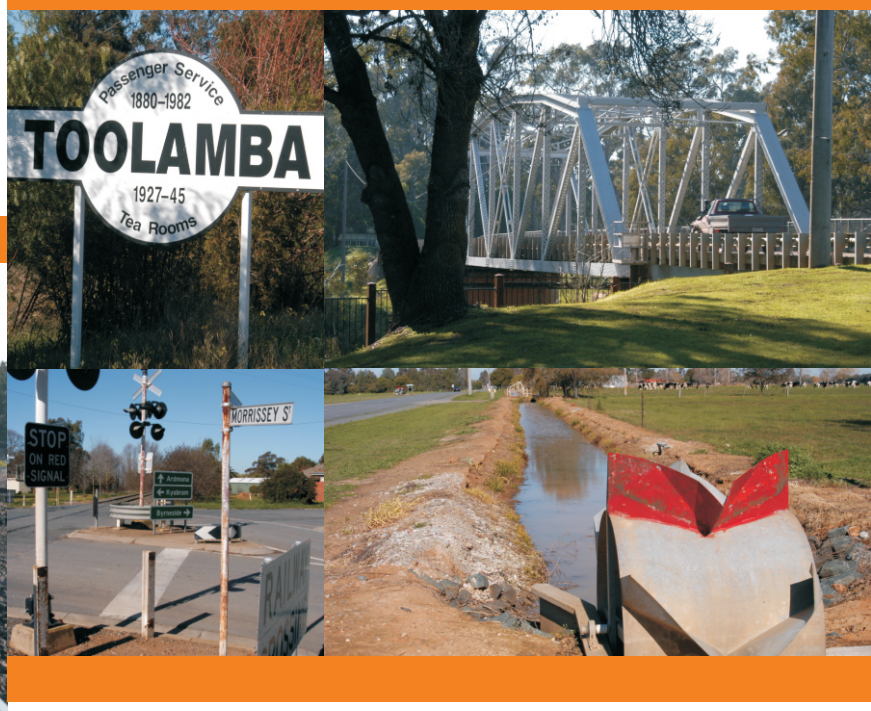

GREATER SHEPPARTON 2030

BACKGROUND and ANALYSIS REPORT NO. 6: INFRASTRUCTURE

Adopted by Council at Ordinary Council Meeting on 3 October 2006

coomes consulting

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Abbreviations / Acronyms

ABS	Australian Bureau of Statistics
CBD	Central Business District - Shepparton city centre
GSCC	Greater Shepparton City Council
CMA	Catchment Management Authority
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
GB-CMA	Goulburn-Broken Catchment Management Authority
G-MW	Goulburn-Murray Water
Greater Shepparton	Refers to the whole municipality of Greater Shepparton
MSS	Municipal Strategic Statement
SIR	Shepparton Irrigation Region
Shepparton	Refers to the urban areas of Shepparton only
VPPs	Victorian Planning Provisions
WFP	Whole Farm Plan
WSUD	Water Sensitive Urban Design

1 Introduction

1.1 Greater Shepparton 2030 – Process and Outcomes

The Greater Shepparton City Council and the Department of Sustainability and Environment have prepared ***Greater Shepparton 2030***, a blueprint for building sustainable economic activity and maximising the quality of life in the municipality over the next 30 years.

This plan will update the previous City of Greater Shepparton Strategy Plan 1996 which formed the basis for the current Municipal Strategic Statement (MSS). The MSS is the local strategy component of the Greater Shepparton Planning Scheme.

A key element of the preparation of this plan was the integrated planning approach, and the process and extent of community engagement involving all stakeholders. This engagement was achieved from a number of initiatives to obtain a depth of understanding of issues from both technical and personal perspectives. The feedback from the community consultation assisted in the development of visions for the municipality.

The methods of community engagement included an open invitation for community representatives to attend a number of advisory groups. These workshops covered the specialist topics of:

- Environment
- Heritage and culture
- Community services
- Infrastructure
- Transport
- Business and tourism
- Agriculture
- Recreation and open space
- Youth

In addition, specific workshops were held to discuss the towns of:

- Congupna
- Dookie
- Katandra West
- Merrigum
- Mooroopna
- Murchison
- Shepparton
- Tallygaroopna
- Tatura
- Toolamba
- Undera

Specialist input was also received from single purpose workshops with Councillors, Council officers and Regional Development agencies.

A number of individual interviews were held with representatives of key statutory agencies. In addition to community engagement, the preparation of the strategy involved detailed research and investigation of the main issues.

Current and emerging issues are considered, ranging from global issues such as world economics, global warming, energy sources and population migration.

Domestic issues are considered, including changes to the horticultural and dairy industries, potential for new rural enterprises, water distribution, the highway bypass, changes to road and rail freight patterns, and community development and settlement patterns.

This report also provides a profile of the city and the forecast population projections.

The key land use and development principles that together form the basis of a functioning city are:

- People (Demographic Profile)
- Settlement and Housing
- Community Life
- Environment
- Economic development
- Infrastructure

This grouping generally reflects the land use and development principles embodied in State and local documents including the Victorian Planning Provisions (VPPs), the Greater Shepparton City Council Plan and Melbourne 2030.

Attachment 1 contains a complete list of topics, a key direction for each topic, and a list of themes within each topic, that together comprise the policy coverage of ***Greater Shepparton 2030.***

There is a background and analysis report for each of the above topics. This grouping is for ease of description of related sub-topics and for implementation by various public and private agencies. It is recognised that, in practice, these principles are intrinsically interrelated in a holistic view of the municipality.

Greater Shepparton 2030 contains objectives, strategies, and implementation suggestions for each of these topics. These were derived from a set of overarching sustainability principles, which have also driven Greater Shepparton's Council Plan.

In addition, some of the topics will contain framework plans. A framework plan will spatially map the preferred form of future use and development.

In line with the sustainability outcomes sought for the long term, the plan will contain triple bottom line assessments of opportunities and challenges for land use planning, social planning and economic analysis. This analysis will identify priority projects which will be included in Greater Shepparton 2030: In Summary, a summary document for the Greater Shepparton City Council.

The outputs of this Strategy will consist of a number of corporate and strategic planning documents for the municipality, including the Municipal Strategic Statement. The implementation of the Actions listed in the Strategy Plan will be undertaken in the context of the constraints of the Strategic Resources Plan as contained in the Council Plan 2004-2008.

The total package of documents comprising the ***Greater Shepparton 2030*** is shown in Figure 1.

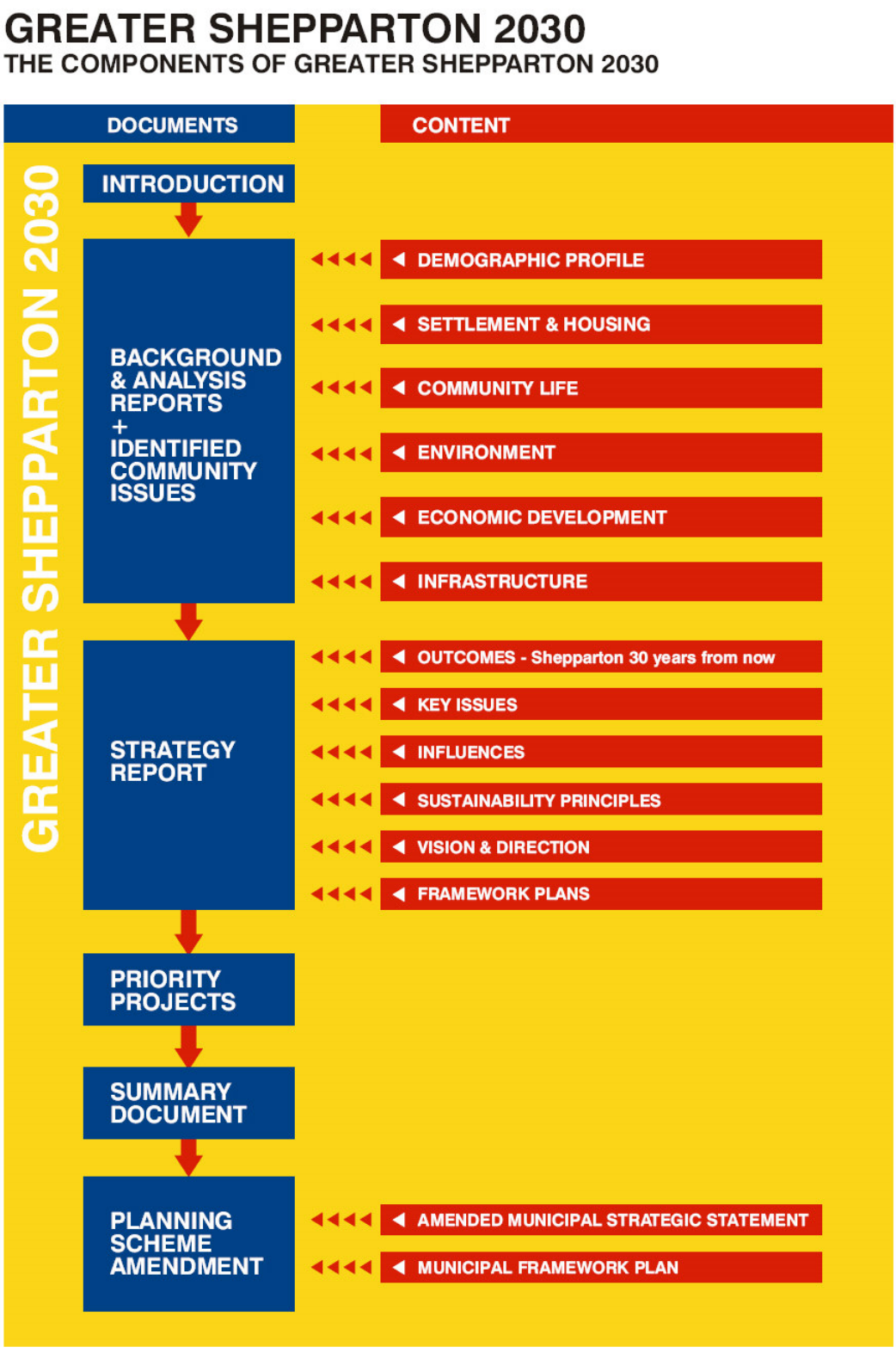

Figure 1: The Components of Greater Shepparton 2030

1.2 This Report – Infrastructure

The 'infrastructure' component of this strategy plan is inclusive of a number of sub-topics, or themes that are interrelated and often interdependent. The sub-topics that are discussed in this report are:

- Traffic and transport systems (Section 4)
- Urban and rural services (Section 5)

In terms of transport planning, the largest urban area within the municipality of Greater Shepparton is the Shepparton / Mooroopna area, located at the junction of the Goulburn Valley Highway and the Midland Highway, making it a key transport hub. Shepparton is located some 140 kilometres to the north of the Melbourne Central Business District (an approximate 2 hour drive), and also has good transport access to Geelong, Bendigo, and southern New South Wales.

The Goulburn Valley Highway has also been recognised as part of the National Highway System (NHS) also acting as a major transport route between Melbourne and Brisbane. Both passenger and freight rail services, and limited air services exist to Greater Shepparton.

GTA Consultants, traffic engineers, was engaged as specialist transport planning experts to develop a strategy for the Greater Shepparton City Council to provide strategic directions for the municipality over the next 30 years.

More specifically a transport strategy must address the future planning and the inter-relationships between the following transport sectors:

- Linkages with other regional cities;
- Freight networks;
- Air infrastructure;
- Rail networks;
- Public transport network;
- Local road network;
- The Shepparton Central Business District (CBD); and
- Bicycle and pedestrian networks.

1.3 Structure of This Report

This report is divided into 5 sections:

Section 1 contains an introduction to the strategy plan, an outline of subtopics addressed in this report, and a list of sustainability principles.

Section 2 provides an overview of the topic, with the major issues identified in the 1996 Strategy Plan and comments about where the future focus should be in this current strategy plan. This section concludes with a singular direction for the topic of infrastructure, which will drive the detailed strategies.

Section 3 contains an overview of the community engagement and consultation with authorise.

Sections 4 and 5 address both of the subtopics in detail and may include all or a number of these items:

- Key issues, including major structural changes and key initiatives undertaken.

- A summary of comments from the community engagement process and interviews form relevant authorities.
- Any reports or studies relevant to the study area, published since the 1996 plan.
- A broader strategy framework, indicating where local strategies fit into regional, state, national and international strategy frameworks.
- A list of objectives, derived from the community engagement feedback and vision setting plus the above situational analysis. These objectives have been tested against the sustainability principles.
- For each of the objectives, a list of strategies to achieve the objectives.
- In addition, the role taken by the Council, the priority of the project and an indicative cost are included as part of the implementation process. Council has the following roles:
  - Provider – Council's role is to provide the service
  - Facilitator – Council's role is to provide the service with other providers
  - Advocate – Council's role is to lobby the provider to provide the service
- Where relevant, a framework plan that spatially maps the preferred form of future use and development. This may be an amended version of an existing framework plan from the 1996 strategy plan, or a new plan.

1.4 Sustainability Principles

There is widespread agreement that solving global problems means the adoption of policies and programmes that lead to sustainable development.

Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their needs.

Sustainability is not just an environmental consideration it has economic, social and environmental development perspectives and relevance.

The recently released statement of metropolitan planning policy – Melbourne 2030, has advanced a suite of principles as fundamental platforms to the attainment of sustainable development.

These principles, which start with sustainable practice, are equally applicable and relevant to the development of Greater Shepparton and are adopted as principles underpinning the strategy plan.

Principle	Outcome
Sustainability:	Sustainable economic, social and environmental development
Innovation:	Commitment to finding new solutions
Partnership and Inclusiveness:	Collaboration with others and considerations of their needs and aspirations
Leadership:	Leadership and encouragement of/in others
Equity:	Fairer access to benefits of growth and change
Adaptability:	Planning to change and being adaptable when faced with it
Integrated Planning:	Planning and implementation of actions undertaken through an integrated planning process

2 An Overview – Infrastructure

2.1 Strategic Context – From the Current MSS to a Future Focus

The current Municipal Strategic Statement (MSS) in the Greater Shepparton Planning Scheme is based on the findings and recommendations contained in the 1996 Strategy Plan.

This section firstly summarises the key strategic focus of the current MSS as it relates to the environment. Secondly, this section provides an overview of the preferred future focus, which ultimately will be incorporated as strategic directions in the amended MSS.

2.1.1 Current Municipal Strategic Statement

In terms of traffic and transportation the existing MSS identifies the municipality's strategic location in central Victoria and hence the need for strong transport linkages for both people and freight. The Shepparton bypass had been investigated by 1996, but the project was not advanced sufficiently to give certainty to a preferred location and route. The MSS also promoted the need for a freight logistics centre to be located in the municipality to meet modern food production and distribution practices.

The MSS also acknowledges the importance of the rural irrigation infrastructure, and the need to protect the open channels and drains from contamination and inappropriate development.

2.1.2 Future Focus

Section 3.4 of this report was prepared by GTA Consultants, traffic and transportation engineers, and contains a detailed review of the MSS objectives and any advancement on these objectives arising from new studies undertaken in the intervening years.

The development of strong transport linkages remains a primary objective in Greater Shepparton 2030. Detailed local transport strategies and parking plans can now be developed, following VicRoads advice about the preferred route and program for construction of the bypass.

Many of the previous objectives and strategies are reinforced in the revised MSS, including:

- demand oriented public transport to remote locations, especially for community services;
- the possibility of a fast train link to Melbourne;
- the need for a second river crossing;
- the development of the freight logistics centre, following feasibility studies about the preferred location for facility and a recent amendment to rezone land to accommodate this freight centre.
- the potential relocation of the Shepparton airport, following investigations into the demand for air services, the capability of the existing facility, and potential locations for a future facility. This issue becomes more critical as the southern growth corridor develops, with implications for adjacent land use.

In the revised MSS the key areas to be developed within a Transport Strategy will consist of:

- an integrated road network for general road users which seeks to minimise intrusion to the local road networks and the central Shepparton area;
- the development of the Goulburn Valley Highway - Shepparton Bypass;
- linkages between the Goulburn Valley Highway – Shepparton Bypass and the surrounding arterial road network in order to reduce traffic intrusion to the central Shepparton areas; and
- an integrated transport network to better link road and rail freight which will work to reduce freight traffic intrusion to the central Shepparton and Mooroopna areas.

2.2 Direction – Infrastructure

To achieve the overall vision and outcomes of Greater Shepparton 2030 (as outlined in the Strategy Plan report) a major direction has been developed for each topic. These directions are complimented by a series of objectives and strategies and an implementation plan for each topic.

The direction for the topic of infrastructure is:

The provision and restructure of urban and rural infrastructure to enhance the performance of the municipality and facilitate growth

3 Community Engagement

3.1 Community Consultation

The following figures provide a summary of the feedback from the community consultation sessions.

The discussion was focussed on two stages:

- current issues in the topic area of infrastructure; and
- visions for infrastructure achievements in 20 years time in the City of Greater Shepparton.

The responses are shown diagrammatically to indicate the common themes from the discussion and also to show the inter-linkages between the themes.

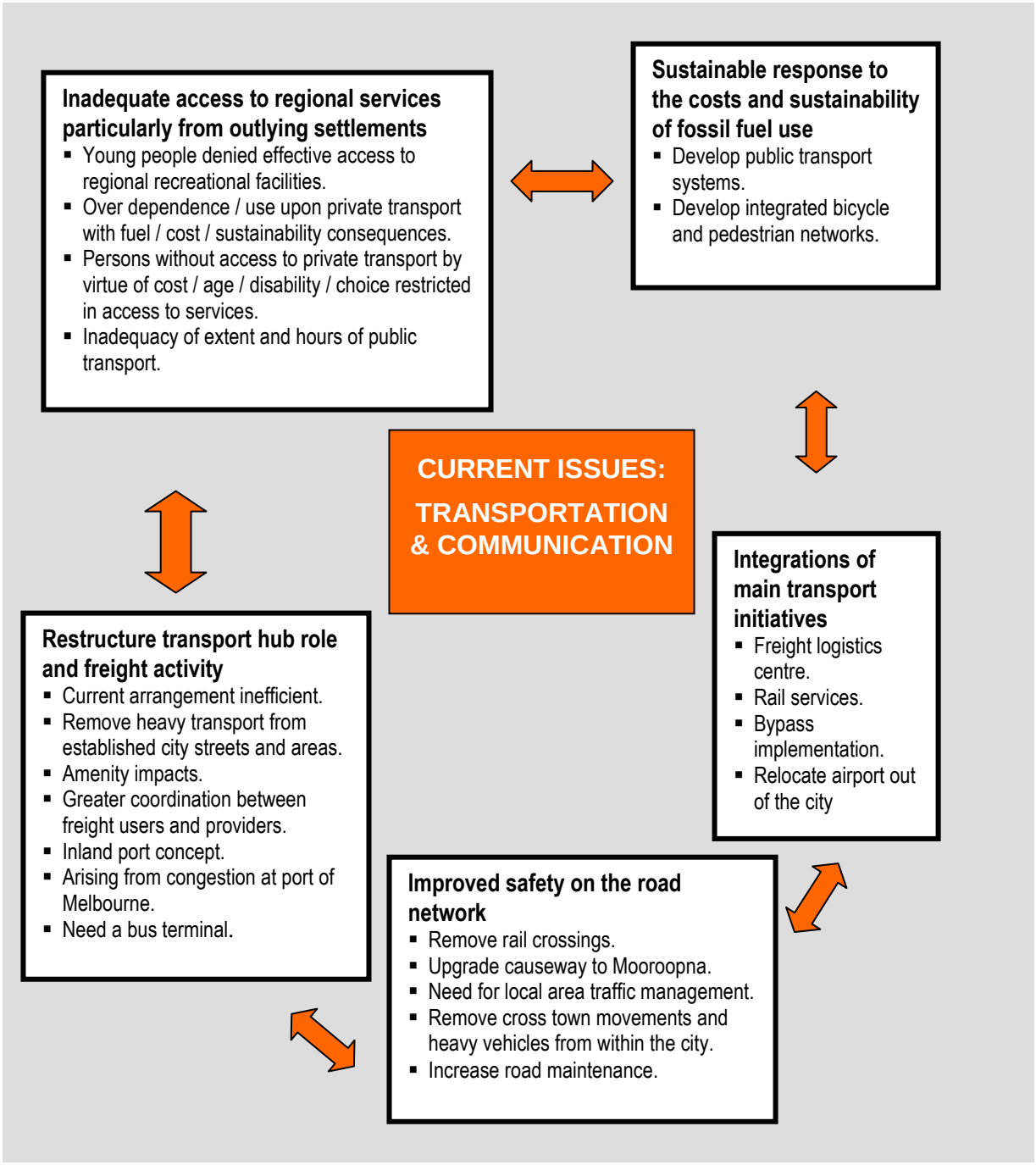

Figure 2: Community Consultation on Traffic and Transport - Current Issues

3.2 Consultation with Authorities

GTA Consultants has consulted with officers of the GSCC and VicRoads in order to establish the following issues of key importance for the municipality.

Shepparton Bypass

- The Shepparton Bypass is of key importance to the GSCC however the timing of the development of this section of highway is still in the order of 10 – 15 years away.
- Careful consideration needs to be given to the intersection of the Goulburn Valley Highway, Wanganui Road and Ford Road. This is an important linkage between the Midland Highway and the Goulburn Valley Highway at the northern river crossing, to avoid intrusion into the Shepparton CBD.
- It would be more beneficial for the GSCC and the transport network to have the northern section of the bypass built first, then the southern section.

The Causeway

- The causeway is the main east-west connection between Shepparton and Mooroopna. In the event if an incident or closure of the causeway only a secondary route exists between Shepparton and Mooroopna. Closure to the causeway then causes gridlock back into the central Shepparton area. This is why the northern river crossing is critical.
- VicRoads had put forward a recent upgrade for the Causeway. State government funding was recently received for this upgrade.

Alternate Truck Route (Grahamvale Road / Doyles Road / River Road)

- Council indicated that a strategy for access along this truck route needs to be developed including guidance on the following:
  - definition of an assigned cross section;
  - addressing safety concerns; and
  - the ability to widen the road and to provide service roads;
- Council indicated that Doyles Road carries about 6,000 vehicles per day, of which approximately 40% is commercial traffic.
- Another north-south route is warranted between the truck route and Goulburn Valley Highway particularly with the northern and southern development corridors being developed.
- A north-south route could include the use of the railway route or Archer Street/Road.

High Street Rail Crossing

- Shunting at this crossing has caused long delays in the past to the traffic on High Street.
- More rail traffic could exacerbate these problems, however delays may be reduced if shunting were to take place as part of a freight logistics centre.

Shepparton and Mooroopna Freight Locations

- The majority of trucking firms are located east of Shepparton and focussed around the Shepparton alternate route, however some do exist on the west side of the river.
- The majority of existing freight and coolstore locations are located to the east of the Goulburn River, with some companies located on the west of the river.

- Council has concerns about the controls over the location of storage facilities.

Midland Highway

- Council indicated that plans should be prepared for the duplication of the Midland Highway to Orrvale Road, however the duplication of this road would need to be designed with consideration of the access requirements for the adjacent properties within the Business 4 Zone.
- Council indicated that the Midland Highway to the west of Shepparton and Mooroopna carries commuter type traffic from Toolamba and Tatura to Shepparton.
- Council also expressed a need to upgrade the Midland Highway to the west providing overtaking lanes to the Tatura turn-off to improve the operation of this road.

Pedestrians

- Council indicated that pedestrians are increasingly becoming a focus of the CBD.
- Council require methods to deal with pedestrians at signalised crossings, particularly with aged people struggling to cross the entire intersection within the designated time.
- Council also expressed a desire to implement more zebra type pedestrian crossings within the CBD area, where appropriate.

Bicycles

- Council indicated that the current bicycle strategy needs to be updated to provide links with the new growth areas in Shepparton.

Public Transport

- A key public transport interchange has been developed in the Shepparton CBD centre near Kmart to provide a consolidated bus terminal, however the linking and integration of bus services could be improved.

Aerodrome

- Council is concerned with residential encroachment in proximity to the airport.
- GSCC considers that the provision of air services in Greater Shepparton results in significant benefits to existing and future industrial, commercial, recreational, education/training, tourism and freight and passenger operations.

4 Traffic and Transport Systems

4.1 Key Issues

Following the review of the MSS and subsequent transport studies commissioned, the key transport issues which face the Council and municipality include:

4.1.1 Infrastructure for a Competitive Market

- The need to compete and trade in global markets will place a priority on the efficient management and distribution of produce and freight and require world-class logistics practices to remain competitive.
- The freight centre and bypass will be significant milestones in Shepparton's infrastructure base and subsequent economic growth.

4.1.2 The Development of the Goulburn Valley Highway – Shepparton Bypass

- The development of the Shepparton Bypass will have substantial impacts on the traffic function of the local Shepparton and Mooroopna areas, however the development of the Shepparton Bypass is still in the order of 10 – 15 years away before its completion, being dependant on Government funding.
- The development of the Shepparton Bypass is expected to have significant impacts on the level of traffic travelling through the central Shepparton area, particularly freight vehicle movements.
- Given the long lead time of the development of the Shepparton Bypass, upgrades to the arterial road network will be required to cater for increasing traffic volumes and provide bypass routes around the central Shepparton area.
- Alternative local area traffic strategies will be required to clearly define the required road network to cater for future traffic volumes within the Shepparton area, with and without the Shepparton Bypass.
- Any arterial road upgrades must be integrated with the route of the Shepparton Bypass. Integration with the Shepparton Bypass will ensure that clear linkages are available from the Shepparton Bypass to the preferred arterial road network to reduce local traffic intrusion in future years as well as prior to the development of the bypass.

4.1.3 Linkages with Other Regional Cities

- The development of the Shepparton Bypass, as stated above.
- The safety of road links with other regional cities.
- Intrusion of traffic into the central Shepparton area, particularly along major roads connecting to other regional cities.
- Only a single east west link across the Goulburn River exists to provide connections to other regional cities from the central Shepparton area.
- Development of adequate arterial road ring around Shepparton, which does not intrude on the local Shepparton area and that will provide efficient linkages with other regional cities around Shepparton.

4.1.4 Freight Networks

- Intrusion of freight vehicles into local areas.
- The development and usage of freight bypass routes around the Shepparton Central Business District (CBD).
- The development and timing of the Shepparton Bypass.
- The development of an integrated road and rail freight logistics centre.

4.1.5 Air Infrastructure

- The future demand for air traffic, passenger and freight, to and from the municipality needs to be adequately defined to allow for the efficient planning for the development of the airport to take place.
- Improvements and upgrades to the existing airport facility should be provided for, on a user pays and needs basis, whilst a new facility/location is being investigated and planned.
- Encroachment of housing in proximity to the airport is limiting the ability for future development of the airport at its current location, should the demand exist.
- The need or otherwise for an airport to be proximate to a road/rail freight logistics centre should be established.

4.1.6 Rail Network

- The development of a fast train to Melbourne.
- The broad gauge rail line to Shepparton is not compatible with the standard gauge line, limiting the rail connection domestically across Australia.
- There is no effective road and rail hub in the municipality.
- The current alignment of the rail line and rail services cause delays to the road network along High Street in Shepparton.

4.1.7 Public Transport Network

- There is a continual need to upgrade and expand services to provide public transport links throughout the municipality catering for all users.

4.1.8 Local Road Network

- The arterial road network needs to be upgraded to cater for traffic movements, and to reduce traffic intrusion into local areas particularly the Shepparton CBD.
- There is a problem with traffic congestion along High Street caused by rail shunting.
- The lack of north-south arterial road routes through Shepparton results in traffic intrusion into the central area.
- A second river crossing is required to provide alternate east-west access and reduce traffic intrusion through the Shepparton CBD.

4.1.9 Shepparton Central Business District (CBD)

- A strategy is required to manage all users within the Shepparton CBD including pedestrians; loading; parking; cars and public transport.
- Reduce traffic intrusion of through traffic movements through the Shepparton CBD.

4.1.10 Bicycle and Pedestrian Network

- Increase the pedestrian amenity within the Shepparton CBD.
- Continue to uphold the existing bike strategy and develop this strategy to expand to areas of new development.

4.1.11 An integrated transport strategy

The development of a transport strategy for Greater Shepparton involves all of the above transport sectors. While a strategy needs to be developed for each of these sectors, each sector is not independent and free standing, as many of the sectors impact the outcomes and operation of others. An integrated transport strategy approach needs to be developed to provide the best outcome for the GSCC.

Figure 3, following, graphically represents this interdependence of the transport sectors.

For the purposes of this report, the development of a Transport Strategy for Greater Shepparton comprises of the objectives, strategy and implementation measures which will form the basis for further detailed work.

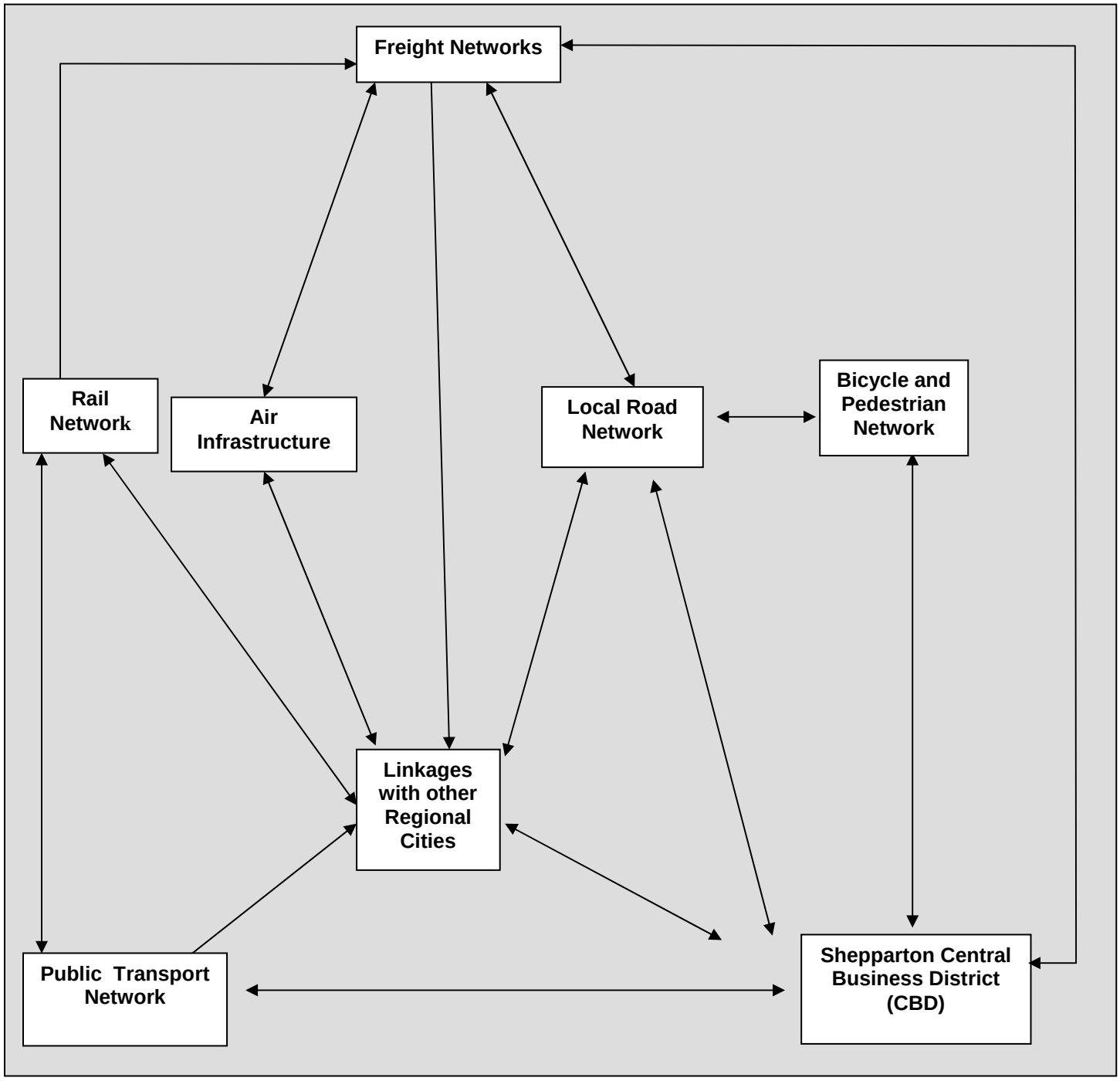

Figure 3: Interdependence of transport sectors

4.2 An Update on Relevant Strategies/Reports

A number of transport planning exercises have been undertaken in recent years for the Greater Shepparton City Council and more specifically focussing on the primary area surrounding the Shepparton CBD.

The development of the Goulburn Valley Highway Shepparton Bypass has been guided by the directions the National Highway System operated by the Federal Government

This report, among other things, seeks to provide a review of the Municipal Strategic Statement (MSS) and a review of the existing reports and strategies prepared for the City of Greater Shepparton, since 1996.

This section analysis all the critical transport sectors in the following way:

- A review of the objectives and strategies set out within the existing MSS with respect to the key transport sectors;
- A review the strategies that have been developed in studies since the implementation of the MSS; and
- An assessment of the gaps that exist between the MSS and transport strategies and the identification of the key transport issues for the revised MSS for the Greater Shepparton City Council.

4.2.1 Linkages with Other Regional Cities

Existing MSS

The MSS provides little specific direction into the development of linkages with other regional cities, except for the following:

- ***Encourage and facilitate the establishment of fast train services to the municipality; and***
- ***Finalise the freeway by-pass route west of the Shepparton-Mooroopna area, and a second crossing of the Goulburn River.***

A number of other objectives to upgrade the arterial road network within the Shepparton CBD will also indirectly impact on the linkages with other regional cities.

Relevant Studies

Many of the studies undertaken do not focus on the linkages between Shepparton and other regional cities, but tend to focus on the road network within Shepparton/Mooroopna. This is important as improvements to the local road network will enhance the through traffic movements and also the movement of traffic to other regional cities.

A number of studies have recommended various bypass routes around the CBD to reduce traffic flow within the CBD and to increase the efficiency of through traffic movements.

The reports which discuss linkages between the municipality and other regional cities and areas include:

- HHA, (July 1996), Greater Shepparton Strategy Plan;
- Ove Arup, (Oct 1997), Shepparton Principal Traffic Routes Strategy – Final Report;
- Various Shepparton Bypass Planning Studies; and
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan.

These reports indicated the following:

- Good road linkages with other regional cities exist to both the north and south via the Goulburn Valley Highway, providing connections between Melbourne and Brisbane, and also east and west via the Midland Highway which provides links to Ballarat, Bendigo, Geelong and Benalla.
- The Shepparton area is well served by long distance public transport facilities including regular rail services to and from Melbourne and other regional centres and daily interstate rail services to Adelaide and Sydney.
- The PPK (1997) Shepparton Municipal Transport Plan indicates that Shepparton is generally well served by long distance rail services and road coach services, however raises the establishment of fast train services (from Melbourne) to the municipality; and
- The Shepparton Bypass is being developed as an improvement to the Goulburn Valley Highway which is the key north south link between Melbourne and Brisbane.

Comparison between MSS and Traffic Strategies

- The Goulburn Valley Highway - Shepparton Bypass route has primarily been approved providing greater linkages around central Shepparton/Mooroopna and with other regional cities however the timing to completion is still unknown and could be in the order of 10 – 15 years;
- There is currently no suggestion of a fast train development to Shepparton.

4.2.2 Freight Networks

Existing MSS

The MSS acknowledges that agribusiness relies on the efficient delivery of undamaged goods, and this freight puts significant strain on local road and rail networks. Also there is a growing demand for light freight aircraft from Shepparton.

The objectives and strategies for freight networks are included in the industrial development and infrastructure sections of the MSS:

- ***Industrial development. Transport access and traffic management issues for the industrial area in east Shepparton and Mooroopna needs to be addressed with the preparation of an Outline Development Plan for industrial land bounded by New Dookie Road, Doyles Road and old Dookie Road, East Shepparton that addresses traffic management and access issues that impede the turnover of house blocks for industrial use.***
- ***Infrastructure. Provide an alternative route for freight vehicles to/from Mooroopna and relief for the Goulburn Valley Highway north and south of Shepparton.***

A number of other objectives to upgrade the arterial road network within the municipality and the creation of an innovative road-rail hub at a strategic location within the municipality will also indirectly benefit the operation of freight networks.

Relevant Studies

- Greater Shepparton, Industrial Development Guidelines;
- Envirecon Australia Pty Ltd, (Jul 1997), The Transport Industry in Greater Shepparton;
- Ove Arup, (Oct 1997), Shepparton Principal Traffic Routes Strategy – Final Report;
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan; and
- Logistics Bureau, (18 February 2003), Goulburn Freight Logistics Centre Study Final Report.

These reports have set out a comprehensive strategy for freight networks within the Greater Shepparton including:

- Development guidelines for industrial development and in particular vehicle access to sites and car parking.
- The development of principal traffic routes to reduce the level of freight traffic within the Shepparton CBD area.
- The development of the Shepparton Bypass which will assist in reducing the congestion caused by freight vehicles within the Shepparton CBD.
- The development of a freight logistics centre to consolidate freight handling. A freight modal interchange and distribution tasks is required as the existing infrastructure is at capacity and increased pressure is being placed on rail freight due to a lack drivers for road freight. Such a centre would also have the effect of reducing the congestion of freight within the Shepparton CBD.

Comparison between MSS and Traffic Strategies

- Industrial development guidelines have been produced guiding the transport access and management issues for industrial developments.
- Shepparton Bypass will provide some alternate routes to and from Mooroopna and provide relief for the road network directly north and south of Shepparton.
- Alternate traffic routes proposed will decrease freight within Central Shepparton.
- The Goulburn Valley freight logistics centre will assist in providing the requirement for fewer traffic movements to and from Mooroopna and to the north and south of Shepparton.
- GSCC commissioned Logistics Bureau to prepare the Goulburn Valley Freight Logistics Study. The Logistics Study analysed the freight and logistics task, site selection, site specific issues, constraints and opportunities of the preferred site and made specific conclusions and recommendations. A comparison between a number of potential sites for the location of a freight logistics centre, identified the subject site at 250 Toolamba Road, as being the most suitable.

4.2.3 Air Infrastructure

Existing MSS

The MSS has a significant response to the needs and requirements of an airport within the municipality. The MSS indicates that there is a growing demand for light freight and passenger air services from Shepparton. A key issue is the protection of the function and operation of the Shepparton Aerodrome, and the possible reuse of the site for residential purposes if and when the airport is relocated.

The objectives and strategies relating to the airport are:

- ***Facilitate the provision of aviation services suitable for the health of the community and to encourage and consolidate business, commercial and private movements by air commensurate with the needs of a growing regional centre***
- ***Investigate and identify a site for a new airport for the municipality;***
- ***Develop aviation infrastructure reflecting the needs of the Shepparton regional centre and fulfilling the business, commercial and human needs of the municipality; and***
- ***Encourage the most appropriate land uses in the vicinity of the aerodrome to ensure its continued operation at an effective level.***

Relevant Studies

- Greater Shepparton Aerodrome Committee, (Jan 2002), Future needs & planning issues for the aerodrome to the year 2050; and
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan.

These reports indicate the following:

- The PPK (1998) report indicates that increased daily flights to Sydney are planned, and larger aircraft to carry more passengers.
- However the airport allows for limited expansion to accommodate larger aircraft. Attempts to provide regular air passenger services to Melbourne have previously failed due to the proximity to Melbourne making car or train travel more attractive.
- The Greater Shepparton Aerodrome Committee (2002) report has made a number of predictions about the possible future usage of the airport including potential for:
  - the introduction of regular passenger transport flights to Sydney and Canberra
  - an increase in corporate and charter aircraft
  - an increase in cargo movements, potentially to Asia with fresh produce.

For these to operate out of the current airport, various upgrades would be required. Consideration could be given to the potential purchase of neighbouring properties to protect the aerodrome from encroaching development.

Comparison between MSS and Traffic Strategies

- The aerodrome report has discussed the future needs of the municipality and Goulburn Valley region and the future airport improvements and requirements.
- The investigations into the aerodrome however do not establish a definite need for the aerodrome improvements making it unclear of any certain needs of future development.

- A future site has not yet been identified however further investigation into the definite need should be established.
- Whilst such investigations are continuing, opportunities for upgrades and improvements of the existing airport should be provided for on a user pays basis.
- A new airport should be a state of the art facility, with capacity for significant freight movements, eg. fresh produce to overseas markets, and larger passenger services

4.2.4 Rail Network

Existing MSS Review

The MSS refers to the significant strains on the rail network due to the demands of agribusiness and the need to convey residents and visitors around and through the municipality.

The MSS contains two objectives and strategies in regard to the rail network, but does not contain implementation plans:

- ***To create an innovative road-rail hub at a strategic location within the municipality; and***
- ***Encourage and facilitate the establishment of fast train services to the municipality.***

Relevant Studies

- Envirecon Australia Pty Ltd, (Jul 1997), The Transport Industry in Greater Shepparton;
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan; and
- Logistics Bureau, (18 February 2003), Goulburn Freight Logistics Centre Study Final Report.

These reports indicate the following:

- The Envirecon Australia Pty Ltd (1997) report indicates GSCC should consider rezoning an area adjacent to the Mooroopna – Melbourne railway line with a classification appropriate for the development of an integrated transport depot and associated industry services centre.
- The PPK (1997) Shepparton Municipal Transport Plan indicates that Shepparton is generally well served by long distance rail services however raises the establishment of fast train services (from Melbourne); and
- The Logistics Bureau (2003) report places high emphasis on the rail network requiring that a mandatory condition for the selection of a site for a freight transport hub is close access to the rail system. Subsequently the preferred site is adjacent to the rail network.

Comparison between MSS and Traffic Strategies

- There is currently no suggestion of a fast train development to Shepparton; and
- The strategies developed for Greater Shepparton do not appear to address the creation of an innovative road-rail hub within the municipality other than the creation of a bus and rail hub at the Shepparton Station.

4.2.5 Public Transport Network

Existing MSS

The MSS expands slightly on the objectives and strategies described above for the rail network to include some comment on the local public transport requirements of Greater Shepparton.

- ***Encourage and facilitate the establishment of fast train services to the municipality; and***
- ***Provide demand responsive public transport and para-transport for the special mobility needs of the transport disadvantaged, including the elderly and disabled.***

The public transport network is also included within a broad implementation strategy to develop an integrated transport plan covering the road hierarchy, traffic modelling, pedestrian and bicycle network, pavement management, public transport and parking.

Relevant Studies

- HHA, (July 1996), Greater Shepparton Strategy Plan; and
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan.

These reports indicate the following:

- The HHA (1996) report has commented that the Shepparton area is generally well served by long distance public transport and that local public transport services connect various activity nodes, however a major issue identified was the absence of facilities to cater for the mobility needs of the socially disadvantaged, aged and disabled.
- The PPK (1998) report recommended actions for public transport to include treatments of bus service frequency and coverage, the M50 disabled taxis, improved public transport information, encouraging co-ordination and co-operation in public transport, providing better pubic transport infrastructure, service concentration, maintaining rail and coach services, effective town planning for improved services, and addressing the higher order needs of the elderly and disabled.

Comparison between MSS and Traffic Strategies

- There is currently no suggestion of a fast train development to Shepparton.
- The PPK report has set out a number of strategies for public transport in response to the MSS of which a number are being progressively improved within the municipality.

4.2.6 Local Road Network

Existing MSS

The MSS recognises that the local road traffic is heavy during peak seasons, as the local and regional agribusiness industries rely on the efficient delivery of undamaged product. The demands for both quality and timeliness, plus the need to convey residents and visitors around and through the municipality, put significant strains on the local road network.

- ***Provide a road hierarchy that guides both local and state investment in road infrastructure and rehabilitation investment;***
- ***Work cooperatively with VicRoads to ensure that new development along or abutting the declared road system does not compromise or adversely affect the service safety and amenity of the declared road;***
- ***Develop and provide a supportive road and bike path network that will service existing and planned residential and other development, including industry and agribusiness;***
- ***Create an innovative road-rail hub at a strategic location within the municipality;***
- ***Develop a strategic approach to the provision of car parking facilities and traffic management that will support appropriate patterns of land use development and remove extraneous traffic movements from within the CBD and around the Goulburn Valley Base Hospital precinct;***
- ***Establish a second crossing over the Goulburn River, either as part of the Goulburn Valley Freeway Bypass project if a western alignment is chosen, or separately near the alignment of Wanganui Road if an eastern alignment is chosen;***
- ***Develop the north south arterial network in the eastern parts of Shepparton City by providing appropriately spaced arterial roads between the Goulburn Valley Highway and Doyles-Grahamvale Road; and***
- ***Upgrade the alignment of the Causeway to reflect its status as the principal traffic route between Shepparton and Mooroopna.***

The MSS contains the above the following implementation plans:

- ***Develop an integrated transport plan that addresses key transport issues, road hierarchy, traffic modelling, pedestrian and bicycle network, pavement management, public transport, and parking;***
- ***In conjunction with VicRoads, complete studies to examine rehabilitation of main road network and access issues associated with the duplication of the Midland Highway (Archer Street - Orrvale Road); and***
- ***Prepare Outline Development Plans (ODPs) for the residential corridors for Shepparton / Mooroopna, and proposed development areas at Tatura.***

It is noted that many of the above strategies and objectives deal with higher level roads (than local roads) however these improvements will ultimately impact upon the operation of the local road network. Such improvements to these roads will not only improve the local road network but also the operation of freight networks and the connections with other regional cities.

Relevant Studies

- HHA, (July 1996), Greater Shepparton Strategy Plan;
- Collie, (Jan 1999), Shepparton Urban Design Framework;
- Coomes, (Dec 2002), Shepparton North and South Growth Corridors – Outline Development Plans;

- Ove Arup, (Oct 1997), Shepparton Principal Traffic Routes Strategy – Final Report;
- Ratio Consultants Pty Ltd, (April 2003), Shepparton Central Business District Parking Precinct Plan Final Report;
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan; and
- Logistics Bureau, (18 February 2003), Goulburn Freight Logistics Centre Study Final Report.

These reports indicate the following:

- Development of an arterial road bypass network to the east the CBD to reduce traffic movements through the CBD.
- Reduce truck movements along Wyndham Street through the creation of various alternate routes.
- Development of Midland Highway alternatives; and
- Upgrading of the Causeway between Shepparton and Mooroopna.

Further to the above the Coomes (2002) report sets out the traffic and transport principles and arterial road access to be adopted for future residential growth to the north and south of the Shepparton area.

In addition, while the Logistics Bureau (2003) report does not set out any strategies for the development of the local road network, it recognises that the development of a single freight logistics centre will have beneficial impacts on the local road networks within the municipality through a reduction in local freight movements.

Comparison between MSS and Traffic Strategies
A large number of the strategies dealt with in the MSS have been addressed through the development of further strategies including the Shepparton Municipal Transport Plan, Shepparton North and South Growth Corridors – Outline Development Plans and the Shepparton Principal Traffic Routes Strategy.

4.2.7 Shepparton Central Business District (CBD)

Existing MSS
The MSS indicates that retailing within the municipality is dominated by the Shepparton CBD which contains over 50% of the retail floor space in the municipality. In order to retain and enhance its position as the regional capital, the Greater Shepparton City Council and its Central Business District need to provide the best possible level of service to their customers, both residents and visitors.

From a transport perspective the MSS indicates that a key issue is to ensure that shopping centres are accessible and that they exhibit the highest quality urban design.

The MSS also sets out the following objectives and strategies and implementation strategies for the Shepparton CBD:

- ***Develop a strategic approach to the provision of car parking facilities and traffic management that will support appropriate patterns of land use development and remove extraneous traffic movements from within the Shepparton CBD and around the Goulburn Valley Base Hospital precinct;***

- ***Prepare a Shepparton CBD strategy based on the large range of recent studies undertaken that will provide comprehensive guidance on retail and commercial development potential urban design, building form, pedestrian linkages, location of car parking, access and preferred staging of future development; and***
- ***Prepare a strategic plan for the Shepparton CBD which links retail forecasting and planning, urban design, traffic management and provides for additional car parking spaces.***

Relevant Studies

- HHA, (July 1996), Greater Shepparton Strategy Plan;
- Ove Arup, (Oct 1997), Shepparton Principal Traffic Routes Strategy – Final Report;
- Ratio Consultants Pty Ltd, (April 2003), Shepparton Central Business District Parking Precinct Plan Final Report;
- Parklinks, (Nov 2000), City of Greater Shepparton Bicycle Strategy; and
- PPK Environment and Infrastructue Pty Ltd, (September 1998), Shepparton Municipal Transport Plan.

These strategies indicate the following:

- The Ratio (2003) report supersedes many previous reports commenting on car parking within the Shepparton CBD. This report examines car parking demands for the Shepparton CBD and development policies to incorporate into the Planning Scheme, including Parking Precinct Plan and a cash in lieu scheme.
- The PPK (1998) report sets out a number of pedestrian measures for the CBD area of Shepparton and also alternate traffic networks to remove traffic from the central Shepparton area.
- The HHA (1996) report indicates that the central distributor road should be developed for the central commercial area to enable efficient distribution of central area traffic between the higher order roads and parking areas.

Comparison between MSS and Traffic Strategies

- Car parking issues within the Shepparton CBD have been addressed through the development of the Shepparton Central Business District Parking Precinct Plan.
- While various reports have addressed the issues of reducing traffic through the Shepparton CBD with the provision of various bypasses no specific traffic managements plans for access within the Shepparton CBD has been prepared as recommended within the MSS.

4.2.8 Bicycle and Pedestrian Network

Existing MSS

The MSS indicates that cycling is a legitimate mode of transport and recreational pursuit in the municipality. As a result the following objectives and strategies are defined:

- ***Develop and provide a supportive road and bike path network that will service existing and planned residential and other development, including industry and agribusiness;***
- ***Provide a bicycle and pedestrian network which facilitates easy and safe transportation, both commuter and recreational, around the municipality, particularly within the Shepparton-Mooroopna areas;***

Furthermore a number of implementation strategies are also set out within the MSS relating to the bicycle and pedestrian networks:

- ***Construct a shared path network to bring people to the river and focus pedestrian and bicycle traffic;***
- ***Develop an integrated transport plan that addresses key transport issues, road hierarchy, traffic modelling, pedestrian and bicycle network, pavement management, public transport, and parking.***

Previous Studies

- HHA, (July 1996), Greater Shepparton Strategy Plan;
- Collie, (Jan 1999), Shepparton Urban Design Framework;
- Parklinks, (Nov 2000), City of Greater Shepparton Bicycle Strategy;
- PPK Environment and Infrastructure Pty Ltd, (September 1998), Shepparton Municipal Transport Plan

These studies indicate the following:

- The HHA (1996) report indicates the need to continue to implement the works nominated in the Shepparton Bicycle Strategy with a particular emphasis on integrating the bicycle networks of Shepparton and Mooroopna and also downgrading the Wyndham Street between Knight Street and Sobraon Street to a 'shopping access' to allow for the special provision of pedestrian movements.
- The Collie (1999) report seeks to improve the pedestrian access within the Central Activities area of Shepparton and recommends an inventory of pedestrian linkages be compiled, details of any requirements for maintenance, signage or other improvements and also record desirable positions for future linkages.
- The PPK (1999) report makes a number of recommendations in regard to both pedestrian and bicycle networks including:
  1. Bicycle Network:
     i. Conduct a municipal review of key stakeholders to identify any changing demands / attitudes toward cycling;
     ii. Complete the actions where appropriate recommended in the original Shepparton and Mooroopna Bicycle strategies and Bicycle Victoria Report (1997); and
     iii. Revise the bicycle strategy to include issues raised by a number of local groups.
  2. Pedestrian Network
     i. Remove high traffic volumes from the Shepparton CBD to increase pedestrian amenity;
     ii. Landscaping of Wyndham Street in Shepparton to improve pedestrian amenity;
     iii. Develop Wyndham Street in Shepparton as a bus area to reinforce its use as a shared area;
     iv. Reassess the future of the pedestrian mall;
     v. Consider a development of a system of protected and well lit walkways throughout the Shepparton CBD; and
     vi. Develop a prominent signage system for pedestrians, cyclists and motorists within the Shepparton central area.

- The Parklinks (2000) bicycle strategy has been undertaken through consultation with Council and agencies as well undertaking a public consultation process. This report sets out a detailed bicycle network strategy for the municipality as

well as more detailed cycling networks within Shepparton, Mooroopna and Tatura.

Comparison between MSS and Traffic Strategies

– An integrated transport plan has been developed by PPK to include pedestrian and bicycle networks.
– A detailed bike strategy has been prepared for the entire municipality and needs ensure continued adoption.

4.3 A SWOT Summary

STRENGTHS	WEAKNESSES
▪ Good freeway / highway network connecting to other regional cities.	▪ Lack of bypass routes around Shepparton to reduce traffic intrusion of through vehicles into central area. ▪ Only a single river crossing through Shepparton
▪ Good inter regional road connections.	▪ Intrusion into central area of Shepparton to access a majority of storage and transport depot locations. ▪ Only single east – west river crossing to Shepparton channelling vehicles to central Shepparton area.
▪ Current aerodrome capable of catering for existing demands.	▪ Encroachment of residential development to aerodrome. ▪ Location of the current site for possible future development.
▪ Good rail connection to Melbourne	▪ Rail line to Shepparton is only a broad gauge line (not standard gauge) limiting domestic connections across Australia.
▪ Good school bus system. ▪ Bus / public transport hub in Shepparton CBD. ▪ Good service provision and coverage within the Shepparton – Mooroopna area.	▪ Bus system primarily only covers Shepparton and Mooroopna with limited connections to rural town in municipality
▪ Development plans being developed for new development areas	▪ Lack of north south arterial roads providing alternate routes through and around the Shepparton CBD. ▪ Traffic intrusion to local areas caused by Freight and through vehicles. ▪ Only one river crossing leading to inadequate east - west traffic connections within the municipality
▪ Parking Precinct Plan has been developed to manage car parking. ▪ Good parking management and signage system.	▪ Traffic intrusion to central area. ▪ Needs greater management of various user groups within the CBD
▪ Good bicycle network plan developed for area	▪ High traffic intrusion to CBD decreasing pedestrian amenity

OPPORTUNITIES	THREATS
▪ To build on the existing arterial road network to develop alternate traffic routes around the central Shepparton area; ▪ To build on the bus services within the Shepparton Mooroopna Area to enhance the services and coverage provided; ▪ To build on the school bus system to encourage the use of public transport to school to reduce private car usage; ▪ Implement the parking precinct plan for the Shepparton CBD; and ▪ To build on, enhance and expand the existing bicycle network for the City of Shepparton.	▪ The long lead time to the construction of the Shepparton Bypass; ▪ Only a single river crossing over the Goulburn River between Shepparton and Mooroopna exists; ▪ Residential encroachment to the aerodrome is beginning to restrict the available possibilities of substantial expansion on the existing aerodrome site; ▪ Only a broad gauge rail line exists to Shepparton limiting domestic rail connections across Australia. ▪ Possibly the most significant constraint to the Shepparton transport network mentioned above is the long lead time of the Shepparton Bypass. The following sets out some discussion of the impacts of the lead time to the construction of the Shepparton Bypass

4.4 Achieving the Strategic Objectives

The key objectives for this subtopic are:

Objective 1: To promote linkages with other regional cities to cater for traffic movements which include various users:

- Workers to and from Shepparton;
- Educational trips comprising school attendees;
- Shoppers travelling to and from Shepparton from other regional towns;
- Tourists travelling to and from Shepparton; and
- Freight movements that distribute products, particularly farm products to depots and warehouses for further distribution to markets and regional logistics centres.

Objective 2: To improve the efficiency and safety of regional based freight handling and traffic

Objective 3: To maintain air services to and from Shepparton, which meet with the needs of the Greater Shepparton community, whilst undertaking a feasibility study on its relocation.

Objective 4: To provide effective and efficient rail services for freight and passengers.

Objective 5: To develop Walking/Bicycle and Public Transport networks that provides transport and accessibility options to segments of the community who have not or prefer not to use a motor car.

Objective 6: To ensure the safety and efficient functioning of the roads for a variety of users.

The following table provides the detailed strategies and an implementation plan.

Table 1: Transport - Achieving the Strategic Objectives

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
1 To promote linkages with other regional cities to cater for traffic movements which include various users: ▪ Workers to and from Shepparton; ▪ Educational trips comprising school attendees; ▪ Shoppers travelling to and from Shepparton from other regional towns; ▪ Tourists travelling to and from Shepparton; and ▪ Freight movements that distribute products, particularly farm products to depots and warehouses for further distribution to markets and regional logistics centres	1.1 Encourage and promote the early development of the Shepparton Bypass in particular the northern river crossing as a first stage 1.2 Promote integrated road network connections with the Shepparton Bypass to reduce intrusion of traffic to the central Shepparton and Mooroopna areas. 1.3 Support the safety of road linkages with other regional cities	These strategies will be implemented by: ***Using Policy and the exercise of discretion*** ▪ Apply the local policies on Goulburn Valley Highway Environs and Industrial and Commercial Uses in Rural Areas. ***Applying Zones and Overlays*** ▪ Apply the Road Zone Category 1 to the declared Main road network. ▪ Apply the Road Zone Category 2 to other locally significant arterial roads. ▪ Apply the Public Use Zone (number 4) to the railway lines. ▪ Apply the Public Acquisition Overlay to land to be acquired for the Shepparton bypass. ***Other actions*** ▪ Undertake a study to upgrade arterial roads to cope with future traffic volumes, and to promote linkages with other regional cities, prior to the completion of the Shepparton Bypass, without creating intrusion to the local areas. ▪ Investigate the merits of converting other regional rail lines to standard gauge which connect with Shepparton ▪ Undertake a continual review of accident history and implement measures to promote safe travel	Provider Provider Provider Facilitator/ Advocate Provider/ Facilitator/ Advocate	H H M $40,000 M H

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
2 To improve the efficiency and safety of regional based freight handling and traffic	2.1 Promote the development of the freight logistics centre to provide for the efficient handling and distribution of local produce via the main rail and arterial road network. 2.2 Encourage the development of freight networks that reduce the intrusion of freight transport on the local traffic network	These strategies will be implemented by: ***Applying Zones and Overlays*** ▪ Apply the Industrial 1 Zone to the freight logistics centre. ▪ Apply the Road Zone Category 1 to the declared Main road network. ▪ Apply the Road Zone Category 2 to other locally significant arterial roads. ***Undertaking further strategic work*** ▪ Develop a statutory plan for the Shepparton Alternative Route that includes: – Designated freight routes encouraging the bypass of the local urban areas – Measures to direct traffic to the Shepparton Bypass and Midland Highway – Designated cross section – A plan for access to this road – A plan to upgrade this road to provide for future traffic growth, particularly prior to the completion of the Shepparton Bypass; and – A plan to address safety concerns along this road ▪ Investigate options/potential for applying the Public Acquisitions Overlay to the areas that may be required for road widening	Provider Provider Provider	H H $60,000 M

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
3 To maintain air services to and from Shepparton, which meet with the needs of the Greater Shepparton community, whilst identifying a new long-term site for the airport.	3.1 Support the existing services provided by the Shepparton Aerodrome in its current location and provide for the continued operation of this facility while the feasibility of relocating to a new site is identified. 3.2 Recognise that residential growth toward the current airfield may be constrained by the current location of the Aerodrome, 3.3 Support the preferred uses of residential/commercial at the Aerodrome site, in the event of its relocation. 3.4 Promote the efficiencies that may be gained from the relocation of the airfield to be in close proximity of a consolidated road and rail freight logistics centre.	These strategies will be implemented by: ***Applying Zones and Overlays*** ▪ Apply the Public Use Zone to the current site of the Shepparton Aerodrome. ***Undertaking further strategic work*** ▪ Undertake a feasibility study into the relocation of the Shepparton Aerodrome. ▪ Undertake a detailed study to establish the need and demand for air services to and from the City of Greater Shepparton for: – Passenger transport; – Freight transport; and – Allied Business / Commercial Opportunities (aviation school, maintenance, freight forwarders, air ambulances etc).	Provider Provider Provider	H M-H $40,000 M-H $40,000

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
4 To provide effective and efficient rail services for freight and passengers.	4.1 Promote the use and development of the rail links through the municipality. 4.2 Support and encourage the investigation of a fast train link. 4.3 Promote the upgrading of the rail line to Shepparton to a standard gauge line to allow domestic linkages across Australia. 4.4 Promote the development of a rail link to the freight logistics centre to combine with road freight movements. 4.5 Establish the changing demand for rail freight services to and from Shepparton. 4.6 Prevent traffic congestions that may be caused by rail movements across roads	These strategies will be implemented by: ***Undertaking further strategic work*** ▪ Undertake a feasibility analysis of a rail link to the proposed freight / logistics centre. ▪ Investigation of a rail bypass around the Shepparton town centre, along a similar route to the Shepparton bypass. ***Other actions*** ▪ Lobby for improvements to regional passenger and freight rail systems. ▪ GSCC to contribute to regional lobbying for a standardised gauge.	 Provider Facilitator/ Advocate Advocate Advocate	 H M M M

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
5 To develop Walking/Bicycle and Public Transport networks that provides transport and accessibility options to segments of the community who have not or prefer not to use a motor car.	5.1 Encourage appropriate developments that are accessible by public transport and bicycle. 5.2 Encourage medium density and smaller residential allotments to be located within walking distance to public transport routes 5.3 Encourage new subdivision and developments to promote walking and cycling between facilities, such as between homes and schools, open spaces and shops. 5.4 Provide road reservation widths to accommodate bicycle lanes on appropriate routes. 5.5 Support new facilities such as community hubs, neighbourhood centres, sporting facilities, entertainment and health services to be located on and very near a public transport route and/or bicycle paths. 5.6 Ensure that Disability Discrimination Act (DDA) compliance is achieved. 5.7 Promote accessibility throughout the municipality by public transport.	These strategies will be implemented by: ***Undertaking further strategic work*** ▪ Continue developing the shared path network through Shepparton and Mooroopna. ▪ Prepare a Public Transport Strategy which addresses the provision of a comfortable, convenient and efficient public transport facility to best cater for various user groups including: – General Public; – People with a disability; – Aged; and – School students. ***Other actions*** ▪ Provide expanding public transport services to new growth areas in Shepparton to encourage additional public usage. ▪ Provide one or more public transport hubs within the Municipality to consolidate various public transport groups to allow integration of public transport modes. ▪ Provide linkages between smaller towns within the Greater Shepparton to Shepparton and Mooroopna. ▪ Provide greater circumferential Public Transport services which link key services within the municipality. ▪ Provide greater publicity and marketing of public transport services information. ▪ Develop the use of community bus services to become more demand responsive and variable in route to pick up and drop off upon demand. ▪ Promote the use of discount taxi fares for elderly citizens. ▪ Continually improve the safety of the cycle networks through a review of accident history and implement measures to promote safe travel. ▪ Clearly distinguish the appropriateness of cycle routes for the various user groups.	Provider Provider Provider/ Facilitator Provider Provider Provider Provider Provider	H M $25,000 M M M M M H

***Topic:* INFRASTRUCTURE** ***Theme*: Traffic and Transport Systems**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
6 To ensure the safety and efficient functioning of the roads for a variety of users.	6.1 Provide a hierarchy of roads to encourage the use of suitable roads and to reduce intrusion of through and freight traffic from entering local urban areas. 6.2 Provide for efficient and safe pedestrian and cycle movements within existing and new developments. 6.3 Encourage the accessibility and safety for pedestrian movements to be made within the Shepparton CBD area. 6.4 Ensure areas of new growth within the municipality are appropriately guided in terms of road design and access. 6.5 Encourage the development of a ring road around the Shepparton-Mooroopna area to reduce traffic intrusion linking the Shepparton Alternate Route, the Midland Highway and the Goulburn Valley Highway - Shepparton Bypass. 6.6 Encourage the development of a second river crossing incorporated as part of the Shepparton Bypass as early as possible. 6.7 Ensure the efficient management of roads for traffic, public transport, bicycles, pedestrians, parking, scooters and motorized wheelchairs, and for loading and unloading of goods.	These strategies will be implemented by: ***Using Policy and the exercise of discretion*** ▪ Apply the local policies on Goulburn Valley Highway and Industrial and Commercial Uses in Rural Areas. ▪ Use VicRoads as a referral authority where appropriate. ***Applying Zones and Overlays*** ▪ Apply Development Plan Overlays for areas of new growth within Greater Shepparton to guide road design and access. ▪ Apply the Development Contributions Plan Overlay to new growth areas to ensure infrastructure is adequately funded in a timely manner. ***Undertaking further strategic work*** ▪ Develop a Transport Strategy for the Shepparton CBD to allow safe and efficient movement for all users, including pedestrians. ▪ Undertake a traffic study investigating the options for the development of a north-south arterial road network to comprise Archer and Hawdon Sts, Lockwood and Verney Roads and Andrew Fairly Avenue ▪ Develop a strategy for the upgrading of arterial roads to cope with future traffic volumes prior to the completion of the Shepparton Bypass without creating intrusion to the local areas and to provide integrated connections with the Shepparton Bypass Route. ▪ Regularly review the Parking Precinct Plan.	Provider Provider Provider Provider Provider Provider	H H M $25,000 M $25,000 M $25,000 M $5,000

4.5 Framework Plan

This framework plan for the Shepparton, Mooroopna & Kialla areas is characterised by:

- The arterial road network comprising the Midland Highway and the Goulburn Valley Highway, which provide east-west and north-south linkages respectively.
- The proposed arterial road network with the Shepparton bypass stages 1 and 2.
- A network of main and secondary roads providing links within the urban areas and links to other townships within the municipality.

Figure 4: Greater Shepparton 2030 Road Hierarchy Framework Plan - Shepparton, Mooroopna & Kialla

5 Urban and Rural Services

5.1 Key Issues

5.1.1 Water Reticulation

General
All of the raw water obtained by Goulburn Valley Water to supply reticulated town water to communities within the Greater Shepparton City Council is sourced form the Goulburn River system either directly from the River or the irrigation channels it supplies. For these urban communities the Goulburn system represents a secure source of water that can accommodate substantial additional growth.

Growth will however impact on the water supply infrastructure including raw water storage, treatment facilities, clear water storage and distribution. For each of the communities supplied by Goulburn Valley Water, the impact of growth and subsequent augmentations will need to be addressed.

Shepparton City
In 2003 Goulburn Valley Water adopted the Shepparton and Mooroopna Water Master Plan for the provisions of reticulated water supply to the year 2022. The Master Plan was prepared in consultation with the Greater Shepparton City Council and is base don an annual residential growth rate of 1.4% for Shepparton city area. The expected growth areas which include the North and South Growth Corridors are indicated in the Master Plan.

The Master Plan details a range of projects to be undertaken over its twenty year forward look to accommodate the anticipated growth. In line with Goulburn Valley Water's usual practice, the Master Plan will periodically be reviewed and updated to reflect growth trends and to accommodate additional areas.

Mooroopna
Water supply to Mooroopna over the next twenty years was also addressed in the Shepparton and Mooroopna Water Master Plan. The residential growth rate used for Mooroopna was 1%.

As with the Shepparton city area, the Master Plan addresses water related growth issues within Mooroopna over its 20 year planning horizon.

Tatura
In 2004 Goulburn Valley Water adopted the Tatura Water Master Plan for the provision of reticulated water supply to the year 2023. Again the Master Plan was prepared in consultation with the Council and is based on an annual growth rate of 1%. The expected growth areas, including those to the north, are indicated in the Master Plan.

As with the Shepparton and Mooroopna Master Plans, water related growth issues within Tatura over the next twenty years are addressed.

Small settlements
Goulburn Valley Water advises that the existing systems within the townships of Murchison, Katandra West, Toolamba, Merrigum, Tallygaroopna and Dookie have adequate capacity to accommodate or will be augmented to accommodate modest growth levels in line with historic trends.

5.1.2 Sewerage Reticulation

General
Shepparton, Mooroopna, Tatura, Murchison and Merrigum all have reticulated sewerage services managed by Goulburn Valley Water. The authority has no proposals to provide this service to any other community within the Greater Shepparton City Council within the next ten years.

Shepparton City
In 2004 Goulburn Valley Water adopted the Shepparton Sewerage Master Plan for the provision of reticulated sewerage services to 2023. The Master Plan was prepared in consultation with the Greater Shepparton City Council and is based on an annual growth rate of 1.4%. As with the Water Master Plan, the expected growth areas are indicated on the Plan.

The Master Plan details a range of projects to be undertaken over its twenty year forward look to accommodate the anticipated growth. In line with Goulburn Valley Water's usual practice, the Master Plan will periodically be reviewed and updated to reflect growth trends and to accommodate additional areas.

While the Master Plan has a number of new facilities and augmentation of existing ones to accommodate future growth, the treatment and disposal of all wastewater from Shepparton city area will continue to be undertaken at the Authorities Daldy Road Wastewater Management Facility in the north.

Mooroopna
No recent master planning work has been formally documented for the Mooroopna sewerage system, however current assessments indicate the existing system can be expanded (including new pump stations) to accommodate an expected annual growth rate of 1% largely along the western fringe.

Tatura
No recent master planning work has been formally documented for the Tatura sewerage system, however current assessments indicate the existing system can be expanded (including new pump stations) to accommodate an expected annual growth rate of 1% largely expected to occur to the north.

Small settlements
Goulburn Valley Water advises that the existing systems within the townships of Murchison and Merrigum have adequate capacity to accommodate modest growth levels in line with historic trends.

No major upgrades to increase capacity above these current growth levels are proposed.

5.1.3 Waste Management

Goulburn Valley Regional Waste Management anticipates that within the next 20 years technology may change the way we are currently treating and managing waste. Government regulations will limit the amount of waste going to landfill, and household collection services will have greater emphasis on recycling and green waste reuse.

In terms of planning for new development, future planning of estates may need to include provision for adequate buffers for organic processing facilities, gasifiers and transfer stations. It was noted that the design of kerbsides might need to be modified to take into consideration the collection of more kerbside bins per household for waste separation.

EcoRecycle Victoria has regulated for the following that all Councils:

- a construction and demolition processing (sorting and recycling facility) by 2006
- a commercial and industrial waste processing facility by 2011
- all municipal waste to be processed, prior to going to landfill, by 2012.

5.1.4 Water Sensitive Urban Design

All new developments within the municipality currently must incorporate water sensitive urban design (WSUD) principles.

When designing for drainage and water management, regard should be given to the Greater Shepparton City Council's Stormwater Management Plan.

Developers must consider stormwater quality, include erosion and sediment control plans, and use appropriate treatments to minimise pollution, in accordance with the Best Practice Environmental Management Guidelines for Urban Stormwater.

Appropriate treatments to minimise pollution may include:

- buffer strips;
- vegetated swales;
- bio-retention trenches and systems;
- wetlands;
- rain gardens;
- open water bodies;
- sedimentation basins; and
- gross pollutant traps.

In future years, research will obviously drive the introduction of further WSUD treatments, and stormwater reuse may become a legislative requirement for all developments.

5.1.5 Gas Reticulation

Shepparton, Mooroopna, Tatura and Merrigum have natural gas reticulation supply. The existing networks in these towns are sufficient for extension of supply when developments take place.

There are no plans for natural gas to be extended into other townships in the municipality.

The local gas supplier Origin Energy, will only extend gas reticulation into a new township when significant industry in the township drives the need. Usually, domestic loads by themselves are not viable for Origin Energy to introduce reticulated natural gas to any township.

5.1.6 Rural Infrastructure Irrigation

Goulburn Murray Water is responsible for the supply and distribution of irrigated water for rural use. Goulburn Murray Water earns revenue from charges for irrigation water and sales of volumes of water used in excess of the water right. In the Goulburn Valley, the sales volume normally represents 20% to 30% of total water delivered, with some irrigators' sales volume being as high as 50%.

GM-W rely on revenue to maintain their supply system and associated structures. The supply system now requires high maintenance because of the age of the structures, and losses through seepage, water leaks and surplus water out falling into drains or rivers and streams.

In recent years, G-MW have been rationalising their infrastructure and assets. this has been achieved through irrigators undertaking Whole Farm Plans, which identify possible savings.

Ideally G-MW the maintenance of the supply system and structures should be ongoing, however due to the drought and reduced revenue, rationalisation of channels and structure have been placed on hold, until G-MW can achieve appropriate levels of revenue.
The long term operational goal for G-MW is to continue to deliver water as efficiently as possible with the minimum amount of loss. Continued rationalisation of G-MW assets will see reductions of ongoing increases in water charges that are required to cover the maintenance costs of the assets.

Automation of channel structures has been introduced to the channel network system and these automatic controls to regulate the transfer of water will be ongoing.

Consideration will be given to replacing open channels with pipelines and this has previously occurred on small spur channels and will continue where considerable savings can be achieved on high maintenance channel systems.

5.2 Achieving the Strategic Objectives

The key objectives for this subtopic are:

Objective 1: To provide sustainable infrastructure to support the growth and development of the city.

Objective 2: To ensure a continued supply of high quality water for urban and rural use.

Objective 3: To maintain an efficient and environmentally sensitive stormwater management system.

Objective 4: To provide telecommunications facilities and services available to all areas of the municipality.

The following table provides the detailed strategies and an implementation plan.

Table 2: Urban and Rural Infrastructure - Achieving the Strategic Objective

***Topic:* INFRASTRUCTURE** ***Theme*: Urban & rural services**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
1 To provide sustainable infrastructure to support the growth and development of the municipality.	1.1 Provide appropriate and cost efficient physical and social infrastructure to support the growth of the municipality, by preparing developer contributions plans for the municipality's urban growth areas. 1.2 Protect and maintain wastewater facilities in an environmentally sensitive way, through the application of a Waste Management Strategy. 1.3 Encourage an increased rate of recycling and re-use by establishing a materials recovery facility. 1.4 Improve the appearance of waste facilities through urban design controls and the Development manual guidelines. 1.5 Facilitate the extension of natural gas to remote townships, through continued liaison with power servicing authorities.	These strategies will be implemented by: ***Using Policy and the exercise of discretion*** ▪ Apply the provisions of the MSS to guide the preparation and assessment of developer contribution plans. ▪ Apply the local policy Stormwater Management ***Applying Zones and Overlays*** ▪ Apply the Development Contributions Plan Overlay to areas of future development. ▪ Apply the Development Plan Overlay future growth areas. ***Undertaking further strategic work*** ▪ Prepare developer contributions plans for the proposed growth corridors. ▪ Provide for legal agreements to be reached for the provisions of infrastructure funding for new growth areas.	Provider Provider Provider/Facilitator Advocate	H H H $30,000 H

***Topic:* INFRASTRUCTURE** ***Theme*: Urban & rural services**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
2 To ensure a continued supply of high quality water for urban and rural use.	2.1 Promote the efficient use and re-use of water 2.2 Ensure compliance with the recommendations and requirements of the strategies such as the Stormwater Management Plan, the Floodplain Management Plan, the Regional Catchment Strategy and Council's local water initiatives. 2.3 Encourage best practice in engineering design work for new development in terms of water supply and use. 2.4 Protect the water supply catchment within the municipality.	These strategies will be implemented by: ***Using Policy and the exercise of discretion*** ▪ Use Goulburn Valley Water and Goulburn Murray Water as referral authorities where appropriate. ***Applying Zones and Overlays*** ▪ Apply the Environmental Significant Overlay to catchment area as necessary. ***Undertaking further strategic work*** ▪ Prepare educational and promotion packages on efficient use and re-use of water for developers, land owners and the generally community.	Provider Provider Provider	H H H $20,000

Topic: **INFRASTRUCTURE** ***Theme*****: Urban & rural services**				
Objectives	***Strategies***	***Action***	***Council Role***	***Priority***
3 To maintain an efficient and environmentally sensitive stormwater management system.	3.1 Ensure that planning decisions are made in the context of the goals and priorities of the Shepparton Stormwater Management Plan and the CSIRO Urban Stormwater Best Practice Environmental Management Guidelines. 3.2 Ensure compliance with the recommendations and requirements of the strategies such as the Council's Development Manual, the Stormwater Management Plan, the Floodplain Management Plan and the Regional Catchment Strategy. 3.3 Encourage best practice in engineering design work for new development in terms of stormwater management. 3.4 Encourage appropriate use of Water Sensitive Urban Design. 3.5 Ensure the hydraulic capacity of the urban drainage system deliver the level of service defined in the Stormwater Management Policy	These strategies will be implemented by: ***Using Policy and the exercise of discretion*** ▪ Apply the local policy Stormwater Management ***Applying Zones and Overlays*** ▪ Apply the development Plan Overlay to new growth areas to guide preparation of Stormwater Management Plan. ***Undertaking further strategic work*** ▪ Develop and implement stormwater management plans in conjunction with relevant agencies. ***Other actions*** ▪ Support the working relationship between the Goulburn-Broken Catchment Management Authority, EPA Victoria and the local community to monitor the implementation of the Shepparton Stormwater Management Plan.	Provider Provider Provider Facilitator/ Advocate	H H H $20,000 H
4 To provide telecommunications facilities and services available to all areas of the municipality.	4.1 Proactively support the development of and access to competitive leading-edge telecommunication facilities and services. 4.2 Enure new developments cater for telecommunications infrastructure.	These strategies will be implemented by: ***Other actions*** ▪ Continue to encourage telecommunications providers to provide infrastructure to deliver broadband technology to service the region.	Facilitator/ Advocate	H

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Greater Shepparton 2030 – topics, directions and themes

GREATER SHEPPARTON 2030 STRATEGY FRAMEWORK

Topic: SETTLEMENT	
Direction: Commitment to growth within a consolidated and sustainable development framework	***Themes***: ▪ Growth ▪ Housing ▪ Sustainable Design
Topic: COMMUNITY LIFE	
Direction: Enhance social connectedness, physical and mental health and well being, education and participatory opportunities in order to improve liveability and a greater range of community services	***Themes***: ▪ Health and social services ▪ Education and learning ▪ Recreation and open space ▪ Safe and accessible environments
Topic: ENVIRONMENT	
Direction: Conservation and enhancement of significant natural environments and cultural heritage	***Themes***: ▪ The natural environment ▪ Floodplain management ▪ Sustainable / Best practice land management ▪ Cultural heritage ▪ Built heritage
Topic: ECONOMIC DEVELOPMENT	
Direction: Promote economic growth, business development and diversification, with a focus on strengthening the agricultural industry	***Themes***: ▪ Agriculture and rural land ▪ Commercial activity centres ▪ Industry ▪ Tourism
Topic: INFRASTRUCTURE	
Direction: The provision and restructure of urban and rural infrastructure to enhance the performance of the municipality and facilitate growth	***Themes***: ▪ Traffic and transport systems ▪ Urban services