integrated, accessible network of off-road walking and cycling routes and footpaths for safe, convenient and pleasant travel to local destinations and points of interest.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Make connections

- Plan walking and cycling routes that provide variety, offering both direct and leisurely paths. N/R
- Make routes between destinations as direct as possible to encourage commuting by active forms of transport. N/R
- Provide route continuity through local streets, linking footpaths with shared paths and providing safe access through road closures and cul-de-sacs. (Where retrofitting connections, also refer to Crime Prevention Through Environmental Design principles in *Designing Out Crime, Designing in People: A guide for safer design by Launceston City Council*[15]). R
- Conduct an audit of road closures and cul-de-sacs that may prevent pedestrians and cyclists travelling to key destinations in a direct path of travel. Prioritise these areas as potential projects to provide through-access for pedestrians and cyclists. Remove obstructions, reassess the need for and design of existing street furniture, bridge gaps and connect existing scattered routes. R
- Create walking and cycling routes linking major work and retail centres, community services and residential areas to encourage commuting by active forms of transport. N/R
- Create walking and cycling routes that link to bus stops, local destinations and popular focal points, such as shops, schools, parks and residential areas. (See 'Implementation' on page 62 for information about zoning to support these outcomes.) N/R
- Situate walking and cycling routes along linear features to maximise linking potential along easy grades, for example disused railway easements and reserves along watercourses. N/R
- Achieve clear and safe connections through signage, landscaping, lighting and edge treatments. N/R

Cycling South is a joint venture of the five councils in the southern metropolitan area of Tasmania—Hobart, Glenorchy, Clarence, Brighton and Kingborough. Also represented on the Committee of Management is the state's bicycle advocacy group, Bicycle Tasmania. Cycling South aims to encourage increased recreational and transport use of bikes. The member councils are all working towards developing and improving cycling infrastructure, such as pathways, bike lanes, sealed shoulders and end-of-trip facilities. Cycling South continues to develop programs that encourage more people to enjoy riding their bikes and it plays an advocacy role for cycling at all levels of government. Cycling South is a good example of the effectiveness of collaboration for the planning of extensive cycling networks. See www.cyclingsouth.org.

Create stimulating and attractive routes

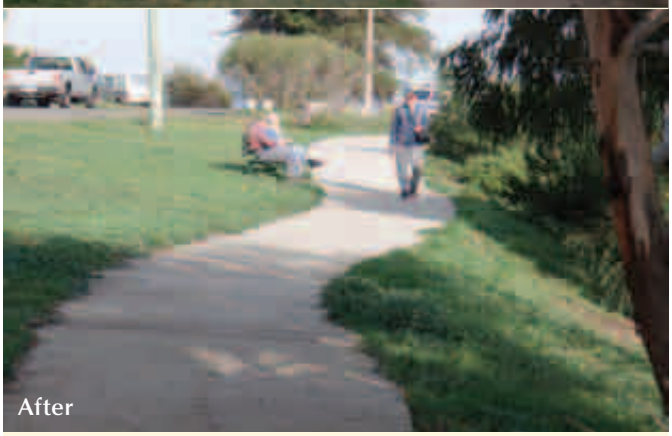
- Design walking and cycling routes to and around local landmarks and points of interest. N/R
- Encourage engagement with the built and natural environment by incorporating points of interest, such as art, sculptures or historical interpretation. N/R
- Complement walking and cycling routes with trees for aesthetic enhancement and shade, and to increase attractiveness of routes. Involve community groups and schools to collaborate with local government open space planning departments to develop walking route maps highlighting areas of interest. N/R
- Replace surfaces that are vulnerable to vandalism and antisocial behaviour with those that are not conducive to graffiti, are vandal-proof and easy to clean and maintain. R
- Enhance existing routes by creating an attractive microclimate—for example shade in summer, sun in winter and shelter from winds. Assess the need for street tree planting, shade structures, street furniture and amenities. R
- Maintain walking and cycling routes to a high standard to ensure continuous, accessible paths of travel. R

Intercity Cycleway, Hobart
Developed through collaboration between Hobart and Glenorchy City Councils and TasRail, the Intercity Cycleway provides a shared walking and cycling route along a redundant railway easement. It is a good example of a successful combined commuter and recreation route. See 'Case studies' on page 54 for more information.

Tasman Bridge access for bikes and pedestrians
A new path was created to improve access to the Tasman Bridge from Lindisfarne. The embankment was cut into to provide for a 2.2 metre wide shared path that links to the bridge. It will allow cyclists exiting the bridge to avoid crossing the road where sightlines are poor. This project demonstrates the effectiveness of incremental works.

Create safe and functional routes

- Maximise the choice and availability of amenities along key walking and cycling routes—such as seating, toilets, drinking fountains, bicycle parking, dog waste disposal bins. N/R
- Conduct a walking and cycling site assessment to ensure clear sightlines along walking and cycling routes. Assess the need for more appropriate landscaping, low walls or permeable fencing, mirrors and effective lighting. Avoid blank walls and solid fencing. R
- Maintain clear sightlines along walking and cycling routes using low vegetation (up to 70 cm) and clear-stemmed trees (up to 2.4 metres). Ensure an ongoing maintenance process is in place. R
- Encourage those involved in maintenance of public infrastructure to identify opportunities for retrofitting on an ongoing basis. R
- Provide good lighting along routes where night use is encouraged, consistent with Crime Prevention Through Environmental Design principles. N/R
- Create places for people to walk where they can be seen by cyclists, other pedestrians, motorists and nearby residents. Avoid tunnels and underpasses that limit visibility. N/R
- Position walking and cycling routes so that people using the path can be seen by people in dwellings and other buildings. N/R
- Categorise recreational walking tracks according to Australian Standard AS 2156 and design tracks accordingly. N
- Include bicycle parking and lock-up areas at strategic points along walking and cycling paths, and appropriate end-of-trip facilities at major destinations. N/R



Clarence Foreshore Trail—Bellerive Bluff
This shared pathway along the foreshore around Bellerive Bluff links to the Kangaroo Bay ferry terminus. It provides an option for residents to walk or cycle to Bellerive and catch the ferry to Hobart. A missing section in the foreshore trail around Bellerive Bluff along Victoria Esplanade from Cambridge Rd to Abbott St is now complete. The 2.2 metre wide concrete path provides a good-quality surface for walkers and cyclists. Further landscaping works will be carried out to prevent debris from being washed onto the path after rain. New signage has also been installed at various locations along the Clarence Foreshore Trail between Geilston Bay and Howrah. The signs include distances to destinations.

Maximise accessibility of walking and cycling routes for all

- Provide footpaths on both sides of all streets. N/R
- Conduct regular inspections of route surfaces to assess risks and hazards. Keep paths clear, accessible and free of obstructions, such as vegetation and tree debris and obsolete or dysfunctional street furniture. Develop a maintenance regime to ensure vegetation does not overhang walking and cycling paths and restrict access for users. R
- Provide seating and amenities at regular intervals along walking routes. Locate seats in an easily accessible position, with space for people in wheelchairs to sit next to people on seats. N/R
- Design footpaths that meet the needs of all users. As a guide, paths should be wide enough to allow comfortable passage for people walking side by side, people in wheelchairs, people with prams, and learner cyclists. Design footpaths that are:
  - a minimum of 1.5 metres wide along collector or lower-order streets
  - a minimum of 2.5 metres wide along arterial roads and approach routes to predictable destinations such as schools, parks and shopping precincts. (Three-metre paths or wider are preferred to allow for greater contingency.) N
- Ensure gradients from footpaths to streets are minimal, safe and comfortable for people with limited mobility and those using wheelchairs, prams and trolleys. N/R
- Align gradients and ramps with desired paths of travel for pedestrians and cyclists. N/R
- Ensure a smooth transition from ramps to roads for people using wheelchairs or prams. Ramps should be at least as wide as the footpath or marked crossing point to eliminate squeeze points at transition areas. N/R
- Ensure continuous footpaths are generally uninterrupted by variation in surface material. N/R
- Create paths with gentle gradients and turns where the topography allows. Where feasible, keep gradients gentler than 1:14. N/R
- Ensure the pavement surface is non-slip, even, durable and low maintenance. N/R
- Provide protection from passing vehicles for people on footpaths:
  - provide a buffer (e.g. nature strip) of at least 50 cm between vehicles and pedestrians
  - use barrier kerbs rather than rollover kerbs to restrict car access. N/R
- Assess the need for public toilet provision or provide links and signage to existing toilets along routes. Ensure access for people in wheelchairs and baby change facilities. R

The Tangara Trail
A network of tracks from Five Mile Beach to South Arm. It comprises a main corridor intersected by many other tracks and offers over 80 connected kilometres of recreational trails through scenic coastal reserves and undulating semi-rural country. It is a good example of making linkages between existing tracks to create a broader network.[20] See 'Further resources' for Clarence City Council, Tangara Trail brochure.

Maximise legibility of walking and cycling routes

- Provide walking routes along predictable paths of travel. N
- Use signage to provide users with route descriptors including destinations, facilities and features. N/R
- Review existing signage along walking and cycling routes to ensure that it provides information relating to routes, availability and location of amenities, destinations, travel times and distances, and opportunities for the mobility-impaired. R
- Ensure routes lead to functional destinations and points of interest, and are conveniently located. N/R
- Use appropriate detailing to define route and assist way-finding. N/R

Provide shared paths to accommodate different modes of travel

- Retrofit walking paths, or design shared paths, to accommodate different modes of travel (including pedestrians, cyclists and horses) with different travel speeds. N/R
- Create shared paths wider than separate pedestrian or cycle paths and wide enough to allow comfortable passage for side-by-side walking and passing in opposite directions. N/R
- Ensure signs indicate that the path functions as a shared pathway, and include information for users on how to share paths safely. N/R

Promote walking and cycling routes

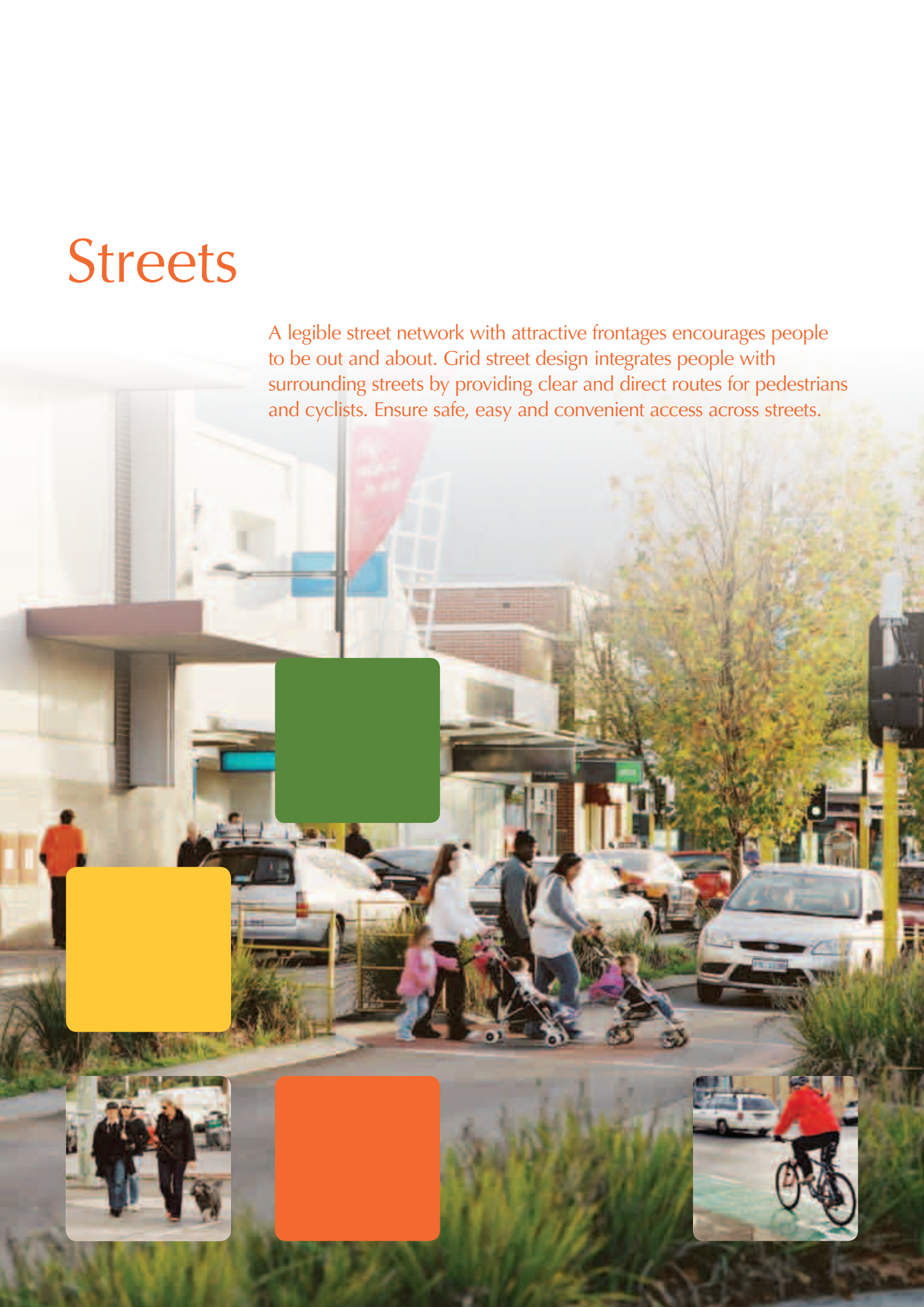
- Install pointer signs giving distance and walking and cycling times along routes. N/R
- Provide information on walking and cycling routes through local government websites and maps. N

Mussel Rock Riverfront Promenade, Devonport.
Located on the western shore of the Mersey River, this promenade features a 3 metre wide shared path, lighting, seating, viewing and fishing platforms and a new jetty extending to the Mussel Rock beacon, which provides a destination for recreational walkers and cyclists. It is linked to adjoining parks and the Torquay ferry terminal, from which a ferry connects the two sides of the Mersey.

Dover foreshore walking track
This track was developed by the Huon Valley Council in response to a community need for a safe and accessible walking trail connecting the foreshore areas of the town. Community groups provided advice for the project, which was funded by the Council, Sport and Recreation Tasmania, the Tasmanian Community Fund and local businesses.

Streets

A legible street network with attractive frontages encourages people to be out and about. Grid street design integrates people with surrounding streets by providing clear and direct routes for pedestrians and cyclists. Ensure safe, easy and convenient access across streets.



Planning and design considerations

Objective

To create functional and attractive street networks that provide safe and convenient travel for pedestrians to cross roads and for cyclists to travel along roads and maximise opportunities to engage in planned and incidental physical activity.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Slow traffic to encourage safe streets

- Advocate for a 30 km/hr speed limit for residential streets and in peak pedestrian areas, such as shopping precincts, schools and community facilities.[16,17] N/R
- Reduce and calm vehicle traffic to facilitate safe pedestrian and cyclist movement along residential and collector streets. N/R
- Incorporate traffic-calming measures to encourage more careful movement of motor vehicles—for example street tree planting, median islands, reduced corner radii, changes in road surfaces at entries to residential and mixed-use areas, narrow street entries and reduced length of driver line of sight. N/R
- Where possible, use alternatives to roundabouts for a safer pedestrian and cycling environment.[18] Where roundabouts exist, ensure pedestrian visibility and safe pedestrian movement with marked pedestrian crossings. N/R

Provide safe and convenient street crossings

- Maintain clear sightlines for pedestrians and cyclists, particularly at intersections, roundabouts and pedestrian crossings. R
- Assess whether existing pedestrian crossings are suitably located. R
- Provide pedestrian-operated lights in streets where traffic volumes during peak periods are an actual or perceived threat to pedestrian access and safety, particularly in relation to older people, children and people with impaired mobility. N/R
- Provide clearly marked zebra crossings in streets with lower traffic volumes to ensure convenient pedestrian movement and to control vehicle speed. N/R
- Ensure the standard provision of light-controlled pedestrian crossings along streets adjacent to shopping precincts, schools, childcare facilities, retirement villages, parks and other predictable pedestrian destinations. N/R
- Locate all crossings as close as possible to the direct line of travel for pedestrians and cyclists. N/R
- Set timing of crossing signals to the average walking speed of an older person. R

- Install audible crossing signals to provide safer crossing points for people with impaired vision. N/R
- Implement a maximum waiting time of one minute at pedestrian lights for convenience and to discourage pedestrians crossing before the green signal. Alternatively, increase the frequency of pedestrian-crossing phases in peak pedestrian periods, such as when children are walking or cycling to and from school. N/R
- Provide marked crossings where cycle routes cross main roads. Prioritise the provision of lights at such crossings and use light sensors that detect cyclists (in preference to pressure sensors that do not detect cyclists). N/R
- In major pedestrian areas, use tactile ground indicators to mark the edges of pedestrian crossings in accordance with AS 1428.4. N/R
- Install kerb ramps at crossing points to facilitate access for people with limited mobility and people with prams, trolleys, scooters and wheelchairs. N/R

Support on-road cyclists

- Provide bicycle lanes along streets with traffic speeds of over 50 km/hr for the safety, comfort and mobility of cyclists. N/R
- Ensure continuity of bicycle lanes through and between municipalities, new subdivisions and connecting neighbourhoods. The continuity of bicycle lanes requires careful consideration to ensure that they are not abruptly terminated, compromising cyclists and drivers. The beginning and end of cycle lanes require particular consideration. For clarity for cyclists and motorists, ensure clearly marked signage nearing termination locations and provide direction to the next connection point. N/R

Highway west of Burnie
This highway provides cycle lanes in both directions.

Main Road, Glenorchy
This road has been retrofitted with traffic-calming devices such as kerb bulbing, street tree planting, reduced road width and widened footpaths. It has resulted in reduced vehicle speeds and a comfortable pedestrian environment. (Note: kerb bulbing should be used with consideration for cyclists.)

Glebe Hill Estate
Planned with a legible street network, this estate has pedestrian links from the heads of cul-de-sacs and cues to reduce driving speed within the residential subdivision. See 'Case studies' on page 56 for more information.

Hobart CBD revitalisation program
This program commenced in 1993 following recommendations in the Hobart Central Area Strategy Plan, 1991. It focused on making the centre of Hobart a more pedestrian-friendly and attractive place by removing through-traffic, widening footpaths and providing seating, landscaping, good lighting, play equipment and interpretation panels relating to the history of the city. Work has continued over the years beyond the original city block. See 'Case studies' on page 60 for more information.

- Prioritise cycle networks by identifying those used most frequently and intensively, those that lead to local destinations, and those that have potential to be linked to other existing networks. R
- Retrofitting of on-road cycle lanes needs to occur on identified cycling routes, which have been analysed in terms of strategic and local connections/parallel cycle routes, grade, traffic volume and type of vehicle usage. R
- Reduce car parking and narrow car lanes where possible, and introduce new bicycle lanes. R
- Maintain unobstructed paths of travel along cycle lanes. R
- Ensure cycle lanes are an appropriate width. (As a guide refer to *Austroads Guide to Traffic Engineering Practice*, Part 14, Bicycles.[19]) N/R
- Where possible, provide clear separation between cycle lanes and other road users for the safety of all users. To avoid car-door injuries, consider design solutions that separate cycle lanes from parked cars. N/R
- Maximise the availability of drinking fountains and bicycle lock-up points at prominent locations along streets where cyclists may stop for rest breaks or where they reach their destination. R

Create street networks that are clear, direct and legible

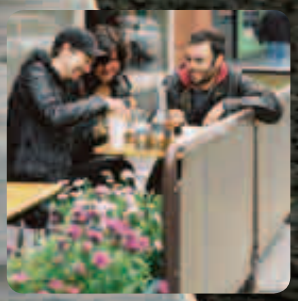
- Plan grid street layouts that are permeable and assist pedestrians and cyclists to find their way and travel the shortest route. A grid street layout provides legible travel routes, being well integrated with surrounding streets. N
- Develop a signage strategy to ensure cul-de-sacs are well signed with pedestrian and cycle access through to adjacent streets. R
- Review existing street signage to ensure that it provides information along cycle routes, availability and location of amenities, destinations, travel times and distances. R
- Link street networks to local destinations and activity centres via the most direct and convenient routes. N/R

Create attractive and welcoming streets

- Design attractive, interesting and welcoming street frontages. Involve local traders and community groups in assessing the aesthetics of local street frontages. Create some community and planning projects to create soft and/or active edges, for example shop window displays, outdoor cafes, open shop fronts, permeable fencing (rather than high, blank walls, security shutters or garage doors). R
- Provide broad-canopy trees to provide shade and a pleasant environment for people on the street. Maintain an overhead clearance of 2.4 metres above ground level (e.g. Australian Standard 1428.1). N/R
- Design streetscapes to enable natural surveillance of people walking, cycling and gathering at points of interest. Streets that encourage walking naturally put more 'eyes on the street', enhancing safe environments. N/R

Local destinations

Destinations such as food stores, newsagents, chemists, cafes, schools, childcare centres, kindergartens, parks and gardens, neighbourhood centres and senior citizens' centres provide local focal points for people to walk or cycle to in their neighbourhood. Local destinations support mixed-use, walkable neighbourhoods and reduce dependence on the car for short journeys. Destinations naturally attract a range of people of all ages, abilities and backgrounds, which fosters community spirit, contributing to individual and community health.



Planning and design considerations

Objective

To provide local destinations to support liveable, walkable and rideable neighbourhoods that encourage physical activity as part of daily life.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Encourage mixed-use, walkable neighbourhoods

- Locate food stores, shops and local facilities (such as post boxes and public telephones) within close walking distance of dwellings and businesses. The concept of 'close walking distance' will vary according to people's fitness levels and topography, but usually ranges between 400 and 800 metres. N/R
- Many older people are not able to walk the distances that younger adults can, and also take longer to walk them. Housing and services should be placed within a very short distance of each other, and linkages between those destinations need to be made safe and accessible by people using canes, walkers and wheelchairs in areas where a high elderly population is expected to reside.[20] N
- Create neighbourhood clusters through the use of corner stores and cafes. This encourages people to socialise and contributes to the local economy and community life. To make these facilities viable for business owners and convenient for local residents, co-locate with community centres, medical facilities, schools, parks and public transport. N/R
- A widely used benchmark is for mixed-development neighbourhoods to cover a 400-metre radius. This equates to about a five-minute walk.[21] N

Provide a community 'heart' to foster community spirit

- Design community buildings and public spaces to support a wide variety of uses within a neighbourhood, providing activity at different times of the day and night. For example, using school facilities outside school hours for community learning, and parks that can support everyday recreation as well as other activities, such as community festivals and farmers' markets. N
- Locate community buildings and spaces so they can contribute to a sense of place and provide a community 'heart'. N
- Integrate public art to enhance and enrich the built environment. N/R

Provide facilities for comfort and convenience

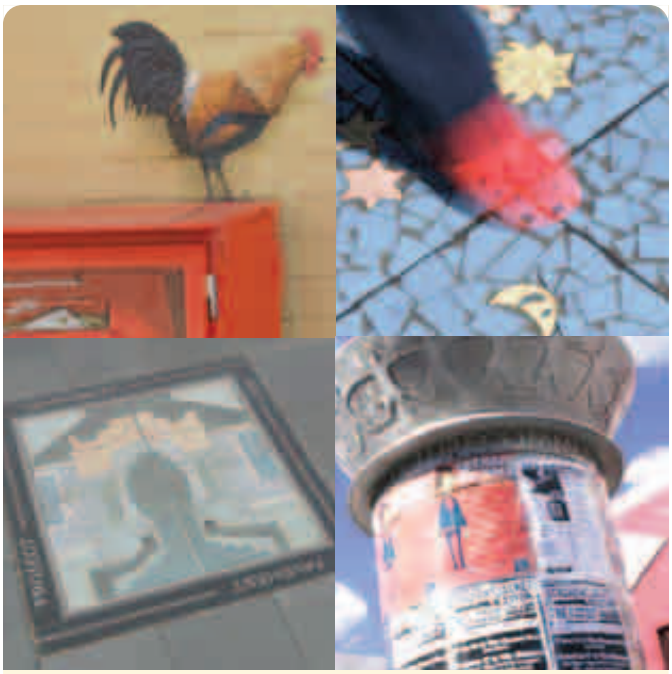
- Maximise the choice and availability of amenities and end-of-trip facilities, such as toilets, drinking fountains, bicycle lock-up points and dog waste disposal bins, within existing services and facilities at local destinations (see 'Supporting infrastructure' on page 46). N/R
- Provide seating and drinking fountains, and assess the need for the provision of public toilets at local destinations (see 'Supporting infrastructure' on page 46). N/R
- Create an attractive microclimate—shade in summer, sun in winter and shelter from winds—through use of street trees and street furniture. N/R
- Provide suitable shade shelters at public destinations, such as open space reserves and public squares, and over play equipment, barbecues and picnic seats. N

Lower Sandy Bay shopping centre in Hobart
Although small, this shopping centre contains a variety of shops, cafes, restaurants and medical centres. Its attractiveness as a local destination for walkers and cyclists is related to this variety of services and also the fact that it is adjacent to a popular beach, foreshore walking track, playground, sports fields and dog exercise area.

Swansea
This east coast town runs beside a section of foreshore with dramatic views across the water to the Hazards Mountains. The opportunity to create a community heart on the foreshore (which is also the geographic centre of town) has been seized with the construction of a stone amphitheatre, lookout deck, widened footpath and playground. The amphitheatre is used for school performances, community gatherings and foreshore seating. The upgrade and extension of a foreshore walking and cycling track is planned to link the outer parts of town and the local school to the community heart.

Support pedestrian and cycle access to local destinations

- Provide safe pedestrian and cyclist access to local destinations (see 'Streets' on page 28). N/R
- Clearly mark pedestrian access through car parks. N/R
- Provide secure bicycle parking facilities (such as bike hoops and lockers) at end-of-trip cycling destinations, such as universities, supermarkets, parks or sporting ovals. N/R
- Where fences already surround parks and recreation areas, ensure sufficient pedestrian and cyclist entry and exit points (see 'Open space', section 'Create safe open spaces' on page 41). R
- Review existing signage to ensure that it provides information highlighting local destinations, travel times and distances to the local destination, opportunities for the mobility-impaired, and the location of amenities at the destination. R



North Hobart

In recent years, this inner-city suburb has become a lively mix of restaurants, shops, cafes, pubs, boutiques and an art house cinema in close proximity to residential areas and mixed-use commercial/residential areas. The trendy dining areas sit side by side with the everyday services of banks, post office, medical surgeries, laundromat and pharmacies. Along with allowing a mix of uses under the Planning Scheme, the Hobart City Council has used art and lively street furniture to make the main street an attractive place to walk. The speed of through-traffic has been reduced with road narrowing, street tree planting and kerb bulbing. North Hobart is a great example of a suburb that combines a mix of activities and uses in close proximity to each other. This in turn creates a very liveable and walkable suburb. A brochure about the public art in North Hobart is available from the council's website, www.hobartcity.com.au.

Open space

Open spaces connect people with the natural environment and provide an important sense of place. An important and unique aspect of the Tasmanian lifestyle is access to broad open spaces located within close proximity to urban centres. Mt Wellington, Dial Range, water catchment areas, flora and fauna conservation areas, hill-top scenic protection areas, and linear corridors and trails offer pleasant spaces for people of all ages to walk or cycle to. Existing smaller pockets of open space can be retrofitted and form important focal points of interest along cycle and pedestrian routes and linear open space networks.

Planning and design considerations

Objective

To provide a range of public open spaces within easy walking and cycling distance from dwellings, places of work, shopping centres and schools.

To clearly define walking and cycling routes passing through open spaces and places of natural beauty, and connect these into the broader walking and cycling network.

To provide spaces, both purposefully designed and of natural beauty that are attractive and accessible to a wide range of people with diverse needs and that foster community spirit.

To encourage individuals to engage in physical activity in open spaces when carrying out their daily activities, such as shopping, working and studying.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Provide open spaces within safe and comfortable walking and cycling distance

- Locate local public open spaces within a 400 metre maximum walking distance from dwellings. This will ensure equitable distribution of open space in an area and allow easy access for most people. N/R
- Provide small local parks within 150 to 300 metres walking distance from dwellings in densely developed areas. "The elderly take longer than younger members of the population to walk the same distance. Elderly walking rates are approximately 0.75 metre per second as opposed to 1.2 metres per second for able-bodied adults. Thus, in areas with a high elderly resident population, it is advisable that the distance threshold to public open space be lowered."[20] N

Taroona Neighbourhood Garden, Hobart
This neighbourhood garden provides allotments for growing fruit and vegetables for the Taroona community and provides a sunny open space for local residents and students to learn organic gardening skills, grow nutritious food and engage in healthy outdoor exercise. The Taroona Neighbourhood Garden aims to reduce carbon footprints and help to protect food security by growing vegetables, fruit and herbs locally. It also provides a place for people to meet with others, relax and unwind, relieve stress, and improve physical and mental health.

Connect open spaces to the broader walking and cycling network

- Connect walking and cycling routes to and within open spaces to the broader path network (see 'Walking and cycling routes'). N/R
- Undertake an assessment of local parks situated on busy roads. Ensure the provision of convenient pedestrian crossings leading to park entrances (see 'Streets'). R

Create attractive open spaces

- Design and landscape open spaces and places of natural beauty to be pleasant places for people to play, sit, meet and talk. N/R
- Plant suitable trees (e.g. tall-trunk, broad-leaf and broad-canopy) to provide shade for park users and to create an aesthetically pleasing environment. Use low-maintenance, drought-tolerant species, if possible. N/R
- Provide natural shade or structured shelter within open spaces to provide protection from weather extremes. N/R
- Maintain open spaces to a high standard to encourage usage. R
- Replace surfaces that are vulnerable to vandalism and antisocial behaviour with those that are not conducive to graffiti, are vandal-resistant and easy to clean and maintain. R

Cole Beach Reserve, Devonport
This reserve has a 3 metre wide shared walking and cycling track linking beaches and open spaces.

Encourage active recreation

- Provide a range of facilities to encourage active recreation for children and youth—for example children's play equipment, engaging natural environments, grassed areas for informal ball games, skate parks, basketball rings and playground markings to encourage activities like hopscotch. Ensure a maintenance program is in place where appropriate, so the facilities are well maintained and appealing. N/R
- Provide exercise and training equipment along walking and cycling paths to encourage more vigorous activity. N/R
- Design a variety of paths that allow for recreational walking and cycling within parks and places of natural beauty as well as direct passage through them. N/R
- Provide areas for people to be active with their pets, such as dog exercise areas. N/R
- Provide facilities for active recreation activities which encourage community involvement, such as Saturday afternoon football and organised school sports. N/R
- Consider the feasibility of converting redundant, underutilised or difficult-to-maintain public open space into community gardens. R
- Ensure fences that currently exist around parks and recreation areas have sufficient pedestrian and cyclist entry and exit points (see 'Open space', section 'Create safe open spaces' on page 41). R

Glebe Hill Estate
A residential subdivision that features a spine of public open space that connects to a larger area of retained bushland to the rear. A pedestrian network connects the residential areas to this open space, making it highly accessible. See 'Case studies' on page 56 for more information.

Cataract Gorge, Launceston
A large open space of diverse character that satisfies all of the above principles for the planning and design of open spaces. It provides for passive and active recreation as well as community events, and is connected to the city centre with well-signed walking routes. See 'Case studies' on page 59 for more information.

Devonport City Council's Open Space Planning
Devonport City Council has identified the health of the community as one of the major objectives for public open space improvements. In support of this, the council's planning staff have produced a suite of documents relating to the planning, design and construction of open space. The documents include strategic plans, guidelines, standards, technical notes and master plans. This systematic approach is a good example of the application of the Land Use Planning recommendations (see 'Implementation' on page 62) to create environments for active living. See 'Case studies' on page 57 for more information.

Provide for comfort and convenience

- Maximise the choice and availability of amenities within open spaces, such as seating and drinking fountains, bicycle parking and waste disposal bins. N/R
- Provide seating, drinking fountains, benches and suitable shade at regular intervals along walking and cycling paths (see 'Walking and cycling routes', section 'Maximise accessibility of walking and cycling routes for all' on page 26). N/R
- Provide secure bike parking to encourage people to ride to open spaces. N/R
- Provide public transport access for locations sited further away. N/R
- Assess the need for public toilet provision. N/R
- Locate cafes, restaurants, kiosks and food stores within or on the edge of open spaces or in close proximity to other points of interest such as public art and lakes. N/R

Photo by Kelvin Markham

Princes Park, Launceston
A centrally located 1.2 hectare park that is easily accessible from the four surrounding streets and the city centre. It provides beautiful mature trees for shade, ample seating and a historic fountain as a focal point.

Create safe open spaces

- Ensure routes through open spaces that are intended for night use are well lit and consistent with surrounding street lighting where it exists. N/R
- Create parks with street frontages to facilitate natural surveillance from nearby housing, businesses or passers-by. N
- Avoid solid fencing or walls along park perimeters. N/R
- Provide multiple entry and exit points to open spaces. N/R
- Ensure that landscaping and vegetation are maintained on an ongoing basis, and maximise the use of indigenous and drought-resistant species. R

Foster community spirit

- Encourage the development of community gardens that provide opportunities for physical activity as well as fostering community spirit and local ownership. N
- Design seating to encourage social interaction (see 'Supporting infrastructure' on page 46). N/R
- In large open spaces, provide space and services for community gatherings such as markets, festivals and concerts. N

Public transport

Public transport services connect people with places and enable access to employment, education, health services, and cultural and sport facilities regardless of car ownership status. Using public transport is cheaper than driving a car; reduces congestion, greenhouse gas emissions and pollution; minimises traffic accidents and road fatalities; and enables people to fit more activity into their daily life by walking or cycling to stops. Using public transport can reduce social isolation and foster community spirit. To encourage increased public transport use, services need to be accessible, frequent, reliable, inexpensive and safe.

Planning and design considerations

Objective

To encourage the use of public transport through the establishment and promotion of clear and direct walking and cycling routes to public transport stops, community hubs and transport-mode interchanges, and the provision of facilities for public transport users.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Make public transport easily accessible

- Advocate for an extensive public transport system with a range of public transport modes (including light rail and ferries) to enable access for all and encourage more active transport. N
- Provide more reliable and frequent services that meet people's accessibility needs. N/R
- Provide clearly signed, well-lit and direct routes for people walking and cycling to and from public transport stops. N/R
- Locate new residential areas within 400 metres walking distance of existing public transport stops. Where existing residential areas are not adequately serviced, extend public transport services to within 400 metres walking distance. Accessible and efficient public transport services will encourage more people to use services on a regular basis. N/R
- Consider the needs of people with impaired mobility and provide ramps (not necessary where 'kneeling' buses are in frequent use) and hand rails (see Australian Standard 1428:1-4). N/R
- Assess whether existing bus stops are suitably located. R
- Locate street crossing points adjacent to public transport stops. Where possible, accommodate pedestrian desire lines for convenient crossing. Adjust timing of pedestrian lights to accommodate ease of crossing by all walkers including older people, children and people with impaired mobility. N/R
- For more rural and remote settlements where the public transport network does not extend, consider utilising scattered service options such as tele-bus services or dial-a-cab. R

Provide safe, visible stops

- Locate public transport stops in active locations, clearly visible from surrounding dwellings and businesses. N/R
- Ensure public transport stops are well lit for night use. N/R
- Implement a regular maintenance program at public transport stops to minimise and reduce re-occurrence of graffiti and vandalism. N/R
- Integrate public art opportunities to enhance and enrich public transport infrastructure. N/R

Encourage dual-mode journeys as a means of reducing car dependence

- Provide safe and secure cycle parking facilities close to existing public transport nodes and routes. N/R
- Provide car parking facilities close to existing public transport nodes and routes in outer suburbs and rural areas. N/R
- Provide facilities for bicycles to be carried on public transport, without incurring extra charges, to allow for extension of journeys. N/R

Franklin square bus shelters, Hobart
These bus shelters have glass walls, making them visually light and open and contributing to a safer space for bus passengers. They provide good shelter from cold winds and rain. Seats with backs and armrests provide comfort, particularly for older passengers. There is space in the shelter for a wheelchair. Clear and easily understood timetable information is the only form of signage.

Provide facilities for comfort and convenience

- Maximise the choice and availability of amenities, such as toilets, drinking fountains, waste disposal bins and bicycle lock-up points, at existing public transport facilities. R
- Assess the opportunities within existing transport-mode interchanges for retrofitting. R
- Provide clearly legible service information. N/R
- Ensure adequate provision of seating with backs and arm rests. N/R
- Provide adequate shelter to shield public transport users from sun, wind and rain. N/R

Rosny Park Transit Mall, Hobart
A bus interchange well located in the heart of a major suburban commercial precinct. Its central location and well-designed facilities make public transport an attractive option.
See 'Case studies' on page 58 for more information.

Supporting infrastructure

Supporting infrastructure in the public domain can encourage use and social interaction by making it attractive, convenient, functional, comfortable and safe. As addressed in this section, 'supporting infrastructure' includes the following street furniture and amenities: seating, signage, lighting, shade and planting, fences and walls, bicycle parking, dog-walking fittings and drinking fountains.

Planning and design considerations

Objective

To attract pedestrians and cyclists to public places and spaces by carefully considering supporting infrastructure that assists way-finding, provides for comfort and convenience, and makes the area an attractive and safe place to be.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Provide seating for people with restricted mobility, and to encourage social interaction

- Provide seating at regular intervals for people to rest. N/R
- Locate seats in an easily accessible position, with space for people in wheelchairs to sit next to people on seats. N/R
- Use seats with backs and armrests at a suitable height for older people and people with restricted mobility. For example, ensure seating is not too low to the ground, and provide an angular armrest that assists with getting up and sitting down. N/R
- Locate seats along walking and cycling routes set back a minimum of 1 metre from the route. N/R
- Arrange seats to facilitate social interaction (for example, at right angles to each other). N/R
- Place seats to take advantage of views to attractive landscapes or areas of activity, such as sports ovals and children's playgrounds. N/R
- Provide seating options with shelter from wind, rain and sun. N/R

Provide signage to assist with way-finding on foot and bicycles

- Provide directional signage with distances and walking and cycling times to key facilities and points of interest. Review existing signage to ensure it provides information relating to routes, availability and location of amenities, destinations, travel times and distances. N/R
- Provide maps to assist with orientation and way-finding, and provide information relating to access to amenities and local destinations. N/R
- On shared routes and recreational trails, provide signage leading to the start of the route and at regular intervals along the route. Include distances, trail grading, permitted uses and walking/cycling times to destinations. N/R
- Use clear, concise, legible and consistent signage, with colour contrasts, letter font and size complying with Australian Standards 2156.1 Walking Tracks Part 1: Classification and Signage. N/R
- Illuminate signage at night. N/R
- Replace surfaces that are vulnerable to vandalism and antisocial behaviour with those that are not conducive to graffiti, are vandal resistant and easy to clean and maintain. R
- Maintain clear sightlines to signs, for example by trimming vegetation. R

Provide and maintain lighting to routes and spaces used at night to increase safety

- Locate lighting for pedestrians and cyclists along walking and cycling routes, key road-crossing points and intersections, and at local destinations and places where people gather. N/R
- Avoid low-level or in-ground lights along walking and cycling routes because they limit the vision of walkers and cyclists moving along the path. N
- Provide lighting to areas intended for night use and/or areas accessed by pedestrians and cyclists after dark. Avoid lighting areas not intended for night use. N/R

Use planting to improve the microclimate and increase the legibility and attractiveness of routes and spaces

- Use clear-stemmed trees with high canopies. N/R
- Use indigenous, low-maintenance, drought-resistant species. N/R
- Use low-growing (below 60 cm) shrub species to maintain clear sightlines and surveillance. N/R
- Where appropriate, label trees and vegetation to add interest. N/R

Devonport eastern shore streetscape
This area includes wide footpaths, good lighting and street tree planting using clear-stemmed trees with an upright form.

Ensure fences and walls contribute to safety and attractiveness and maximise connectivity

- Use low walls or transparent fences along street frontages to contribute interest to the streetscape and allow surveillance from adjacent buildings. N/R
- Design buildings and residential dwellings adjacent to and overlooking public open space to contribute to surveillance. N
- Avoid 'fortress' or gated residential developments lacking connectivity to the public realm. N
- Ensure fences (if required) that surround parks and recreation areas have sufficient pedestrian and cyclist entry and exit points. N/R

Provide facilities to encourage and support cycling and walking

- Provide bicycle parking on premises of public buildings, in public spaces and shopping centres, at supermarkets, food and takeaway shops, in major office and industrial developments, at selected public transport stops and interchanges, and other destinations. N/R
- Ensure bicycle parking is safe and secure, located in an area with good surveillance and good lighting. N/R
- Provide shower and change facilities in public facilities close to major areas of cycle parking and encourage inclusion in major commercial and industrial developments. N/R
- In dog exercise areas and popular dog walking routes, provide dog waste dispensers, bins and drinking fountains. N/R

Fostering community spirit

Community spirit is about creating and enhancing a sense of community identity. It contributes to social cohesion and neighbourhood revitalisation by giving people a sense of belonging, safety and pride in their local area. Having more people out in their neighbourhood contributes to more active and lively communities where people meet and interact. Living in active, cohesive communities can empower vulnerable individuals, such as older people, people with disabilities and people from culturally diverse backgrounds. It can also strengthen social networks by providing people with opportunities to integrate in and identify with the built and natural environment.

The development of 'community spirit' is critical to community wellbeing. It involves both urban and social planning, where the process of developing physical design solutions is just as important as the outcomes themselves. All design considerations in this resource include strategies for fostering community spirit.

Planning and design considerations

Objective

To establish community participation strategies that plan for and design physical environments, which provide a social focus and foster a sense of community spirit.

To design places that enable people to actively engage with the built and natural environment and with one another.

R: Retrofitting strategies

N/R: New development and retrofitting strategies

N: Primarily new development

Involve your community in planning activities

- Engage community members early in the planning process to accommodate their ideas about their local area (see *Age-friendly Built Environments*,[22] and the Heart Foundation's Healthy Urban Environments Site Assessment Audit tool[23]). N/R
- Liaise with young people and children when planning new development areas or urban renewal projects (see *Active Facts: Getting Youth Involved in Planning*[24] and *A Kid's Guide to Building Great Communities: A Manual for Planners and Educators*[25]). N/R
- Ensure community input into design features that encourage active transport, such as from walking school bus participants, members of disability access groups and bicycle user groups. N/R
- Incorporate high-quality community art programs into public spaces and buildings. N/R

'Brighton Alive'

In 2006, local residents and community groups in the Brighton municipality identified the need to increase communication between residents, local groups and service providers. 'Brighton Alive' was the result.

The aim of Brighton Alive is to increase participation in physical activity, sport and other community activities to promote health and wellbeing, while also providing a social stimulus and sense of self-confidence within the community. Active involvement and participation are the emphasis.

Brighton Alive is a group of volunteers who organise and promote events, primarily on their website, helped by Brighton Council and several key local community groups. The website contains information about the vast array of activities, programs, opportunities, training and resources offered by Brighton Alive, the Brighton Council, community groups, government and non-government agencies, and sporting and special-interest clubs and organisations.

The website promotes activities including health, fitness and nutrition initiatives, arts, cultural development and community events, and educational and training initiatives. Examples of activities relating to active living and physical activity include street cricket, a Boot Camp fitness program, Fun Day, fun runs and Yoga.

Groups and organisations can post their upcoming activities or events on the website calendar.

Brighton Alive was the Overall Winner of the 2007 Medibank Private Active Towns Awards. See www.BrightonAlive.com.au.

Increase the use of public places for community activity and participation in physical activity

- Design spaces to accommodate community events and cultural development programs, such as walking and discussion groups, carols by candlelight and local arts or other festivals. N/R
- Identify suitable public places that can be used for community art, community events and festivals. R
- Consider opportunities for establishing community gardens, particularly in higher-density housing precincts. These may be incorporated into broader open space planning strategies. N/R
- Consider the feasibility of converting redundant, underutilised or difficult-to-maintain public open space into community gardens. R
- Provide bicycle rental schemes to promote ease of bicycle use. N/R

Case studies

The following case studies have been selected because they illustrate one or more of the *Healthy by Design*® planning and design considerations particularly well.

The Intercity Cycleway, Hobart

The Intercity Cycleway was developed through collaboration between the Hobart and Glenorchy City councils and TasRail, with initial funding from the federal government. Glenorchy City Council continued funding from annual capital works budgets until it received funding from the state government.

The cycleway runs along a disused section of railway easement beside the rail line. It provides a 15.6 km shared walking and cycling route from Sullivans Cove in the city to the suburb of Claremont. It links residential areas with schools, shops, work places and sporting and recreational areas. It runs along the scenic foreshore as well as through residential and commercial areas.

Picnic and barbecue facilities along the route encourage recreational use.

The route's unique off-road trail is extremely popular for recreation and commuting—it is direct enough to be desirable for travel/commuting, but also attractive enough for recreational use (in parts located near the river and botanical gardens).

The fact that it is safe, flat and well constructed contributes to its use by a wide range of population groups—particularly families and older Australians.

Building on the success of the cycleway, the Glenorchy City Council is investigating a number of links from the cycleway to adjacent and nearby suburbs. The Intercity Cycleway demonstrates many of the planning and design considerations for 'Walking and cycling routes'.

Contact

Hobart City Council
Glenorchy City Council

Website: www.hobartcity.com.au
Website: www.gcc.tas.gov.au

Glebe Hill Estate

This 300-lot subdivision on Hobart's eastern shore has been planned by Ferndene Studio in association with planner Neil Shephard and exemplifies many of the planning and design considerations in *Healthy by Design*®.

The focus of the estate is the spine of open space along the central ridge, which connects to the large area of retained bushland to the rear of the estate. A small local centre sits on both sides of this open space, with planning provisions favouring mixed-use development.

The overall layout and road hierarchy favours pedestrian amenity and safety with a strongly defined pedestrian network using linear parks where practical. The pedestrian network includes links to the neighbouring residential areas and to recreational tracks in the bushland reserve, as well as from the heads of cul-de-sacs to the nearest roads.

The roads have wide nature strips and street tree planting. The layout allows for easy walking to the bus route which runs through the estate. The estate entry has been designed with details to cue drivers that this is a low-speed pedestrian environment, such as a narrow road, wide nature strips, wide planted median strip and a textured road surface at the threshold.

At the time of writing, the estate has been partly constructed. The planning and design of this subdivision applies excellent principles of 'Land use planning' as set out in *Healthy by Design*®. This subdivision exemplifies most categories of the planning and design considerations in these guidelines, namely 'Walking and cycling routes', 'Streets', 'Open space', 'Public transport' and 'Local destinations'.

Contact

Ferndene Studio

Website: www.ferndenestudio.com.au/glebehill.html

Devonport City Council's Public Open Space Planning

Devonport City Council's planning staff have produced a suite of documents for use by council staff, consultants and developers to guide the planning, design and construction of open space in the municipality. Both the process and the resulting documents form this case study.

The council has identified the health of the community as one of the main objectives for public open space improvements.

The initial step was an audit of existing open space and access to it—the Devonport City Council Audit of Environmental Properties. From this, opportunities to improve the provision and amenity of open space were identified. This led to the production of the Open Space Strategy, Street Tree Planting Strategy and Guidelines for the Planning, Design and Construction of Public Open Space.

The detailed Public Open Space Standards and Technical Notes were developed to define required standards of construction. Master Plans for the major areas of open space have been prepared in line with the preceding council guidelines.

Community consultation was undertaken when developing the documents.

This considered approach has resulted in a suite of useful documents which will facilitate the planning, design and construction of Devonport's open space to a consistent high standard. The council documents are excellent examples of high-quality land use planning and the 'Open space' planning and design considerations, while the process demonstrates the strategies in the 'Implementation' section of these guidelines.

Contact

Devonport City Council

Website: www.dcc.tas.gov.au

Rosny Park Transit Mall

Rosny Park Transit Mall is a section of Bligh Street, Rosny Park. It is sited in the administrative and commercial centre of the central business district of Clarence.

The mall is used as a Metro Tasmania bus interchange and is closed to normal traffic. It has seven main stops.

The routes operating from or through the transit mall access central Hobart, almost all of the eastern suburbs and the northern suburbs.

The weatherproof bus shelters are well designed with seating and appropriate signage. Street trees increase amenity.

The mall allows residents from all over Hobart's eastern suburbs to gain easy access to government offices, shops, restaurants, a medical centre, library, cinema, banks and the foreshore recreation area (a five-minute walk away).

This case study demonstrates many of the planning and design considerations within the 'Public transport' section of these guidelines.

Contact

Clarence City Council

Website: www.ccc.tas.gov.au

Cataract Gorge, Launceston

Cataract Gorge Reserve is a large, diverse park developed around a dramatic natural land formation close to the centre of Launceston.

The reserve land varies from highly developed gardens to largely undeveloped bushland areas. Much development is centred on the natural amphitheatre at the First Basin.

The park contains kilometres of tracks, lookouts, gardens and extensive grassed areas, a swimming pool, cafe, restaurant, kiosk, barbecue facilities, a chairlift (reputedly with the world's longest single span), an interpretation centre and more.

As well as catering for the obvious activities, there are opportunities for rock climbing and abseiling, dog walking (in the bush surrounds), concerts and learning (through guided walks and the interpretation centre).

The park is special because of the great variety of environments, the diversity of recreation and social opportunities provided for, the clever way in which the topography has been used, the park's close proximity to the city, with multiple entry points, and the fact that it caters for all ages and mobility levels.

Launceston City Council actively promotes the park, and has established an ongoing program of major improvements.

The Cataract Gorge Reserve demonstrates many of the planning and design considerations detailed in the 'Open space', 'Walking and cycling routes' and 'Supporting infrastructure' sections in these guidelines.

Contact

Launceston City Council

Website: www.launceston.tas.gov.au

Hobart CBD Revitalisation Program

The Hobart CBD Revitalisation Program commenced in 1993. Following the recommendations in the Hobart Central Area Strategy Plan, it focused on making the centre of Hobart more pedestrian friendly.

Traffic lanes were reduced in number, footpaths were widened, and seating, landscaping, lighting, interpretation of the city's history and play equipment were addressed.

The widened footpaths accommodate many outdoor cafes and restaurants as well as urban seating among planter boxes of bright flowers. Popular urban spaces have been created on a street closed to traffic, the residual space at the rear of main-street shops and a previously run-down arcade.

Work has continued over the years, extending the project beyond the original city block. Consultation with traders and many other stakeholder groups has continued throughout the project.

This project demonstrates successful implementation based on thorough initial investigation and exemplifies many of the planning and design considerations in the 'Streets', 'Open space' and 'Supporting infrastructure' sections in these guidelines.

Contact

Hobart City Council

Website: www.hobartcity.com.au

Planning Schedule for Sustainable Subdivision

Currently, the Land Use Planning Branch of the Department of Justice is preparing a series of schedules for inclusion in council planning schemes across the state, through the Common Key Elements Template (Planning Directive no. 1).

The schedules will provide standards against which use and development, including subdivisions, will be assessed.

It is intended that Schedules for Subdivision and Multiple Dwelling Development and Service Provision will include, among other things, provisions requiring the need to consider good accessibility, provision for pedestrians and cyclists, good access to public transport and links to local services, to encourage greater activity in new subdivisions.

Contact

Land Use Planning Branch, Department of Justice

Website: www.justice.tas.gov.au

Implementation

Key development stages for local government

Four key development stages detailed below provide a comprehensive and sustainable approach to implementing *Healthy by Design*® principles through local and state government. Local government has the capacity to take a multifaceted approach in fostering environments that support active living. In addition, the state government also has a significant role to play in ensuring that land use allocation maximises opportunities for active living. Implementing the suggested actions at all four levels will achieve the best results. Many of the actions below can be integrated into the existing planning process or framework.

1. Land use planning

Healthy by Design®'s planning and design considerations can be incorporated from the outset through state and local government land use planning processes and be used to contribute to reviews of land use legislation and regulation.

Strategic planning

- When developing land use plans, strategies and policies, ensure that active living opportunities are maximised.
- Develop and implement relevant instruments, such as region strategies, structure plans, local area plans and precinct plans, that help to guide the location, form and pattern of development and infrastructure within a defined spatial area. These instruments are important tools for planning and regulating development in new and existing urban areas and towns.
- These plans can promote active communities by:
  - delineating the location and extent of residential boundaries, open space networks, key physical and social infrastructure (such as transport and public transport routes) and services (such as schools, health care and employment centres), local destinations and transport-mode interchanges
  - outlining existing and future connections within and between communities, including roads, cycling or walking pathways.

Integrated land use and transport planning

- When preparing or reviewing planning strategies, planning schemes, transport strategies and transport network plans, land use planners and transport planners should work together to ensure that land use and transport solutions are consistent with *Healthy by Design*® guidelines.
- Plan land use around existing and proposed public transport facilities and local destinations to increase options for active transport in the form of walking, cycling and public transport use.
- Be guided by the National Charter of Integrated Land Use and Transport Planning 2003.[26]

Settlement strategies

- Encourage containment of settlements. Compact settlements make it easier to establish or develop pathway networks, and they encourage active transport.

- Limit the extent of dormitory suburbs (particularly low-density suburbs) and 'exurbs' (residential development beyond the suburbs), because these increase dependency on cars and reduce opportunities for active transport.
- Encourage increased housing densities in selected areas. Many established areas are affected by falling occupancy rates due to changes in lifestyles and housing needs. Increasing permissible housing densities in carefully selected areas can encourage redevelopment. When this occurs, ensure that opportunities for increasing active transport are maximised. This is particularly appropriate in the vicinity of local commercial centres and major transport routes and nodes.
- Encourage mixed-use areas in appropriate locations. Zone land for mixed use to ensure close proximity between locally orientated businesses, services and residences (often medium density). In this process, active transport opportunities are maximised.
- Adopt relevant policies in consideration of the above strategies, and make amendments to planning schemes.

Planning schemes

- Incorporate provisions that encourage active living into the planning scheme. Such provisions include objectives (in the strategy section) and standards (either within zones or in schedules). The character of the scheme and the area it covers will influence the provisions.
- Protect active living resources through zoning and other provisions, as far as possible, within the context of the character of the scheme. For example, 'Recreation' or similar zoning can protect open spaces and walking/cycling routes.
- Strategies to contain settlements and limit suburbs and exurbs may require planning-scheme amendments, for example, by back-zoning excessively large or poorly zoned areas.

Regulation of development

- When assessing applications for permits under the planning scheme, ensure that opportunities for active living are identified and assessed against relevant scheme objectives, standards and/or council planning policies.
- For subdivisions, ensure the design integrates with adjacent land use through connectivity of streets. Ensure existing pedestrian pathways and bicycle lanes are well connected and continue into and integrate with the subdivision.
- For subdivisions, uphold a minimum of 5% public open space contribution where possible, providing local places for people to walk and cycle to. Ensure consistency with municipal open space strategies and plans.
- For larger subdivisions, ensure that appropriate road networks facilitate non-car based trips, maximise intra-suburb linkages, support bus services through appropriate lane widths, and support on-road cyclists through clearly marked bicycle lanes.

2. Strategic development

A strategic development approach aims to adopt *Healthy by Design*® principles as core council business through the Council Strategic Plan. Supportive leaders, councillors and senior management will aid the development of a strategic approach to planning for healthy environments.

To foster strategic development:

- seek high-level endorsement and support from council and senior management to adopt 'healthy urban environments' as core council business
- use supporting research (see 'References' on page 69 and 'Further resources' on page 71) to support the social, economic, environmental and health benefits for the community
- develop a 'whole of council' approach—planning for healthy environments requires joint ownership and management by a number of departments; to encourage this, establish a cross departmental senior working group to explore how *Healthy by Design*® guidelines can be best integrated and developed; establish new links between departments (this may be integrated into a current working group)
- establish a formal council policy on healthy urban environments
- incorporate healthy environments into the Council's Strategic Plan and community vision, reflecting the built environment as an integral factor in influencing health, vitality and social interaction in the community
- consider the design objectives detailed in *Healthy by Design*® in strategic decision-making processes and integrate them into current and future operational plans.

3. Policy integration

A policy integration approach seeks to incorporate *Healthy by Design*® guidelines into a variety of policies, strategies and plans across the range of council activities.

- Review current policies, strategies and plans that relate to the design of the built environment, such as open space strategies, road safety plans, access strategies and neighbourhood renewal strategies, and incorporate *Healthy by Design*® guidelines.
- In particular, incorporate *Healthy by Design*® objectives and other relevant provisions in council's planning scheme.
- Incorporate *Healthy by Design*® principles and strategies in guides for developers, and raise relevant issues in pre-application meetings and discussions.
- Ensure that *Healthy by Design*® guidelines are applied in the assessment of applications for planning permits and amendments to planning schemes.
- Incorporate *Healthy by Design*® considerations into planning council works and projects, ensuring council provides for safe, accessible and convenient walking and cycling, and access to public transport.
- Link *Healthy by Design*® principles and strategies to existing projects with complementary objectives, such as safer design initiatives and sustainable transport strategies.

- Develop a customised set of *Healthy by Design*® guidelines into a 'healthy environments' directions document. Include associated goals, actions and strategies and the departments involved in its implementation.
- Include planning for healthy environments in induction processes for councillors and staff.
- Incorporate appropriate strategies and actions that promote retrofitting of existing infrastructure to encourage active living.

4. Project implementation

Many opportunities exist for implementing projects based on *Healthy by Design*® principles and strategies. Some examples are included below. Also refer to the following action checklist.

- Establish a cross-council working group. Select a *Healthy by Design*® objective identified as a high priority within the strategic planning process and coordinate a project to work towards this objective. For example: conduct a walking audit along a school walking route and follow this up with an improvement program; install seats or relocate into attractive sitting places; improve vegetation and planting to provide more pleasing places for people to gather.
- Make a list of people, groups and organisations that can support a 'healthy environments' project—for example, strategic planners, safety officers, parks and gardens staff, a local mother's pram walking group, walking school bus, local senior citizens' group, service clubs and interest groups (e.g. bicycle user groups).
- Establish links/networks with key people and organisations outside council, including community groups and service clubs, and by establishing community advisory committees on public transport, bicycle and pedestrian planning.
- Conduct a walking and/or cycling tour of the municipality with selected planning professionals (e.g. urban designers, planners and civil engineers) and community service representatives (e.g. youth/elderly/disability). Create a range of scenarios using wheelchairs, walking frames, prams and blindfolds to assess ease of use and associated actions for improvement.
- Liaise with community groups and community organisations. Such groups may use *Healthy by Design*® as a reference when lobbying tiers of government or documenting submissions.
- Include 'healthy environments' in all community satisfaction surveys.
- Identify opportunities for retrofitting of the built environment during ongoing maintenance programs and minor works.
- Conduct regular monitoring and evaluation of retrofitting strategies to assist in the development of good practice.

Healthy by Design® action checklist

This 'action checklist' is designed to be used as a quick reference tool. It is not exhaustive, but includes key actions for the various professionals involved in the planning, design and development of our cities, towns and spaces. There is an expectation that people involved in new development and retrofitting the urban environment will apply the planning and design considerations in *Healthy by Design®* and, in particular, consider the elements outlined below.

Please indicate (✓) if you have examined the following design considerations.	Yes	No	N/A
State government considerations			
Planning			
Ensure that the following elements are incorporated in regional land use strategies:			
• sustainable transport strategies	☐	☐	☐
• regional open space networks	☐	☐	☐
• long-distance tracks and trails.	☐	☐	☐
Ensure regional settlement strategies are integrated with transport plans and support higher densities and compact towns and cities.	☐	☐	☐
Embed provisions relevant to *Healthy by Design®* in standard schedules being developed for use with the Common Key Elements Template.	☐	☐	☐
Transport planning			
Ensure that land use and transport is integrated in accordance with the aims and objectives of the National Charter of Integrated Land Use and Transport Planning 2003,[26] especially in respect to aims 3, 4, 7 and 8.	☐	☐	☐
Include provision for cyclists, pedestrians and public transport in all road planning.	☐	☐	☐
Housing			
Look for retrofitting and urban consolidation opportunities in the development of affordable and publicly funded housing.	☐	☐	☐
Land management			
Protect, consolidate and link open space networks which have opportunities for pedestrian and cycle routes.	☐	☐	☐
Look for opportunities to improve open space, walking and cycling networks and work with local government and interest groups.	☐	☐	☐

Please indicate (✓) if you have examined the following design considerations.	Yes	No	N/A
Local government considerations			
Elected representatives			
Adopt 'environments for active communities' as core council business and part of a liveable communities agenda.	☐	☐	☐
Adopt 'environments for active living' as an objective in council strategic plans.	☐	☐	☐
Planning			
Involve the community in developing strategic plans for open space, cycle and pedestrian networks.	☐	☐	☐
Ensure the provision of open space in new subdivisions is in accordance with council plans.	☐	☐	☐
Ensure planning schemes require new subdivisions and development to provide cycle and pedestrian routes and facilities in accordance with council plans and strategies.	☐	☐	☐
Ensure asset and management planning.	☐	☐	☐
Open space management			
Audit existing open space and look for opportunities for new or upgraded facilities to create links.	☐	☐	☐
Identify opportunities for retrofitting and monitor the effectiveness of retrofitting strategies during regular maintenance activities.	☐	☐	☐
Traffic engineering			
Ensure that road and infrastructure works carefully examine pedestrian, cycle and public transport needs and opportunities.	☐	☐	☐
Audit cycle and pedestrian routes and look for opportunities for new or upgraded facilities to create links. Look for opportunities to calm traffic.	☐	☐	☐
Urban design			
Create pedestrian and cycle routes linking and through open spaces in accordance with council plans and strategies.	☐	☐	☐
Incorporate supporting infrastructure along walking and cycling routes to make them functional, attractive and safe.	☐	☐	☐
Include cycle parking and street-scaping in urban design projects.	☐	☐	☐
Design spaces that encourage social interaction and provide opportunity for community development.	☐	☐	☐

Please indicate (✓) if you have examined the following design considerations.	Yes	No	N/A
Civil construction works management			
Look for opportunities to implement incremental *Healthy by Design*® initiatives as part of regular maintenance programs.	☐	☐	☐
Promote new and existing developments through appropriate signage, particularly for people walking to the development.	☐	☐	☐
Developer considerations			
Look for development opportunities involving retrofitting and urban consolidation as important alternatives to greenfield sites on the outskirts of cities or towns.	☐	☐	☐
Implement mixed land use development where appropriate.	☐	☐	☐
Incorporate medium density and varied housing sizes to accommodate a broad spectrum of age groups and living requirements, from single-person dwellings to family homes.	☐	☐	☐
Subdivision planner considerations			
Follow the 'Planning and design considerations' in *Healthy by Design*®. In particular:	☐	☐	☐
• prepare plans that are consistent with council plans relevant to *Healthy by Design*® considerations	☐	☐	☐
• create a legible and permeable street network	☐	☐	☐
• avoid cul-de-sacs and dead-ends without pedestrian and cycle thoroughfares	☐	☐	☐
• prioritise pedestrian and cycle routes	☐	☐	☐
• ensure streets are wide enough to allow bus access through residential areas to community facilities and services	☐	☐	☐
• ensure streets are wide enough for street trees	☐	☐	☐
• incorporate local destinations and points of interest	☐	☐	☐
• create networks of open space, rather than isolated pockets.	☐	☐	☐
Architects and building designer considerations			
Design buildings with active frontages to the street.	☐	☐	☐
Consider provision of end-of-trip facilities for walkers and cyclists where possible.	☐	☐	☐
Provide bicycle parking adjacent to public and commercial buildings and facilities.	☐	☐	☐

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Further resources

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Websites and digital resources

Active Living Resource Centre
www.activelivingresources.org

Bike Tree www.biketree.com

Bike Walk www.bikewalk.org

Bicycle Victoria www.bv.com.au/change-the-world

The Commission for Architecture and the Built Environment www.cabe.org.uk

Cycling Resource Centre
www.cyclingresourcecentre.org.au

Cycling South, for Draft Hobart Regional Arterial Bike Network Plan and Council Bike Plans:
www.cyclingsouth.org

Child Friendly Cities www.childfriendlycities.org

Canadian Institute of Planners www.cip-icu.ca

Department of Health and Human Services Tasmania
www.dhhs.tas.gov.au

Freemantle City Council www.fremantle.wa.gov.au

Get Moving Tasmania www.getmoving.tas.gov.au

Healthy Spaces & Places www.healthyplaces.org.au

Heart Foundation www.heartfoundation.org.au

Local Government Association of Tasmania (provides links to all Tasmanian council websites)
www.lgat.tas.gov.au

Oxford Health Alliance www.oxha.org

Premier's Council for Active Living (NSW)
www.pcal.nsw.gov.au

Planning Institute Australia www.planning.org.au

Planning Western Australia, for 'Which Suburbs Work?' (a comparison between traditionally planned suburbs and conventional suburban development):
www.planning.wa.gov.au/Plans+and+policies/Publications/663.aspx

Sport and Recreation Tasmania
www.development.tas.gov.au/sportrec

VicHealth www.vichealth.vic.gov.au

VicRoads, for Cycle Notes covering design of shared cycle/pedestrian paths www.vicroads.vic.gov.au

Wendy Morris, 'Urban planning and design to support physical activity', PowerPoint presentation at
www.planning.org.au/vic/index.php?option=content&task=view&id=61&Itemid=73

Rodney Tolley, 'Planning healthy cities: success stories in active transport', PowerPoint presentation at
www.planning.org.au/vic/index.php?option=content&task=view&id=61&Itemid=73

Relevant standards and other resources

AS 1428 Design For Access and Mobility

AS 1742.9-2000 Manual of Uniform Traffic Control Details-Bicycle Facilities

AS 2156.1 Walking Tracks – Classification and Signage

AS 2156.2 Walking Tracks – Infrastructure Design

AS 2890.3 – Parking Facilities Part 3: Bicycle Parking Facilities

Austroads Guide to Traffic Engineering Practice. Part 13 Pedestrians

Austroads Guide to Traffic Engineering Practice. Part 14 Bicycles

About the Heart Foundation

The Heart Foundation is the leading organisation in the fight against cardiovascular disease (heart, stroke and blood vessel disease) in Australia. Our mission is to reduce suffering and death from cardiovascular disease in Australia.

Since our establishment in 1959, we have championed the hearts of Australians by promoting health in the community, supporting health professionals and funding world-class research. As a charity, we rely on donations and gifts in wills to continue our work. While our work has helped to reduce the number of deaths from cardiovascular disease, it remains one of Australia's most devastating health problems. It claims a life almost every 10 minutes. It also adversely affects the quality of life of nearly one in five Australians.

Our focus is to:

- help all Australians to achieve a healthy weight
- help all Australians to identify and understand the warning signs of a heart attack
- inform and educate women about their risk of heart disease and the steps they can take to prevent it
- help all Australians to have improved access to prevention and treatment
- increase our commitment to supporting research as well as using quality research in all of our work
- increase funds raised.

For more information email **tas@heartfoundation.org.au** or visit **www.heartfoundation.org.au**.

Notes

Heart Foundation®

For heart health information
1300 36 27 87
www.heartfoundation.org.au

Australian Capital Territory

Canberra

15 Denison Street
Deakin ACT 2600

Tel: (02) 6282 5744

New South Wales

Sydney

Level 3, 80 William Street
Sydney NSW 2011

Tel: (02) 9219 2444

Newcastle

Suite 5, OTP House
Bradford Close
Kotara NSW 2289

Tel: (02) 4952 4699

Illawarra

Kiama Hospital and
Community Health Service
Bonaira Street
Kiama NSW 2533

Tel: (02) 4232 0122

Northern Territory

Darwin

Darwin Central Offices
Level 3, 21 Knuckey Street
Darwin NT 0800

Tel: (08) 8981 1966

Alice Springs

Shop 1, 9 Parsons Street
Alice Springs NT 0870

Tel: (08) 8953 5942

Queensland

Brisbane

557 Gregory Terrace
Fortitude Valley QLD 4006

Tel: (07) 3872 2500

Townsville

Suite 7B, 95 Denham Street
Townsville QLD 4810

Tel: (07) 4721 4686

South Australia

Adelaide

155-159 Hutt Street
Adelaide SA 5000

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Tasmania

Hobart

86 Hampden Road
Battery Point TAS 7004

Tel: (03) 6224 2722

Northern Tasmania

Kings Meadows
Community Health Centre,
McHugh St
Kings Meadows TAS 7249

Tel: (03) 6336 5116

Victoria

Melbourne

Level 12, 500 Collins Street
Melbourne VIC 3000

Tel: (03) 9329 8511

Western Australia

Perth

334 Rokeby Road
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