## Revision record

<table>
<thead>
<tr>
<th>Date</th>
<th>Prepared by</th>
<th>Scope of revision</th>
<th>Endorsed by Council</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>QED</td>
<td>Preparation of Road Network Plan</td>
<td>13 December 2005</td>
<td>Superseded</td>
</tr>
<tr>
<td>2008</td>
<td>Planning Futures</td>
<td>Preliminary review and community engagement strategy</td>
<td></td>
<td>Complete</td>
</tr>
<tr>
<td>2009</td>
<td>Anna Osman Asset Planner Road Network and Transport</td>
<td>Review of Road Network Plan focusing on growth, freight and unsealed roads</td>
<td>17 November 2009</td>
<td>Complete</td>
</tr>
<tr>
<td>2016</td>
<td>Heath Newberry, Road Network Planner &amp; GHD Pty Ltd</td>
<td>Review of Road Network Plan focusing on new format and new strategies incorporating comprehensive consultation campaign</td>
<td>22 November 2016</td>
<td>Current</td>
</tr>
</tbody>
</table>

## Related documents

<table>
<thead>
<tr>
<th>Document</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Plan 2035</td>
<td>Strategic plan for the City of Onkaparinga, includes 10 other strategies - 8 community strategies (Placemaking, Land Use, Transport, Community Capacity and Cultural Development, Healthy Lifestyles, Community Safety, Economic Development, Environmental) and 2 resourcing strategies (Financial Sustainability and Corporate).</td>
</tr>
<tr>
<td>Integrated Transport and Movement Strategy 2016-2021</td>
<td>Strategic intentions for current transport systems within the City of Onkaparinga. Currently under review.</td>
</tr>
<tr>
<td>Street Design Guidelines Dec 2014</td>
<td>The City of Onkaparinga Street Design Guidelines set out the landscape design principles, materials, furniture and typical layout of the street elements to be used through the network of roads in the City of Onkaparinga.</td>
</tr>
<tr>
<td>Heavy Vehicle Access Framework</td>
<td>The Heavy Vehicle Access Framework (HVAF) provides the policy and guidelines for the strategic development of heavy vehicle freight networks in South Australia.</td>
</tr>
<tr>
<td>Integrated Transport and Land Use Plan (ITLUP)</td>
<td>SA government Integrated Transport and Land Use Plan for South Australia.</td>
</tr>
<tr>
<td>30 year Plan for Greater Adelaide</td>
<td>Sets out the state government's vision for growth and development of the greater Adelaide region for the next 30 years.</td>
</tr>
<tr>
<td>Austroads Guide to Road Design Part 1 – 9.</td>
<td>Ensures a consistent and appropriate approach to road design. Provides information to assist traffic engineers and road designers to develop road layouts that suit conditions at particular sites.</td>
</tr>
</tbody>
</table>
Table of Contents

Executive summary 4

1.0 Strategic content 6
  1.1 Road asset management 7

2.0 Community Engagement - RNP Review 2016 7
  2.1 Engagement approach 7
    2.1.1 Purpose 7
    2.1.2 Engagement objectives 8
    2.1.3 Key messages 8
    2.1.4 Assessing and understanding community expectations 8
    2.1.5 Engagement methodology 8
    2.1.6 Community engagement outcomes summary 9

3.0 Growth impacts and demand projections 9
  3.1 Population growth 9
  3.2 Medium density policy 9
  3.3 Future development 10
  3.4 Climate change 11
  3.5 Transit corridors, growth areas and activity centres 11
  3.6 Footpath Service Level Review 12
  3.7 Journeys to work 12
  3.8 Duplication of the Southern Expressway 12
  3.9 Rail 13

4.0 New economic generators 13
  4.1 General industrial growth 13
  4.2 Global economic trends 14
  4.3 South Australia - Shandong business to business platform 14
  4.4 North-south motorway 14
  4.5 Freight 15
  4.6 Tourism 15
  4.7 Agribusiness 16

5.0 Strategic Directions 16
  5.1 State and Federal 16
  5.2 City of Onkaparinga 21

6.0 Road Hierarchy 24

7.0 Operational Management Procedures 27
  7.1 Classification guidelines - road hierarchy 27
    7.1.1 General configuration attributes 28
    7.1.2 General traffic attributes 28
  Attributes along the road 29
  Street Lighting 31
    7.1.3 Guidelines for intersection control devices in urban network 31
    7.1.4 Cross-sectional requirements 31
  7.2 Classification guidelines - functional hierarchy 36
    7.2.1 Freight 36
    7.2.2 Tourist routes 40
    7.2.3 Public transport routes 42
    7.2.4 Bicycle network 42

8.0 Decision Process Frameworks 46
  8.1 Traffic management 46
  8.2 Unsealed roads framework 47
    8.2.1 Supplementary guidelines: setting project priorities - assessment of unsealed roads 47
8.2.2 Isolated seal considerations 50
8.3 Freight network framework 53
  8.3.1 Performance Based Standards (PBS) Scheme 55
  8.3.2 Old Coach Road (between Maslin Beach Road and Aldinga township) 55
8.4 Sustainable roads framework 55
8.5 Roadside vegetation impact process 57
8.6 Unmade roads framework 57

9.0 **Network Deficiencies** 61
9.1 Progress against actions 61
  9.1.1 Council roads 61
  9.1.2 State government roads (DPTI) 64
9.2 New actions 67
  9.2.1 Council roads 67
  9.2.2 State roads 67
  9.2.3 Outstanding amendments to the Road Network Plan 2005 68
9.3 Amendments to the Road Network Plan 2009-2016 68
9.4 Road intersections and network connections 71
9.5 Strategic rural roads - adequacy improvement 73
9.6 Rural freight route/tourist route intersection improvements 77
9.7 Rural freight route/tourist route safety improvements 77

10.0 **Improvement Plan** 78
10.1 Commodity routes investigation 78
10.2 Street design guidelines 78
10.3 Rear Access Laneways 78
10.4 Traffic Precinct Study 79

**Appendix 1 - Community Engagement Outcomes Report (CEOR)** 81
**Appendix 2 - Unsealed Roads Evaluation form** 82
Executive summary

The Road Network Plan (RNP) is the City of Onkaparinga’s leading road management document which outlines our road hierarchy and functional road networks.

The ultimate aim of the RNP is to ensure the optimal functionality and performance of the City of Onkaparinga road network. It is important that we have a road network that operates effectively and efficiently.

Currently the road hierarchy classifications are based on movement type along the road, whilst the functional hierarchy classifications are based on dominant vehicle type. The RNP is used to inform service standards and service levels for our road infrastructure assets through the application of road hierarchy cross sections. It also includes an action plan identifying network deficiencies, proposed council/state government upgrades and an improvement plan.

The RNP was last reviewed in 2009 and has now been revised to ensure it is relevant, up to date and refers to current policies, strategies and guidelines.

The RNP is a management plan designed to be applied throughout the City of Onkaparinga operations relating to the road network for 2016-21. The plan is linked to the Integrated Movement and Transport Strategy 2016-21 and provides a guiding document for future road considerations and upgrades.

The RNP has the following objectives:

- A tool for prioritising infrastructure upgrades.
- A decision making tool for the road network for council staff and developers.
- Identify and address deficiencies within the City of Onkaparinga road network.
1.0 Strategic content

The RNP has been reviewed in the context of the strategic planning framework and a number of other strategic, project and operational initiatives, both internal and external. In particular, there are several strategies and plans being reviewed concurrently allowing opportunities for overlaps in engagement activities and community and stakeholder input.

**Internal linkages**
- City of Onkaparinga Community Plan 2035
- Draft Integrated Movement and Transport Strategy 2016-2021 *(currently under review)*
- Road Network Plan 2016-21
- Traffic Precinct Study Roads Asset Management Plan
- Road Maintenance Service Review
- Community Passenger Network Review *(under review)*
- Footpath Service Level Review *(under review)*
- Recreation Trails Network Strategy and Action Plan *(under review)*
- Cycling Study *(currently being developed)*
- Street Design Guidelines
- Development Plan April 2015

**External linkages**
- Integrated Transport and Land Use Plan (SA Government)
- A Functional Hierarchy for South Australia’s Land Transport Network (DPTI)
- Main South Road Management Plan DPTI
- Road Classification Guidelines in SA (LGA/DPTI)
- South Australia’s Road Safety Strategy 2020 (SA Government)
- Streets for People Compendium (SA Government)
- Care, Control and Management of Roads (Highways) (Commissioner of Highways)
- Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices (DPTI)
1.1 Road asset management

Road assets referred to in the RNP, represent community investment and provide community services and benefits. City of Onkaparinga’s role is to maintain, operate and renew road assets so they continue to provide the same level of service as described in the RNP to their community.

The long term costs of owning and operating road assets is a financial challenge to local government. The City of Onkaparinga embraces the principles of sustainability to ensure the long term viability of serving the community through the Road Asset Management Plan.

This plan is based on a whole-of-life or ‘lifecycle management’ approach that manages road assets from planning, upgrading, ongoing maintenance and eventually renewal. This will enable decisions to be made based on providing the required services efficiently and effectively, recognising all costs throughout the life of the road asset. When building additional or upgrading existing assets, the ongoing cost of maintaining and operating the asset must be identified. The RNP informs and supports the City of Onkaparinga’s Road Asset Management Plan in managing the road assets.

2.0 Community Engagement - RNP Review 2016

2.1 Engagement approach

As part of the revision of the RNP, we have undertaken a comprehensive community and stakeholder engagement process. The feedback from the engagement has provided us with a greater understanding of community and stakeholder views on a range of issues related to the RNP. These can be classified into three overarching engagement themes:

- Hierarchy of Road Networks (classification of roads and functional hierarchy maps to distinguish roads)
- Decision Frameworks (what guides appropriate treatment of roads)
- Network Deficiencies (review of current deficiencies identified and identification of further deficiencies)
- Strategic Considerations and Integration (how does the RNP link to other key strategic documents and our project and capital works program)

Given the technical nature of the RNP, these themes enabled a simpler, more streamlined consultation process that was easier for participants to understand and contribute. It also provided us with a platform for clear, targeted reporting on findings in key areas.

2.1.1 Purpose

The purpose of the engagement was to:

- Inform the general community and key stakeholders of the role of the RNP and options for providing input into its review.
- Ensure community and stakeholder expectations of our role in managing the local road network are considered in the review of the RNP.
• Work with identified stakeholders in identifying and addressing issues relating to the road network, including those stakeholders involved in related strategic initiatives and plans.
• Support stakeholders in adopting an advocacy role in addressing issues relating to the road network, particularly where issues are not under the care and control of the City of Onkaparinga.

2.1.2 Engagement objectives
The engagement objectives were to ensure:
• Communities and stakeholders are informed of the RNP review and its role, council’s role in managing the road network and the role of others including the Department of Planning Transport and Infrastructure (DPTI).
• Communities and stakeholders are informed of their opportunities to participate in the review of the RNP.
• Information is collated from communities and stakeholders in a way that reliably informs and adds value to the RNP.
• Support is provided to communities and stakeholders in advocating on road network issues, especially where under the care and control of other agencies such as DPTI or SA Police.
• To seek feedback for network deficiencies and gaps in the current plan.

2.1.3 Key messages
A series of key messages were identified in the Community Engagement Plan developed to guide the engagement activities for the project.
• This project will update the existing 2009 RNP, it is not a complete rewrite.
• The project will review the road hierarchy and its appropriateness in relation to its current role in particular giving due regard to tourism, freight and unsealed road requirements.
• The City of Onkaparinga is updating the plan to accommodate for the impact on the network from major development such as the Southern Expressway duplication, Seaford Rail Extension and new policies from City of Onkaparinga and the state government that have been developed since the last review of the plan.

2.1.4 Assessing and understanding community expectations
Community and stakeholder expectations for the review of the RNP did vary considerably between different stakeholder groups. Accordingly, a variety of engagement techniques were developed to target different stakeholder groups. This provided the best opportunities for constructive feedback into the review.

2.1.5 Engagement methodology
We sought feedback from a broad cross section of the community and key stakeholder groups and received comment from 479 respondents. Predominantly, most feedback was provided through the community mapping tool, ‘Social Pinpoint’, however feedback was also provided through emails and letters.

We engaged with the following groups directly during the community engagement process:
2.1.6 Community engagement outcomes summary

Feedback was received by a variety of sources:

- Email – 27 respondents
- Social PinPoint – 448 respondents
- Written response – 4 respondents

The results of the feedback were used along with the current strategies and policies in updating the plans, priorities and network deficiencies for the RNP.

3.0 Growth impacts and demand projections

3.1 Population growth

A major component of South Australia’s Strategic Plan is the state population target of 2 million people by 2050. For the City of Onkaparinga, population forecasts estimate an additional 45,000 residents and 18,000 new dwellings by 2036.

This increase in the number of potential residents in the City of Onkaparinga will result in an increase in vehicles using the road network. The origin and destination of these additional trips will depend on where this population will live, work and recreate. The additional trips generated by projected populations will require more detailed traffic modelling to establish an action plan that will identify intersection and road upgrades over the next 20 years, particularly in relation to the state managed arterial network.

With the proclamation of the McLaren Vale Character Preservation District (MVCPD) in 2012, all current greenfield and ‘immediate’ infill opportunities within the City of Onkaparinga are likely to be exhausted around 2032. The creation of the MVCPD has resulted in some 72 per cent of the city quarantined to prevent further residential development. Any amendment to the MVCPD boundary would require a state government legislation change. Therefore, all future development will be contained to targeted growth areas or infill opportunities only.

3.2 Medium density policy

We have recognised that future population growth must be carefully managed to ensure there is sufficient land to accommodate the housing and jobs, as well as the infrastructure required to support it.
Over the next 20 years there will be an increase in the number of people 65 years and over. Single and couple households are also expected to increase, which is consistent with Greater Adelaide’s growth trends and is predicted that single person households will account for one third of all household types by 2036. Housing needs will be required to adapt to meet the demands of the changing population, diversity of age groups and household types. Growth in single person households will generate demand for affordable and more diverse housing.

In response to this changing population, diversity of age groups and household types in 2010 the City of Onkaparinga rezoned 2,200 hectares or 27% of its existing Residential Zone to Medium Density Policy Area. This zoning encourages the development of affordable living options, such as small lot housing and townhouses located close to centres and public transport. Providing affordable living options allows people to downsize and remain in their community of choice. It also provides the opening for people to break into the property market and purchase their first home.

Located within walking distance to activity centres, frequent public transport and quality open space, the Medium Density Policy Area facilitates opportunity to more easily access services and facilities, help to improve the viability of businesses and services, promote walkability and improve lifestyle quality and affordability for our residents.

The policy is restricted to localities that adjoin or are nearby district and neighbourhood centres and open space areas, to improve the viability of businesses and services, promote walkability and improve the quality of life for residents.

If infill and an increase in density is to be successfully implemented the RNP will need to take the above into consideration when planning for future asset renewal and development, to ensure that roads can accommodate the anticipated increase in traffic, demand on public transport and an increase of density in urban areas.

### 3.3 Future development

The main residential growth areas within the City of Onkaparinga are projected to relate to greenfield development, infill, medium density zones, activity centres and transit corridors. Potential impacts of residential growth on the road network include:

- Connection/s with Main South Road for the Hackham south east development.
- Seaford Heights development is currently being constructed and includes a collector road entering off Robinson Road and upgrades of Robinson Road’s connection to the arterial network.
- Additional long distance trips on the arterial road system (primarily Main South Road and Commercial Road south of the river, and the Southern Expressway, Main South and Lonsdale Roads north of the river).
- An increase in total long distance car trips using the local road network.
- Upgrade requirements for Old Coach Road, Main South Road (between Aldinga and Seaford) and Commercial Roads in response to growth areas in Seaford Meadows, Aldinga Beach and Sellicks Beach.
- Potential upgrade requirements for Beach Road in response to a Noarlunga Regional Centre redevelopment.
Increased desire for active transport modes of movement (walking, cycling, public transport).

3.4 Climate change

A new Climate Change Strategy for South Australia was released by Premier Jay Weatherill and Minister for Climate Change, Ian Hunter on 29 November 2015.

South Australia’s Climate Change Strategy 2015-2050 – Towards a low carbon economy sets a framework for significantly reducing emissions in South Australia while maximising economic opportunities.

At the centre of the strategy is a bold and ambitious target for the state to achieve net zero emissions by 2050. This new target responds to the findings of the SA Low Carbon Economy Experts Panel which was appointed by the government to provide independent advice about climate change targets and objectives for the state to 2050. The new strategy builds on South Australia’s achievements in renewable energy and climate change adaptation and the leadership that has been demonstrated by industry, the community and government to date. The strategy also responds to advice of the Premier’s Climate Change Council in South Australia’s climate change vision: Pathways to 2050

Climate change is likely to provide an increase in temperatures, extreme events and sea level rise, which are likely to impact on the road network by accelerating the degradation of road networks and challenge their design, maintenance and rehabilitation processes.

3.5 Transit corridors, growth areas and activity centres

An increase in population is essential to support growth in the economy. This will subsequently place demands for improved infrastructure, concentrated housing and employment growth around existing transport infrastructure, activity centres and careful development of remaining greenfield areas.

The City of Onkaparinga has investigated higher density populations and mixed-use development located close to transit stations, activity centres and well serviced bus route localities. Locations identified include:

- Noarlunga Centre
- Christie Downs
- Seaford
- Aldinga
- Morphett Vale
- Aberfoyle Park

The Strategic Infrastructure Plan for South Australia also seeks to ensure that planning for residential development is more closely integrated with infrastructure and transport planning. This requires consideration of the role of the existing road network as well as future requirements in line with planned land releases and future regeneration projects.

The impact of higher density mixed use development on traffic patterns will also require consideration given once of the underlying assumptions is that vehicle trips and impacts on the
road network are reduced. Investigations of mid to long term impacts from this kind of
development on the road network need to be analysed and incorporated into future revisions.
In the identified locations listed above, all sites have direct access to either rail services, arterial
roads with well serviced bus routes or both.

3.6 Footpath Service Level Review

We are currently reviewing the service levels for footpaths to ensure they continue to deliver
services that meet the needs of the community and future demand requirements arising from
factors such as changing demographics, age profile and population growth.

The footpath service level review explores changes to the current service level as a result of the
Street Design Guidelines, the adoption of the Medium Density Policy as well as feedback from a
Strategic Directions Committee workshop held with elected members in 2015.

Concepts being explored include pedestrian generator zones, medium density zones and land
use zones followed by discussions on their impacts and any changes to the current service level
in terms of where footpaths are provided, width, positioning in relation to kerb and material
type.

A cost benefit assessment will be undertaken and a final recommendation on footpath service
levels will be presented to Council for endorsement. These service levels will guide the
construction of new footpaths and the upgrade or renewal of existing footpaths throughout the
city.

3.7 Journeys to work

Particular journeys to work trends that have an impact on the road network include:

• A significant flow of north-south traffic related to job opportunities located north of the City
of Onkaparinga. This may increase as the population increases, placing continued pressure
on north-south corridors and intersections.

• A significant and increasing number of internal journeys relating to the City of Onkaparinga
residents who also work within the city. Depending on new economic generators and
population growth this number could increase further. Impacts could include increased
pressure on east-west trips and local (rather than state) road networks.

• With increases in tourism, the number of workers requiring to travel to non-traditional work
locations or travel times may impact on existing work related travel.

• An increasing number of workers travelling to the City of Onkaparinga to work. Possible
impact on intersection capacities and demand on two-way flow of north-south traffic (ie
Southern Expressway).

• As the ability to work and shop online improves with the introduction of the National
Broadband Network, infrastructure throughout the City of Onkaparinga, the necessity to
travel to a work, location or the hours of travel to work, may change considerably.

3.8 Duplication of the Southern Expressway

The duplication of the Southern Expressway completed in 2014, allows easier and two-way
continuous access from the Adelaide metropolitan area north of the City of Onkaparinga at all
times. This 24 hour direct link to and from the north has the potential to encourage an influx of journeys for the purpose of travelling to work and visitors travelling to or through the City of Onkaparinga.

The City of Onkaparinga and the state government should continue to monitor the impacts of this upgraded road on the road network. We will also continue to work with the state government (as a key stakeholder) on the Darlington Upgrade project which is currently under construction and expected to be finished by December 2018.

3.9 Rail

The extension of the rail line from Noarlunga Centre to the Seaford District Centre was completed in 2013 and included two new railway stations at Seaford Meadows and Seaford. Both stations have park and ride facilities and are adjacent to the regionally significant Coast to Vines shared use path.

Seaford Meadows station supports public transport patrons from the currently expanding Seaford Meadows development. The location of the station adjacent Seaford Road provides good vehicular access and parking facilities for rail commuters travelling from McLaren Vale/Willunga area.

Seaford station is in close proximity to the Seaford District Centre, allowing pedestrian access to this commercial area. The park and ride facility at Seaford station provides for vehicle commuters accessing the rail public transport from the Aldinga/Sellicks area, whilst the station layout includes a bus interchange which allows for coordinated bus-rail patronage. The car park and interchange have direct access to the road network via Griffiths Drive which is classified as an arterial road.

The rail extension and the nature of the stations will have a significant impact on the surrounding road network and in particular, Seaford Road. The City of Onkaparinga and state government will continue to monitor the impacts of this rail extension on the road network.

The state government will continue to define and preserve the future rail corridor to allow for the eventual extension of train services to Aldinga. The future extension of rail services to Aldinga will support population and development projections in the wider southern community.

4.0 New economic generators

4.1 General industrial growth

The Economic Development Board’s Economic Priorities and the Southern Adelaide Economic Development Plan 2011 - 2012 identify changes in the form and function of industrial development throughout South Australia and southern Adelaide. These trends include the decline of the traditional manufacturing industry and potential move towards high end manufacturing which may include a greater focus on specialised manufacturing in ‘clusters’ such as medical and technological, design services, warehousing, marketing and engineering.

The physical impact of these trends on land and transportation are not fully known but it is likely that maintaining access for large scale industrial traffic (including B-Doubles) will be essential.
Opportunities for industrial growth are generally associated with the redevelopment of the Lonsdale area and continued development of the Seaford Industrial Zone. Given that these areas were designed to provide for industrial traffic it is unlikely that significant upgrades to the local industrial road network would be required. Future industrial development in other areas would require rezoning and part of that analysis would include the impact of the proposed development on the road network.

4.2 Global economic trends

Global economic trends can impact the manufacturing industry. Within the City of Onkaparinga, state, national and global trends will continue to impact on our economy, residents and workers, and subsequently the road network. The state government is now supporting future manufacturing by ‘providing advice, support, marketing information and geographic clusters or precincts where manufacturers can learn from each other’s experiences such as Tonsley Park.

South Australia’s traditional manufacturing and agricultural base is maturing, and logistics and supply chains are becoming more complex and sensitive to time and cost. These developments mean that modern, well-managed freight networks are essential to the state’s continued prosperity.

Managing the freight and port networks to get the best out of these assets, while investing strategically for the future, is an important component of the state’s strategic plan.

Global trends may lead towards new businesses locating in the city’s industrial precincts that include warehousing, transport depots, specialised technological and medical manufacturing and design services that may resemble large scale commercial developments in style.

4.3 South Australia - Shandong business to business platform

The City of Onkaparinga has a long history of active and effective involvement in economic growth and development. City of Onkaparinga delegates have visited China and hosted delegations, listened closely to investors and worked to identify opportunities of interest that leverage the highest benefit for employment and business growth within the city.

Through our sister city relationship, Memorandums of Understanding and ongoing work in building relationships in Shandong and Beijing, we have potential investors from China who are interested in a number of our significant projects.

This approach to investment attraction and economic growth will help us deliver their long term strategic projects and capitalise on private sector financing opportunities to assist us to offset and leverage council investment wherever possible, as well as building business capability to increase potential for employment growth of our local businesses. Changes to businesses and new major projects throughout the City of Onkaparinga may impact on the road network.

4.4 North-south motorway

The state government, through funding assistance by the Australia government, is focussed on the continued creation of a motorway “spine” running north-south the length of the Adelaide metropolitan area. The Southern Expressway and its duplication was a key component of this motorway.
Work has recently commenced on the Darlington Upgrade project which is the section of road immediately north of the Southern Expressway. The Torrens-to-Torrens project is also underway with completion of these two projects scheduled within the life of this revision of the RNP. Once these works have been completed, the city's access by road to industry and sea/rail freight transport in the northern suburbs of Adelaide will be greatly improved. Co-currently the Northern Connector project, linking the Superway and Northern Expressway will further enhance road freight movements to and from the City of Onkaparinga and eastern states.

Having this improved connection to northern Adelaide and beyond is likely to encourage greater traffic movements for not only freight vehicles, but more generally all travel. This improved access to and from our city may result in an increase in the volume of traffic, in particular the portion of the road network adjacent the Southern Expressway exits.

4.5 Freight

The enhancement of strategic freight routes to minimise community impacts on tourism, retail, commercial and residential areas forms a key component of the Strategic Infrastructure Plan for South Australia. In addition, the provision of good access for freight in and between industrial areas is identified as a way of ensuring economic viability and making industrial land more attractive to investors.

The Guidelines for Assessing Heavy Vehicle Access to Local Roads identifies a trend towards the use of larger and heavier vehicles. This is in line with the National Heavy Vehicle Regulator’s move towards the use of more standard vehicles on the road network, through the use of performance based standards, with the potential for heavy vehicle operators to achieve higher productivity and safety through innovative vehicle design.

Accordingly, the freight network plan for the City of Onkaparinga has been updated (Refer page 40 & 41) to be consistent with the National Heavy Vehicle Regulator Road Network and the move towards the use of more effective vehicles.

This trend is already evident in the City of Onkaparinga’s wine producing areas as larger vehicles are being required to transport standard sized containers.

These changes result in a larger number of heavy vehicles on roads that are not necessarily designed to accommodate them. Restrictions can limit potential economic growth whilst allowances can impact on road safety and amenity if not properly planned. The state government is focused on promoting freight and our strategic plan should be consistent with state policies that are targeting investment in infrastructure to improve the capacity and efficiency of strategic freight corridors.

The state government have a policy to target investment in infrastructure that improves the capacity and efficiency of strategic freight corridors. The RNP is consistent with this approach to ensure that the freight network is easily accessible for the required freight industry.

4.6 Tourism

One of the urgent actions in the Fleurieu Peninsula Integrated Strategic Tourism Plan is the revitalisation of the Fleurieu Way concept. This will have a direct impact on the road network and has been included in the RNP tourism road network (Refer page 43).
The tourism plan identifies the major destinations within the City of Onkaparinga (core products) including the food, wine and festival experiences of McLaren Vale, heritage areas and rural retreats across the city and self-drive, all of which require servicing by the road network.

The South Australian Tourism Commission has recently produced a number of brochures and maps promoting different tourism aspects located within the City of Onkaparinga. These documents include routes such as the Fleurieu Way, Epicurean Way, Southern Ocean Drive and the Perfect Picnic (Fleurieu Food) as well as the Willunga Farmers Market which is held weekly.

There is an increase in international drivers who will demand greater access to more unique sites, particularly those associated with eco-tourism such as national parks. These sites will need to be easily accessible via the road network and have clearly understood and visible guiding signage.

An ageing population has seen an increase in road based tourism due to more extensive retirement travel. The road network may need to cater for different vehicle types (such as recreation vehicles or RV’s, campervans, caravans and trailers), due to increased tourism, through adjustments to road design and access to off road parking facilities.

The Tour Down Under event held each year in Adelaide has generated a lot of tourism interest in the region. For the City of Onkaparinga this has been heightened by interstate and overseas exposure resulting from the now traditional, penultimate stage held on the roads around the suburbs of Willunga, McLaren Vale and Aldinga. The iconic ‘king of the mountain’ climb up Willunga Hill from the township has generated much interest in this specific location. Leading up to the event there is a marked increase in cyclists riding on the rural roads in the city, along with an increase in cycle tourism.

4.7 Agribusiness

The relevance of South Australia’s Economic Priorities to the City of Onkaparinga is the identification of agribusiness, particularly in relation to food and wine.

It calls for the creation of opportunities for food and wine businesses to expand or co-locate. The impact on the food and wine sector is discussed further in Section 9.5 (Strategic Rural Roads).

The reported harvest from McLaren Vale was 28,434 tonnes in 2015, 14% below the 2014 harvest. Over the past five years, the total tonnes harvested has reduced by over a third. There were 77 hectares of new plantings in McLaren Vale in spring 2014, compared with 89 hectares in 2013. The net increase in area was 42 hectares. Over the past five years the total area of plantings has increased by 1%. Based on these trends it is unlikely that there will be an impact on the RNP over the next five years, although the current capacity issues identified by the 2009 RNP remain a high priority.

5.0 Strategic Directions

5.1 State and Federal

The following provides an overview of a number of South Australian and Australian government documents and the main trends that arise and may affect our road network. Strategic documents that provide direction for this RNP include:
SA Government - Integrated Transport and Land Use Plan

State government, in consultation with planning and transport industries and interest groups, has recently finalised and released South Australia's first Integrated Transport and Land Use Plan.

The Integrated Transport and Land Use Plan (ITLUP) identifies new ways of connecting people to places, from the weekday commute, to weekend sports matches, shopping, entertainment and time with friends and family. It also is about connecting businesses with their suppliers and markets, whether they are around the corner, across town or on the other side of the world. It is a state plan with local, national and international reach.

There is a fundamental relationship between transport and land use strategic planning. Any new land development will increase the pressure on an area’s existing transport network and may require the development of new transport infrastructure. Conversely, the provision of new transport infrastructure will help open up new land developments by attracting residents and businesses. In turn, this will increase the demand for and use of new transport infrastructure, ensuring the ongoing links between the two systems.

Through the creation of this plan, the state government enables transport decisions to take into account and support strategic land use considerations, and land use decisions to take into account and support transport systems.

ITLUP envisages significant redevelopment of the Noarlunga Regional Centre. It is anticipated that an additional 10,000 people will be living and working in the vicinity of the centre, creating opportunities for further residential and business expansion in the south. In addition, the recent extension of the Seaford line to Seaford Meadows, and Seaford District Centre plus better bus connections to these stations, will allow transit oriented development higher density housing in these locations.
ITLUP identifies the duplication of Beach, Dyson and Commercial Roads as the need arises and the following medium to long term improvements to the arterial road network in the City of Onkaparinga:

- Victor Harbor Road – duplication of the section between Old Noarlunga and McLaren Vale.
- Main South Road – duplication of the section between Seaford and Aldinga.
- Victor Harbor Road – widening, overtaking lanes and shoulder sealing of the section south of McLaren Vale.
- Main South Road – widening, overtaking lanes and shoulder sealing of the section south of Aldinga.

ITLUP does not identify previous council considerations regarding:

- Duplication of Main South Road from Aldinga to Sellicks Beach (in addition to the duplication already proposed in ITLUP from Seaford to Aldinga).
- Southern connection onto the Southern Expressway at Reynella.
- Extension of Panalatinga Road to connect with Doctors Road.
- Flagstaff Road duplication.

**The 30 Year Plan for Greater Adelaide**

The state government is undertaking a ‘2016 Update’ of the 30-Year Plan for Greater Adelaide. The main aim of the 30-Year Plan is to outline how the South Australian government proposes to balance population and economic growth with the need to preserve the environment and protect the heritage, history and character of Greater Adelaide. The 30-Year Plan seeks to create inclusive, vibrant and liveable communities, while protecting the regional hinterland and primary production lands and sustaining natural resources. Importantly, the 30-Year Plan is one of the key tools to assist the state government, local government and the entire community in building resilience to the risks and impacts of climate change.

Ten major Mass Transit Routes (current, proposed and potential) are identified across metropolitan Adelaide, and include train, tram and O-Bahn corridors. A number of transit corridors (!major roads capable of long term mass transit potential and serving areas of significant regeneration potential) are also identified however these are only located within the inner and middle rim of the metropolitan area. Increased densities are anticipated in an 800m corridor either side of the Mass Transit Routes and Transit Corridors with highest densities around centres. The Adelaide-Seaford train line is one of the key Mass Transit Routes. The option to further extend the corridor to Aldinga Beach is also shown.

The 30-Year Plan consistently emphasises the need to protect major freight routes.

Noarlunga Centre is identified as a Regional Activity Centre. Council’s structure planning for what is now referred to as the Noarlunga Regional Centre development is nearing completion and the 30-Year Plan aligns with the strategies adopted by the City of Onkaparinga.

**South Australia’s Strategic Plan**

South Australia’s Strategic Plan was updated in 2011 and four main targets contained in South Australia’s Strategic Plan relating directly to the road network include:

- Target 56: Strategic Infrastructure
• Target 22: Road Safety  
• Target 63: Use of Public Transport

**South Australia’s Economic Priorities**

In response to global and national economic transformation, the state government recognised the need to transform SA's economy through 10 economic priorities.

Through these economic priorities, the state government is pursuing strategies that will support new opportunities to expand their food, health, tourism and education sections and create new high technology businesses through the transition to a low carbon economy. The state government are supporting innovation and increasing the footprint of advanced manufacturing in the state.

They are also committed to reducing barriers to investment, building on capabilities and driving growth in key sectors such as premium food and wine, tourism, health and ageing and education.

**Planning Strategy for South Australia**

The planning strategy outlines the state government's direction for land-use change and development in South Australia. Various volumes cover different geographic areas of the state:

- the 30 Year Plan for Greater Adelaide
- plans for regional South Australia

The planning directions in the strategy become policy at council level when they are incorporated into the development plans for council areas.

The strategy is reviewed every five years and altered from time to time to align it with legislative and policy changes.

The planning strategy articulates the state’s strategic directions in relation to the physical form of metropolitan Adelaide and contains 24 policies. These include Land Use and Transport Integration, which relates directly to the review of the Plan. The other 23 policies contain directions and trends that impact the road network to some extent.

Key policies of direct relevance to the Road Network Plan include:

- Integrating land use transport and land use planning decisions.
- Facilitating transit oriented development at major centres and transport hubs.
- Maximising public transport and reducing private vehicle use.
- Encouraging walking and cycling.
- Facilitating an effective freight network and consolidating older and locating new industry near established freight routes.
- Developing intermodal freight facilities.
- Protect and manage airports, giving priority to freight and passenger movements.
- Protecting port facilities and locating industry close to ports.
- Supporting health and safety outcomes.
Austroads - Guidelines for assessing heavy vehicle access to local roads

The guidelines acknowledge that whilst state managed freight routes are fairly suitable and accommodate a reasonably predictable and consistent level of heavy vehicle traffic, local roads are not necessarily as suitable, nor the level of traffic as consistent. Local freight roads within the City of Onkaparinga are largely located within industrial areas (i.e., Lonsdale, Hackham) where demand is consistent according to the types of industrial development.

McLaren Vale is also subject to high volumes of heavy vehicle traffic associated with the wine industry although demand is seasonal. This review of the RNP provides a freight network that aligns with that of the National Heavy Vehicle Regulator requirements as indicated previously.

A functional hierarchy for South Australia’s Land Transport Network (DPTI)

South Australia’s transport corridors are under increasing pressure to cater for growth in travel demand due to an expanding population and economy. A Functional Hierarchy for South Australia’s Land Transport Network has been developed to describe a functional hierarchy that identifies which corridors are important for different modes of transport. It guides the use of road and rail space to improve safety and efficiency for users of the transport network.

The state government generally maintains all roads classified as arterial roads. Arterial roads typically cater for large traffic volumes over longer distances compared to local roads. The state government also maintains all local roads within unincorporated areas (in the north of the State), as well as the passenger rail network within Adelaide. The state government does not maintain Adelaide’s rail freight network or the regional rail network. A functional hierarchy identifies which transport corridors are important for different modes of transport (e.g., public transport, freight, etc.). For example, a cycling route represents a strategically important transport link for cyclists. That is not to say that cyclists do not use other roads and paths, but those corridors identified on the functional hierarchy are key links in the transport network for that mode of transport. Similar corridors and locations can be identified for public transport, freight, pedestrians, and commuter traffic. Overlapping functions do not mean that one function is more important than another, but rather that the transport corridor needs to cater for more than one function. While each function is important and should be treated on merit, there is a hierarchy from the perspective that the functions that have been identified for a transport corridor are of a higher priority.

Main South Road - Road Management Plan

Between 2013 and 2015 the Department of Planning, Transport and Infrastructure (DPTI) prepared, engaged (with the City of Onkaparinga and the public) and published a Road Management Plan (RMP) (short to medium term) for Main South Road from Tatachilla Road to Sellicks Beach.

The RMP provides an overview of the existing operational and safety issues associated with Main South Road and includes recommendations for traffic management improvements between Tatachilla Road and Sellicks Beach Road. Speed limit reductions from Seaford Heights to Sellicks Beach were also proposed.

As an outcome of the investigations and recommendations detailed within the RMP to reduce fatalities and serious injuries, the Motor Accident Commission has allocated funds to improve safety for road users along Main South Road between Old Coach and Malpas Roads, Aldinga. As such, an extensive road safety project is being implemented by DPTI along this stretch of Main
South Road, which is scheduled to be completed in 2017. Speed limit reductions from Seaford Heights to Sellicks Beach will also be implemented as part of the project.

Current preference by the City of Onkaparinga is to see a four lane dual carriageway constructed along the whole length of Main South Road from Seaford Heights to Sellicks Beach. We will continue to advocate with DPTI on this matter.

**Fleurieu Peninsula Integrated Strategic Tourism Plan**

The vision of the Fleurieu Peninsula Integrated Strategic Tourism Plan is that the peninsula will be the first choice Australian destination for great food, wine, art, coastal and water based experiences. Initial target markets include families, the ‘indulge and recharge’ market, activity seekers and infrequent travellers.

### 5.2 City of Onkaparinga

The following provides an overview of a number of City of Onkaparinga strategic documents that relate to the operation of the road network, they include:

- Community Plan 2035
- Integrated Movement and Transport Strategy 2016-2021 (currently under review)
- Street Design Guidelines
- Land Use Strategy
- Community Passenger Network Review
- Footpath Service Level Review
- Recreational Trails Network Strategy and Action Plan 2007-2012 (currently being updated to Trails and Cycling Strategic Management Plan)
- Cycling Study (currently being developed)
- Traffic Precinct Study (in progress)
- Corporate Asset Management Plan
- Roads Asset Management Plan
- Road Maintenance Service Review
- States Road Traffic Study

**Community Plan 2035**

The most relevant action contained in the Community Plan relates to outcome 1.8, which requires the preparation of an Integrated Transport Strategy. As such; our Integrated Movement & Transport Strategy 2016-2021 (currently under review) provides direct guidance on strategic transport issues and that are discussed further in this report. The Community Plan identifies four main areas of importance in relation to the Integrated Transport Strategy including providing a modern public transport system, a walking and cycling friendly city, facilitating independence and connectedness for the transport disadvantaged, and safe connection of communities and businesses.
In particular, key issues from the Community Plan relevant to the Road Network Plan, include:

- Accommodating another 40,000 residents and 20,000 dwellings mostly in the area between Seaford Heights/Rise and Morphett Vale and ensuring that development is matched with good access to human services.
- Supporting the proposed rail line extension through good road access and feeder routes.
- Improving the road network in, around and leading to Noarlunga Centre as the city's main centre is regenerated.
- Upgrading and improving road networks in areas targeted for regeneration.
- Minimising and managing impacts of the road network on biodiversity.
- Meeting the needs of the tourism industry.
- Accommodating urban regeneration and medium density residential infill, and the development of mixed use centres, including a diversity of housing options.
- Accommodating the development of more liveable places and neighbourhoods that promote walking and cycling and are less dependent upon cars to get around.

**Integrated Movement and Transport Strategy 2016-2021**

The Integrated Movement and Transport Strategy 2016-2021 (IMTS) is currently under review and provides the following key directions and information relevant to the Road Network Plan (RNP).

- Outlines key trends that will shape movement and transport in years ahead.
- Establishes principles (policy statements) for movement and transport.
- Outlines the movement profile of the city, which allows for an understanding of demographic characteristics, location of key infrastructure and routes and modal split purposes for travel and makeup of vehicle types on the road.
- Establishes the notion of a fully integrated movement network that brings together all transport modes and promotes seamless movement between them.

**Cycling Study 2016**

The Recreational Trails Network Strategy 2007-2012 has reached the end of its planning cycle and will be superseded by the Trails and Cycling Strategic Management Plan (currently under development). The Trails and Cycling Strategic Management Plan is being guided by the Cycling Study which included community feedback through an online survey and the RNP Social Pinpoint feedback. The implications of cycling in the road reserve has been considered as part of the development of the RNP. The Trails and Cycling Strategic Management Plan provides direction regarding priority cycling routes.
Road Network Plan 2016 - 2021
Part B - Road Hierarchy, Operational Management Procedures and Decision Process Frameworks
6.0 Road Hierarchy

The road hierarchy classification guidelines are based on determining the dominant movement type along a road. For all roads within the City of Onkaparinga, a simplified road hierarchy has been developed with the following six classifications and the related dominant movement.

Roads under the care, control and management of the South Australian government

- **Expressway** is a road that caters for significant volumes of traffic between regions at high speeds and with no interruption to traffic flow.
- **Primary arterial** is a road that caters for significant volumes of through traffic between regions.
- **Secondary arterial** is a road that caters for significant volumes of through traffic within and between regions.

Roads under the care, control and management of the City of Onkaparinga

- **Distributor** is a road that provides for the distribution of traffic from within and through a local area and access to properties.
- **Collector** is a road that provides connection to distributor and arterial roads from local streets within and through a local area and access to properties.
- **Local** is a road that primarily provides access to abutting properties. This classification includes laneways and access roads maintained by the City of Onkaparinga.

Table 1 summarises the potential uses of the road network for each type of road that are applicable, optional or not applicable for freight, tourism, unsealed roads and public transport (buses and coaches).

Figure 1- shows the current road hierarchy for the City of Onkaparinga taking on board the strategic role of the roads, feedback from key stakeholders and the function of each road.

Table 1: Road network classification and relevance to network

<table>
<thead>
<tr>
<th>Road Network Classification</th>
<th>Part of Road Network Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Hierarchy (2016)</td>
<td>Jurisdiction</td>
</tr>
<tr>
<td>Expressway</td>
<td>State</td>
</tr>
<tr>
<td>Primary Arterial</td>
<td>State</td>
</tr>
<tr>
<td>Secondary Arterial</td>
<td>State</td>
</tr>
<tr>
<td>Distributor</td>
<td>Council</td>
</tr>
<tr>
<td>Collector</td>
<td>Council</td>
</tr>
<tr>
<td>Local</td>
<td>Council</td>
</tr>
</tbody>
</table>

✓ Applicable O Optional X Not applicable
Figure 1- Road Network Hierarchy Plan

Road Network Hierarchy

State managed roads
- Expressway
- Arterial primary
- Arterial secondary

Council managed roads
- Distributor
- Collector
- Local
- Railway line
- Major park/reserve
- Urban area

DRAFT
The question of when should the care, control and management of a road be transferred from local government to state government or vice versa was investigated by the Local Roads Advisory Committee on behalf of the LGA and DPTI. The ‘Road Classifications Guidelines in South Australia’ was published in 2008 and later followed up by the ‘Functional Hierarchy for South Australia’s Land Transport Network’, June 2013. The Local Roads Advisory Committee states that these documents will provide an effective method of assessing, and maintaining, the future classification of the South Australian road network.

City of Onkaparinga’s network has a number of roads that have been classified as ‘distributor’, however they are approaching an operational level of ‘secondary arterial’. These include:

- Pimpala Road (existing 2009 RNP deficiency)
- Bishops Hill Road (existing 2009 RNP deficiency)
- Doctors Road and extension to Panalatinga Road (existing 2009 RNP Deficiency)
- Manning Road
- States Road
- Wheatsheaf Road/Flaxmill Road
- Seaford Road

In determining whether these roads should be reclassified to a secondary arterial, the Functional Hierarchy for South Australia’s Land Transport Network Guidelines provides a definition of arterial road and how it functions within the road network. The guidelines also provide an assessment process that should be followed if a road is meeting the arterial road definition. Typically, distributor roads will have traffic volumes less than 20,000 vehicle per day.

As the volume of traffic continues to grow for these roads, and approach this level, the City of Onkaparinga should initiate preliminary discussions with the state government to consider transfer of responsibility. At this stage, the above-mentioned distributor roads will remain in the current classification.

Other amendments to the classification of specific roads as part of the 2016 RNP review have been recorded and discussed in Part C, Network Deficiencies. Manning Road, States Road, Wheatsheaf Road/Flaxmill Road and Seaford Road have been added to Section 9.1.2 as roads that potentially should have their ownership transferred across to DPTI.

The Road Network Hierarchy map (Figure 1-) has been updated to incorporate all amendments as detailed in section 9.3 Amendments to the Road Network Plan 2009 – 2016.

Table 2 shows the six road hierarchy classifications that are applicable for different types of land uses in the urban and rural areas of the City of Onkaparinga. The page references are from the City of Onkaparinga Street Design Guidelines (Aspect Studios) December 2014.
Table 2: Road hierarchy classifications

<table>
<thead>
<tr>
<th>Road Hierarchy</th>
<th>Centres</th>
<th>Residential</th>
<th>Industrial</th>
<th>Rural Sealed</th>
<th>Rural Unsealed</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressway</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not shown</td>
<td>not applicable</td>
<td>not shown</td>
</tr>
<tr>
<td>Primary Arterial</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
<td>Type 5 page 49</td>
<td>not applicable</td>
<td>Type 2 page 49</td>
</tr>
<tr>
<td>Secondary Arterial</td>
<td>Type 4 page 49</td>
<td>not applicable</td>
<td>not applicable</td>
<td>Type 5 page 49</td>
<td>not applicable</td>
<td>Type 3 page 49</td>
</tr>
<tr>
<td>Distributor</td>
<td>Type 1 page 45</td>
<td>Type 1 page 43</td>
<td>Type 3 page 47</td>
<td>Type 1 page 47</td>
<td>Type 2 page 47</td>
<td>not shown</td>
</tr>
<tr>
<td>Collector</td>
<td>Type 1 page 39</td>
<td>Type 1 page 37</td>
<td>Type 3 page 41</td>
<td>Type 1 page 41</td>
<td>Type 2 page 41</td>
<td>not shown</td>
</tr>
<tr>
<td>Local</td>
<td>Type 1 page 31</td>
<td>Type 1 page 29</td>
<td>Page 33</td>
<td>Type 1 page 35</td>
<td>Type 2 page 35</td>
<td>not shown</td>
</tr>
</tbody>
</table>

Refer Section 7 Operational Management Procedures for classification guidelines and minimum cross section requirements.

### 7.0 Operational Management Procedures

#### 7.1 Classification guidelines - road hierarchy

A number of performance criteria are required to guide the designation of the road hierarchy classification:

- Urban growth boundary to determine whether land is zoned urban or rural
- Road reserve width
- Daily traffic volumes
- Posted speed limit
- Friction factors (e.g., extent of on-street parking, spacing of intersections, intersection control type, unprotected right turn lanes, bus stops, pedestrian crossings, bike lanes, shared use paths etc) in the access network
- Frontage, land use and density (high density retail with high level of parking, pedestrian and traffic generation)
- Accessibility/degree of access (on primary arterial roads access is none or low, unlike local and collector roads that provide full access to individual properties)
- Environmental management (native vegetation, water sensitive urban design)
- Public transport significance (GoZone high frequency corridor, number of routes and type of route, for example feeder, inter-regional etc)
- Spatial relationship with a suggested typical physical spacing
All roads under the care and control of DPTI are to be in accordance with DPTI specifications, standards, and requirements. All roads under the City of Onkaparinga’s care and control are to be in accordance with relevant Australian Standards, and consider the requirements set out within this Road Network Plan and our Street Design Guidelines.

7.1.1 General configuration attributes

Table 3 identifies those attributes which are considered applicable for each road hierarchy in terms of accessibility, number of lanes and separation from opposing directions of travel.

<table>
<thead>
<tr>
<th>Road hierarchy</th>
<th>Spatial relationship</th>
<th>Access to adjacent land</th>
<th>Number of lanes</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressway (DPTI)</td>
<td>One north-south corridor</td>
<td>Controlled</td>
<td>At least two lanes in each direction</td>
<td>At least 3m</td>
</tr>
<tr>
<td>Primary Arterial (DPTI)</td>
<td>No more than every 2 km</td>
<td>Limited</td>
<td>At least two lanes in each direction</td>
<td>3m preferred</td>
</tr>
<tr>
<td>Secondary Arterial (DPTI)</td>
<td>No more than every 1 km</td>
<td>Limited</td>
<td>A single lane in each direction</td>
<td>None or 2m min, if required</td>
</tr>
<tr>
<td>Distributor Road (council)</td>
<td>No more than every 500 m</td>
<td>Limited</td>
<td>A single lane in each direction</td>
<td>None or 2m min, if required</td>
</tr>
<tr>
<td>Collector Street (council)</td>
<td>No more than every 250m</td>
<td>Full access with driveways</td>
<td>A single lane in each direction</td>
<td>None</td>
</tr>
<tr>
<td>Local Street (council)</td>
<td>Every 125m or less</td>
<td>Access to abutting properties</td>
<td>A single lane in each direction</td>
<td>None</td>
</tr>
</tbody>
</table>

7.1.2 General traffic attributes

Table 4 identifies the general traffic attributes for both rural and urban areas and provides a range of traffic volumes and speed limits to be used as a guide to determine the appropriate classification for a road.

All roads under the care and control of DPTI are to be in accordance with DPTI specifications, standards, and requirements. All roads under the City of Onkaparinga’s care and control are to be in accordance with relevant Australian Standards, and consider the requirements set out within this Road Network Plan and our Street Design Guidelines.

<table>
<thead>
<tr>
<th>Road hierarchy</th>
<th>Traffic volumes in urban areas</th>
<th>Traffic volumes in rural areas</th>
<th>Posted traffic speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressway</td>
<td>Significant volumes of</td>
<td>Significant volumes of</td>
<td>80 and 100 km/h in</td>
</tr>
</tbody>
</table>
### Road Hierarchy, Traffic Volumes and Speeds

<table>
<thead>
<tr>
<th>Road Hierarchy</th>
<th>Traffic Volumes in Urban Areas</th>
<th>Traffic Volumes in Rural Areas</th>
<th>Posted Traffic Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(DPTI)</td>
<td>Traffic between regions at high speeds and with no interruption to traffic flow</td>
<td>Traffic between regions at high speeds and with no interruption to traffic flow</td>
<td>Urban areas and 110 km/h in rural areas</td>
</tr>
<tr>
<td>Primary Arterial (DPTI)</td>
<td>Significant volumes of through traffic between regions</td>
<td>Significant volumes of through traffic between regions</td>
<td>60 to 80 km/h in urban areas 80 to 110 km/h/hr in rural areas</td>
</tr>
<tr>
<td>Secondary Arterial (DPTI)</td>
<td>Can vary from 5,000 to 20,000 vehicles per day (vpd)</td>
<td>Can vary from 1,000 to 20,000 vehicles per day (vpd)</td>
<td>60 to 80 km/h in urban areas 80 to 110 km/h/hr in rural areas</td>
</tr>
<tr>
<td>Distributor Road (council)</td>
<td>Generally 2000 to 20,000 vpd</td>
<td>Generally 2,000 to 4,000 vpd</td>
<td>60 km/h in urban areas 80 km/h in rural areas</td>
</tr>
<tr>
<td>Collector Street (council)</td>
<td>Generally 800 to 3,000 vpd</td>
<td>Generally less than 2,000 vpd</td>
<td>50 to 60 km/h in urban areas 80 km/h in rural areas</td>
</tr>
<tr>
<td>Local street (council)</td>
<td>Generally less than 1,000 vpd</td>
<td>Generally less than 1,000 vpd</td>
<td>50 to 60 km/h in urban areas 80 km/h in rural areas</td>
</tr>
</tbody>
</table>

### Attributes along the Road

Table 5 identifies the attributes for each of the road classifications for parking, cycling and pedestrian accessibility.

#### Table 5: Attributes along the Road

<table>
<thead>
<tr>
<th>Road Hierarchy</th>
<th>Parking</th>
<th>Cycling</th>
<th>Pedestrian Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressway (DPTI)</td>
<td>None</td>
<td>On separated cycleway</td>
<td>None</td>
</tr>
<tr>
<td>Primary Arterial (DPTI)</td>
<td>Off-road in service roads</td>
<td>On-road cycle lanes</td>
<td>Paths may be provided depending on the adjacent land use</td>
</tr>
<tr>
<td>Secondary Arterial (DPTI)</td>
<td>Can be provided on road without marking defined parking lanes.</td>
<td>On-road cycle lanes</td>
<td>Paths provided on both sides of the road Minimum path width of 1.8m</td>
</tr>
<tr>
<td>Road Hierarchy</td>
<td>Parking</td>
<td>Cycling</td>
<td>Pedestrian Access</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Distributor Road</td>
<td>If peak volumes are high then either clearways or parking lanes should be provided.</td>
<td>Path offset from edge of road</td>
<td></td>
</tr>
<tr>
<td>(council)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collector Street</td>
<td>Generally provided in separate parking lanes</td>
<td>On road cycle lanes Option for off road shared use path where linked with our Recreational Trails Network Strategy</td>
<td>Paths provided on both sides of the road Path width determined by path designation and usage (minimum width of 1.5m) Paths are to be off-set from edge of road (minimum 1.6m set back)</td>
</tr>
<tr>
<td>(council)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Street</td>
<td>Generally provided on both sides of the road</td>
<td>On road cycle lanes Option for off road shared use path where linked with our Recreational Trails Network Strategy</td>
<td>Paths generally provided on both sides of the road Path width determined by path designation and usage (minimum width of 1.5m) Effective path width to be maintained around obstructions such as street signs and light poles Paths are to be set back from edge of road (minimum 1.6m set back)</td>
</tr>
<tr>
<td>(council)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Minimum width of 1m around obstructions such as street signs and light poles (where possible)
Street Lighting

Street lighting on roads under the City of Onkaparinga’s care and control, where considered necessary, shall be lit to Australian Standards 1158. All roads in urban environments require street lighting, while rural roads under the City of Onkaparinga’s care and control only necessitate street lighting at major intersections.

7.1.3 Guidelines for intersection control devices in urban network

Table 6 provides details on the appropriate use of intersection control devices for each of the road hierarchies. These should be used as a guide only and will provide input into each of the local precinct plans.

Table 6: Austroads guide to traffic management

<table>
<thead>
<tr>
<th>Road Hierarchy</th>
<th>Type of Device</th>
<th>Traffic signals</th>
<th>Roundabouts</th>
<th>Stop or Give Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td></td>
<td>Arterial = A</td>
<td>Arterial = O</td>
<td>Arterial = X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributor / Collector = O</td>
<td>Distributor / Collector = O</td>
<td>Distributor / Collector = A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local = X</td>
<td>Local = X</td>
<td>Local = A</td>
</tr>
<tr>
<td>Distributor / Collector</td>
<td></td>
<td>Arterial = O</td>
<td>Arterial = O</td>
<td>Arterial = A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributor / Collector = X</td>
<td>Distributor / Collector = A</td>
<td>Distributor / Collector = A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local = X</td>
<td>Local = O</td>
<td>Local = A</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td>Arterial = X</td>
<td>Arterial = X</td>
<td>Arterial = A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributor / Collector = X</td>
<td>Distributor / Collector = O</td>
<td>Distributor / Collector = A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local = X</td>
<td>Local = A</td>
<td>Local = A</td>
</tr>
</tbody>
</table>

Refer to Austroads Guide to Traffic Management Part 4, Table 4.3:

Legend:
A = Most likely to be an appropriate treatment
O = May be an appropriate treatment
X = Unlikely to be an appropriate treatment

7.1.4 Cross-sectional requirements

Cross section terminology

As detailed in the City of Onkaparinga’s Street Design Guidelines and reproduced as Figure 2, roads contain a number of different elements.

Road reserve is the land set aside by authorities for a roadway, footpaths, infrastructure and landscaping. The road reserve is generally the whole area between the property boundaries.

Carriageway is the area of the street reserve designated for the movement and parking of vehicles, typically kerb to kerb.

Lanes are the area of the carriageway designated for vehicle travel. Lanes may also be specifically defined for bicycle travel.
Verge is the area of the street reserve between the edge of the carriageway and the front property boundary. Typically, this is an area where trees are planted and may have grass, gravel or hard surface.

Footpath is primarily a pedestrian path along the street, connecting adjacent properties. Wider paths can also accommodate shared use with cyclists.

Services such as telecommunication, water sewage, stormwater and gas are usually under the verge or the footpath. Lighting is located with the verge often with power poles and overhead power lines. In new streets, services are consolidated into common service trenches.

Figure 2 - Anatomy of a street

Traffic lane widths

According to Austroads, Guide to Road Design Part 3, the current Australian practice is to provide standard traffic lane widths of 3.5m.

Adoption of a standard traffic lane width is desirable in urban areas. However, where site constraints preclude the use of the desirable standard width, consideration may be given to reducing the traffic lane width to 3.3m. This general lane width may be further reduced to 3.1m for use on low speed roads with low truck volumes, typically in a local street situation.

Typical cross sections

The following typical cross sections have been extracted from City of Onkaparinga’s Street Design Guidelines (Aspect Studios) and provide an overview of the minimum cross section requirements for each category of road. There may be an opportunity to vary the widths shown in particular circumstances such as topography, user groups (for example cyclists), existing built form, etc.
Local streets

Minimum requirements

Urban

Type 1 - Preferred
This is preferred arrangement where the footpath is located away from the kerb.

Application
To be used in all new streetscapes within residential, greenfield and asset renewal (where possible).

Rural

Minimum requirements

Type 1
Sealed road.

Application
Primarily within newer development areas in rural townships and settlement areas.
Greater sight distances required at intersections due to higher speeds.
Shoulder sealing may vary.

Type 2
Unsealed road.

Application
Primarily in special rural areas where minimal drainage infrastructure is required.
Rear access laneways

Rear access laneways are a subset of local streets. Rear access lanes shall have a minimum width of 6.5m. Crowned pavement with dual kerb and water table are generally not appropriate in laneways due to limited width requirements.

Currently we have a laneway guideline document published on our website. It is important to note that rear access laneways are not to be used for allotments that do not have front access to public space with provision for pedestrian access.

It should be noted that the laneway guideline is not reflective of current requirements of various council service providers, and needs to be updated.

Minimum requirements

*Subject to land use, predicted traffic volumes, parking requirements.

Collector streets

Urban

Minimum requirements

Type 1 - Preferred
Footpath away from kerb.

Application
Use in footpath upgrades. Typically on access street. Include median at 2.0m min width when space permits.
Rural

Minimum requirements

Type 1
Rural Sealed road.

Application
Where high volumes of traffic are encountered
Likely to have sealed road shoulders.

*All rural roads to have a preferred 1–1.5m sealed shoulder on designated cycling routes (tbc).

Distributor road

Urban

Minimum requirements

Type 1
Footpath both sides, bikes typically share traffic lane (unmarked)

Application
Shared use path may be provided on one side depending on connections to the broader network.

Rural

Minimum requirements

Type 1
Rural sealed road

Application
Typically used in rural areas with higher population. Likelihood of sealed road shoulders.

*1.0m sealed shoulders preferred.

*All rural roads to have preferred 1–1.5m sealed shoulder on designated cycling routes (tbc).
Secondary arterial: Refer to DPTI specifications (not applicable for City of Onkaparinga).

Primary arterial: Refer to DPTI specifications (not applicable for City of Onkaparinga).

Expressway: Refer to DPTI specifications (not applicable for City of Onkaparinga).

7.2 Classification guidelines - functional hierarchy

The road hierarchy classification guidelines are based on determining the dominant movement type along a road.

The functional hierarchy classification guidelines are based on determining the dominant vehicle type along a road.

Similar to the road hierarchy classifications, distinctions need to be made between urban and rural areas and sealed and unsealed roads.

The cross section and alignment requirements identified below are based on flat and straight roads and do not go into bridge widths, overtaking sight distance, height clearances, railway level crossings, low speed, off tracking or intersection design.

7.2.1 Freight

Key and general freight routes

For information on the decision process for identifying freight networks refer to section 8.3 Freight network framework.

Cross sectional requirements

The desirable width of lanes carrying freight vehicles is:

- 3.5m (60–70 km/hr)
- 3.6m (80–100 km/hr)
- 3.3m (<50km/h)
- right turn lanes designed for commercial vehicles should have a minimum width of 3.3m
- in rural areas the road shoulder should be desirably 1.5m wide (minimum of 0.5m if 1.5m cannot be practically achieved)
- these road widths will need to be increased in line with the National Heavy Vehicle Regulator requirements for PBS Level 2 (routes) ie B-Double vehicles where applicable.

Parking: can be provided without parking lanes but the kerb side traffic lane needs to be increased to 5.5m (minimum)

Acceptable forms of traffic control

- Give way controls at minor road intersections in urban areas.
- Traffic signals at major intersections in urban areas.
- Junctions to accommodate B-Double vehicles without crossing the centre line of the road and encroaching on to unsealed road shoulders or mounting the kerb.
- Provision of right turn lanes where there is a high demand for right turns (refer to Austroads Part 5: Intersections at Grade).
• Other forms of traffic control which limit the free speed of vehicles should not be used.

**Alignment:** need to consider commercial drivers eye height is 2.4m as well as normal driver eye height (critical on sag curve with overhanging obstructions).

**Pedestrian facilities:** as per road hierarchy classifications except that paths must be offset by at least 0.6m from the roadway.

For further information, refer to the Heavy Vehicle Access Framework from the Department for Transport, Energy and Infrastructure (DTEI), now DPTI (2011).

**Commodity freight routes**

**Cross sectional requirements**
Desirable lane width of lanes carrying freight vehicles is 3.3m with 1m shoulder (0.5m sealed).

• Unsealed road formation to be at least 8.2m wide.
• Design vehicles for bends to accommodate a semi vehicle.

**Parking:** may be provided without provision for parking but kerb side traffic lane needs to be increased to 5.5m in urban areas.

**Acceptable forms of traffic control**

• Give way/stop controls at minor road intersections in urban areas.
• Traffic signals at major intersections in urban areas.
• Junctions to accommodate semi-trailers without crossing the centre line of the road and encroaching on to unsealed road shoulders or mounting the kerb.
• Provision of right turn lanes where there is a high demand for right turns (refer to Austroads Part 5: Intersections at Grade).
• Other forms of traffic control which limit the free speed of vehicles should be avoided.

**Alignment:** need to consider commercial drivers eye height is 2.4m as well as normal driver eye height (critical on sag curve with overhanging obstructions).

For further information, refer to the Commodity Route Network Guidelines from DPTI March (2009).

As part of the Improvement Plan in Part C of this document, further investigations are to be undertaken in identifying all commodity routes, deficiencies assessment and costed works program.

**Performance Based Standards (PBS)**
PBS vehicles are designed to perform their tasks as productively, safely and sustainably as possible, and to operate on networks that are appropriate for their level of performance. The basic principle of PBS is matching the right vehicles to the right tasks. Refer to Figure 3 for the Performance Based Standards (PBS) details relevant to the City of Onkaparinga freight network.

These approved PBS route networks are sourced using the DPTI RAVnet online mapping system. PBS Level 1A includes single articulated vehicle or truck trailer combination equal or less than 20m. PBS Level 2A includes B-Doubles equal or less than 26m.

Please refer to Figure 4 for the Commodity and General Freight routes details.
Figure 3 - Freight Network - PBS routes
Figure 4 - Commodity and General Freight Routes
7.2.2 Tourist routes

Tourist routes have been divided into two categories with the following definitions:

**Tourist drives:** The road is marked as a defined tourist route by DPTI, Tourism SA or local council.

**Tourist access**

- The road is on a route used by commercial tourist bus operators.
- There are significant seasonal traffic volumes on the road caused by tourist related activities.
- The road provides access to a significant tourist location.

**Tourist drives**

**Cross sectional requirements:** Unsealed road formation to increase to 9m wide if used by more than 100 vpd.

**Parking**

- Can be provided without provision for parking but kerb-side traffic lane needs to be increased to 5.5m in urban areas.
- Parking bays or off-street parking facilities should be provided at places of interest (ie lookouts).

**Tourist access**

**Parking**

- Can be provided without parking lanes (not preferred) but kerb-side traffic lane needs to be increased to 5.5m in urban areas.
- Parking bays or off-street parking facilities should be provided at places of interest (ie lookouts, beach access).

**Acceptable forms of traffic control**

- Give way controls at minor roads intersections.
- Traffic signals at major intersections in urban areas.
- Roundabouts may be used if permitted by the road hierarchy.
- Other forms of traffic control which limit the free speed of vehicles should not be used.

**Tourist destinations requiring special consideration for access**

Whilst most tourism destinations are accessed by car, apart from destinations described above that are accessed by tourist bus operators, consideration should be given to locations that visitors access with more restrictive vehicle configurations. In particular, are those tourists towing caravans, camper trailers, boat on trailer and large recreational vehicles/fifth wheelers.

This type of tourist, such as travelling retirees, has recently increased in volume to become a significant tourism opportunity. Many towns and suburbs throughout Australia are advocating to be “RV” friendly. Access to cater for these travellers should be provided to caravan/tourist parks throughout the City of Onkaparinga as well as the boat launching facilities at O’Sullivan Beach.
(which is the only such facility on the coast, between West Beach and Wirrina). Further details on the tourist routes are provided in Figure 5.

Figure 5 - Tourist Network
7.2.3 Public transport routes

Public transport routes are classified as those roads that are utilised by buses and private/public coaches (however in the future they could include other forms such as high occupancy vehicles). Generally, the public transport routes are those provided by DPTI. However, fixed routes for local council community buses, school buses and long distance inter-regional routes to country destinations are also included.

Rail crossings

The only at grade rail crossing in the City of Onkaparinga is at Chrysler Road, Lonsdale. The closure of this road is to be considered on safety grounds, noting that this rail crossing is under the care and control of DPTI, and determination on this matter should be led by them as the relevant authority.

The public transport map is provided as Figure 6 overleaf.

7.2.4 Bicycle network

The introduction of legislation on 25 October 2015 requires drivers to give a minimum of one metre when passing a cyclist where the speed limit is 60 km/h or less, or 1.5 metres where the speed limit is over 60 km/h. This is based on the premise that all roads form part of the bicycle network and cyclists will take their position in the normal column of traffic.

Further to this, our 2016 Cycling Study outlines that cyclists and the routes they cycle take various forms. As such, our bicycle network is divided into three main hierarchies:

Premier

Premier bicycle networks have a high profile and attract visitors from beyond the City of Onkaparinga boundary. Premier cycling routes generally attract large numbers of activity specific visitors each year. They will be of a high standard with the ability to host major events and cater to tourists who are unfamiliar with the area.

Premier cycling routes within the City of Onkaparinga include:

- Coast to Vines Rail Trail
- Patrick Jonker Veloway
- Coast Park
- Tour Down Under route

Cross city

Cross city cycling routes attract people from across the City of Onkaparinga and are accessible from the local road network and bicycle network.

Cross-city cycling routes:

- Provide for commuter movements within the City of Onkaparinga
- Connect to regional/district centres, employment centres and other large pedestrian generators
- Provide accessible destinations and experiences for City of Onkaparinga residents.
Local
Local cycling routes provide connections across a suburb. They provide recreation and transport opportunities to walk or cycle to local destinations and places and are easily accessible to all residents in urban and township areas.

The local network incorporates the footpath and the local road network and provision is guided by the footpath service standards, design requirements within the Road Network Plan, our Street Design Guidelines and Activity Centres Service Standards.

Cycling infrastructure is provided across these bicycle networks both within the road carriageway (on road), and also within the road reserve (off road).

On road cycle lanes: dedicated road space provided exclusively for bicycles.

On road cycle lane cross section
Where bicycle lanes are considered in urban areas they should be:

<table>
<thead>
<tr>
<th>Road posted speed limit (km/hr)</th>
<th>Lane width (m)</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desirable</td>
<td></td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Acceptable range</td>
<td></td>
<td>1.2–2.5</td>
<td>1.8–2.7</td>
<td>2.0–3.0</td>
</tr>
</tbody>
</table>

In rural areas Australian Standards recommend a bicycle space be provided by 1.5m sealed road shoulders if the speed limit is less than or equal to 60 km/hr otherwise 2.0m is required. This can often be difficult given topography and roadside conditions, as such, often a 1m sealed shoulder will help to provide at least some form of protection for a cyclist on a rural road.

Sharrows: shared lane marking, depicted by a bicycle logo with two chevrons or ‘arrows’ above it. To be used on bicycle networks where:

- Traffic volumes are less than 3,000 Average Annual Daily Traffic (AADT) and the speed limit is 50km/h or less.
- Where traffic volumes are between 3,000 and 5,000 AADT and the speed environment is low.

Further details on sharrows can be accessed via DPTI’s Advisory Bicycle Pavement Marking: Shared Lane Marking (Sharrow) - 9.4.

Off road: a shared use path provided within the road reserve.

Off road shared use paths should be considered where:

- traffic speed and volumes are high
- cyclist potential is highest
- they provide a connection between key locations and cyclist generators such as train stations, centres and schools, for example east – west connections.
- they address ‘missing links’ between key elements of the network
- cyclist safety is an identified concern.
- the promotion of shared use paths should be accessible, legible and easily interpreted.

For clarity of road network infrastructure, the Willunga Basin Trail, Coast to Vines Rail Trail, Coast Park shared path or any other cycling routes are not shown on the tourism map (or any other map in the RNP). The Tom Roberts Horse Trail is also not shown on the RNP maps. These
networks can be referenced in more detail via the current work on the City of Onkaparinga’s Cycling Study and the integration of this work to inform an updated Trails and Cycling Strategic Management Plan. The relevance of these paths and trails for the RNP is that the road cross section should allow for these networks when they coincide and where they cross, appropriate crossing provisions are provided.
Figure 6 - Public Transport Network
8.0 Decision Process Frameworks

8.1 Traffic management

The local road network is often well connected with many alternative routes. If one road is treated (eg with speed humps for speeding issues) the treated road becomes less desirable as a traffic route. Surrounding roads that are often used to low traffic counts, can then find a sharp increase as they become a more attractive alternative route. Speeding cars and increased traffic volume could then become an issue on these alternative routes. As an overall principle, traffic issues should be treated and not relocated to other locations.

As a result, the use of traffic management principles needs to be considered on an area wide or ‘precinct’ basis. A local (traffic) area is defined in Austroads Guide to Traffic Engineering Practice, Local Area Traffic Management, 2004 as ‘...an area usually bounded by arterial roads or other roads serving a significant road transportation function, or other physical barriers.’

Recent reviews of traffic management at a local government level still considers traffic on streets as a key component however it also wants to improve overall transport functions and consider other road users. This means moving from developing Local Area Traffic Management (LATM) plans to broader Precinct Transport and Parking plans. Precinct Transport and Parking plans allow for better alignment of transport with other aspects of a prosperous, socially and culturally cohesive community, healthy and active lifestyles. It allows for planning for future demands of streets and open space areas in response to changing urban land use and increasing urban densities and foreseeable expectations of people living in these precincts.

On this basis, the guidelines for managing traffic and transport needs on the local street network can be summarised into a number of key principles:

- Road safety is paramount – this includes the reduction in crashes, improving locations identified as hazards that may potentially lead to future crashes, as well as the reduction of risk factors such as traffic speeds and volumes.
- Manage streets based on their desired use – this requires the use of the road to be defined in accordance with the RNP. Consideration needs to be given to the associated land uses in the street.
- Problems should be treated, not relocated onto other streets – this requires studies to extend over the area where traffic behaviour is contained.
- Consideration to be given to all road users – this includes public transport, cyclists and pedestrian movement throughout the local area.
- Inappropriate use of streets – for example freight vehicles using residential streets, parking and traffic congestion associated with major traffic generators intruding into residential areas and inappropriate high traffic volumes.
- Link to other improvement programs – this relates to the linking any improvements to local streets with other programs that may be occurring concurrently including road reconstruction programs or urban regeneration projects by Housing SA or Renewal SA.

The City of Onkaparinga has used these guiding principles in a trial Traffic Precinct Study to determine such matters as, the definition of the transport network, local areas/precincts, as well as the methodology for prioritising the precincts for further study, investigation and implementation of traffic management schemes. Refer to the City of Onkaparinga’s Traffic Precinct Prioritisation Study Report 2016, which provides a detailed analysis on the...
determination of precincts, the prioritisation, criteria for evaluation of traffic issues and warrants for treatment.

8.2 Unsealed roads framework

There is continuing pressure for us to develop and upgrade the road network to meet increasing traffic demand and user expectations. When we consider sealing a road it is usually with a view to reducing maintenance costs, providing a smooth riding surface and minimising public concerns around dust creation and safety concerns.

The Unsealed Roads Strategy (2009) was based on a decision process that identifies the common reasons to seal and included an extended range of considerations that need to be worked through on a case by case basis to determine the best treatment option. This included the application of a sprayed bitumen surface to reduce dust (referred to as a “dust seal”).

The common reasons to seal related to growth and land use zoning changes affecting the road network, asset management/maintenance practices and safety. Construct and seal considerations included hierarchy classification, urban/rural situation, vehicle counts, types of vehicles, local character, traffic impact (generation and distribution), safety impact on economic development, any unique issues, cost benefit analysis and environmental consideration. Dust seal considerations included traffic volumes, speed environment, types of vehicles, number of properties fronting the road, distance of dwellings from the road and any other relevant factors.

Following an internal workshop in March 2009, Council resolved to:

- Acknowledge unique unsealed roads within the network.
- Decisions regarding sealing cannot be determined by a pre-determined set of criteria.
- The traffic impacts of sealing unique unsealed roads would be reviewed on a case by case basis.
- The following roads were identified as unique unsealed roads:
  - Pine Road, Woodcroft
  - Piggott Range Road, Onkaparinga Hills
  - Quarry Road, Old Noarlunga
  - Recreation Road, Kangarilla
  - Colville Road, Aldinga
  - Range Road West, Willunga South
  - Rogers Road, Sellicks Hill
  - Unsealed roads in the vicinity of Aldinga Beach Scrub

8.2.1 Supplementary guidelines: setting project priorities - assessment of unsealed roads

The Australian Roads Research Board (ARRB) in the ‘Unsealed Roads Manual - Guidelines to Good Practice’, March 2009, developed key principles in applying economic evaluations as a method to justify the sealing of a road.

The principles when applied, generally demonstrate as a guide, that it may be difficult to justify sealing a road carrying less than 250 vehicles per day.
The method for assessing road improvement projects (sealing unsealed roads) comprising weighted traffic amenity, community benefit and financial benefit, are to be based on the scoring guidelines set out in the attached Evaluation Form as provided in Part D, Appendix 2.

If the road is carrying over 250 vehicles per day, it may be assessed for sealing, and will be subject to the evaluation criteria set out in Part D – Appendix 2 (page 83). A road scoring above 50% may be considered for sealing and included within our Project and Capital Works plan for possible prioritisation.

The following assessment criteria, providing for social and economic values, should also be considered when setting priorities for road improvements to unsealed roads.

- Importance of the road as part of a linkage route.
- Number of properties along the road.
- Number of dwellings in a cluster or clusters being accessed from the road.
- Safety issues associated with intersection and/or alignment and/or vegetation and/or accident history.
- Any designated bus routes.
- Significant tourist feature or facility on the road that attracts motorists not familiar with the terrain or local traffic conditions.
- Significant community feature or facility on the road that attracts motorists not familiar with the terrain or local traffic conditions.
- Number of commercial vehicles using the road (ie farming, winery, quarrying vehicles).

Based on the above evaluation and scoring guidelines, below are recommendations on the current unique unsealed roads included as part of the RNP 2009. Based on the traffic volumes and the intervention level provided in the “Unsealed Roads Manual – Guideline to Good Practice” there is a need to review the status of these roads.

### Table 7: Average Annual Daily Traffic (AADT) counts

<table>
<thead>
<tr>
<th>Road</th>
<th>AADT (Average Annual Daily Traffic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Road, Woodcroft</td>
<td>326</td>
</tr>
<tr>
<td>Piggott Range Road, Onkaparinga Hills</td>
<td>167</td>
</tr>
<tr>
<td>Quarry Road, Old Noarlunga</td>
<td>423</td>
</tr>
<tr>
<td>Recreation Road, Kangarilla</td>
<td>No data. Low volumes expected (&lt;100)</td>
</tr>
<tr>
<td>Colville Road, Aldinga</td>
<td>156</td>
</tr>
<tr>
<td>Range Road West, Willunga South</td>
<td>115</td>
</tr>
<tr>
<td>Rogers Road, Sellicks Hill</td>
<td>70</td>
</tr>
</tbody>
</table>

**Pine Road, Woodcroft**

As part of the 2016 RNP review, it is recommended that this road be reclassified to a rural collector road (given its role in the network and connection to adjacent roads) and is sealed from Pimpala Road to Reynell Road. The substantial community support for sealing of this road,
ongoing maintenance costs and the current traffic volumes on this road provide justification that it should be included for constructing and sealing.

The configuration (or layout) of this road will include a review of the intersection treatments at each end of the road and will be subject to further technical assessment and engagement with the local community. The sealing of Pine Road to a rural collector standard will require a speed limit assessment in accordance with Australian Standards. Initial advice from our traffic engineers is that it is highly likely the posted speed limit will be reduced from the current default limit of 100km/h to 80km/h.

A review of previous traffic studies undertaken on Pine Road has discounted the option of closing Pine Road, as such it is not recommended as a preferred treatment option for this road.

An evaluation of Pine Road has been conducted applying the scoring guidelines as detailed in Appendix 2 of the RNP. This evaluation indicates further justification based on traffic amenity, community benefit and financial benefit for the sealing of Pine Road.

Refer amendment 15 of Section 9.3, which includes a new action to seal Pine Road from Pimpala Road to Reynell Road Woodcroft.

**Quarry Road, Old Noarlunga**

A road safety audit for Quarry Road recommends a half road closure (left in movements only) be implemented at the intersection of Victor Harbor Road and Quarry Road in order to address the significant safety risks that currently exist at this location.

This intersection is under the care and control of DPTI. As such, any consideration of a half road closure would require approval and funding discussions with DPTI as the relevant authority, given the anticipated impact on Victor Harbor Road and potential changes in turning movements at Seaview Road.

It is currently not a priority to seal Quarry Road given the recommendation to implement a half road closure will likely reduce traffic volumes on the road, reduce ongoing maintenance and also provide a road safety benefit to the network.

Refer amendment 14 of Section 9.3, which includes a new action to advocate to DPTI for a half road closure on Quarry Road at the intersection with Victor Harbor Road.

**Piggott Range Road, Onkaparinga Hills**

Currently the traffic volumes are not sufficient to warrant further assessment of this road for sealing.

**Recreation Road, Kangarilla**

Currently the traffic volumes are not sufficient to warrant further assessment of this road for sealing.

**Colville Road, Aldinga** (section between airfield access road and Ryan Road)

Currently the traffic volumes are not sufficient to warrant further assessment of this road for sealing.

**Range Road West, Willunga South**

Currently the traffic volumes are not sufficient to warrant further assessment of this road for sealing.
Rogers Road, Sellicks Hill
Currently the traffic volumes are not sufficient to warrant further assessment of this road for sealing.

Other roads that have been raised during the consultation process in 2016 as part of the review of the Road Network Plan that may be considered for sealing include:

Brodie Road, Huntfield Heights (southern end)
Currently this section of road has a local road classification. However, as the adjacent development reaches completion there is potential for this road link to behave as a collector road within the local area. Consideration should be given to closure of Brodie Road at the creek crossing (reducing future maintenance costs of this culvert), once future adjacent development provides a connection via Yeltana Avenue.

Refer amendment 14 of Section 9.3, which includes an action to implement road closure on Brodie Road Huntfield Heights at the creek crossing, (subject to further development adjacent to road)

Culley Road, Sellicks Hill (Aldinga Road to Colville Road)
Currently this road is listed as an “unsealed road - not to be sealed” road. Although this road could be used as an alternative access to the airfield this would not be supported due to the current condition of the road. To ensure that traffic volumes on this section of road remain below the threshold for sealing treatment consideration, this road is to continue to remain closed at Aldinga Road.

Hunt Road, McLaren Flat (between Conte and Sand Roads)
In its current form, Hunt Road is a local road in a rural environment; however, bitumen profiling was applied some years ago, giving the road the impression of a sealed road. Currently this road is classed as “unsealed road - not to be sealed”. Traffic counts conducted in August 2016 showed 370 vehicles per day. This is a minimal change in usage patterns when compared to 2010 traffic counts, which were 307 vehicles per day. An evaluation has also been undertaken, applying the scoring guidelines as detailed in Appendix 2 to assess Hunt Road. Hunt Road scored 31%, as detailed in Appendix 2 of the RNP. A 50% threshold score is required to warrant sealing of an unsealed road, as such, based on the evaluation criteria of traffic amenity, community benefit and financial benefit there is insufficient reasoning to seal Hunt Road. Further technical assessment is to be performed by our traffic engineer to determine any appropriate treatments that may be warranted to address any possible road safety issues.

It should be noted that any changes to the unsealed roads would require further consultation with the local community and other key stakeholders. The current unsealed road network is provided in Figure 7.

8.2.2 Isolated seal considerations

Upon written request by a property owner, occupier, or at the discretion of relevant council officer, council will undertake a sealing of an isolated section of an unsealed road subject to the following conditions:

- The location of the dwelling is sufficiently close to the road that passing traffic is causing dust to disturb the quality of life of the property owner or occupier.
• The length of the isolated section sealed under this policy shall be limited to a maximum of 200m.

• The works are to be undertaken only if budgetary constraints allow.

• The timing of the works will be such that the works are completed efficiently without major disruption to council’s works program.

• Where topography and gradient issues present a maintenance need to manage the road in isolation.
Figure 7 - Unsealed Road Network

Unsealed Road Network

- Green: Unsealed road - not to be sealed
- Red: Unsealed road - may be considered for sealing
- City of Onkaparinga Boundary
- Major road
- Railway Line
- Major Park / Reserve
- Urban area

X: May be considered for formal closure

Kilometres

City of Onkaparinga
8.3 Freight network framework

Heavy vehicle operations are divided into three categories:

**General access**

Heavy vehicles in this category are permitted access to all roads in South Australia subject to any local road or bridge restriction.

Maximum limits for general access are:

- Gross mass: 42.5 tonnes
- Width: 2.5 metres
- Height: 4.3 metres
- Length: 19 metres

The common six axle articulated vehicle (semi-trailer) equates to the above limits.

**Restricted access by Gazette Notice**

RAVs can only operate on approved routes due to their large size and mass.

**Restricted access by permit**

Permit operations generally cover the transport of large indivisible items (as distinct from general freight loads) such as transportable homes or earth moving machinery. Wherever possible, permit operations should be directed on to DPTI roads.

To efficiently manage the freight transport network, roads are classified based on use, importance and funding responsibilities. The road freight network in South Australia is divided into the following three categories:

1. **Key freight routes**

   Key freight routes are defined as routes that provide a high capacity for the movement of freight. These can include a combination of roads on the national network, state arterial roads and local roads that include:
   - Major links between important economic regions and freight centres, industrial, agricultural and manufacturing areas.
   - Connections to state borders.
   - Intermodal connections at rail terminals, seaports and airports.

2. **General freight routes**

   General freight routes are defined as routes that:
   - Provide ongoing access to transport depots, manufacturing and processing plants.
   - Link into the key freight route network.

   They also include roads of regional significance and along with key freight routes provide for the movement of general freight transport activities all year round.
3. Commodity freight routes

Commodity freight routes are routes that can safely accommodate the operation of restricted access vehicles on a limited or seasonal basis where traffic volumes are very low and in most cases limited to particular users transporting specific primary products (ie the transport of grapes from vineyard to crushing facilities).

Typical conditions of operation are:

- Travel limited to seasonal operation only (eg to align with harvest season).
- Restricted to a particular commodity for which access is required.
- Time restrictions to offset environmental and amenity impacts.
- Speed restrictions to prevent infrastructure damage and maintain vehicle stability and safety on rough or unsealed roads.
- Use of yellow revolving flashing lights fitted to the vehicle to warn oncoming motorists where the road may be narrow and sight distance is limited.
- Requirement to slow down or stop and give way to other road users at intersections or cross roads where the RAV may be undertaking a turning manoeuvre.

Approved commodity freight is listed below:

Table 8: Approved commodity freight

<table>
<thead>
<tr>
<th>Schedule 1: Commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertiliser</td>
</tr>
<tr>
<td>Grain</td>
</tr>
<tr>
<td>Hay and bulk stockfeed</td>
</tr>
<tr>
<td>Livestock</td>
</tr>
</tbody>
</table>

Source: DPTI freight routes are defined in the publication Heavy Vehicle Access Framework Version 1, July 2006.

Some general guidelines for determining whether a road is part of a freight network are if the road:

- is a gazetted road (B-Double, road train or over-dimensional)
- is listed in the publication by DPTI, Heavy Vehicle Access Framework, July 2006
- provides key access to a significant freight generator
- is in built-up areas the road has more than 50 heavy commercial vehicle movements per day (excluding buses and small rigid vehicles)
- is in non-built-up areas the road has more than 1,000 heavy commercial vehicle movements per year (excluding buses and small rigid vehicles)
- is subject to significant seasonal freight movements (ie more than 20 heavy commercial vehicles use it per day).
8.3.1 Performance Based Standards (PBS) Scheme

The PBS scheme ensures that heavy vehicles are compatible and operate safely on specified routes, without causing any extra wear on the road network infrastructure and at the same time improve vehicle productivity.

The PBS consists of two parts:
- Standards and guidelines for assessing the dynamic performance of vehicles on a national basis.
- Technical guidelines to ensure consistent development and assessment of route networks for PBS vehicles.

The application, assessment and approval of PBS vehicles is undertaken on a national basis through the National Transport Commission.

Under the National PBS scheme, two of the four route network levels that have been adopted are relevant to our road network, being L1 and L2 and are defined as:
- L1A - no existing classification but closely aligns with the six axle articulated vehicle for operation on the arterial road network and defined local freight routes, length <=20m.
- L2A - B-Double, length <= 26m.

Under the National PBS scheme, it is proposed that the PBS Road Classification Guidelines will be used for the assessment of all general freight RAV route networks once the full PBS scheme is implemented.

8.3.2 Old Coach Road (between Maslin Beach Road and Aldinga township)

This section of the road network has been identified as a road that should be considered to be added to the general freight network. Currently Commercial Road, under the care control and control of DPTI and on the same alignment to the north, is a PBS Level 1A classified road from the Maslin Beach Road/Gulf Parade intersection to Griffiths Drive intersection. Then from Griffiths Drive north through to the Saltfleet Street bridge, Commercial Road has been designated as a general freight route.

If Old Coach Road was included in the general freight network this would provide an alternative freight route to Main South Road for the rapidly growing Aldinga area. This potential inclusion on the general freight network requires further investigation by the City of Onkaparinga and consultation with DPTI to determine any possible implications, one of which would be ownership responsibilities (given the potential increased role Old Coach Road would play in the network).

8.4 Sustainable roads framework

Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) refers to sustainable water cycle management in the urban landscape. Urban development and redevelopment, including roadways, increases the area of impermeable surfaces and causes significant alterations to the water cycle. Impermeable surfaces reduce infiltration of rainwater into the soil, causing increased run off and impacting upon the natural water cycle process.

Run off from road surfaces is also a recognised source of pollutants, including suspended solids, litter and nutrients which can have adverse impacts on the health of natural ecosystems. Adoption and implementation of WSUD principles can reduce these adverse impacts. The
integration of water sensitive urban design principles and road network planning is supported by City of Onkaparinga policies and strategies. Our development plan includes high level objectives to achieve WSUD outcomes and our water resources service levels require compliance with load reduction targets for pollutants (gross pollutants, suspended solids and nutrients) and pre-development flow rates. Our streetscape design guidelines provide recommendations for incorporating WSUD. Numerous other technical references are available to assist with integration of WSUD.

WSUD is an important part of future planning for greenfield development and major road upgrade projects and wherever feasible, integration of WSUD principles should be considered as a fundamental component of road design.

**Native vegetation management**

There are many situations where road improvements need to be influenced and guided by the need to minimise environmental impacts, protect biodiversity, and satisfy the requirements of relevant environmental legislation. Closely associated with these requirements is also the need to retain the amenity value and ‘local character’ of areas, which are often defined by vegetated country roads. In these situations, options such as alternative routes, road diversions, altered alignments, different treatments, reduced service levels, and/or warning signs should be considered. Early consultation with our Parks and Natural Resources staff will ensure that potential environmental constraints and legislative requirements are identified on a project by project basis prior to funding allocation and the design stage of the project.

Where it appears likely that road works will require clearance of native vegetation beyond what is allowed for within the Guidelines for the Management of Roadside Vegetation; consultation with the Native Vegetation Council (State Government native vegetation regulatory body), and potentially an application for clearance under the **Native Vegetation Act 1991** or **Native Vegetation Regulations 2003**, may need to be undertaken. Offsets in the form of an on-ground area for rehabilitation / revegetation, a payment into the Native Vegetation Fund or a combination of these options may also be required to compensate for the loss of the vegetation to be removed.

Parks and Natural Resources staff will provide advice regarding requirements under the native vegetation legislation and other legislation such as the **Development Act 1993** in relation to regulated and significant trees, the federal **Environment Protection and Biodiversity Conservation Act 1999** regarding potential impacts on matters of national environmental significance and the **Natural Resources Management Act 2004** regarding the control, movement and spread of declared plants.
8.5 Roadside vegetation impact process

The current roadside vegetation impact process is summarised in the following process chart.

8.6 Unmade roads framework

The purpose of the unmade roads framework is to identify future requirements and land surplus to road network requirements.

Those parcels of land that have been formally closed as part of the installation of a traffic control device are to remain closed whilst the traffic control device is in place and should not be considered as an unmade road. An example of such a location is the north end of Rolton Avenue.

A number of roads or sections of road are unmade due to their difficult terrain or being located in remote areas. Some of these unmade roads are incorporated into adjoining properties, used for emergency access, leased to other users or used as trails (identified in the Recreational Trails Strategy).

The unmade roads that are of relevance to the Road Network Plan are:
• Roads or sections of road that are used for emergency vehicle access such as the pathway between McHarg Road and Education Road. These roads are part of the road network only whilst the emergency is in progress.

• Roads or sections of road that need to remain unmade to ensure the network is not impacted by their opening. That is, if these roads were to be formed/constructed/sealed they would have undesirable impacts on the function of the road network. In these cases the road should be closed under the Roads (Opening and Closing) Act 1991. An example of such a location is the unmade road between the southern end of Pine Road and Bains Road.

• Roads or sections of road that need to be constructed/sealed to provide links in the network that are desirable. An example of these locations is the Doctors Road extension to Panalatinga Road.

• Roads or sections of road that are required in the future for all weather access roads to private properties or as a connection to a new land division. An example of these locations is the section of Piggott Range Road, west of River Heights Rise.

**Evaluation criteria**

Primary function
Emergency access
Leased to other users
Used as a trail – refer to Recreational Trails Strategy
Incorporated into adjoining properties
Setting
Rural
Coastal
Riverine
Cultural
Adjoining road(s) classification and function
Zoning
Located within 10km of future development area
Public safety
Native vegetation/environmental impacts
Aboriginal heritage

**Unmade roads matrix**

The factors identified in Figure 8 should be applied when considering the upgrade of an unmade road to an access road or local road. However, this flow chart should only be used as a guide as there may be other factors to consider including future development opportunities, political factors and strategic network opportunities as identified above.
### Figure 8 - Unmade roads matrix

<table>
<thead>
<tr>
<th>Function</th>
<th>Asset Planning</th>
<th>Asset Planning</th>
<th>Property</th>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency access</td>
<td>Future requirement (identified in roads asset group as subcategory)</td>
<td>Future requirement (identified in open space or water resources asset group as subcategory)</td>
<td>Managed by Property under lease agreement</td>
<td>Potential surplus land, not required from a road network perspective. To go to Property for further investigations</td>
</tr>
<tr>
<td>Incorporated into adjoining properties</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used as a trail</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leased to other users</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjoining road(s) classification</th>
<th>Zoning</th>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial - urban</td>
<td>Zoning has potential for future development</td>
<td></td>
</tr>
<tr>
<td>Arterial - rural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distributor - rural</td>
<td>Zoning does not have potential for future development</td>
<td></td>
</tr>
<tr>
<td>Distributor - urban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collector - urban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collector - rural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local - urban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local - rural</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zoning</th>
<th>Public safety</th>
<th>Environmental impacts</th>
<th>Aboriginal heritage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoning has potential for future development</td>
<td>Unmade road poses a public safety risk</td>
<td>Stormwater</td>
<td>If the unmade road is identified as having Aboriginal heritage/significance the unmade road is to be included as an open space asset</td>
</tr>
<tr>
<td>Zoning does not have potential for future development</td>
<td>Unmade road does not pose a public safety risk</td>
<td>Dust (control)</td>
<td></td>
</tr>
<tr>
<td>Native vegetation</td>
<td></td>
<td>Erosion</td>
<td></td>
</tr>
<tr>
<td>Erosion</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.0 Network Deficiencies

9.1 Progress against actions

The 2009 Road Network Plan identified a number of actions. The status of these actions as at 2016 is detailed in the following tables.

9.1.1 Council roads

<table>
<thead>
<tr>
<th>Current council upgrade requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intersection upgrade (level of service)</strong></td>
</tr>
<tr>
<td><strong>1</strong></td>
</tr>
<tr>
<td><strong>1.1</strong></td>
</tr>
<tr>
<td><strong>1.2</strong></td>
</tr>
<tr>
<td><strong>1.3</strong></td>
</tr>
</tbody>
</table>
### 2 Rural road safety

<table>
<thead>
<tr>
<th></th>
<th>Road</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Piggott Range Road</td>
<td>Piggott Range Road - Bains Road, Onkaparinga Hills, intersection upgrade completed in 2013-14. Further assessment required to determine any further rural road safety treatments for this road.</td>
</tr>
<tr>
<td>2.2</td>
<td>Bains Road</td>
<td>Road shoulder improvements and resealing of a major section of Bains Road has been completed. Further assessment required to determine any further rural road safety treatments.</td>
</tr>
</tbody>
</table>

### 3 Rural freight route/tourist route adequacy improvement

<table>
<thead>
<tr>
<th></th>
<th>Road</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Blewitt Springs Road</td>
<td>Extensive reconstruction improvement works completed across numerous financial years. A majority of this road has been upgraded.</td>
</tr>
<tr>
<td>3.2</td>
<td>Seaview Road – Southern Bend</td>
<td>Further assessment required to determine appropriate treatments.</td>
</tr>
<tr>
<td>3.3</td>
<td>Chaffeys Road</td>
<td>Commenced. Black Spot project has been implemented for Baker Gully Road, Chapel Hill Road, and Chaffeys Road (road safety upgrades) over numerous financial years. Further assessment required to determine remaining scope of road safety improvement works.</td>
</tr>
<tr>
<td>3.4</td>
<td>Chalk Hill Road (Main Road to Foggos Road)</td>
<td>Black Spot Intersection Upgrade project for Chalk Hill Road/Olivers Road/Field Street, McLaren Vale has been completed. Further assessment required to determine adequacy requirements.</td>
</tr>
<tr>
<td>3.7</td>
<td>Johnston Road</td>
<td>Johnston Road has been reconstructed from Main Road to Aldersey Street. Remaining segment of road has not been upgraded. Further assessment required. Ongoing advocacy to DPTI regarding possible future freight connection of Johnston Road with Victor Harbor Road, further details refer Section 8.3 RNP.</td>
</tr>
<tr>
<td>3.8</td>
<td>Kays Road</td>
<td>Further assessment required to determine if adequacy improvements are still required. Extensive native vegetation issues.</td>
</tr>
<tr>
<td>3.9</td>
<td>Long Gully Road</td>
<td>Seaview Road and Long Gully Road intersection recently upgraded. Further assessment required to determine if adequacy improvements are still required. Significant stakeholder - McLaren Vale Quarries.</td>
</tr>
<tr>
<td>3.10</td>
<td>Malpas Road</td>
<td>Road reconstruction works have been completed for the majority of Malpas Road. Further assessment required to determine extent of remaining adequacy improvements and whether they are still required.</td>
</tr>
<tr>
<td>Section</td>
<td>Road</td>
<td>Details</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>3.11</td>
<td>McMurtrie Road</td>
<td>McMurtrie Road and Hunt Road intersection were recently upgraded to improve road safety. Further assessment required to determine extent of remaining adequacy improvements and whether they are still required.</td>
</tr>
<tr>
<td>3.13</td>
<td>Olivers Road (north from Field Street)</td>
<td>Completed. Shoulder widening, localised repairs, reseal and upgrade works completed for the length of Olivers Road, McLaren Vale from Seaview Road to Chalk Hill Road. Further assessment required to determine extent of remaining adequacy improvements for Field Street.</td>
</tr>
<tr>
<td>3.14</td>
<td>Rifle Range Road</td>
<td>Further assessment required to determine extent of adequacy improvements. Majority of Rifle Range Road is unsealed, highlighted as 'unsealed not to be sealed'.</td>
</tr>
<tr>
<td>3.15</td>
<td>Sand Road</td>
<td>Further assessment required to determine extent of adequacy improvements. Half of Sand Road is a designated commodity freight route. Possible adequacy issues with the western section of Sand Road due to a bridge load limit.</td>
</tr>
<tr>
<td>3.16</td>
<td>Seaview Road</td>
<td>Completed. Road shoulders works have been implemented between Quarry Road and Kays Winery.</td>
</tr>
<tr>
<td>3.17</td>
<td>Strout Road</td>
<td>Further assessment required to determine extent of adequacy improvements.</td>
</tr>
</tbody>
</table>

4 **Rural freight route/tourist route intersection improvement**

<table>
<thead>
<tr>
<th>Section</th>
<th>Road, Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Seaview Road, southern bend</td>
<td>Further assessment required to determine appropriate treatments.</td>
</tr>
<tr>
<td>4.3</td>
<td>McMurtrie Road/Oakley Road/Penneys Hill Road</td>
<td>Construction completed.</td>
</tr>
</tbody>
</table>

5 **Rural freight route/tourist route safety improvement**

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Investigate ‘slow moving machinery’ and tourist warning signs</td>
<td>Further assessment required to determine appropriate treatments.</td>
</tr>
</tbody>
</table>

**Potential future council upgrades**

6 **Council ‘capacity’ upgrades**

<table>
<thead>
<tr>
<th>Section</th>
<th>Road</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Seaford Road</td>
<td>Whole length of Seaford Road upgrade completed. DPTI intersection upgrade with Main South Road completed.</td>
</tr>
<tr>
<td>6.2</td>
<td>Aldinga Beach Road</td>
<td>Whole length of Aldinga Beach Road completed - excluding final stage from How Road to Main South Road - subject to development in the area.</td>
</tr>
<tr>
<td>6.3</td>
<td>Quinliven Road, Aldinga Beach</td>
<td>Majority of Quinliven Road completed. Remaining section from Galilee School to Port Road is currently being constructed in 2016-17.</td>
</tr>
</tbody>
</table>
### 9.1.2 State government roads (DPTI)

#### Current state government (DPTI) upgrade requirements

<table>
<thead>
<tr>
<th></th>
<th>Potential change in road hierarchy (Council to DPTI owned)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Pimpala Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of Pimpala Road to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>7.2</td>
<td>Doctors Road extension to Panalatinga Road</td>
</tr>
<tr>
<td></td>
<td>In the early 1990’s DPTI proposed a future new road link between Doctors Road and Panalatinga Road to create an effective bypass of Morphett Vale for longer distance traffic. The original intention of the Panalatinga Road extension was to provide motorists with an alternative to Main South Road and hence avoid the congestion that was being experienced through Morphett Vale. DPTI’s position is that the two way Southern Expressway now provides a highly efficient service between the Adelaide plains and the Morphett Vale/Seaford areas and therefore, the need for a potential Panalatinga Road extension is not currently being considered. From a strategic network perspective and based on community feedback it is suggested that this scenario be considered further. Our role is to continue to advocate that DPTI construct this connection, and that Doctors Road ownership ultimately be transferred to DPTI in conjunction with this connection. Ongoing.</td>
</tr>
<tr>
<td>7.3</td>
<td>Bishops Hill Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of Bishops Hill Road to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>7.4</td>
<td>Manning Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of Manning Road to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>7.5</td>
<td>States Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of States Road to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>7.6</td>
<td>Wheatsheaf Road/Flaxmill Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of Wheatsheaf and Flaxmill Road to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>7.7</td>
<td>Seaford Road</td>
</tr>
<tr>
<td></td>
<td>The transfer of Seaford Road (Main South Road to Commercial Road only) to DPTI requires further negotiations between DPTI and City of Onkaparinga.</td>
</tr>
<tr>
<td>8</td>
<td>Road upgrade (capacity)</td>
</tr>
<tr>
<td>8.1</td>
<td>Beach Road, Dyson Road and Commercial Road</td>
</tr>
<tr>
<td></td>
<td>Beach Road upgrade is the subject of ongoing consultation between DPTI and City of Onkaparinga. Refer ITLUP: Preserve and construct when necessary potential future road duplications such as Beach Road (Noarlunga), Dyson Road (Noarlunga), and Commercial Road (Seaford).</td>
</tr>
<tr>
<td></td>
<td>Road</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>8.2</td>
<td>Victor Harbor Road</td>
</tr>
<tr>
<td>8.3</td>
<td>Victor Harbor Road</td>
</tr>
<tr>
<td>8.4</td>
<td>Main South Road</td>
</tr>
<tr>
<td>8.5</td>
<td>Main South Road</td>
</tr>
<tr>
<td>9</td>
<td><strong>Intersection control</strong></td>
</tr>
<tr>
<td>9.1</td>
<td>Kenihans Road/Chandlers Hill Road</td>
</tr>
<tr>
<td>9.2</td>
<td>Main South Road/Victor Harbor Road</td>
</tr>
<tr>
<td>10</td>
<td><strong>Intersection upgrade (level of service/ fit for purpose)</strong></td>
</tr>
<tr>
<td>10.1</td>
<td>Main South Road/Sherriffs Road/Pimpala Road</td>
</tr>
<tr>
<td>10.2</td>
<td>Main South Road/Chandlers Hill Road</td>
</tr>
<tr>
<td>10.3</td>
<td>Main South Road/Black Road</td>
</tr>
<tr>
<td>10.4</td>
<td>Dyson Road/Beach Road</td>
</tr>
<tr>
<td>10.5</td>
<td>Dyson Road/O'Sullivan Beach Road</td>
</tr>
<tr>
<td>10.6</td>
<td>Dyson Road/Sherriffs Road</td>
</tr>
<tr>
<td>10.7</td>
<td>Beach Road/Morton Road</td>
</tr>
<tr>
<td>10.8</td>
<td>Victor Harbor Road/Budgens Road/Seaview Road</td>
</tr>
<tr>
<td>10.9</td>
<td>Main Road/McMurtrie Road/Johnston Road</td>
</tr>
<tr>
<td>11</td>
<td><strong>Intersection safety</strong></td>
</tr>
<tr>
<td>11.1</td>
<td>Main South Road/Seacombe Road</td>
</tr>
<tr>
<td></td>
<td>Intersection geometry</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12.1</td>
<td>Victor Harbor Road/Seaview Road</td>
</tr>
<tr>
<td>12.2</td>
<td>Field Street/Main Road/Tatachilla Road/Kangarilla Road</td>
</tr>
<tr>
<td>12.3</td>
<td>Main Road/Aldinga Road/High Street</td>
</tr>
<tr>
<td>12.4</td>
<td>Main South Road/Hillier Road</td>
</tr>
<tr>
<td>12.5</td>
<td>Kenihans Road/Regency Road/Bishops Hill Road</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Rural freight route/tourist route improvement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.1</td>
<td>Kangarilla Road</td>
<td>Low DPTI priority</td>
</tr>
<tr>
<td>13.2</td>
<td>Tatachilla Road</td>
<td>Low DPTI priority</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pedestrian crossing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>Main Road, McLaren Vale</td>
<td>Wombat Crossing at the Coast to Vines Trail shared use path crossing, due for completion in 2016/17.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Public transport</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15.1</td>
<td>Extend rail line from Seaford to Aldinga Beach</td>
<td>Extension of rail line to Seaford District Centre completed including stations with park and ride facilities at Seaford Meadows and Seaford. Alignment for remaining rail line to Aldinga Beach determined and land is being acquired.</td>
</tr>
</tbody>
</table>

**Potential future state government upgrades**

<table>
<thead>
<tr>
<th></th>
<th>Intersection capacity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16.1</td>
<td>Main South Road/Seaford Roads</td>
<td>Intersection upgrade completed in 2010</td>
</tr>
<tr>
<td>16.2</td>
<td>Main South Road/Honeypot Road</td>
<td>Low DPTI priority</td>
</tr>
<tr>
<td>16.3</td>
<td>Panalatinga Road/Bains Road</td>
<td>Project to fully control the right turn movements (except late night) completed in 2010.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Intersection safety</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17.1</td>
<td>Tatachilla Road/Aldersey Street</td>
<td>Low DPTI priority</td>
</tr>
</tbody>
</table>
### 17.2 Commercial Road/Seaford Road

Extend right turn lanes on north and east, mast arm on north west corner, and fully control right turns. Completed in 2015-16.

### 17.3 Main South Road/Pimpala Road/Sherriffs Road

See 10.1

### 17.4 Main South Road/Candy Road

Subject of ongoing negotiations between DPTI and City of Onkaparinga

### 17.5 Main South Road/Sunvalley Road

Low DPTI priority

### 17.6 Main South Road/Chandlers Hill Road

See 10.2

### 17.7 Happy Valley Drive/Manning Road

Lighting upgrade along Happy Valley Drive between Black Road and Manning Road. Completed in 2015-16

### 17.8 Main South Road/Stanley Court, Reynella

Seagull and right turn lane. Completed in 2015-16

### 17.9 Quarry Road/Victor Harbor Road

Potential half road closure, subject to further discussions between council and DPTI.

<table>
<thead>
<tr>
<th>18</th>
<th><strong>Mid-block safety</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>18.1</td>
<td>Flagstaff Road dual lane duplication (Main South Road to Bonneyview Road)</td>
</tr>
<tr>
<td>18.2</td>
<td>Main Road (Black Road to Cherry Gardens Road)</td>
</tr>
</tbody>
</table>

### 9.2 New actions

Acknowledging that the completion of the Integrated Movement and Transport Strategy 2016 – 2021 may add further action, the following tables are new actions that have been identified as part of the review of the Road Network Plan in 2016.

Additional issues as a result of the public consultation process have been passed onto DPTI for consideration. These are summarised in the Community Engagement Outcomes Report in Appendix 1.

#### 9.2.1 Council roads

| 1 | Pine Road | Seal Pine Road between Pimpala Road and Reynell Road as a Project and Capital Works project. |

#### 9.2.2 State roads

| 1 | Main South Road | Upgrade (overtaking lanes and roundabout) to be completed |
### 9.2.3 Outstanding amendments to the Road Network Plan 2005

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Additional investigations to determine if Almond Grove and Hahn Road should be rural distributors instead of rural local streets</td>
<td>Outstanding action</td>
</tr>
<tr>
<td>9</td>
<td>Investigate potential to extend freight route along Johnston Road to further reduce freight travelling through McLaren Vale</td>
<td>Ongoing</td>
</tr>
<tr>
<td>10</td>
<td>Investigate potential to extend freight route along Chalk Hill Road between Main Road and BRL Hardy</td>
<td>Not actioned to date given planning focus and funding has been towards the development of the southern freight bypass route of Oakley and McMurtrie Roads</td>
</tr>
</tbody>
</table>

### 9.3 Amendments to the Road Network Plan 2009-2016

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Incorporation of the Street Design Guidelines (typical cross sections) into the Operational Management Procedures section.</td>
</tr>
<tr>
<td>2</td>
<td>Incorporation of the trial Traffic Precinct Study into the decision process framework section.</td>
</tr>
<tr>
<td>3</td>
<td>Incorporation of an Evaluation scoring guidelines based on ARRB Unsealed Roads Manual into the process for assessing the sealing of unsealed roads.</td>
</tr>
<tr>
<td>4</td>
<td>Inclusion of numerous roads within new developments that have occurred throughout the City of Onkaparinga as local roads.</td>
</tr>
<tr>
<td>5</td>
<td>Inclusion of the following roads within new developments as collectors on Road Network Hierarchy Map:</td>
</tr>
<tr>
<td></td>
<td>The Boulevard, Coulter Street, Scotch Avenue, Flagstaff Hill</td>
</tr>
<tr>
<td></td>
<td>Corrimal Avenue, Noarlunga Downs</td>
</tr>
<tr>
<td></td>
<td>Yeltana Avenue, Kimber Ave, Huntfield Heights</td>
</tr>
<tr>
<td></td>
<td>Grand Boulevard, Atlantis Avenue, Bollard Avenue, Prow Drive, Mast Avenue, Seaford Meadows</td>
</tr>
<tr>
<td></td>
<td>Grand Boulevard (Main Street to Seaford Road), Seaford</td>
</tr>
<tr>
<td></td>
<td>Grand Boulevard (Crest Drive to Dalkeith Road west), Albany Way, Esperance Boulevard, Seaford Rise</td>
</tr>
<tr>
<td></td>
<td>Emerald Avenue, Pinkgum Avenue, Wild Orchid Avenue, Nicholl Avenue, Kaurna Avenue, Aldinga Beach</td>
</tr>
<tr>
<td></td>
<td>Reclassification of the following roads from local to collectors on Road Network Hierarchy Map:</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>David Witton Drive, Noarlunga</td>
</tr>
<tr>
<td></td>
<td>Barbara Street, Christies Downs</td>
</tr>
<tr>
<td></td>
<td>Brian Road, Lindsay Road, Lonsdale</td>
</tr>
<tr>
<td></td>
<td>Warburton Drive (Aloisi Court to Apollo Street, Woodcroft)</td>
</tr>
<tr>
<td></td>
<td>States Road (from Penneys Hill Road south to bend) Hackham</td>
</tr>
<tr>
<td></td>
<td>Gates Road (from Main South Road to Hepenstal Road) Hackham</td>
</tr>
<tr>
<td></td>
<td>Cottage Lane, Hackham</td>
</tr>
<tr>
<td></td>
<td>O’Sullivan Beach Road (Dyson Road to Morrow Road) O’Sullivan Beach</td>
</tr>
<tr>
<td></td>
<td>Morrow Road (Sullivan Terrace to Moorong Road) O’Sullivan Beach</td>
</tr>
<tr>
<td></td>
<td>Brixton Street, Christies Beach</td>
</tr>
<tr>
<td></td>
<td>Rowley Road, Dover Street, Palmer Street, Aldinga Beach</td>
</tr>
<tr>
<td></td>
<td>Methodist Street, Giles Road (Methodist Street to Richards Road) Willunga</td>
</tr>
<tr>
<td></td>
<td>Pine Road (Pimpala Road to Reynell Road), Woodcroft</td>
</tr>
<tr>
<td>7</td>
<td>Reclassification of Clarendon Road, Clarendon from distributor to secondary arterial</td>
</tr>
<tr>
<td>8</td>
<td>Inclusion of updated bus routes (as at January 2016) on Public Transport Map</td>
</tr>
<tr>
<td>9</td>
<td>Inclusion of extension of rail line from Noarlunga Centre to Seaford including a station at Seaford Meadows on Public Transport Map</td>
</tr>
<tr>
<td>10</td>
<td>Inclusion of the rail reserve corridor alignment for the extension of the rail line from Seaford to Aldinga on Public Transport Map</td>
</tr>
<tr>
<td>11</td>
<td>Inclusion of the GoZone bus service route on Public Transport Map</td>
</tr>
<tr>
<td>13</td>
<td>City of Onkaparinga continue to advocate to DPTI for the construction of the unmade road which links Doctors Road to Panalatinga Road. DPTI responsibility. See above, section 7.2.</td>
</tr>
<tr>
<td>14</td>
<td>Consider road closures for network management benefits at:</td>
</tr>
<tr>
<td></td>
<td>Brodie Road at the creek crossing, Huntfield Heights (subject to further development adjacent to road)</td>
</tr>
<tr>
<td></td>
<td>Quarry Road, McLaren Vale (half road closure subject to DPTI approval)</td>
</tr>
<tr>
<td>15</td>
<td>Inclusion of a new project to seal Pine Road (Pimpala Road to Reynell Road), Woodcroft</td>
</tr>
<tr>
<td>16</td>
<td>Inclusion of The Epicurean Way on the Tourist Network Map</td>
</tr>
<tr>
<td>17</td>
<td>Inclusion of the Tour Down Under stage route around Willunga/Aldinga on the Tourist Network Map</td>
</tr>
</tbody>
</table>
### 18 Inclusion of a number of tourist access routes, such as:
- Galloway Road/Marina Drive access to O’Sullivan Beach Boat Launching Facility as tourist access on Tourist Network Map.
- Beach Road, Christies Beach
- Gawler Street, Port Noarlunga
- Old Coach Road, Maslin beach
- Seaford Road, Seaford
- Commercial Road, Seaford

### 19 Exclusion of the tourist access around the Moana South residential area, and Aldinga airfield.

### 20 Provision of a separate map depicting the PBS Level 1A and Level 2A approved restricted access vehicle routes

### 21 Inclusion of the following roads as commodity routes (approved B Double access):
- Gaffney Road, Willunga
- Malpas Road (Fox Creek winery to Main Road), Willunga
- Johnston Road (Pirramimma winery to Main Road), Willunga
- McMurtie Road (Wirra Wirra winery to Main Road), McLaren Vale
- Oakley Road (Kangarilla Road to Sands Road), McLaren Flat
- Bartyes Road / Budgens Road (Seaview Road to Victor Harbor Road), McLaren Vale
- Seaford Road (Main South Road to Eric Road), Seaford
- Pimpala Road (Mt. Hurtle winery to Main South Road), Woodcroft
- Sherriffs Road, Lonsdale
- Brodie/Liston/Scarborough/Brian/Lindsay Loop, Lonsdale
- Cooroora Crescent, Lonsdale
- Refinery Road, Lonsdale

### 22 Exclusion of the following roads for commodity routes (included in general freight network):
- Chalk Hill Road (Main Road to Foggos Road), McLaren Vale
- Foggos Road (Chalk Hill Road to Kangarilla Road), McLaren Flat
- Field Street (Chalk Hill Road to Main Road), McLaren Vale
- Ingoldby Road (Pedlar Creek to Kangarilla Road), McLaren Flat
- Kays Road (Kay Brothers winery to Whitings Road), McLaren Flat
- Chaffey’s Road (Neill Road to bend), McLaren Flat
- Strout Road (McMurtie Road to Rifle Range Road), McLaren Flat
- Rifle Range Road, McLaren Flat
Inclusion of the following roads as general freight routes:
- Long Gully Road (Seaview Road to Neill Road), McLaren Vale
- Old Mill Court, McLaren Vale
- Eric Road, Seaford
- Cottage Lane (Gates Road to Sturt Lane), Hackham
- Chapman Road, Hackham

Investigate options for the inclusion of Old Coach Road in the general freight network. Requires consultation with DPTI.

Inclusion of DPTI network deficiency improvements as outlined in ITLUP.

Updated list of City of Onkaparinga distributor roads that are approaching secondary arterial road classification. Manning Road, States Road, Wheatsheaf / Flaxmill Road and Seaford Road added to section 7 Possible Change in Road Hierarchy (council to DPTI owned) within 9.1.2.

9.4 Road intersections and network connections

Sunnymeade Drive/Hub Drive

Description of deficiency: Delays during peak periods.

Potential barriers and issues: Traffic diversion to alternative routes would result in traffic passing unnecessarily through residential areas.

Desired outcomes: Reduction in delays during peak periods.

Solutions to be investigated: Intersection upgrades for both intersections at Sunnymeade Drive/Campus Drive and Campus Drive/Hub Drive.

Status: A traffic study for this local road network has been completed in April 2016. Currently a project exists within our Project and Capital Works plan to upgrade these intersections, however it is currently unfunded, and will be updated to reflect current design solution.

Wheatsheaf/States Roads

Description of deficiency: Congested in the AM left turn from Wheatsheaf Road into States Road (travelling south) contributed by Panalatinga Road effectively ending at Wheatsheaf Road rather than extending further south.

Potential barriers and issues: Need to advocate with DPTI to extend Panalatinga Road on to Doctors Road and take over responsibility of both roads (connects Woodcroft to Noarlunga Centre for train access to the city).

Desired outcomes: Reduction in morning congestion for left hand turn from Wheatsheaf Road on to States Road.

Solutions to be investigated: Consider left turn lane.

Status: A concept design to upgrade intersection has been developed as part of the States Road Traffic Study in May 2014. This concept includes the inclusion of additional turning lanes, however is currently unfunded given the benefit cost ratio of the improvement concept is estimated to be less than 1, and therefore would not qualify for State or Federal Black Spot funding.
Feedback from DPTI on the Panalatinga Road to Doctors Road connection is that it is not a priority, given the recent completion of the Southern Expressway Duplication providing a sufficient bypass for the Morphett Vale region. We will continue to monitor ongoing traffic volumes along Wheatsheaf and States Roads, to help determine appropriate timing for the proposed intersection upgrade.

**Bains Road/States Road**

**Description of deficiency:** Congested in the AM left turn from Bains Road into States Road (travelling south) contributed by Panalatinga Road effectively ending at Wheatsheaf Road rather than extending further south.

**Potential barriers and issues:** Need to advocate with DPTI to extend Panalatinga Road on to Doctors Road and take over responsibility of both roads (connects Woodcroft to Noarlunga Centre for train access to the city).

**Desired outcomes:** Reduction in morning congestion for left hand turn from Bains Road on to States Road.

**Solutions to be investigated:** Consider left turn lane.

**Status:** A concept design to upgrade intersection has been developed as part of the States Road Traffic Study in May 2014. Currently unfunded given the benefit cost ratio of the improvement concept is estimated to be less than 1, and therefore would not qualify for State or Federal Black Spot funding.

Feedback from DPTI on the Panalatinga Road to Doctors Road connection is that it is not a priority, given the recent completion of the Southern Expressway duplication providing a sufficient bypass for the Morphett Vale region. We will continue to monitor ongoing traffic volumes along Bains and States Roads, to help determine appropriate timing for the proposed intersection upgrade.

**Piggott Range Road**

**Status:** Piggott Range Road - Bains Road Onkaparinga Hills, intersection upgrade completed in 2013-14. Further assessment required to determine any further rural road safety treatments for this road.

**Bains Road**

**Status:** Road shoulder improvements and resealing of a major section of Bains Road has been completed. Further assessment required to determine any further rural road safety treatments.

**McHarg Road/Education Road**

**Description of deficiency:** No trafficable connection between McHarg Road and Education Road.

**Potential barriers and issues:** Traffic diversion to alternative routes would result in additional traffic passing through Education Road.

**Desired outcomes:** Connect McHarg Road to Education Road.

**Solutions to be investigated:** Construct a trafficable road connection.
Status: At the Council meeting held on 15 November 2011, elected members considered a report regarding a possible road connection between McHarg Road and Education Road. The resolution adopted by Council was:

- That Council does not support the future road connection between McHarg Road and Education Road, Happy Valley,

And

- That a project for an alternative emergency access/shared path (for pedestrians and cyclists) be added to the Project and Capital Works plan for consideration as part 2012–13 budget process.

The 2012-13 budget included a project to install the emergency access/shared path (for pedestrians and cyclists). This project has since been completed in 2014.

There are no further plans to make a connection between McHarg Road and Education Road.

9.5 Strategic rural roads - adequacy improvement

Strategic rural roads are prioritised based on the role they play in the road network, and eligibility for Special Local Roads Program funding. Important considerations when prioritising these roads include freight, tourism and social access.

Opportunities to upgrade roads in this category are restricted by funding availability, acknowledging many of these projects involve high capital costs.

Previous funding for these roads included funding from our Major Project Fund – Wine Roads. The Major Projects Fund - Wine Roads category will reside under the Road Works category from 2017-18 onwards, whereby a Strategic Rural Roads sub-category will be established, and prioritise funds for important rural roads within the City of Onkaparinga.

Opportunities for alternative funding source for strategic rural roads are to be explored.

Identified strategic rural road projects

Further investigations required to identify other Strategic Rural Road adequacy improvement projects.

Blewitt Springs Road (between Douglas Gully and Whitings), McLaren Flat

Description of deficiency: Permitted B-Double route with deficient width.

Potential barriers and issues: Native vegetation.

Desired outcomes: Reconstruction between Douglas Gully and Whitings Roads.

Solutions to be investigated: Widen and reseal.

Status: Scheduled to be completed June 2016.

Seaview Road – Southern bend, McLaren Vale

Status: Further assessment required to determine appropriate treatments.
Chaffeys Road, McLaren Vale

**Status:** Commenced. Black Spot project has been implemented for Baker Gully Road, Chapel Hill Road, and Chaffeys Road (Road Safety Upgrades) over numerous financial years. Further assessment required to determine remaining scope of road safety improvement works.

Chalk Hill Road (Main Road to Foggos Road), McLaren Flat

**Description of deficiency:** Permitted B-Double route with deficient width.

**Potential barriers and issues:** Due to native vegetation, a major section of Chalk Hill Road is unable to be widened to recommended B-Double standard. Road is in good condition. Widening will be considered when road is due for a reseal.

**Desired outcomes:** Safe B-Double freight route to service wineries north of the township.

**Solutions to be investigated:** Performance Based Standards (PBS) for road widths to be considered when widening and resealing the road.

**Status:** Not commenced.

Johnston Road/Victor Harbor Road, McLaren Vale

**Description of deficiency:** Part permitted B-Double route with deficient width. Part of the road is unsealed with sections of dust seal and it is a ‘no through road’ to Victor Harbor Road.

**Potential barriers and issues:** Advocacy required with DPTI regarding Johnston Road intersection with Victor Harbor Road to determine future freight route. Currently B-Doubles use Tatachilla Road, which goes through residential McLaren Vale and past the district school creating conflicts with commuters, tourists and the land use zoning. There may also be some native vegetation issues.

**Desired outcomes:** Safe B-Double freight route to service the wine industry south of the township.

**Solutions to be investigated:** PBS standards.

**Status:** Investigations ongoing.

Kays Road, Blewitt Springs

**Description of deficiency:** Permitted B-Double route with deficient width.

**Potential barriers and issues:** 5.4m wide road (2.7m lanes) with 1.5m unsealed shoulders. Road is in good condition. Widening will be considered when road is due for a reseal. Potential native vegetation issues.

**Desired outcomes:** Safe B-Double freight route.

**Solutions to be investigated:** PBS standards for road widths to be considered when widening and resealing the road.

**Status:** Not commenced.

Long Gully Road, McLaren Vale

**Description of deficiency:** Identified as a freight route only with deficient width.

**Potential barriers and issues:** Not adequate (width and line of sight) for a freight route.
Desired outcomes: Safe road network for all users.

Solutions to be investigated: Included as a general freight route in 2016. Further assessment required regarding width of road.

Status: Monitor, ongoing discussion with McLaren Vale Quarry will determine priorities for this road. Seaview Road and Long Gully Road intersection recently upgraded in 2011.

Malpas Road, Willunga

Description of deficiency: Permitted B-Double route with deficient width.

Potential barriers and issues: 6.2m wide road (3.1m lanes) with 1.5m shoulders.

Desired outcomes: Safe B-Double freight route.

Solutions to be investigated: PBS standards for road widths to be considered when widening and resealing the road.

Status: Commenced. Further assessment required to check extent of deficiency.

McMurtrie Road, McLaren Vale

Status: McMurtrie Road and Hunt Road intersection recently upgraded to improve road safety. Further assessment required to determine extent of remaining adequacy improvements, and whether they are still required.

Olivers Road (north from Field Street), McLaren Vale

Status: Completed. Shoulder widening, localised repairs, reseal and upgrade works completed for the length of Olivers Road, McLaren Vale from Seaview Road to Chalk Hill Road. Further assessment required to determine extent of remaining adequacy improvements for Field Street.

Rifle Range Road (east from Strout Road), McLaren Vale

Description of deficiency: Permitted general freight route with deficient width. Unsealed road that was re-sheeted in 2004/05.

Potential barriers and issues: 5m road formation (unsealed). Road is in good condition. Widening will be considered when road is due for re-sheeting.

Desired outcomes: Safe B-Double freight route.

Solutions to be investigated: PBS standards recommend a 6.5m road formation for unsealed commodity routes.

Status: Not commenced. Further assessment required to determine extent of adequacy improvements. A majority of Rifle Range Road is unsealed, highlighted as 'unsealed not to be sealed'. Potential native vegetation issues.

Sand Road, McLaren Vale

Description of deficiency: Permitted B-Double route with deficient width.

Potential barriers and issues: 6.2m wide road (3.1m lanes) with 1.5m shoulders. Road is in good condition. Widening will be considered when road is due for a re-seal. Identified as a ‘tourist route’ in the 2005 Plan and not considered in the Freight Routes 2009.

Desired outcomes: Safe B-Double freight route.
Solutions to be investigated: PBS standards recommend a 3.2m lane with 1m shoulder. Lane width reductions are allowed but should not be more than 30% of the shoulder seal width.

Status: Not commenced. Further assessment required to determine extent of adequacy improvements. Half of Sand Road is a designated Commodity Freight Route. Possible adequacy issues with the Western section of Sand Road due to a bridge load limit.

Seaview Road, McLaren Vale

Description of deficiency: Permitted B-Double route with deficient width.

Potential barriers and issues: 6.2m wide road (3.1m lanes) with 1.5m shoulders. Road is in good condition. Widening will be considered when road is due for a re-seal.

Desired outcomes: Safe B-Double freight route.

Solutions to be investigated: PBS standards for road widths to be considered when widening and resealing the road.

Status: Completed. Road shoulders works have been implemented between Quarry Road and Kays Winery. Continue monitoring for adequacy of road surface.

Strout Road, McLaren Vale

Description of deficiency: Permitted general freight route with deficient width.

Potential barriers and issues: 6.2m wide road (3.1m lanes) with 1.5m shoulders. Road is in good condition. Widening will be considered when road is due for a re-seal.

Desired outcomes: Safe B-Double freight route.

Solutions to be investigated: PBS standards recommend a 3.2m lane with 1m shoulder. Lane width reductions are allowed but should not be more than 30% of the shoulder seal width.


Council ‘capacity’ upgrades

Seaford Road, Seaford

Status: Whole length of Seaford Road upgrade completed. DPTI intersection upgrade with Main South Road completed.

Aldinga Beach Road, Aldinga

Status: Whole length of Aldinga Beach Road completed - excluding final stage - subject to development in the area.

Quinliven Road, Aldinga Beach

Status: Majority of Quinliven Road completed. Remaining section from Gallilee to Port Road is currently being constructed in 2016-17.
9.6 Rural freight route/tourist route intersection improvements

Seaview Road – Southern bend, McLaren Vale
**Status:** Further assessment required to determine appropriate treatments.

Field Street/Chalk Hill/Olivers Roads, McLaren Vale
**Status:** Black Spot Intersection Upgrade project for Chalk Hill Road/Olivers Road/Field Street in McLaren Vale completed.

McMurtrie Road/Oakley Road/Penneys Hill Road, McLaren Vale
**Description of deficiency:** Part southern freight bypass route for McLaren Vale/McLaren Flat. Existing configuration has safety issues and is not designed for B-Doubles.
**Potential barriers and issues:** Overcome by the design process.
**Desired outcomes:** Safe configuration for all road traffic including B-Double freight.
**Solutions to be investigated:** Investigations for reconfiguration of intersection completed.
**Status:** Construction completed.

9.7 Rural freight route/tourist route safety improvements

Investigate 'slow moving machinery' and tourist warning signs
**Description of deficiency:** Suggested to reduce complacency. These signs to be put out seasonally (harvest and pruning).
**Potential barriers and issues:** Also suggested that sight lines through bends be audited and tree/vegetation trimming etc as appropriate to improve safety.
**Desired outcomes:** Safe road network for all users.
**Solutions to be investigated:** Temporary signs to be investigated. Sight lines audit to be undertaken and schedule of works identified.
**Status:** Further assessment required to determine appropriate treatments.

Heavy vehicle access to McLaren Vale Quarry
A report commissioned by MSP Transport has documented a Restricted Access Vehicle (RAV) route assessment to and from the McLaren Vale Quarry to accommodate a potential increase in quarry production rates via upgrading transport operations to “track + 5 axle dog” under PBS-2A.

Any road network adequacy improvements required to accommodate these heavy vehicle movements will need to be discussed in further detail with the McLaren Vale Quarry, MPS Transport and City of Onkaparinga staff.
10.0 Improvement Plan

10.1 Commodity routes investigation

**Improvement initiative:** Commodity routes to be mapped with deficiencies and a works program costed.

**Desired outcomes:** To comply with National Heavy Regulator Guidelines whilst providing good service to economic generators.

**Solutions to be investigated:** Further routes to be identified with a deficiencies works program developed based on typical cross section requirements for commodity routes.

**Status:** Underway with further investigations (particularly defects audit) required to formalise and endorse City of Onkaparinga’s new commodity routes as per DPTI guidelines.

10.2 Street design guidelines

**Improvement initiative:** Street Design Guidelines to be prepared in order to inform transit orientated development, urban regeneration and infill development planning initiatives and increased density as major considerations. The traditional design approach to management of the road reserve has required review to improve urban form, function and amenity for our revitalised communities.

**Desired outcomes:** Preparation and agreement on urban design guidelines to inform development and council asset planning functions within the city.

**Status:** Street Design Guidelines have been developed as an internal council reference guide. Continue to monitor the guideline for relevance and overlaps with the Road Network Plan as required.

10.3 Rear Access Laneways

**Improvement initiative:** Much of the residential greenfield developments underway and in planning for City of Onkaparinga to incorporate the use of laneways to accommodate medium density housing. There are instances where laneways have been constructed in housing developments without service levels, risks and capital replacement/maintenance impacts being fully considered.

**Desired outcomes:** Ensuring our service standards are met along with State and Australian Standards, best practice and the needs of the developers.

**Solutions to be investigated:** Agreement on cross section requirements, parking, property access, speed environments, traffic control, alignment, pedestrian facilities and street lighting along with servicing issues such as rubbish collection, SA Water etc.

**Status:** Internal consultation underway. Updated cross sections provided in 2016 RNP. Check validity of online Laneways Guideline.
10.4 Traffic Precinct Study

**Improvement initiative:** The Traffic Management framework is used to determine the need for traffic management studies and solutions. Any work identified through the framework will need to be funded through the traffic budget. Any ‘special funding’ requirements based on a Council endorsed process are to be funded external to the annual traffic budget.

Obtain current and relevant vehicle data that assists in evaluating appropriate traffic management solutions. It is desirable that current data is less than three years old.

**Desired outcomes:** The framework will develop ‘precincts’ and analyse these precincts to ensure that our traffic management work is performing to our desired service level.

**Solutions to be investigated:** Precincts to be identified and a reliable and cost effective way of obtaining current vehicle data to be developed. Endorsed precinct prioritisation process to be tested and results analysed for validity.

**Status:** Precincts have been mapped, first trial precinct to be progressed.
Appendix 1 – Community Engagement Outcomes Report (CEOR)
Appendix 2 – Unsealed Roads Evaluation form

<table>
<thead>
<tr>
<th>DETAILS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ROAD:</td>
<td>COMPLETED BY:</td>
<td></td>
</tr>
<tr>
<td>LOCATION:</td>
<td>CHECKED BY:</td>
<td></td>
</tr>
<tr>
<td>WARD:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSTRUCTION ESTIMATES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Grants / External Funding</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Net Estimated Cost to Council</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRIORITY ASSESSMENT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>Weight (%)</td>
<td>Score</td>
</tr>
<tr>
<td>1. Traffic Amenity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Traffic Volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Gradient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Traffic Speed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Commercial Vehicle Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Community Benefit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Development Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Building Setbacks from Road Reserve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Annual Traffic Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Special Need</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Financial Benefit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Return on Investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS / RECOMMENDATION

---

---
### 3. Traffic Anomaly

<table>
<thead>
<tr>
<th>Activity/Score</th>
<th>0-25</th>
<th>26-50</th>
<th>51-75</th>
<th>&gt; 75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (Average Annual Daily Traffic)</td>
<td>&lt; 25 AADT (negligible traffic)</td>
<td>26 to 100 AADT (very light traffic)</td>
<td>101 to 250 AADT (light traffic)</td>
<td>&gt; 250 AADT (medium to heavy traffic)</td>
</tr>
<tr>
<td>Gradient</td>
<td>&lt; 2.5% (flat section of roadway, no safety or environmental issues)</td>
<td>2.5 to 5% (descending, hilly, some snowing occurring)</td>
<td>5 to 7.5% (steeper, increase, vehicle safety may be an issue)</td>
<td>&gt; 7.5% (very steep section and/or has loose surface, and is an environmental or safety hazard)</td>
</tr>
<tr>
<td>Traffic Speed</td>
<td>≤ 40 kph</td>
<td>41 to 60 kph</td>
<td>61 to 80 kph</td>
<td>&gt; 80 kph</td>
</tr>
<tr>
<td>Commercial Vehicle Density</td>
<td>≤ 30% (negligible light vehicles)</td>
<td>31 to 50% (negligible mix of commercial vehicles)</td>
<td>51 to 80% (high proportion of commercial traffic)</td>
<td>&gt; 80% (mainly commercial vehicles)</td>
</tr>
</tbody>
</table>

### 3. Community Benefit

| Development Density (buildings are defined as residential, industrial and commercial) | < 20 buildings/km (rural environment) | 21 to 50 buildings/km (mixed low to medium density) | 51 to 100 buildings/km (urban fringe or rural township areas) | > 100 buildings/km (urban environments) |
| Building Setback (setback distance from road reserve) | > 50 m setback (negligible dust comes to residents) | 51 to 100 m setback (minor dust annoyance) | 101 to 150 m setback (medium traffic growth likely) | < 10 m setback (dust is a major irritant) |
| Traffic Growth (consider impact of new development, linkages with collection roads, etc.) | No growth likely | Minor increase in traffic projected | Medium traffic growth likely | High growth in traffic likely |
| Special Issues (consider health issues, age of development, community support for cycling, streetscape, etc.) | No health issues | Minor health issues | Concerning health issues | Serious health issues |
| | Development < 5 yrs old | Development 5 - 10 yrs | Development 10 - 15 yrs | Development > 15 yrs |
| | No community support or seal | Some community support | Growing community support | Strong community support |
| | No impact on streetscape integrity | Minor health issues | Concerning health issues | Serious health issues |
| | Development < 5 yrs | Development 5 - 10 yrs | Development 10 - 15 yrs | Development > 15 yrs |

### 3. Financial Benefit

| Return on Investment (payback period for net construction costs less grants vs. change in future maintenance costs) | Negative or neutral payback | Payback is 15 to 20 years | Payback is 15 years | Payback is 15 years |
| | Savings and benefits provide a minor financial benefit | Savings and benefits provide a minor financial benefit | Savings and benefits provide a major financial benefit | Savings and benefits provide a major financial benefit |
| | > 10 years payback period significant financial benefit | Good return on investment | Significant financial benefit | Good return on investment |

---

**Checklist**

- Current traffic = volume, type
- Future traffic = growth, impact on network regional
- Growth = tourism, freight / business access
- Construction costs = including any associated other road improvements
- Maintenance costs = costs including changes in costs for other road
- Affected benefits = savings in travel time, accident costs, vehicle operating costs, economic parameters
- Economic evaluation
- Sensitivity testing
**SEALING OF UNSEALED ROAD - EVALUATION FORM**

Completed By: Heath Newbery, Road Network Planner

**ROAD:** Pine Road

**LOCATION:** Woodcroft

**WARD:**

**CONSTRUCTION ESTIMATES**

- Estimated Construction Cost: 5
- Grants / External Funding: 5
- Net Estimated Cost to Council: 5

**PRIORITIZATION**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight (%)</th>
<th>Score</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Traffic Amenity</td>
<td>25</td>
<td>56.25</td>
<td>14.1</td>
</tr>
<tr>
<td>(a) Traffic Volume</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Gradient</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Traffic Speed</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Commercial Vehicle Density</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Community Benefit</td>
<td>50</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>(a) Development Density</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Building Setback from Road Reserve</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Annual Traffic Growth</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Special Need</td>
<td>100</td>
<td></td>
<td>7.5</td>
</tr>
<tr>
<td>3. Financial Benefit</td>
<td>25</td>
<td></td>
<td>18.8</td>
</tr>
<tr>
<td>(a) Return on Investment</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% TOTAL</td>
<td></td>
<td></td>
<td>57.8</td>
</tr>
</tbody>
</table>

**COMMENTS / RECOMMENDATION**

Pine Road is a collector
Properties adjacent include Tinarri Regional Park (access to car park), Marino Golf Course and Jennibrook Farm Horseriding grounds (Disabilities SA)
Current traffic volume is around 300 vsp
Large interest shown by community during engagement on RNP (81% in favour of sealing).
## Road Network Plan

### Sealing of Unsealed Road - Evaluation Form

#### DETAILS

Completed By: Heath Newberry, Road Network Planner

- **Road:** Hunt Road
- **Location:** McLaren Flat
- **Ward:**

#### Construction Estimates

- **Estimated Construction Cost:** 5
- **Grants / External Funding:** 5
- **Estimated Cost to Council:** 5

#### Priority Assessment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight (%)</th>
<th>Score</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Traffic Amenity (a) Traffic Volume</td>
<td>25</td>
<td>57.5</td>
<td>14.5</td>
</tr>
<tr>
<td>1. Traffic Amenity (b) Gradient</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1. Traffic Amenity (c) Traffic Speed</td>
<td></td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>1. Traffic Amenity (d) Commercial Vehicle Density</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2. Community Benefit (a) Development Density</td>
<td>50</td>
<td>17.5</td>
<td>0</td>
</tr>
<tr>
<td>2. Community Benefit (b) Building Setback from Road Reserve</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2. Community Benefit (c) Annual Traffic Growth</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2. Community Benefit (d) Special Need</td>
<td></td>
<td>(some community support)</td>
<td>7.5</td>
</tr>
<tr>
<td>3. Financial Benefit (a) Return on Investment</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3. Financial Benefit (b)</td>
<td></td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

100%  TOTAL = 31

#### Comments / Recommendation

Hunt Road is a rural local road. Currently this road is listed as “unsealed road - not to be sealed”.

- Current traffic volumes are 370 vpd (collected August 2016)
- Some community support for sealing of Hunt Road

In its current form, Hunt Road is a local unsealed road in a rural environment; however, some bitumen has been applied some years ago, giving the road the impression of a sealed road.

Minimal change in usage patterns from 2010 (300 vpd).

31% is not high enough to justify sealing of Hunt Road, given a 50% threshold is required.