Footpath Construction Strategy
2014
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Introduction

Footpaths play an important role within the City of Tea Tree Gully, providing a means of access to community facilities, services, public transport and open space. The provision of footpaths make communities more liveable and better connected and people healthier and physically active.

Many areas in the City of Tea Tree Gully are well suited to walking. In particular, creek and river corridors provide ideal locations for pedestrian and cycle paths.

There are a number of residential roads that present some difficulty in establishing constructed footpaths due to street trees and other infrastructure that restrict the width available for a footpath. Hilly terrain can also make walking more difficult and the construction of footpaths unfeasible.

In 1999, Council developed a Strategic Pedestrian Network Footpath Plan (1999) to guide the construction of new footpaths throughout the City. The plan focused on the construction of footpaths to provide connectivity with other footpaths based on a hierarchy which predominately considered vehicular traffic volumes and land use.

Since this time, approximately 104 kilometres of footpaths have been constructed or renewed, including footpaths constructed as part of new land divisions.

Council has substantially completed the construction of footpaths recommended in the Strategic Pedestrian Network Footpath Plan (1999). In recognition of a desire to continue with the expansion of the footpath network and where possible, to provide a footpath on at least one side of roads in the urban area, a Footpath Construction Strategy is proposed.
Objectives

The objectives of the Footpath Construction Strategy are to:

• Promote and encourage walking as a sustainable and preferred mode of transport for short trips to work, shops, school and for recreation

• Reduce the risk of conflict between pedestrians and motor vehicles

• Improve the amenity, accessibility and safety of the footpath network so they are accessible for all users

• Minimise the removal of significant vegetation in the location and construction of new footpaths

• Establish criteria to guide the development of new footpaths, which proposes the construction of a footpath on at least one side of most residential roads, and include provision in the Long-Term Financial Plan to complete the development of the pedestrian footpath network in a financially sustainable manner.
Existing footpath network

Currently, the City of Tea Tree Gully pedestrian footpath network incorporates approximately 560 km of footpaths constructed from concrete, block paving, bitumen and rubble, valued at approximately $75M. The footpaths are located in the urban areas of the City, along roads, creeks and river corridors and through reserves.

Information pertaining to footpaths is stored in Council’s Asset Information Management System (AIM) and the Geographical Information System (GIS).

The GIS has enabled the existing footpaths throughout the city to be represented on a map base, and provides the means to undertake desktop analysis and mapping to plan for the provision of new footpaths.

The existing footpath network length, by material type, is listed in the table below.

<table>
<thead>
<tr>
<th>Footpath material</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete paths</td>
<td>371 km</td>
</tr>
<tr>
<td>Block paved paths</td>
<td>95 km</td>
</tr>
<tr>
<td>Rubble paths</td>
<td>80 km</td>
</tr>
<tr>
<td>Bitumen paths</td>
<td>14 km</td>
</tr>
</tbody>
</table>
Pedestrian footpath network guidelines

Guidance for road designers and other practitioners on the design of paths for safe and efficient walking and cycling is provided in the Australian Guide to Road Design – Part 6A: Pedestrian and Cycle Paths.

The Austroads Guide provides the following general principles relating to the provision of footpaths:

• In general, all roads should have some type of walking facility out of the vehicle path. An exception may be categories of road that have a very low volume and low operating speed (i.e. <40 km/h) such as minor access roads.

• The need for footpaths should also be related to the pedestrian network functional requirements. For example, the presence of pedestrians on many rural roads is a rare event and the provision of paths is not economically justified. In this situation the provision of shoulders will provide space for a pedestrian who happens to use the road. On the other hand, all roads that have a moderate to high speed (i.e. >40 km/h) and significant pedestrian activity should be provided with footpaths because of the high risk of serious injury should a pedestrian be struck by a vehicle.

• Pedestrian volumes are not regularly collected by most agencies and cannot be easily forecast. Development density can be used as a surrogate for pedestrian usage in determining the need for footpaths.

• A higher road functional classification in urban areas generally means higher traffic speeds and volumes, hence a need to provide for pedestrian mobility and safety. However, some roads classified as local streets also function as traffic routes and have similar needs.

• Collector and arterial roads in the vicinity of schools should be provided with footpaths and desirably off-road cycle paths, shared or segregated footpaths, to increase safety for children travelling to and from school. Safe routes to school can also reduce reliance on car travel for school trips and have health and environmental benefits.

• Many people with disabilities undertake much of their travel either on foot, in wheelchairs or on personal mobility devices (e.g. scooters) and so the development of a network of adequate footpaths is important for their mobility. The provision of footpaths that meet recommended dimensions, surface requirements, and which are free of obstructions is important to ensure that they do not represent a hazard for people who have difficulty in detecting or manoeuvring.
around obstacles

• The use of electric powered scooters has emerged as an alternative means of transport for people with mobility impairment or other health issues and is likely to grow as the population ages. It is therefore important that paths and associated facilities can accommodate this type of use.
Pedestrian footpath network criteria

The following criteria and general principles are recommended to guide the development of new footpaths throughout the City.

Footpath constructed on one side of a road

AMCORD – A national resource document for residential development also provides guidance for the provision of footpaths. In general, a footpath is desirable on roads with vehicular volumes greater than 300 vehicles/day.

Typically, traffic volumes in culs-de-sac less than 100m in length will be less than 300 vehicles/day and will not be provided a footpath unless the cul-de-sac leads to a walkway, school or other facility and attracts a significant number of pedestrians.

Footpath constructed on both sides of a road

As a general principle, consideration will be given to constructing footpaths on both sides of a road where the annual average daily traffic volume is greater than 3000 vehicles per day, along bus routes and in areas where the land use generates high pedestrian activity such as in the vicinity of schools, retail precincts, major sporting grounds and other public facilities.

Material type

Council uses a number of material types such as concrete, block paving, bitumen and rubble. The selection of one material over another will depend on site specific circumstances including the desired level of amenity and future renewal and maintenance considerations.

It is proposed that Council will continue to use a range of different material types, acknowledging the majority of new paths will be constructed with concrete and block paving.

Location

The location of a footpath within a road will be selected to suit the topography so the path complies with the requirement for disability access (as far as practicable) and minimises disturbance to vegetation and impact on adjoining properties.

Width

The minimum width required for wheelchair access is 1.2m, albeit it is permissible for a path to be 0.9m at a ‘squeeze point’ such as adjacent a stobie pole.

Council’s current Footpath and Cyclepaths Policy has adopted a desirable minimum footpath width of 1.5m, which provides for two pedestrians to walk side-by-side. The presence of couples walking side by side is a common occurrence along paths.

In high activity areas such as commercial and
shopping areas wider footpath widths are likely to be necessary, as well as at locations of higher pedestrian activity such as school crossings, recreational facilities and in the regional centre.

It is recommended that Council maintain the minimum width of 1.5m for footpaths, where possible, and a minimum width of 2.5m for shared use paths, acknowledging in some circumstances wider paths are desirable where there is a high concentration of activity.
Pedestrian footpath provision and cost

The location of the existing footpath network has been mapped using a Geographical Information System (GIS).

The GIS has been used to identify all the roads that do not have a footpath on one side of the road and roads which should desirably have a footpath on both sides due to traffic volumes in excess of 3,000 vehicles/day, they provide for a bus service, or generate very high pedestrian activity due to the adjacent land use.

Approximately 294 km of the road network has been identified as not providing a footpath on at least one side of the road, or where desirable, on both sides.

Approximately 44 km of the road network are culs-de-sac less than 100m in length (less than 300 vehicles/day) and 30 km of the road network are in rural areas, where it is not desirable to construct footpaths due to the site conditions and low pedestrian numbers.

The length of footpath to be constructed under the Footpath Construction Strategy is approximately 220 km.

The cost of constructing 220 km of footpath using either concrete or block paving is estimated at $42 million (2014 dollars). This figure takes into account that the construction costs are estimated to be 30% higher in hilly terrain or to accommodate conflict with street trees and other infrastructure.
Prioritisation – design and maintenance issues

The location of the existing footpath network has been mapped using a GIS.

The GIS enables the display of many different kinds of data on one map and enables us to easily see, analyse and understand relationships between different features and how they relate to each other.

For example, the footpath information includes location, material type, footpath width and condition. This information used in conjunction with other spatial data including the location of roads, schools, retail precincts, medical facilities, community centres, playgrounds and bus routes provides valuable information in planning for the provision of footpaths.

Due to the competing demands on Council’s budget, the provision of footpaths need to be prioritised to maximise the benefit to the wider community, provide direction for installation of new footpaths and to justify the selection of footpath construction to residents and elected members.

Factors to consider for developing a prioritised hierarchy include:

- Road hierarchy – arterial, collector, local road
- Land use/facility – education, community centre, play ground, sports ground, shopping precinct, aged care facility, reserves, residential, commercial
- Bus route
- Linkage to other footpaths
- Pedestrian catchment – route most likely travelled to provide greater amenity – consider elderly and children
- Topography/sight distance
- Construction feasibility – vegetation and other infrastructure restricting or compromising the geometry
- Construction costs – improve mobility and access and prioritise particular areas
- Trafficable verge area – non-trafficable/trafficable

Council will continue to develop and refine forward footpath construction programs based on the hierarchy and criteria listed above and informed through consultation with local communities where precinct planning is undertaken.
Key risks and opportunities

Disability access
Many people with disabilities undertake their travel on foot, in wheelchairs or on personal mobility devices (e.g. scooters). The provision of footpaths that meet recommended dimensions, surface requirements, which are free of obstructions is important to ensure they do not represent hazards for people who have difficulty in detecting or manoeuvring around obstacles.

However, in many areas of the City, there are considerable difficulties in constructing footpaths that comply with the requirements of the Disability Discrimination Act in relation to the maximum slope, without significant earthworks and retaining which can impact upon properties, vegetation, driveways and other infrastructure.

It should be noted that it may not be possible to construct a footpath along some roads.

Footpaths and cyclepaths will be constructed in accordance with the following specifications:
• Designs are to facilitate ease of use by the disabled and the aged including the use of tactile indicators, handrails and ramps as appropriate. The maximum longitudinal gradient of paths is to be no greater than any adjacent street pavement and, where possible, no greater than 1:14. All footpath and cyclepath designs will provide safe sight distances at crossing places and bends
• Cross-fall gradients shall be no greater than 1:40 as required by Australian Standards Code 1428, 2890 and 1742.

Impact on trees
Trees within the urban streetscape environment can cause conflict with footpaths. Residents value the amenity provided by trees and therefore there is a need to strike a balance that ensures trees are maintained while minimising the damage to footpaths. This may be achieved by the establishment of new streetscapes or the replacement of existing trees and may include the selection of appropriate tree species, use of root barrier products and the use of alternative footpath products around trees.

It should be noted that in many situations throughout the City, the presence of mature trees will impede the construction of footpaths to the extent that a footpath cannot be provided.

An assessment of street trees will be made by Council and appropriate trimming or removal may be undertaken to ensure the technical footpath requirements are met in consideration of any special treatment around the tree protection zone of regulated trees that may need to be considered on a case by case basis.
Accommodation works

Prior to the construction of any new footpaths and cyclepaths, the following matters must be considered:

• Where existing irrigation systems encroach onto the road reserve, the resident or property owner shall be given notice to relocate their encroaching sprinkler systems or to mark locations of sprinkler heads (and lines if possible) prior to the installation of the footpath. If residents or property owners have not relocated their sprinkler systems, Council will assume they are happy for the Council’s contractors to remove the irrigation systems and reinstate/repair upon completion of the footpath construction.

• Adjustment to service pits may need to be undertaken to ensure the technical footpath requirements are met.

Financial

Council recognises the need to develop a network of footpaths that increases pedestrian access and mobility for the community within available budgets.

Annual reconstruction and maintenance costs to renew and maintain footpaths place a significant burden on the capital and operational budgets of Council.

As the footpath network is increased there will be a need to increase the associated resources required to maintain the additional footpaths. Maintenance efficiencies and/or resources will need to increase accordingly.

Council’s financial position and specifically the net financial liabilities ratio is planned to reduce over time. This indicates that the Council’s capacity to meet its financial obligations from operating revenue is strengthening.

This creates opportunities for Council to invest in projects that deliver on future community needs in the context of long-term financial sustainability.

Council has in place the Long-Term Financial Plan (LTFP), Principle 3 – building capacity to reduce existing debt over the period three to five years.

The success of meeting the target set out in this principle will be measured by Council’s net financial liabilities ratio (NFLR) being reduced to between 25% and 35% over a period of three to five years.

Council’s LTFP 2014–2024 has been modelled to incorporate a number of known adjustments that are likely to occur following the federal government budget announcements (e.g. removal of the Supplementary Local Roads funding and no indexation of the Federal...
Assistance Grants). Based on this modelling, Council’s NFLR will be within the targeted range in FYE 2017 allowing the program to commence in FYE 2018.

The NFLR, incorporating $2.8 million per year in footpath construction, in comparison to the allocation of the current planned footpath expenditure is included in the tables below.

**Table 1: Net financial liabilities – current position (excluding any increase to footpath construction)**

<table>
<thead>
<tr>
<th>Ratio</th>
<th>FYE 2017</th>
<th>FYE 2018</th>
<th>FYE 2019</th>
<th>FYE 2020</th>
<th>FYE 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net financial liabilities ratio</td>
<td>30.4%</td>
<td>24.0%</td>
<td>18.5%</td>
<td>12.5%</td>
<td>6.8%</td>
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<tr>
<td>Net financial liabilities</td>
<td>27,056</td>
<td>22,237</td>
<td>17,810</td>
<td>12,513</td>
<td>7,122</td>
</tr>
</tbody>
</table>

**Table 2: Net financial liabilities – including Footpath Construction Strategy**

<table>
<thead>
<tr>
<th>Ratio</th>
<th>FYE 2017</th>
<th>FYE 2018</th>
<th>FYE 2019</th>
<th>FYE 2020</th>
<th>FYE 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net financial liabilities ratio</td>
<td>30.4%</td>
<td>27.0%</td>
<td>24.3%</td>
<td>20.8%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Net financial liabilities</td>
<td>27,056</td>
<td>25,037</td>
<td>23,410</td>
<td>20,913</td>
<td>18,322</td>
</tr>
</tbody>
</table>

**Staff implications**

Significant operational funds are expended on removal of trip hazards, replacement of failed footpaths, renewal of worn sections of the network, infilling gaps and ensuring a serviceable footpath.

As the footpath network is increased there will be a need to increase the associated resources required to maintain the additional footpaths. Maintenance efficiencies and/or resources will need to increase accordingly.

In addition, an expanded program for the construction of new paths will likely require additional resources to manage the program.

Whilst the physical works will generally be carried out using contract labour, Council staff will need to undertake the project and contract management functions, including design, construction and administration of the program.

It is anticipated that the resourcing of this work can be undertaken by redistribution of staff functions and will not require an additional staff position.
Related documents/legislation

1. Strategic Plan 2011–2015
2. Disability Discrimination Act 1992
3. Road Traffic Act 1961
5. Footpath and Cyclepaths Policy (revoked 12 August 2014)
9. Road Transport Asset Management Plan
10. City Master Plan 2011–2040
11. Precinct Planning Implementation (SPDPC 29 November 2011)
12. Tree Management Policy
13. Development Act 1993
City of Tea Tree Gully
571 Montague Road, Modbury SA 5092
PO Box 571, Modbury SA 5092
Telephone 08 8397 7444
www.teatreegully.sa.gov.au