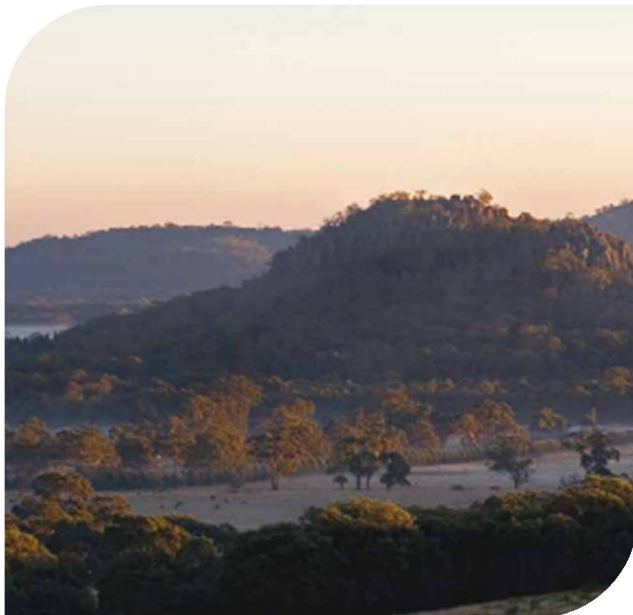


LODDON CAMPASPE INTEGRATED TRANSPORT STRATEGY



Loddon Campaspe Integrated Transport Strategy

Final Document, December 2015

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Prepared for:

Department of Economic Development, Jobs, Transport and Resources

Loddon Campaspe Transport Working Group

Central Goldfields Shire

Campaspe Shire

Greater City of Bendigo

Loddon Shire

Mount Alexander Shire

Macedon Ranges Shire Council

Acknowledgement of Country:

We acknowledge Aboriginal Traditional Custodians within the region, their rich culture and spiritual connection to Country. We also recognise and acknowledge the contribution and interest of Indigenous people and organisations in the development of a prosperous region.

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Executive Summary

The Loddon Campaspe Integrated Transport Strategy is an evidence based strategy that provides a framework for ensuring that the transport network remains fit for current purpose and adaptable for future needs. A methodology has been developed to review, refine and prioritise actions, investment and advocacy. This strategy aligns with existing state, regional and local policies and strategies.

The strategy is owned by the Loddon Campaspe Councils, comprising the municipalities of: Bendigo, Campaspe, Central Goldfields, Loddon, Macedon Ranges and Mount Alexander. The strategy has been prepared with assistance and input from Department Economic Development, Jobs, Transport and Resources, Department of Environment, Land, Water and Planning, Public Transport Victoria and VicRoads.

Challenges and Future Trends

Development of this strategy includes identification of key regional challenges and trends and how management of the transport network responds to regional needs. These challenges and future trends include:

- The region is experiencing strong population growth, particularly in locations with good access to the Calder road and rail corridor.
- Smaller towns, and those towns with declining and or ageing populations, continue to find it challenging to have efficient access to larger centres and services whilst enabling living in place.
- Regionally focussed commuter travel is more important than Melbourne travel for much of the region.
- The amenity, safety and attractiveness of smaller towns can be improved through sensitive management of 'through' routes, selective use of town by-passes and urban design.
- The region has significant and expanding food processing facilities and land use change from broad acre farming to more intensive agriculture.

- The transport and logistics needs of industry for increased B-double and higher productivity vehicle access from farm gate to market is a challenge for the current transport network, both road and rail.
- Targeted maintenance investment and network management is needed to ensure that the whole of the transport network is cost effectively maintained to support a more diverse economy.

Goals

Six goals were developed to set the framework for developing actions and next steps to implement this strategy:

Goal 1: Protect and enhance a transport system that supports regional economic development and population growth.

Goal 2: Improve the capacity and function of the transport network, and integrate it with land use.

Goal 3: Manage the transport system so that it is maintained to a safe and affordable level of service.

Goal 4: Provide equitable community access and connectivity for large and small communities.

Goal 5: Support efficient and sustainable transport of products between producers, markets and nodes within the region and with other regions.

Goal 6: Support improved community health and environmental outcomes.

Top 10 Priorities

Through evidence collected in development of this strategy, an examination of gaps in evidence and input from industry, community and local council, the top 10 priorities have been developed. The priorities are informed by the regional challenges, trends and goals for the transport network. The region will, as one voice, advocate for larger infrastructure projects and service delivery improvements, seek funding for smaller infrastructure projects and additional studies and collaborate to further refine evidence based priorities.

Priorities	Description
Murray Basin Rail Project	The Murray Basin Rail Project involves standardising and increasing the axle load on the freight lines in Victoria's north west. This project increases capacity and competitiveness of rail freight in north west Victoria. The project also includes re-opening the rail line between Maryborough and Ararat to enable rail freight from north west Victoria to access the ports of Portland, Geelong or Melbourne.
Echuca Moama Bridge	Substantial increases in tourist traffic, freight and population growth, as well as the increased freight load requirements of new higher mass limit trucks has created the need for a second Echuca-Moama Bridge crossing. Construction of a second Echuca Moama Bridge will deliver improved efficiency and reliability for freight transport, including modern freight vehicles, and will improve safety and convenience for all road users.
Capacity Improvements on the Bendigo, Swan Hill and Echuca Passenger Rail Lines	To meet economic and population demands and enable increased passenger services, investment in capacity improvements on the Bendigo, Swan Hill and Echuca rail lines is needed.
Increased passenger rail services throughout the region	The region has an aspiration for increased services for Echuca, Swan Hill and Maryborough that enable day trips either way between these locations and their respective Regional Cities. Between Melbourne and Bendigo we aspire to having passenger train services every 20 minutes during peak time and every 40 minutes in the interpeak.
Bridges, Structures and Higher Mass Limit Access Study	Industry is working to reduce supply chain costs, this includes increasing use of higher mass limit trucks. These bigger and heavier trucks are restricted on what roads they can travel on because some bridges and structures are load limited. This project is to undertake a systematic review of bridge and culvert load limits in the Goulburn Murray Irrigation District to rationalise and prioritise Higher Mass Limit routes for irrigation primary producers to processing facilities.

Priorities	Description
Develop a functional road use hierarchy for freight, community access and tourist routes, then prioritise investment on these road networks.	This project is to further define a region wide priority road network and agree network operating standards for each of the 3 user groups (freight, community, and tourist). Undertaking this work will enable prioritised investment in the road network to support safe and efficient movement of freight and people. This project will also consider land use actions to support the continued functioning of the key transport networks.
Freight Hub study for Loddon Campaspe region	This project recognises the central position of the Loddon Campaspe Region for freight movements through the region and generated within the region. Investigations during the development of this strategy identified the potential for freight hubs to be developed to enable efficient freight movements whilst managing congestion in urban areas. This project is to undertake a freight hub study in the Loddon Campaspe Region to investigate the potential for freight hubs, including Marong and Maryborough.
Railway Station Access Improvement Program, encouraging active and public transport	The region aspires to increase the uptake of public and active transport within our communities. Simple infrastructure upgrades are needed to make it easier to walk, ride or catch public transport to commute or for social activities. This project is to undertake a program of upgrade works at and around railway stations and key transport hubs. The program includes improving pedestrian, bike and bus access networks, improved wayfinding, lighting and amenity as well as improved car parking at key stations.
Rail Trails and recreational tourism bike networks	Tourism is a key contributor to the regional economy. The region aspires to improve the health of the community by encouraging active transport. Continuing to develop existing rail trails and recreational bike networks is important for the region. The regional priorities for investment include the Goldfields Track, extension of O’Keefe Rail Trail, Murray River Adventure Trail and a new Waranga Trail linking Rushworth to Murchison.
Small towns connectivity plans	The objective of this action is to ensure that people living in our smaller communities continue to have access to services and opportunities that meet their health and social needs, whilst enabling living in place. This project is to develop small towns connectivity plans that improve coordination between transport planning, community planning and health. This project includes improved coordination of public transport, community transport and considers flexible and private transport options.

Introduction and purpose of the Integrated Transport Strategy

This Integrated Transport Strategy (ITS) sets out objectives, directions, actions, funding and policy priorities required to meet the needs and challenges identified in the Regional Strategic Plan and to build on the Regional Growth Plan.

To ensure the ITS is a practical, robust and flexible the strategy is required to:

- Develop infrastructure, programs and policies to match the increasing transport demands across all modes.
- Develop a consistent, structured approach to the assessment and prioritisation of transport infrastructure, maintenance and program needs within the region.
- Foster a practical approach to working together as a region (e.g. pooling of resources and aligning with regional communities and authorities).
- Provide the region (through its member Councils) with the tools to maintain and update the Integrated Transport Strategy as changes occur.
- Provide the vision and the tools for the region and its municipalities to assess, monitor, fund and action projects that benefit the region as a whole.
- Demonstrate the community/industry benefits that will be generated.

The success of the Loddon Campaspe ITS relies heavily on the final strategy being representative of the 'whole of region', with a strong sense of ownership by all stakeholders. This involved working closely with council staff, state government agencies and key stakeholders throughout the life of the project. Direct consultation with businesses, industry and community representatives, as well as an analysis of the transport system and network drivers informed the development of the Strategy.

The Loddon Campaspe ITS will provide a basis for deciding where the region's transport effort should be focussed. It proposes a regional governance framework to ensure that regionally significant projects are identified and supported, and that key projects eligible for federal or state funding and are 'investment ready'. While council advocacy for projects and programs will always have a role to play, the process put forward as part of this ITS will ensure that the rationale behind potential projects and programs are evidence-based and in accordance with the principles of a 'Triple Bottom Line' (TBL) assessment (economic, environmental and social outcomes). This will not only ensure that the decision making process is well informed, but also that any business case being developed is consistent with the assessment criteria at state and/or federal levels.

This strategy identifies the top 10 transport priorities for Loddon Campaspe region. The ITS also identifies next step action to progress the goals and objectives. In total there are 46 actions outlined to further investigate, analyse and assess against agreed criteria. These actions are listed in Appendix A (Strategies and Actions) and are referenced in the main body of this strategy where analysis and further action is required.

Figure 1 (overleaf) outlines how this strategy fits within the existing state and regional policy framework and demonstrates the process to develop and review priorities on a regular basis.

Prioritisation / TBL Regional Process for the Loddon Campaspe Integrated Transport Strategy

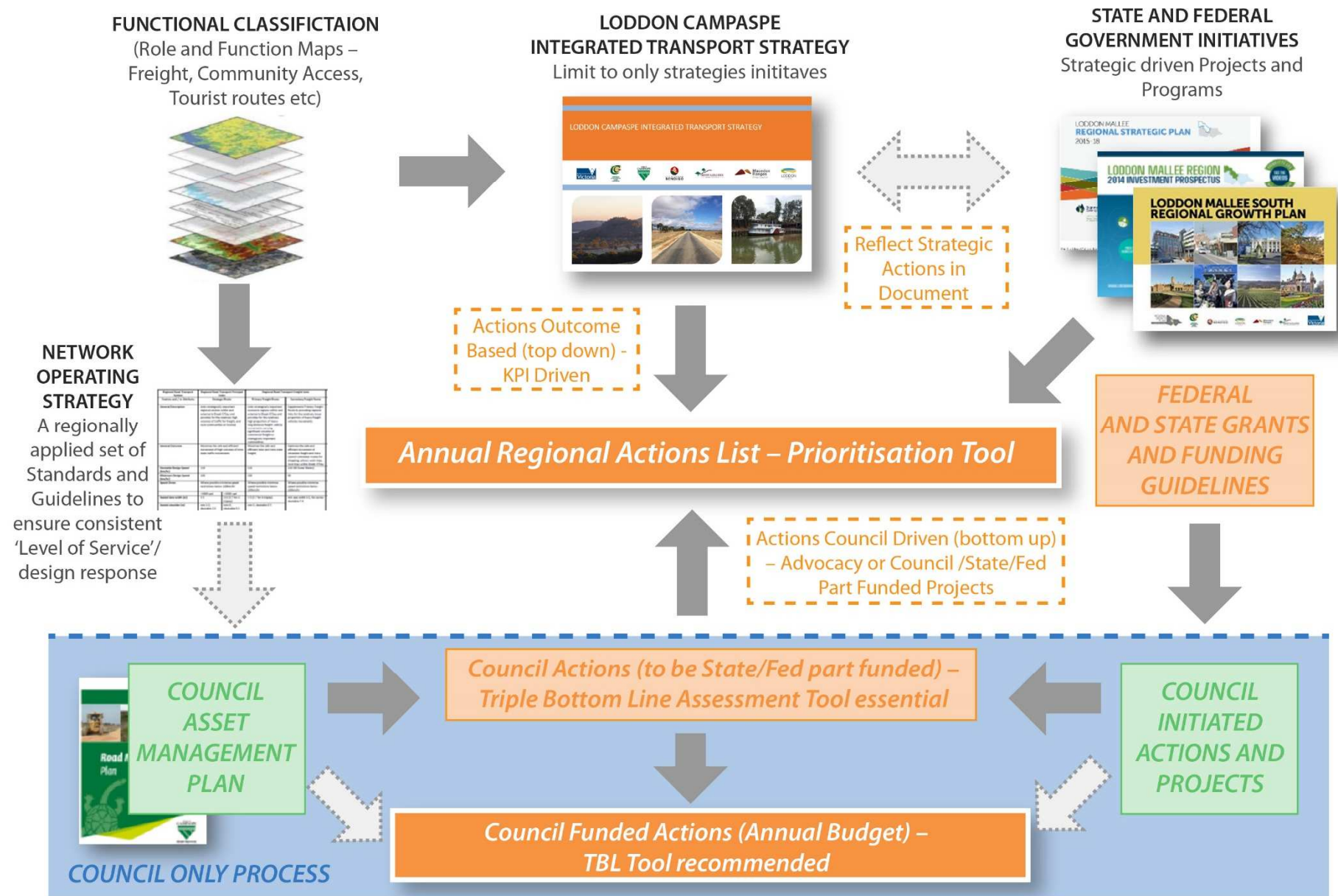


Figure 1: Regional prioritisation process for the Loddon Campaspe Regional Transport Strategy.

Regional context, emerging issues and trends

The Loddon Campaspe region is at the geographic centre of Victoria, making it highly accessible to and from Melbourne, as well as surrounding regional areas. The region extends from the NSW border in the north and floodplains of the Loddon River in the north-west to the Macedon Ranges in the south-east. The region incorporates the local governments of the Campaspe Shire, Central Goldfields Shire, City of Greater Bendigo, Loddon Shire, Macedon Ranges Shire Council and Mount Alexander Shire.

At its closest point, the region is 50 kilometres from central Melbourne and offers a variety of high level services that provide an attractive place to live, work and visit. It has rich natural and anthropological heritage, attractive towns, a pleasant climate and social and economic diversity. Its centralised location and excellent transport links allow safe and efficient travel between Melbourne, as well as other regions and centres.

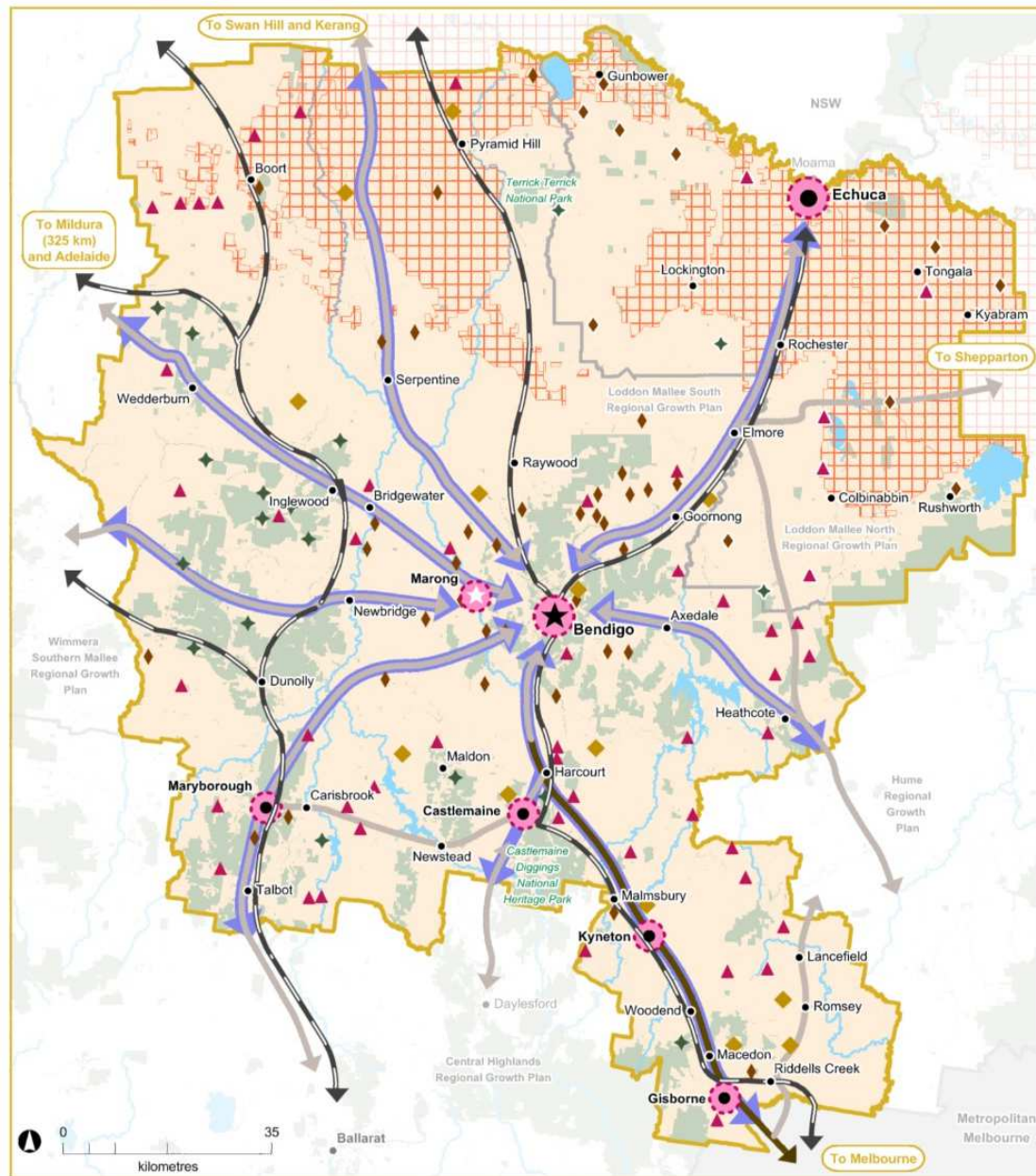
The existing transport system is a facilitator of economic and social activities. While investment is needed to further support a growing regional economy this has to be balanced with the ongoing maintenance of existing assets including roads and bridges.

The Loddon Campaspe Integrated Transport Strategy is not only a key enabler of the Regional Growth Plans and other key strategic documents, but also provides a basis for developing new regional initiatives. The Regional Growth Plan outlines the future economic directions for Loddon Campaspe. Figure 3 (overleaf) shows the preferred locations for employment growth. A principle of the Regional Growth Plan is to strategically direct growth to locations with good existing infrastructure and infrastructure with the capacity for enhancement.

It is estimated the Loddon Campaspe region will be home to some 340,000 people by 2041, with access to employment, infrastructure, educational opportunities, healthcare and other services being vital to this growth. The region continues to attract new investment and a diverse range of jobs, a diversifying economy, capitalising on competitive advantages. The Integrated Transport Strategy will create the enabling actions and initiatives to maximise the benefit to the region and state.



Figure 2: Location, extent and local governments of the Loddon Campaspe region.



Future economic directions:

Increase regional social and economic participation within the region through increased employment options, improved telecommunications and transport access.

Ensure there is adequate zoned and serviced commercial and industrial land in the regional city and centres as sub-regional hubs for employment.

Attract new manufacturing and food processing industries building on supply chain linkages and taking advantage of cheaper land prices and location attributes.

Achieve designation of Castlemaine Diggings National Heritage Park as a World Heritage place to underpin tourism.

Further opportunities for emerging sectors, through policy support, investment and incentives.

Maintain and develop buffers around mining and quarrying activities.

Ensure transport links can support growth.

Bendigo employment hub

Support the growth of Bendigo as the regional city and major employment, education and services hub.

Echuca employment hub

Create a vibrant commercial centre with expanding and diversifying industries, including manufacturing, food processing, health and education

Marong future employment hub

Accelerate the development of the Marong Business Park as a key new location for industry and business.

Sub regional employment centre

These centres will be employment and service hubs.

Maintain and strengthen key transport networks, both road and rail for the transporting of freight and people.



Strategically direct growth to locations with good existing infrastructure and infrastructure with the capacity for enhancement.

- Settlement
- Horticulture, orchards, groves, market gardens, vineyards
- Forestry - commercial timber production or plantation
- Rivers
- Lakes
- Horse stud
- Cropping, grazing and/or mixed farming
- Public land
- Piggery and poultry, intensive animal husbandry
- Irrigation district

Source: Department of Environment, Land, Water and Planning (2015). Based on a combination of Map 6 Future economic directions (Loddon Mallee South Regional Growth Plan, May 2014) and Map 5 Future directions for the economy (Loddon Mallee North Regional Growth Plan, May 2014).

Figure 3: Loddon Campaspe region future economic directions, adopted from the Regional Growth Plans

Distribution of population and economic growth

The location of industry/employment hubs in Echuca and Bendigo drive a large part of the regional economy where manufacturing and other industries are concentrated. Sub-regional employment centres such as Maryborough, Castlemaine, Kyneton and Gisborne are also employment and service hubs.

The Regional Growth Plans identify the region as a highly accessible and attractive place to live, work, visit and invest; demonstrating the broad transport linkages and networks that influence development in the region. Areas of high value terrestrial habitat, irrigation land, significant tourist areas and mixed farming drive the economy and investment. Tourism output is highest in Greater Bendigo, Campaspe and Macedon Ranges Councils reflecting key features and social activity centres.

	Manufacturing Regional Exports (\$m)	Agriculture - Regional Exports (\$m)	TOTAL Regional Exports (\$m)	Tourism Output (\$m)	TOTAL Regional Employed	Unemploy ment Rate (ABS Data) (Vic. 5.4%)
Campaspe	935	204	1,337	131	13,430	4.5%
Central Goldfields	145	34	268	33	3,780	6.7%
Greater Bendigo	897	55	2,600	339	37,600	5.2%
Loddon	90	189	340	18	2,475	5.7%
Macedon Ranges	213	49	531	122	10,490	3.6%
Mount Alexander	519	27	681	53	6,080	4.9%
TOTAL	\$2.8 billion	\$558m	\$5.8 billion	\$696m	73,855	

Table 1: Loddon Campaspe region economic indicators, source: Remplan

Strong growth is also expected in Castlemaine, Gisborne and Kyneton. Developing and maintaining major inter-regional links to link the region with markets and social networks will be important (this issue is proposed to be further developed, as identified in Strategy 1.4, Appendix A) as will improving public transport

services for smaller communities through flexible and responsive non private travel options (Strategy 4.1, Appendix A).

Agricultural and horticultural overview

The Loddon Campaspe region is a major contributor to the Victorian economy, contributing over 10% of the respective overall output for the state of Victoria. Campaspe and Loddon Councils lead regional exports in agriculture supporting large areas of irrigation (see Table 1). The Loddon Shire produces over 42% of Victoria's olive output. Tomato production for processing from the Loddon-Campaspe region represents over 96% of the state total and these farms are implicitly linked to major processing and cannery operations in the Campaspe and neighbouring Shepparton districts. Exports from the region comprise around 70% by value of Victoria's grain exports and around 15% of Australia's grain exports. Grain exports are typically either Victoria's top or second largest export item by value.

Livestock, dairy cattle, poultry and pigs are also strong agricultural sectors in Loddon Campaspe region. Large poultry and pig processing facilities are located in Bendigo and Castlemaine, with recent investment and expansion at these processing facilities. The pig industry in Loddon Campaspe region represents over 40% of Victoria's pig industry production. The Loddon Campaspe region is also home to one of the largest integrated poultry processors. Expansions and investment at this facility, located outside of Bendigo, continue. Poultry processing, hen eggs and day old chicks contribute a significant proportion of the total Victorian poultry industry. The northern Victoria dairy industry is one of three Victorian dairy production regions. The other regions being, south west and Gippsland. Sheep in Loddon Campaspe region comprise around 12% of the Victorian flock.

In terms of agricultural trends, land use is slowly changing from broad acre sheep and cropping to more intensive land uses to supply the processing facilities, for example pigs, poultry and irrigated horticulture. This land use change is changing the nature of transport requirements and future needs of the transport network.

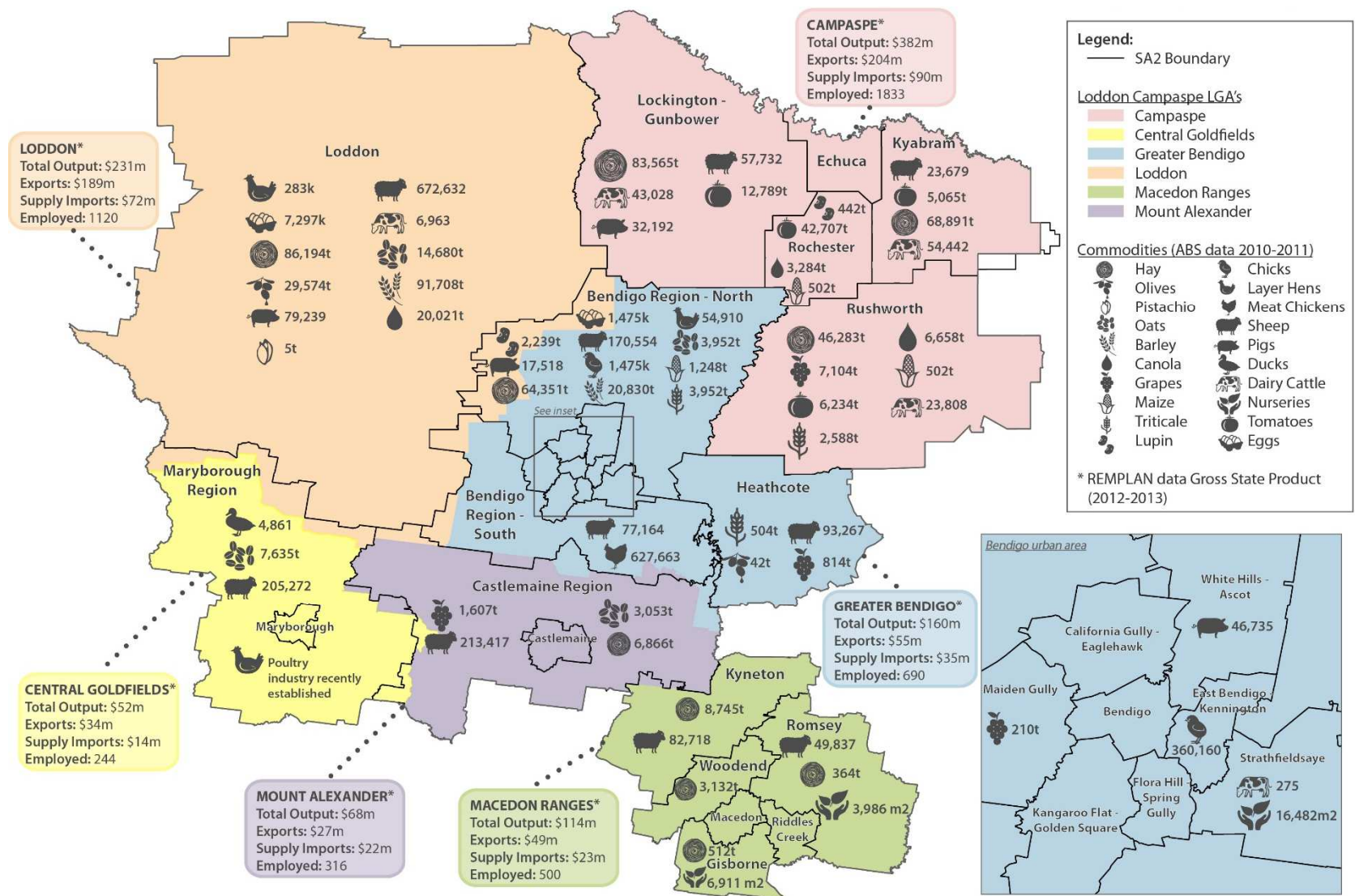


Figure 4 Agricultural output of the Loddon Campaspe Region (by SA2 region, showing correlation of LGA boundaries)

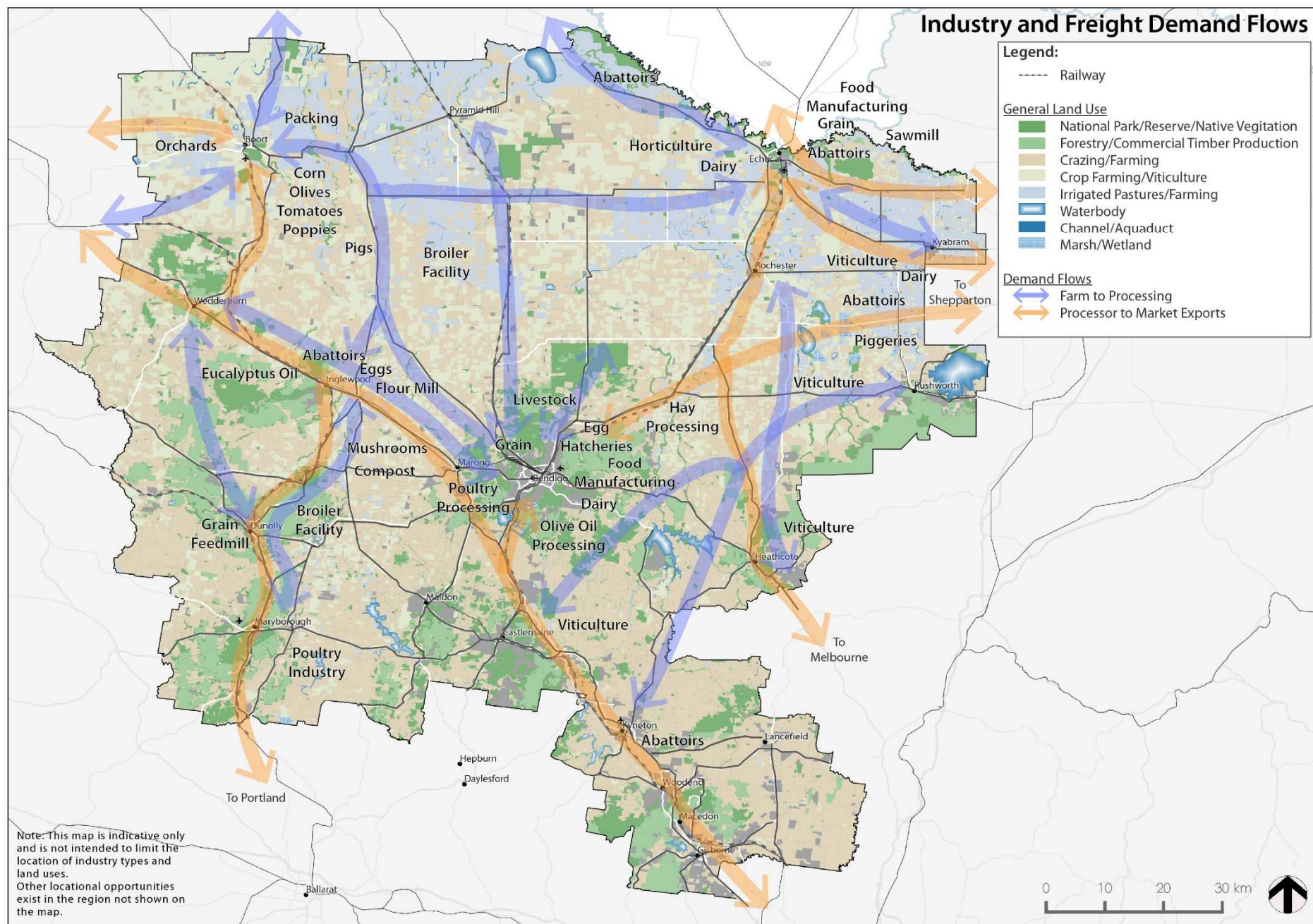
Freight transport and emerging trends

The emerging transport issues from the agriculture and horticulture analysis can be summarised as follows:

- Industry need for Higher Productivity Freight Vehicles from farm gate to processing facility to market
- An increasing number of freight movements as agricultural land use changes, with associated increased transport demand
- North-south movements, particularly along the Calder Highway, including to support freight movements from southern NSW and the broader Victorian region through Loddon Campaspe region to processing, markets and ports
- An east west road network that supports more efficient freight movements to processing facilities
- Maintenance and road design standards that cater to higher productivity freight vehicles as well as increased traffic along key freight routes
- Road based transport mainly caters for the agriculture and horticulture sectors
- Supply chain costs are the simplest target for cost savings if local producers are to remain internationally competitive.
- Renewed government and industry investment in rail and opportunities for more efficient access to the ports (improved use of rail and investment in freight hubs).

Well-established industries have developed in the region over long periods of time and as such processing plants, abattoirs and storage facilities have been built in close proximity to the respective industry centres to maximise efficiency in freight and logistics. Internal movements between farms and storage or processing facilities tend to be over shorter distances but may occur in more compressed time frames to coincide with harvest periods, leading to significant numbers of heavy vehicles accessing a small area over a short period, such as grain trucks accessing silos.

Transporting these commodities to Melbourne and the ports of Port Melbourne, Geelong and Portland increasingly require road transit using heavy vehicles, B-Doubles or rail transport travelling through the region from the north to the south. Development of rail infrastructure, extension and addition of heavy rail lines and greater interconnectivity between lines is aimed at increasing the volume of export product using rail, reducing the dependence on road transport and relieving heavy vehicle traffic loads



Importance of Calder Corridor and regional highways

The majority of Loddon Campaspe produce for export and domestic markets is generally along the region's highways to domestic markets in Melbourne or export through the Ports of Melbourne, Portland or Geelong. There are a number of freight transporters that use the Calder Highway to transport goods from NSW and throughout the broader Murray Basin region, through the Loddon Campaspe Region and on to ports.

Within the Loddon Campaspe Region it is more efficient to move freight to processing facilities and markets by road rather than rail. In part this is due to the region's proximity to Melbourne and short distances between farm gate and local processing facilities. The Calder Highway, Northern and Midland Highways, the Pyrenees Highway and the Wimmera Highway are critical in enabling efficient freight movement.

Developing a functional road use hierarchy from farm gate to market

Continuing trends from the agriculture and horticulture sectors are to use more efficient freight vehicles and reduce supply chain costs. This often means using higher productivity or higher mass limit vehicles.

The region currently does not have a clearly defined freight network, from farm gate to processing to market that encompasses whole of Loddon Campaspe region. Developing a "Freight Network" that links across council boundaries and with the VicRoads arterial road network is identified as a key priority for this strategy.

Industry, councils and transport portfolio representatives have all provided feedback toward the development of this strategy, highlighting the need for this action in order to better prioritise investment and develop improved evidence base for investment.

A high-level freight network has been developed as part of this strategy. However, further work is required to refine this network. The transport working group will continue working with industry to identify the physical, regulatory and other barriers to improved freight operations and opportunities to improve regional freight efficiency. Agreed standards for freight routes will also be developed.

These actions are listed as priorities and actions (this is proposed to be further developed and is identified in Strategy 3.1, Appendix A).

Future-Proofing transport routes to support efficient freight movement is needed. Land use decisions can have a significant impact on how well transport networks operate. Conversely, transport actions can impact on land use.

The freight network will establish network operational guidelines so that future decisions on how they are managed are consistent. Future-proofing transport routes may also require investment to ensure the level of service is maintained or improved. Future-proofing should be applied to all transport modes, including motorised modes, public transit, active transport and air travel.

Heavy vehicles accessing farm gate in irrigation districts (Bridges and structures load limits)

The bridge structures/culverts in the northern parts of the region provide a significant challenge for freight planning, route selection and 'freight from farm gate'. There is a lack of data on the ability of irrigation canal bridges and culverts to carry high productivity vehicles (HPVs). This restricts council's ability to open up additional B-double routes (In Campaspe Shire bridge load restrictions mean that in some areas tankers have to take one route to farms when empty and another when full). On the other hand the southern shires generally have good freight routes and east-west road networks but have issues with freight traffic travelling through towns.

Internal movements between farms and storage or processing facilities tend to be over shorter distances but may occur in more compressed time frames to coincide with harvest periods, leading to significant numbers of heavy vehicles accessing a small area over a short period, such as grain trucks accessing silos.

Given the importance of the irrigation sector to the regional economy, trends in land use change and freight and logistics in the irrigation district, this is a Top 10 priority project for the region to improve efficient access to farm gate for high productivity vehicles (this is proposed to be further developed and is identified in Strategy 1.1, Appendix A).

Maintenance

The maintenance/replacement of aging infrastructure poses a challenge to the region. Lack of maintenance investments can limit access and reduce safety. It may not be feasible for all councils to continue to invest adequately to maintain all roads at their current standard. Therefore development of functional classification of key routes and identification of operating gaps on these key routes will assist with prioritising next steps and investment (this is proposed to be further developed and is identified in Strategy 3.1, Appendix A).

Shifting population and community patterns

Bendigo and the main towns along the Calder corridor are experiencing population growth. However, many of our rural communities and those more remote to transport choices are experiencing declining populations.

The reasons for population decline in the north western agricultural regions of Victoria, most notably the dryland farming areas, are multi - faceted. They include: capital intensification of agriculture requiring fewer workers; rationalisation of services into fewer, larger centres; increased personal mobility allowing people to access goods and services further away, increasing economic and social attractiveness of urban lifestyles and more recently the drought in the western parts of Victoria. Because of these factors, areas removed from convenient access to urban centres will face particular challenges in retaining and attracting population.

As a result, it is imperative to support smaller communities and the populations/economies that they sustain, especially with a potential decline in rate-based income for some shires across the region: equity in infrastructure expenditure requires consideration. The economic free-market will determine much of where the growth and business investment will be directed, usually toward those areas/township with a geographic advantage. However policy intervention and transport investment plays an important role in what determines these geographic advantages, therefore promoting equity and prosperity across the region plays a role in ensuring access to employment, education and services from dispersed settlements. 'Improving public transport services for smaller communities through flexible and responsive non private travel options' (this is proposed to be further developed and is identified in Strategy 4.1, Appendix A)

and providing a highly efficient road system between communities will be important.

The Loddon and Central Goldfields LGAs return a high SEIFA disadvantage score and ranking, suggesting greater social disadvantage comparative to the rest of the region and state. It will therefore be critical to 'provide equitable community access and connectivity for large and small communities'. Connectivity by road and via additional passenger bus and rail services to towns such as Maryborough, Wedderburn and Boort, as well as improved public transport connections between Maryborough and other regional towns to Bendigo as the Regional Hub, will improve social and economic opportunities for these areas. Again there is a need to 'better align public transport services with user needs, including increasing the role of community transport where public transport services are not available' (this is proposed to be further developed and is identified in Strategy 4.3, Appendix A).

At the other end of the spectrum Councils such as Macedon Ranges have significantly lower unemployment rates reflecting an affluent tree change community located close to Melbourne employment supported by stronger connectivity via public transport and highways.

Housing Affordability

The relative affordability of housing compared to Melbourne, combined with the regional lifestyle, amenity and culture is resulting in upward pressure for growth and development. Younger and first time buyers are finding it increasingly difficult to purchase a home, and the transport connection of the Calder transport corridor makes buying/developing the southern areas of the region a possibility. In turn this will require consideration of the supportive transport networks and their level of service, public transport accessibility/frequency and general accessibility across the region. If the transport infrastructure does not meet the demands generated by dwelling and development it may have a detrimental impact on the affordability and convenience of the region.

Therefore, it will be important to 'improve public transport services to better meet market needs by improving service standards and supporting sustainable transport alternatives as part of new urban developments' (this is proposed to be further developed and is identified in Strategy 2.2, Appendix A).

Proximity to Melbourne

The regional centre of Bendigo and other major towns along the Calder corridor (including Castlemaine, Gisborne, Kyneton and Woodend) are readily accessible to Melbourne via rail and road transport links, which enables daily or regular commuting to Melbourne for employment or business. This has implications for the movement of people and goods and the interrelationship of employment and tourism. The continued growth and peri-urban expansion of Melbourne is going to have an effect on the operating of transport networks. As well as this, the employment and market opportunities for the region are inherently linked to the opportunities and impacts of Melbourne. It will be important to continue to 'Support State initiatives that continue improvements to the Calder corridor as the key transport corridor in the region' and 'State actions to improve the frequency, reliability, amenity and comfort of train services in the Melbourne to Bendigo corridor' (this is proposed to be further developed and is identified in Strategy 1.4, Appendix A).

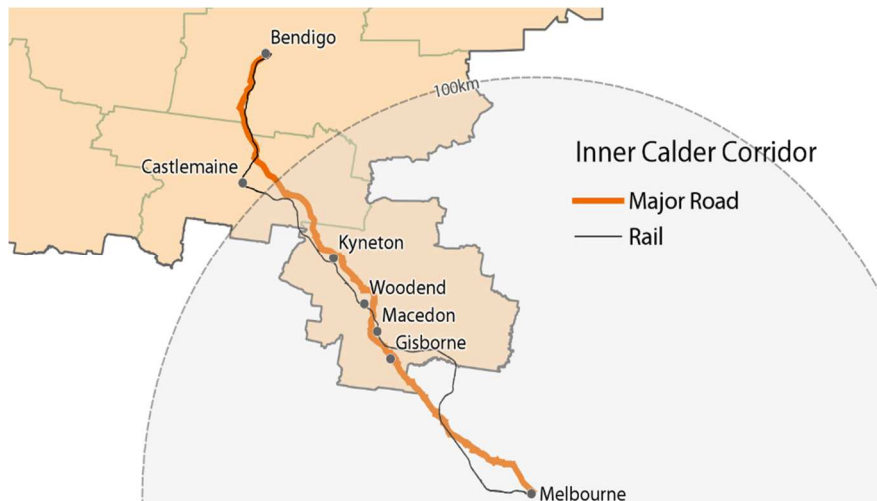


Figure 6: Major road and rail links between Bendigo and Melbourne allow for regular commuting between centres.

Journey to Work Demand

Figure 7 on the following page provides a summary of Journey to Work data for the six Councils within the Loddon Campaspe region. It highlights the relative self-sufficiency of the northern and western Shires and the increasing commuter behaviour of residents of the south eastern areas to Melbourne and metropolitan areas. The Macedon Ranges Shire in particular (and to a lesser extent the Mount Alexander Shire) has become very attractive as a place to live for city and metropolitan Melbourne workers who can use rail links to access the city while living in a more rural setting. By converting or supplementing this connection to allow metropolitan rail services into the region, significant service and frequency improvements could be realised. At present the regional services (both Bus and Train) are not conducive in the most part to regular commuter use and this is a limiting factor in attracting greater use of public transport by residents of these areas.

The challenge for the region is to ensure equitable access for all communities through improved and better coordinated private, community, active and public transport (this is proposed to be further explored and is identified in Goal 4, Appendix A).

Journey to Work: Traffic Flows

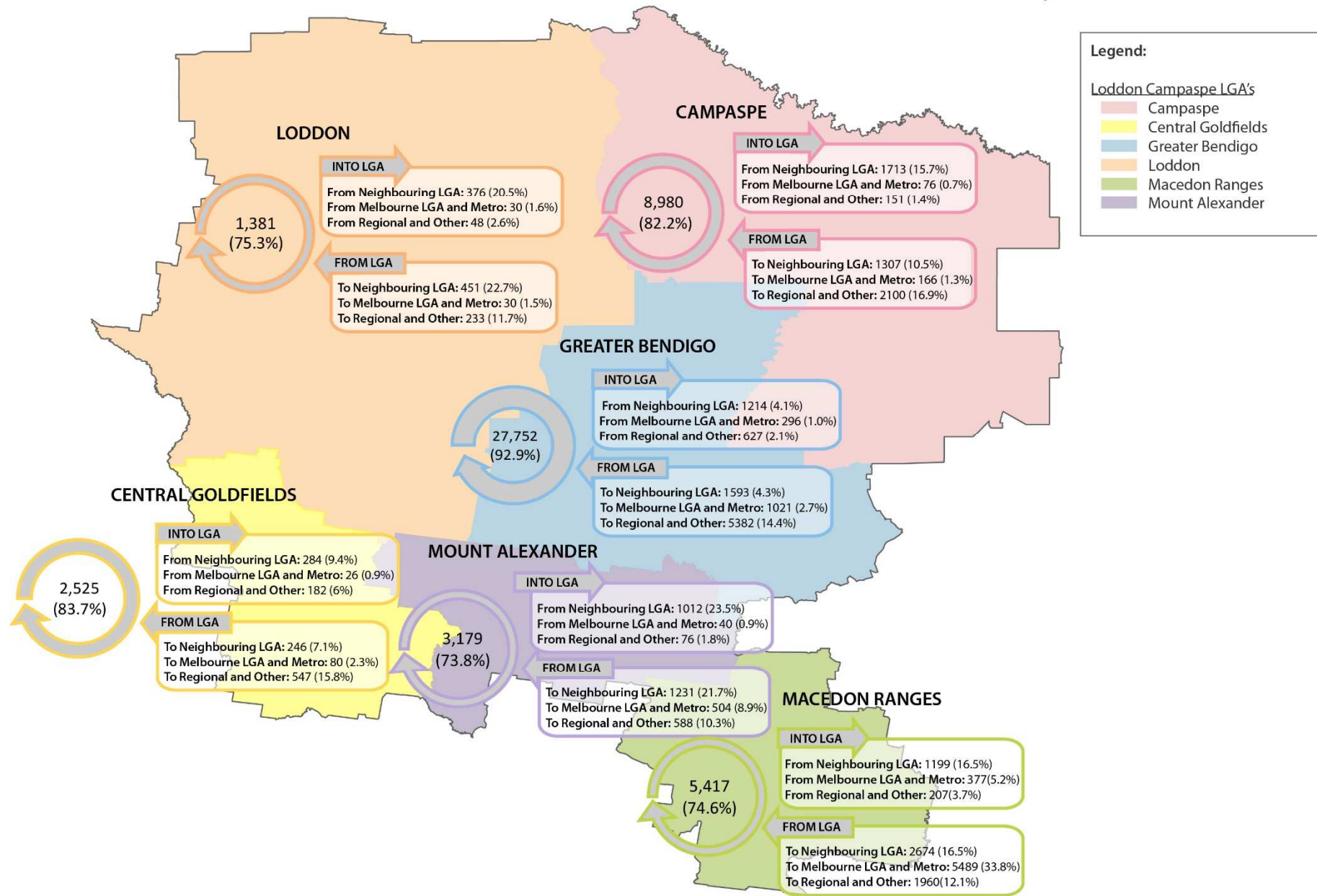


Figure 7 Summary of Journey to Work data for each of the Shire Councils in the Loddon Campaspe region

Bendigo: The Regional City

Bendigo will be providing more higher-order services and increase its offer to the Loddon Campaspe Region as an alternative to Melbourne (especially in health, education, retail, social services, entertainment and professional services). As Bendigo grows and increases its service/employment offering, the opportunities for the wider region also increase, but will only be realised with strong and efficient transport networks to/from Bendigo (i.e. employing a Hub-and-Spoke approach between Bendigo and other communities across the region). It will be important to 'upgrade the rail network to meet emerging freight and passenger needs by identifying opportunities to use underutilised infrastructure' (this is proposed to be further developed and is identified in Strategy 1.2, Appendix A) alongside improvements to VLine coach services, community and active transport.

The Bendigo Integrated Transport and Land Use Strategy (ITLUS) provides a plan for how the city will grow and how people and goods will move in the future. Integration of land use and transport is important in identifying existing capacity and ways to better move people and goods on the network as well as strengthening the transport system around a more compact city supported by sustainable transport modes.

Bendigo is a strong manufacturing and industrial hub. As the population of Bendigo grows along with economic growth, careful management of the freight network is required to ensure that freight is able to move efficiently into and through Bendigo, whilst not creating congestion or conflict with urban land uses and active transport opportunities. The links to surrounding regions map (Figure 9, overleaf) demonstrates that a number of key transport routes travelling through the Loddon Campaspe region funnel through Bendigo. This strategy is mindful of the needs of transport users outside of this region and will work to ensure the transport network is adaptable and maintained to meet the needs of future users. This ITS has identified the need to undertake further studies to investigate the opportunities for future freight hubs within the region (see Top 10 priority, and Strategy 1.1, Appendix A). The City of Greater Bendigo also hope to undertake a Bendigo Freight Study to further refine key freight routes and ensuring future freight networks within Bendigo meet industry needs.

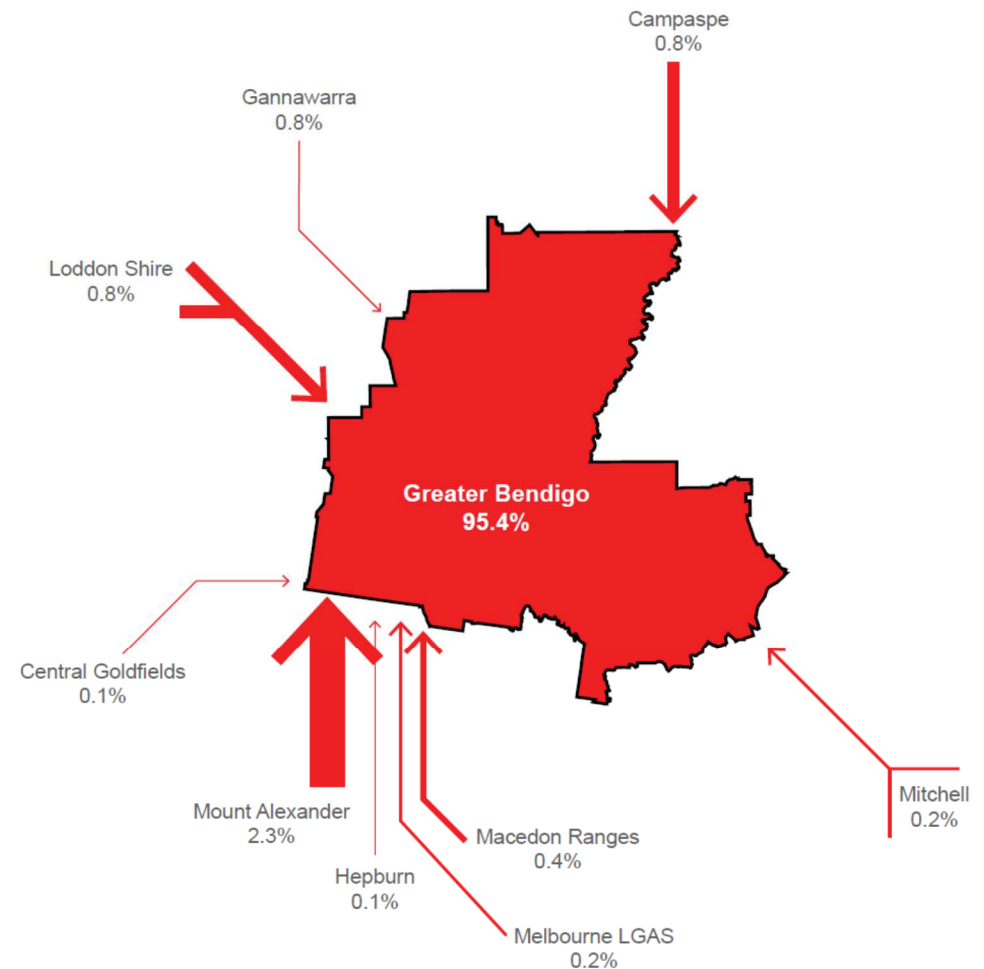


Figure 8: Where the workers of the City of Bendigo commute from.

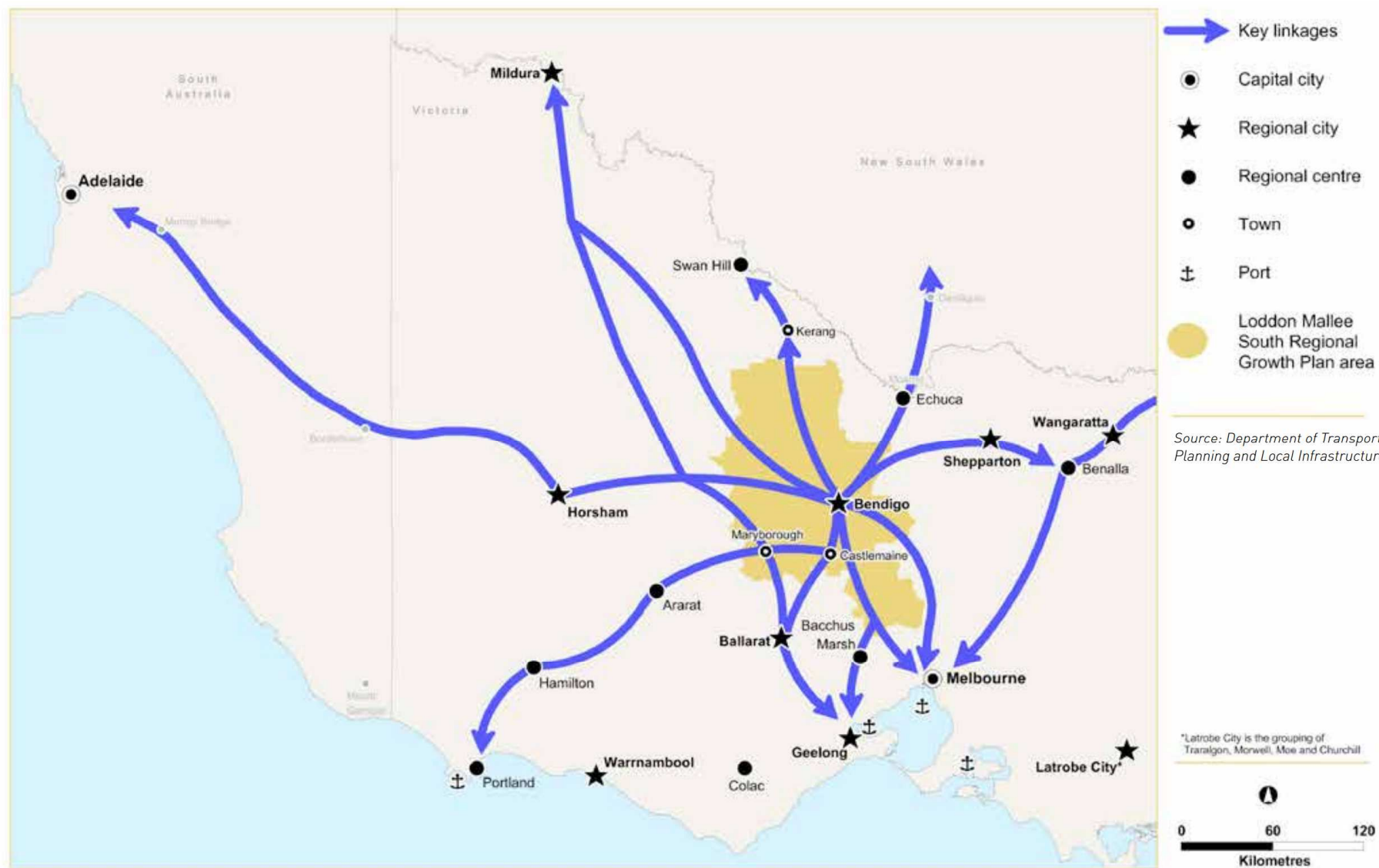


Figure 9: Links to surrounding regions (Loddon Mallee South Regional Growth Plan, source Department of Transport, Planning and Local Infrastructure).

Overview of the Transport Network

The Calder road and rail corridor is the key transport spine in the region providing access to and from Melbourne in the south and Mildura in the north west. Upgrades to the Calder Freeway and the Bendigo rail line over the past decade have helped support strong growth in the movement of people and goods along this important transport corridor.

Other key road links include the Northern and Sunraysia highways, which provide strategic routes to intra-regional cities such as Ballarat and Geelong; and the Midland Highway, which provides a north-south orbital link between the Hume Freeway and the Port of Geelong via Benalla, Shepparton, Bendigo and Ballarat.

The Bendigo rail line has experienced strong growth in patronage following recent upgrades. This includes high levels of commuting from Bendigo to Melbourne on a daily basis. Surprisingly rail passenger to Bendigo is greater than out of Bendigo. Commuter growth is expected to continue and is critical for businesses in and outside the region.

Different solutions are required for the movement of people and the movement of freight. The future directions in this strategy provide some guidance to help ensure the transport network supports changes to the economy, settlement patterns and demographic changes.

Trends in Transport Network Management

Many regional transport groups are developing whole-of-network supply chain mapping and functional classifications of networks for the main user groups: freight, commuter and tourist. This process defines the priority network routes and operating standards for those routes. This process then enables identification of gaps in the network for prioritised investment to meet the agreed operating standard. This work supports business case and funding proposals for targeted investment on the transport network.

Note, this whole-of-network classification includes road, rail, public and active transport networks. For example the journey from home to work could include cycling on a defined bike path to the train station, having good bike storage facilities at the station, taking the train to town and then walking on accessible and legible footpaths to get to work.

Movement and Place

The Movement and Place Framework (the Framework) is being developed by VicRoads in partnership with the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), the Department of Environment, Land, Water and Planning (DELWP), Public Transport Victoria (PTV) and other key stakeholders. The Framework will set the strategic direction and guidance for integrated road network management and development. It acknowledges the relationship between transport and land use. It appreciates that roads and streets facilitate the movement of people and goods and also provide the places where people want to be and do business.

The Movement and Place Framework aims to:

- Provide a set of transport planning principles that ensures a consistent approach in decisions about how the road network is used, managed, planned and improved.
- Ensure transparency in decision-making, as well as compliance with the Transport Integration Act and relevant strategies.
- Assist government agencies in identifying problems and developing transport solutions collaboratively with the community and stakeholders.

Functional classification and mapping

Development of this ITS has identified as a Top 10 priority that the region progress development of a functional network classification and mapping for freight, community and tourist routes. The transport working group will work with the VicRoads Movement and Place Framework and the draft Network Operating Strategy developed by InfraPlan to progress this vital piece of work. Based on preliminary work with industry and community stakeholders and input from local council and the transport portfolio, draft Access Maps have been developed for freight, tourist and community access. These maps are a starting point to further refine and progress operating standards, gaps in the network and prioritised investment and supporting land use actions. Opportunities to increase mode shift, (such as freight from road to rail, commuting by public and active transport rather than private car) will be explored as part of this project (see Top 10 Priority and Strategy 3.1, Appendix A).

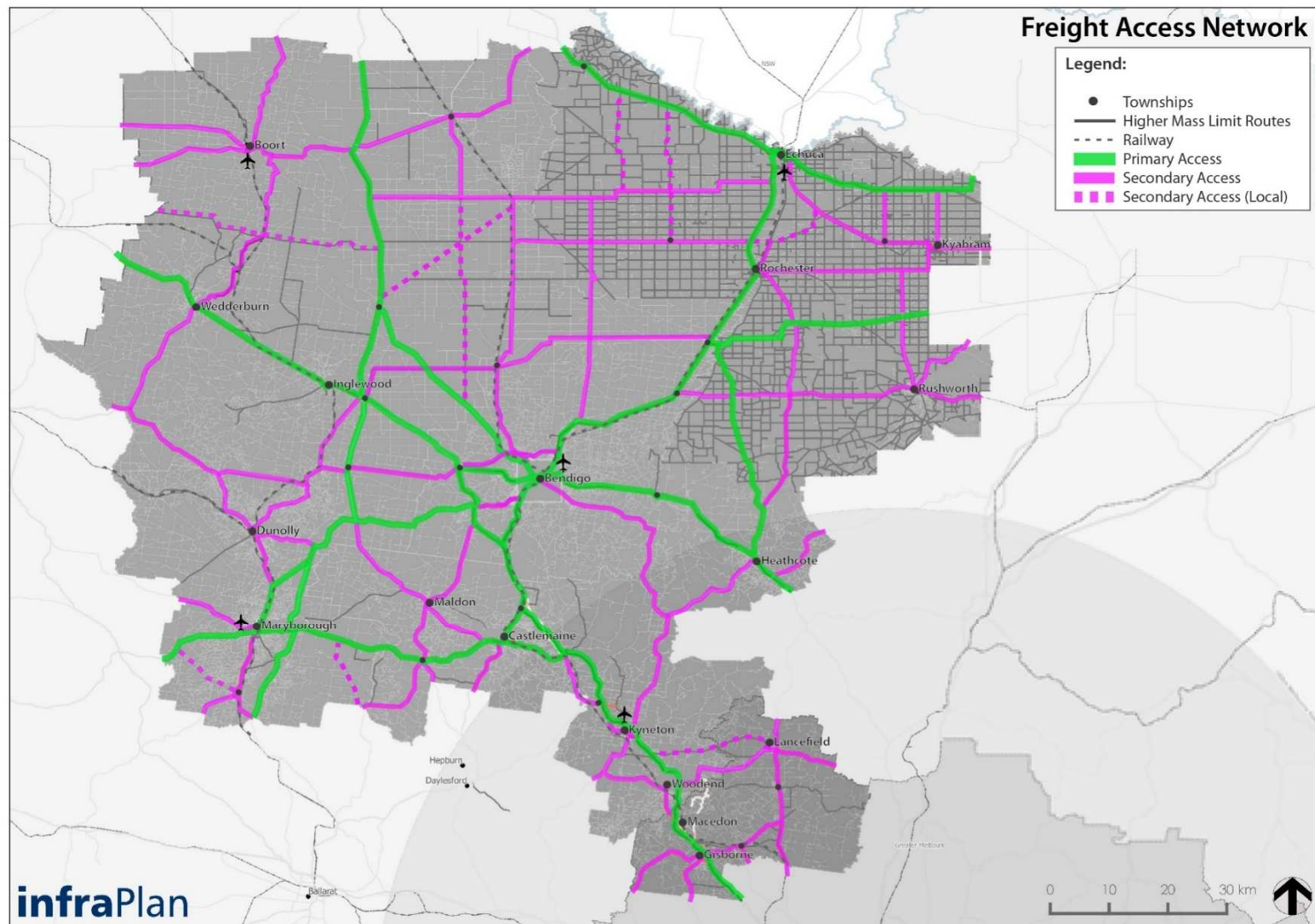


Figure 10: Freight Network (hierarchy, role and function).

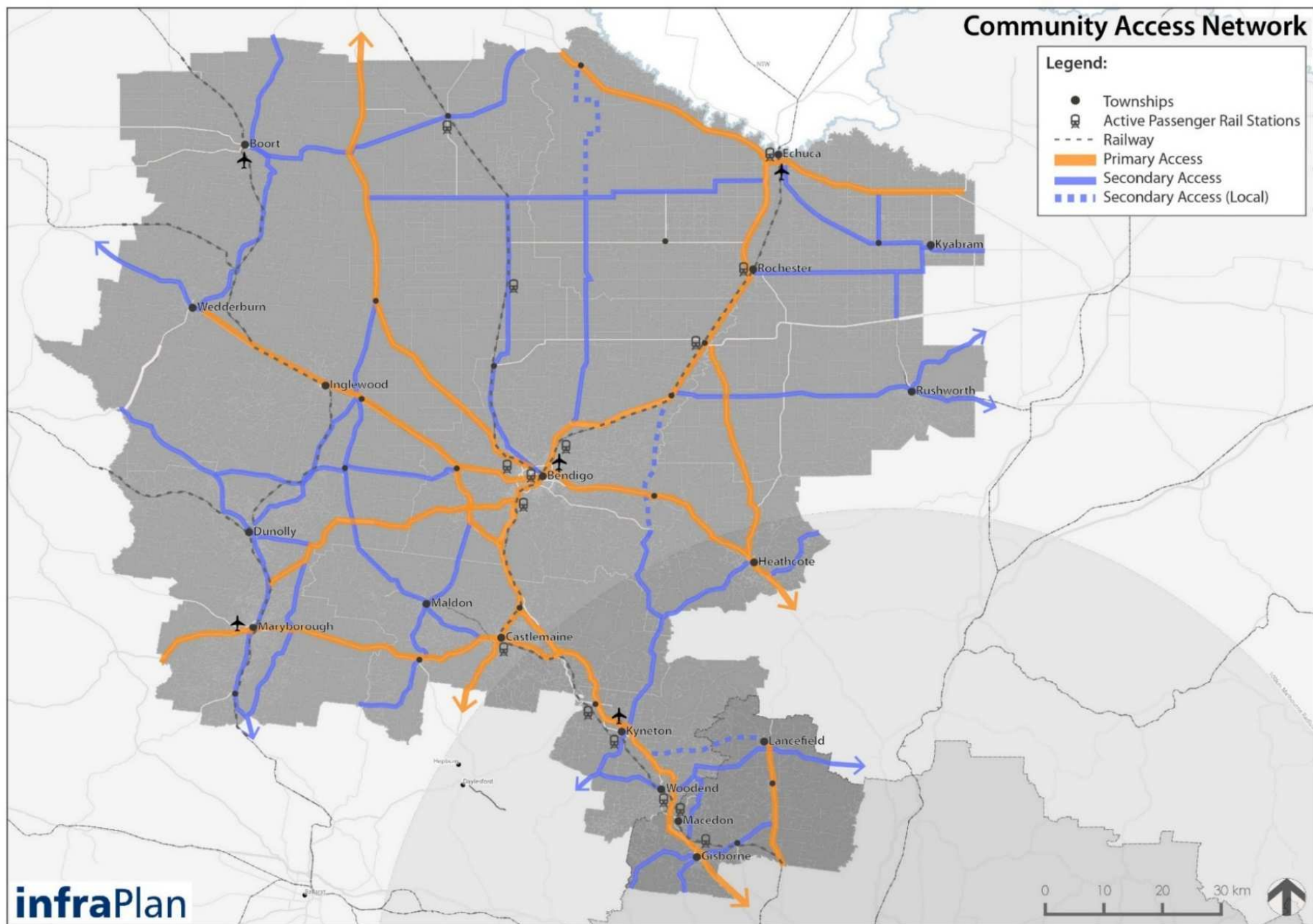


Figure 11: Commuter/Community Access Network (hierarchy, role and function).

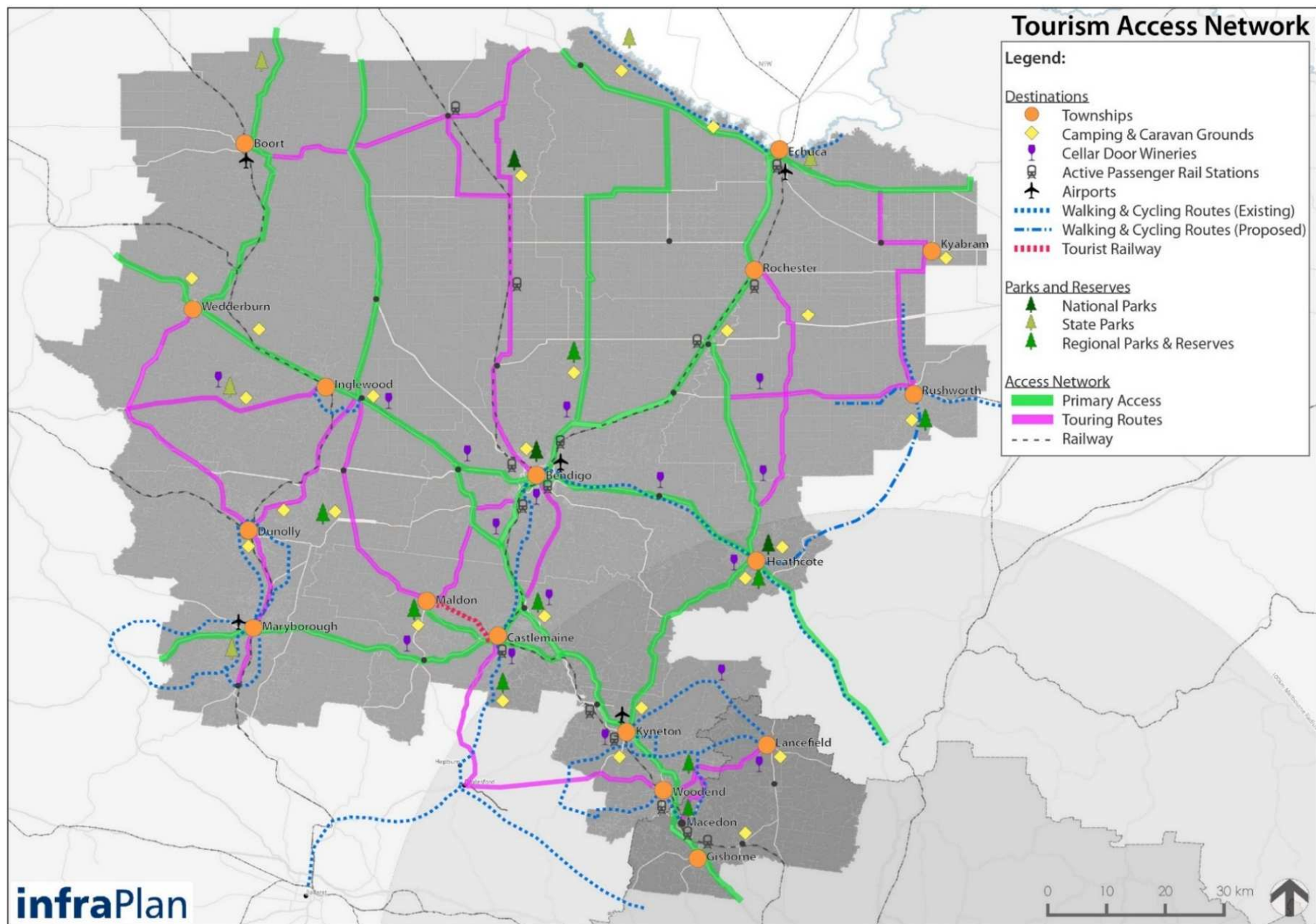


Figure 12: Tourist/Touring Network (hierarchy, role and function).

Land Use and Future Proofing

Land use has the potential to enhance the functioning of the transport network. For example, increased urban density and therefore higher critical mass of people living near to public transport hubs and train stations increases ease of access and therefore uptake of public transport. Locating industry close to and with ease of access to freight rail or road networks minimises conflict between freight, commuters and pedestrians.

Whilst much of this Strategy may seem road focussed, the regional growth plan and urban development principles are to direct urban growth to those locations with good access to public transport. Increased urban density around train stations is progressing as is development of good walking, cycling and public transport routes to the main transport hubs. A priority project includes implementing a transport hub access improvement program. Station master-planning is underway in some locations, to progress this priority.

The regional growth plan includes as a transport future direction “Ensure that the current and future operation of major infrastructure of state and regional significance, including highways, railways, airports, communications networks and energy generation and distribution systems, is not adversely affected by urban development in adjacent areas”. As the functional classification project progresses, key freight networks will be further refined and the appropriate land uses alongside these networks will be encouraged.

Project assessment, project prioritisation and governance

Development of this strategy has had a focus on evidence based decision making. A key recommendation of this strategy is to form a transport working group to further progress actions identified in this strategy.

The development of this ITS has identified a range of potential projects and initiatives that justify further investigation. InfraPlan has developed an assessment tool to assist the transport working group regularly review and progress this strategy and issues and opportunities that arise. The Triple Bottom Line (TBL) Tool will be used to develop a business case, applying an evidence based approach to strengthen its competitiveness and ability to be investment ready. Projects can be put forward by councils for funding via state and federal government programs.

This assessment tool is intended to assist by:

- Providing an assessment process from idea/issue to assessment of current information available,
- Assessment of level of expertise in current evidence base,
- Assessment of regional applicability, and
- Identifying the next steps to progress, e.g. further studies, business case, planning and design work, through to development of shovel ready projects.

Working through this process as a transport working group, and agreeing on criteria for regional priority projects will build a regional and shared understanding of the proposals.

Figure 13 demonstrates the process of project refinement using the triple bottom line tool.

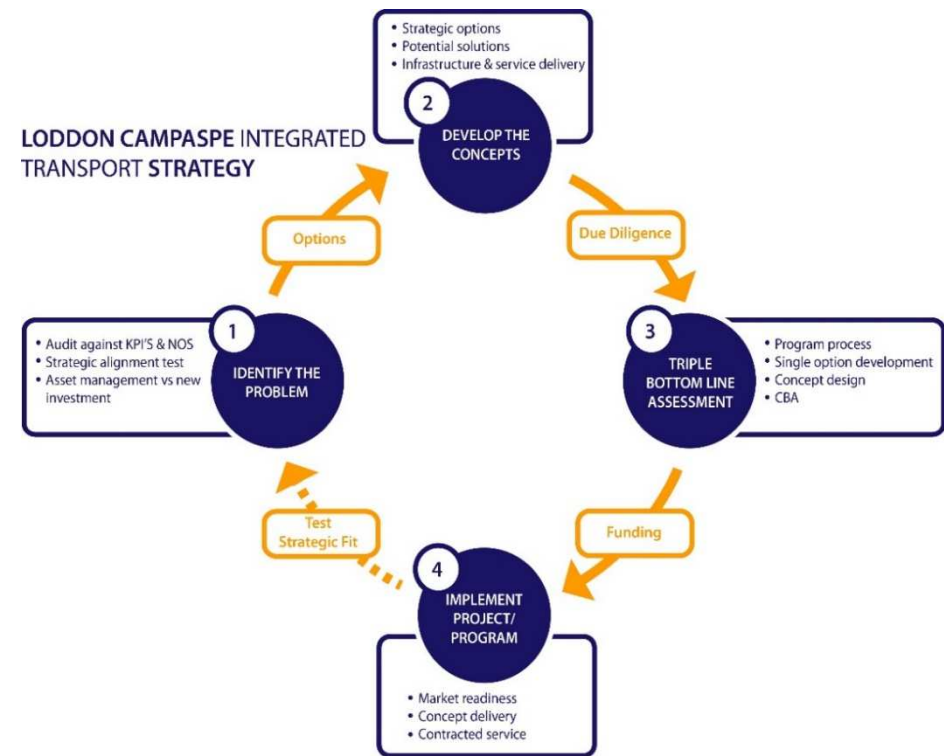


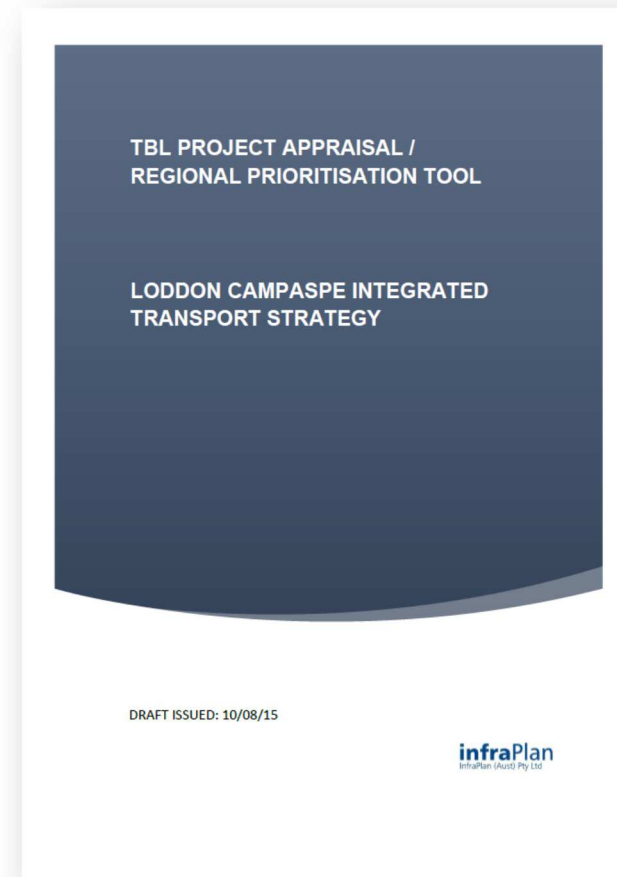
Figure 13 Project assessment, and implementation

The indicative timing of the implementation of projects / programs based on experience might be as follows:

- Stage One: Identify the Problem/need/issue, Year 1-2 (Advocacy Drive)
- Stage Two: Development the Concepts/Options, Year 2 (Apply TBL tool to assess options, if required)
- Stage Three: Project Assessment/Business Case, Year 2-3 (Apply TBL Tool evaluate and prioritise)
- Stage Four: Implement the Project, Year 3-5 (Funding Ready).

The assessment tool has been used at a high level in development of the current top 10 priorities. Some of these actions are at stages 1 and 2 of the process and will require further discussion with the transport working group, project assessment and triple bottom line assessment as applicable. However, some actions already have a high level of rigorous assessment and studies, such as Echuca-Moama Bridge and Murray Basin Rail Project. These projects are essentially shovel ready. Some of the other priorities are for further studies such as Bridges and Structure investigation. This reflects an assessment that this issue is of a regional priority and then outlines the next steps to further understand and progress the issue.

The assessment tool will assist with ensuring that funding proposals, whether for shovel ready projects or studies, are highly competitive. The assessment tool could also be used at a council level to assist with prioritisation of local projects.



Proposed Regional Governance Structure

The ongoing successful implementation of the Loddon Campaspe Integrated Transport Strategy will depend largely on a robust governance structure.

The purpose of the governance structure is to ensure:

- the regional perspective and commitment to regional priorities continues
- regional decision-makers understand the objectives and priorities of the ITS, and collectively advocate these as a single region
- there is close alignment between the ITS and regional development strategies (such as the Southern Loddon Mallee Regional Growth Plan), with each influencing the other
- the ITS is reviewed and updated at appropriate intervals so that it remains relevant to regional needs and priorities and to ensure ongoing commitment

The governance structure should involve all member councils, with the following objectives/characteristics

- Establish an ongoing annual process for review and updating of the strategy
- Establish a regional ITS group that is directly responsible for the ongoing strategy process, based on the membership of the group that developed the ITS
- Annually (or more frequently depending on time between meetings) rotate the chair of the group between member organisations
- Meet at least annually with two key stakeholder groups (freight/business and community/social – ensure diverse representation from throughout the region) to review implementation progress and identify emerging issues from a user perspective. These forums can be an excellent process for building stakeholder relationships and for the early resolution of operational issues.
- Review progress on implementing the ITS, the results of the stakeholder forums and other inputs to establish the next set of regional priority projects and programs.
- Review the Functional Classification system.
- Identify regional priorities using the assessment tool.

- Identify regional data collection priorities and consider this as part of the priority actions
- Report progress and an updated priority list to the regional Councils for endorsement

Top 10 priorities

On the basis of extensive consultation, rigorous assessment and links with existing regional and state priorities and strategies, the top 10 priorities for the Loddon Campaspe Integrated Transport Strategy have been developed and are listed below.

Murray Basin Rail Project

The Murray Basin Rail Project involves standardising and increasing the axle load on the freight lines in Victoria's north west. The project also includes re-opening the rail line between Maryborough and Ararat to enable rail freight from north west Victoria to access the ports of Portland, Geelong or Melbourne.

This project increases capacity and competition in the north west and facilitates private industry investment. Lower rail freight costs will see an increase in freight moved by rail to ports, resulting in 20,000 fewer truck trips.

The project design supports connection to the Transcontinental rail link in the longer term.

Total project cost is \$416 million, Commonwealth ask \$200 million (at 21 tonne axle load)

Echuca Moama Bridge

Substantial increases in tourist traffic, freight and population growth as well as increased freight load requirements of new higher mass limit trucks, has created the need for a second Echuca Moama Bridge Crossing. Many freight vehicles are forced to either use a longer route or switch to a less efficient older style truck.

Construction of a second Echuca Moama Bridge will deliver improved efficiency and reliability for freight transport, including modern freight vehicles, and will improve safety and convenience for all road users. This project is identified in Victoria's 2012 Priority Infrastructure Submission to Infrastructure Australia.

Total Project Cost \$250 million - \$300 million

Capacity Improvements on the Bendigo, Swan Hill and Echuca Passenger Rail Lines

To meet economic and population demands, investment in capacity improvements on the Bendigo, Swan Hill and Echuca rail lines is needed. Bendigo serves as the regional capital city, with recent investment in health, arts and education further developing this capital city role. Increased passenger services to and from Bendigo are necessary to support communities to access these higher order services and employment opportunities.

Actions include: upgrade signalling, upgrade level and pedestrian crossings, upgrade trackworks, additional crossing loops

Indicative cost \$20 million

Increased passenger rail services throughout the region

The region has an aspiration for increased services for Echuca, Swan Hill and Maryborough that enable day trips either way between these locations and their respective Regional Cities.

Improved passenger rail services will provide a stimulus for regional settlement growth.

The Maryborough train service is so limited with one train out in the morning returning in the evening, that the service largely fails to meet the community needs resulting in limited use. Commuters face the risk of being stranded if they use the service. For the service to be successful it requires additional services each day both in and out.

Between Melbourne and Bendigo the region aspires to having passenger train services every 20 minutes during peak time and every 40 minutes in the interpeak.

Bridges, Structures and Higher Mass Limit Access Study

This project is to undertake a systematic review of bridge and culvert load limits in the Goulburn Murray Irrigation District to rationalise and prioritise Higher Mass Limit routes for irrigation primary producers to processing facilities.

This project supports food production in the Goulburn Murray Irrigation District. Several agricultural businesses in this irrigation district have invested in improved efficiencies on farm, resulting in larger volumes requiring transport to a processing facility. Efficient transport from farm gate to processing facility reduces transport and logistics costs, as well as assists council with prioritising budgets to transport networks of strategic need.

Additional information on the carrying capacity of some irrigation canal bridges and culverts to carry Higher Productivity Vehicles is needed to support council's ability to open up additional Higher Productivity Vehicle routes.

Stage 1 desk top study to identify priority structures for assessment \$100k.

Stage 2 Bridge assessments cost is at \$20,000 per bridge or structure.

Stage 3 Develop and implement a prioritised list of upgrades.

Develop a functional road use hierarchy for freight, community access and tourist routes, then prioritise investment on these road networks.

This project is to further define a region wide priority road network and agree network operating standards for each of the 3 user groups (freight, community, tourist). The work includes identification of gaps in the agreed operating standard which then provides the evidence base to prioritise investment at critical locations. Protecting these priority transport networks through appropriate land use will also be considered.

For example the freight network will include consideration of first and last mile and Higher Mass Limit access, using supply chain mapping to identify gaps in the heavy vehicle freight network from farm gate to market.

The outcome of this project will be a prioritised and evidence based list of infrastructure upgrades and land use and economic development actions to protect and enhance the future priority road transport networks.

In the first instance this is a priority for the Transport Working Group to progress.

Freight Hub study for Loddon Campaspe region

This project recognises the central position of the Loddon Campaspe Region for freight movements through the region and generated within the region. Investigations during the development of this strategy has identified the potential for freight hubs to be developed to enable efficient freight movements whilst managing congestion in urban areas. This project is to undertake a freight hub study in the Loddon Campaspe Region to investigate the potential for freight hubs, including Marong and Maryborough. Build on freight transport changes as a result of new industries, changing land use and changing transport patterns as a result of the Murray Basin Rail Project.

Railway Station Access Improvement Program, encouraging active and public transport

The region aspires to increase the uptake of public and active transport within our communities. Simple infrastructure upgrades are needed to make it easier to walk, ride or catch public transport to commute or for social activities. This project is to undertake a program of upgrade works at and around railway stations and key transport hubs. The program includes improving pedestrian, bike and bus access networks, improved wayfinding, lighting and amenity. Improve car parking at key stations. This project includes construction of an overpass to support increased use of platform 2 at Bendigo Station.

This priority includes aligning local council and transport portfolio activities to support access to transport hubs, eg through improved walking and cycling paths

Rail Trails and recreational tourism bike networks

Rail trails and cycling tourism is growing, with tourism a key contributor to the regional economy. There is a need to develop a trails program and link with park and ride facilities and public transport nodes to create an integrated, safe and accessible system for all road users.

The region aspires to improve the health of the community by encouraging active transport. Priority rail trails and recreational bike networks for investment include Goldfields Track, extension of O'Keefe Rail Trail, Murray River Adventure Trail and a new Waranga Trail linking Rushworth to Murchison.

Small towns connectivity plans

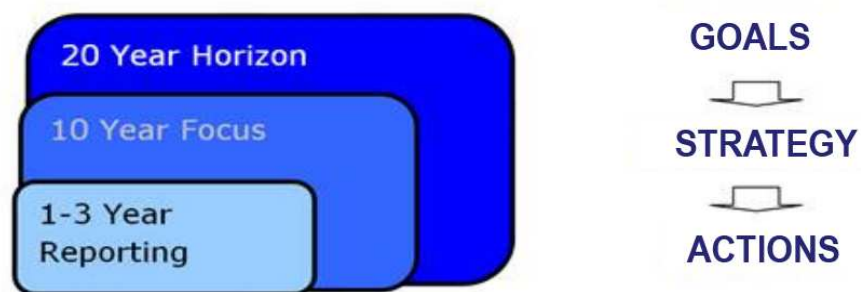
The objective of this action is to ensure that people living in our smaller communities continue to have access to services and opportunities that meet their health and social needs whilst enabling living in place. This project is to develop small towns connectivity plans that improve coordination between transport planning, community planning and health. This project includes improved coordination of public transport, community transport and considers flexible and private transport options. The project also includes encouraging active and accessible transport within small towns.

- End of Document -

Appendix A: Strategies and Actions

Six goal areas for this strategy were developed through consultation with the Loddon Campaspe Region Transport Working Group (stakeholders and workshops) and desktop analysis. These goals are detailed below with the key strategic priorities required to achieve them.

- Goal 1:** Protect and enhance a transport system that supports regional economic development and population growth.
- Goal 2:** Improve the capacity and function of the transport network, and integrate it with land use.
- Goal 3:** Manage the transport system so that is maintained to a safe and affordable level of service.
- Goal 4:** Provide equitable community access and connectivity for large and small communities.
- Goal 5:** Support efficient and sustainable transport of products between producers, markets and nodes within the region and with other regions.
- Goal 6:** Support improved community health and environmental outcomes.



The strategy process has led to 6 goals, 16 strategies and 46 actions 10 of which have been identified as high priority projects.

The councils across the region, as well as the region as a whole, have both direct and indirect roles in the achievement of an effective transport system for The

Loddon Campaspe Region. Identifying what roles the councils and the region have in implementing initiatives assists in resourcing and co-ordination.

Role	Definition
Leadership	<ul style="list-style-type: none"> Leading the community or local government by example Setting directions to meet current and future needs, usually through policy, strategies, plans or reviews
Owner/ Custodian	<ul style="list-style-type: none"> Region/Council fulfilling its obligations to manage the community's assets including buildings, facilities, public space, reserves and those of the natural environment
Regulatory	<ul style="list-style-type: none"> Undertaking a particular role in response to legislation which may either be direct and specific or be general in nature such as 'duty of care'
Information Provider	<ul style="list-style-type: none"> Providing information to the public that the Region/Council have commissioned through reports and studies, website etc. Region/Council developing resources to promote a common understanding of the Region
Advocate	<ul style="list-style-type: none"> Making representations on behalf of the Region to one or more parties that has a direct role or influence with regard to the matter under consideration
Initiator/ Facilitator	<ul style="list-style-type: none"> Bringing together stakeholders, or joining with other stakeholders, to collectively pursue a shared interest or service or to resolve an issue
Agent	<ul style="list-style-type: none"> Providing a service on behalf of another party that funds the service, when the associated funding conditions accord with the Regions directions
Part Funder	<ul style="list-style-type: none"> Contributing funds or resources, as one of a number of parties that contribute towards an initiative or service
Direct Service Provider	<ul style="list-style-type: none"> Council/Region fully funding and providing a service

Goal 1: Protect and enhance a transport system that supports regional economic development and population growth.

The transport network is a critical facilitator of regional growth. Strategic decisions regarding growth will need to be aware of transport constraints and opportunities if the region is to fulfil its potential. The region will experience strong population growth in areas closest to Melbourne over the next 30 years with much of this growth directed to the regional city of Bendigo.

Improvements to the Calder road and rail corridor will help accelerate growth in locations with ease of access to this corridor. In the future this corridor is likely to play an increasingly important role in facilitating the growth of settlements.

Private, community and public transport, along with freight movements and other infrastructure are critical to support growth across the Loddon Campaspe region. In areas away from the Calder corridor transport systems tailored to local needs are critical to the viability of rural businesses and small towns.

What are the strategic transport challenges in the region?

- A greater concentration of agricultural businesses is occurring in rural areas as activities are clustering at hubs. Improving access from farms to these hubs, and from the hubs to major centres and ports will improve business efficiency and reduce external impacts of freight operations. This reinforces the importance of seamless supply chains, within the region and outside.
- The bridge structures/culverts in the northern parts of the region provide a significant challenge for freight planning, route selection and 'freight from farm gate'. There is a lack of data on the ability of irrigation canal bridges and culverts to carry high productivity vehicles. This restricts council's ability to open up additional B-double routes (in Campaspe Shire bridge load restrictions mean that in some areas tankers have to take one route to farms when empty and another when full). On the other hand, the southern shires generally have good freight routes and east-west road networks but have issues with freight traffic travelling through towns.

- Lack of competition between rail operators – rail lines in the Murray Basin have an allowable axle loading of only 19 tonnes per axle and restrict access to broad-gauge trains, closing access to other competitors operating standard-gauge rolling stock.
- Many bridges in the northern areas were upgraded after the 2011 floods. In the south there is a significant maintenance backlog, e.g. in Mount Alexander 16 bridges are in urgent need of repair and 43 will need attention over the coming decade. Even with 50:50 funding for bridge replacements (through the Commonwealth Government Bridge Renewal Program) some councils do not have the funds to cover their portion.
- Passenger rail capacity in the Calder corridor is stretched and this is impacting on the quality of travel and the ability of public transport to meet the needs of a growing population.
- North-south routes are generally clearly defined but there is a need to better identify the key east-west routes through the region.

What are the strategic regional opportunities developed through this Strategy?

- Focussing on the development of regional strategic links of the region will encourage and stimulate economic growth. Tourism, value add industries, traditional agri-business and developing economic clusters will have a more reliable and permeable road network that has capacity during peak events.
- A flexible network will be able to respond to change as agricultural and manufacturing development occurs across the region. The limited funds available for transport improvements will be targeted to high priority actions.
- Role of Bendigo: Bendigo is currently experiencing substantial infrastructure investment, including upgrades to health, education and arts facilities. These facilities and services are of benefit to the wider region. Therefore, accessibility between Bendigo and outlying townships and centres is important. Key road links include the Northern and Sunraysia highways, which provide strategic routes to intra-regional cities such as Ballarat and

Geelong; and the Midland Highway, which provides a north-south orbital link between the Hume Freeway and the Port of Geelong via Benalla, Shepparton, Bendigo and Ballarat. The Bendigo rail line has experienced strong growth in patronage following recent upgrades. This includes high levels of commuting from Bendigo to Melbourne on a daily basis, and increasing levels of commuting from surrounding townships to Bendigo, such as townships within Macedon Ranges Shire, both by car and rail, for example, Kyneton to Bendigo. These commuter trends are expected to continue and are critical for businesses in and outside the region.

- Calder Corridor: Strategically significant transport routes traverse this sub-region. The Loddon Mallee South regional economy is supported by an efficient freight transport network. The Calder road and rail corridor is well utilised and has supported growth and increased movement between settlements and economic centres. Private, community and public transport, along with freight movements and other infrastructure, are critical to support growth in the Loddon Mallee South region. Improvements to the Calder road and rail corridor have helped accelerate growth in locations with ease of access to this corridor. In the future, this corridor is likely to play an increasingly important role in facilitating the growth of settlements along the corridor or with good access to it. It is likely that as Bendigo grows and provides further employment opportunities, commuting to Bendigo will increase, not just to Melbourne.
- The region has a reasonable road network but priority regional routes on council roads are not necessarily clear. Council budgets are becoming increasingly limited and rate increases are not keeping pace with costs. Therefore it is now critical to ensure that the limited funds are spent where they will do the most good. This can be facilitated by putting greater focus on the identification of priority routes that should be improved and managed better. This will allow resources to be focused on areas where the best returns will occur.

Goal 1	Desired Strategy (10 year horizon)	Actions (5 year)	Priority	Major contributors	Council's role
S1.1	Develop and maintain an efficient freight network that is fit for purpose and meets regional business needs through removing barriers; addressing last mile needs and protecting networks.	1. Continue to work with industry to identify the physical, regulatory and other barriers to improved freight operations and opportunities to improve regional freight efficiency.	Medium	Councils VicRoads VicTrack	Facilitate Advocate
		2. Implement continuous regional wide and 'last mile' B-double and HPV networks that support regional businesses.	Medium	Councils VicRoads	Lead
		3. Undertake a regional wide freight hub study to identify and protect possible potential future road and rail freight hubs and access networks	Medium	Councils, Industry, Department Economic Development, Jobs, Transport, Resources (DEDJTR)	Facilitate
		4. Undertake a systematic review of bridge and culvert load limits in the irrigation areas to identify bridge and culvert upgrade priorities that will improve freight access between farm and processing plants.	High	Councils	Facilitate Advocate
		5. Develop and implement a priority program of bridge upgrades on local roads across the region based on high productivity, community safety and access considerations	Medium	VicRoads Councils	Advocate

Goal 1	Desired Strategy (10 year horizon)	Actions (5 year)	Priority	Major contributors	Council's role
S1.2	Upgrade the rail network to meet emerging freight and passenger needs by identifying opportunities to use underutilised infrastructure.	6. Investigate the potential for reopening closed passenger and freight lines (such as Eaglehawk to Inglewood)	Medium	PTV, Councils	Advocate
		7. Investigate opportunities to reopen closed stations and introduce new stations on existing rail lines (such as Rochester and Harcourt).	Medium	PTV	Advocate, facilitate
		8. Implement the actions of the Murray Basin Rail Project to increase rail capacity and remove congestion	High	PTV, DEDJTR and VLine	Advocate, facilitate
S1.3	Maintain transport assets at a fit for purpose standard by tailoring maintenance actions to cost effectively meet user needs.	9. Develop intervention, performance and maintenance standards for council roads based on their functional classification to target and prioritise maintenance actions.	High	Councils	Lead
		10. Advocate that rail maintenance be adequate to operate freight and passenger trains at appropriate speeds and safety at all times of the year.	Low-Medium	VicTrack	Advocate
S1.4	Develop and maintain major inter-regional links to link the region with markets and social networks.	11. Support State initiatives that continue improvements to the Calder corridor as the key transport corridor in the region.	High	VicRoads	Advocate
		12. Support State initiatives and take Council actions where appropriate to improve the capacity and safety of inter-regional roads that link the region's major centres and joins the region to the rest of Victoria and Australia.	Medium	VicRoads Councils	Advocate
		13. Implement the capacity improvements on the Bendigo, Swan Hill and Echuca Passenger Rail Lines	High	PTV	Advocate

Goal 2: Improve the capacity and function of the transport network, and integrate it with land use.

To support sustainable growth, land use planning must be undertaken alongside transport planning to increase opportunities for choice in transport modes. There are a number of options to improve the capacity and functioning of the transport network as growth occurs in key areas including regional centres, such as Maryborough, Echuca, Bendigo and Castlemaine. It is important to ensure the operation of major state and regional infrastructure, including highways, railways, airports, communication networks, is not adversely affected by urban development.

What are the strategic transport challenges in the region?

- Bus services do not necessarily align with current and emerging needs: some rural buses simply follow disused rail lines and station locations, rather than reflect current needs.
- Land use planning decisions can build in future land use/transport conflicts that will cost the community economically and socially, and build in unnecessary challenges.
- There is likely to be increasing conflict between increasing traffic volumes passing through towns, parking and pedestrian movements that will lead to safety and amenity concerns.

What are the strategic regional opportunities developed through this Strategy?

- Development of land use plans alongside transport plans will support sustainable growth, improve the quality of life in the region and increase opportunities for choice in transport modes. Well planned industrial areas will have minimal impact on surrounding land uses. There are a number of options to improve the capacity and functioning of the transport network as growth occurs in key areas including regional cities such as Bendigo.

- The operation of major state and regional infrastructure, including highways, railways, airports, communication networks, will not be adversely affected by urban development. In planning for the future the following land use and planning opportunities to preserve railway stations and railway lines between Ballarat and Bendigo, via Maryborough and Castlemaine
- Build in network resilience and risk management in areas that are subject to these risks - flooding and fires.
- Public transport services will better match current and emerging travel patterns.
- The amenity, safety and attractiveness of smaller towns can be improved through sensitive management of through routes, selective use of town bypasses and urban design. This can benefit both residents and tourists visiting the area.
- Transport services responding to emerging needs: For the longer term, to support any future reactivation of rail services and the potential for higher line speeds between Ballarat, Maryborough and Castlemaine, land that may be required for future track realignments would need to be protected to ensure that the opportunity for future rail realignments is preserved. In the short to medium term, lease currently disused station buildings along the railway corridor for public purposes. This would preserve the buildings for potential future railway purposes and encourage development around the railway stations to create a focal point for the local community.

Goal 2	Desired Strategy (10 year)	Actions (5 year)	Priority	Major contributors	Council's role
S2.1	Manage the interface between land use and transport so that both systems operate effectively	14. Identify opportunities for improving the amenity and safety of main streets of towns with major through traffic routes or significant tourism parking	Low-Medium	Councils, VicRoads	Lead
		15. Develop access management strategies or bypass strategies for town access routes linked to road function and land use.	High	Councils, VicRoads	Lead
		16. Design industrial areas and their transport networks so that they are integrated within other land uses and transport activities.	Medium	Councils.	Lead
		17. Develop design principles and illustrative designs for the management of through traffic in small towns	Low-Medium	Councils	Lead
S2.2	Improve public transport services to better meet market needs by improving service standards and supporting sustainable transport alternatives as part of new urban developments.	18. Implement the Railway Station Access Improvement Program to meet DDA compliance, particularly where population growth is expected	High	PTV Councils.	Advocate
		19. Implement overpass at key stations such as Bendigo to increase platform capacity meet DDA compliance			
		20. Review rural bus routes that replaced closed rail links to ensure that they match current and emerging passenger needs	Medium	PTV Councils	Advocate
		21. Improve physical and timetabling integration between rail stations and bus hubs to improve to the efficiency and comfort of interchanges	Medium	PTV Councils	Advocate
		22. In urban areas develop station precincts to maximise activity and integrate with other forms of travel.	Medium	Councils PTV	Facilitate

Goal 3: Manage the transport system so that is maintained to a safe and affordable level of service.

The Loddon Campaspe transport network is used by a variety of people for both business and pleasure. Ensuring the network is maintained in a safe and useable condition will be important. This will be necessary to support a more diverse economy and to access tourism products and opportunities such as those in the Goldfields area, for example, supporting the use and expansion of rail trails by improving connections between and access to trails.

It is now critical to ensure that funds are spent where they will do the most good. This can be facilitated by putting greater focus on the identification of priority routes that should be improved and matching road standards with the role of each road. This will allow resources to be focused on areas where the best returns will occur.

What are the strategic transport challenges in the region?

- The regional rail lines are in state of disrepair and trains are at 'crawling' speed. This is costing producers time and money, and makes it difficult for rail to compete with road for freight movement. Fixing these rail lines will help large industries stay competitive. An increase in the capacity and reliability of the Mildura rail line will make rail freight more cost-effective, supporting primary producers and businesses across northern Victoria.
 - Councils do not have the authority to police load limits but carries the cost of damage from overloaded vehicles
 - Safety is a concern on both highways and on local roads. Pavement width, pavement quality, speed limits, the quality of shoulders, overtaking opportunities and rest facilities all impact on driver safety.
- Speed limits do not necessarily consider the conditions of gravel roads adequately, and many routes have higher speed limits that can be excessive for gravel roads.
 - Council budgets are becoming increasingly limited and rate increases (rate capping) are not keeping pace with costs. Therefore it is now critical to ensure that the limited funds are spent where they will be the most effective. Cost pressures on council's means that some may have to look at converting some low volume roads back to gravel. The Shire of Campaspe for example is compelled to rationalise its 2,100 km of gravel roads to earth roads. The cost savings on average taking into account construction costs and maintenance costs are a reduction from an average cost of \$2,600/km/year to \$350 /km/year. The shire is proposing to downgrade 353 km.

What are the strategic regional opportunities developed through this Strategy?

- Targeted network management will ensure that the network is cost-effectively maintained in a safe and useable condition that is necessary to support a more diverse economy and to access tourism products and opportunities
- Transport implementation actions can deliver safer, more reliable and resilient networks. Actions include maintenance of rail and road networks, contingency plans for major disruptions such as those due to flood or bushfire, increased track capacity to improve reliability and reduce delays and identify and promote safety improvements.
- Putting greater focus on the identification of priority routes will allow resources to be focused on areas where the best returns will occur.

Goal 3	Desired Strategy (10 year)	Actions (5 year)	Priority	Major contributors	Council's role
S3.1	Develop and maintain a regional road network that is fit for purpose and affordable, now and in the future.	23. Identify and implement the Functional Road Classification System for Freight, Community Access and Tourists Routes	High	Councils VicRoads	Lead
		24. Audit roads to test appropriate and sustainable level of service/standards applying the 'Network Operating Strategy' (NOS Guidelines) – see Priority Projects and Programs	High	Councils	Lead
S3.2	Improve safety for all road users on regional roads.	25. Review the location and standard of truck rest areas and overtaking lanes on major inter regional routes.	Medium	VicRoads	Advocate
		26. Incorporate design for bicycles into road projects (where a route could practicably be or become part of a bicycle network)	Low-Medium	Councils	Lead
		27. Identify and develop a prioritised listing of local roads to improve the safety of unsealed roads, including the setting of speed limits	Medium	Council and/or VicRoads	Facilitate or lead

Goal 4: Provide equitable community access and connectivity for large and small communities.

Services, such as health, education and legal services, are increasingly being focused on larger centres, so access to these centres is essential for rural and semi-rural communities. As well as this the ageing population across the region requires increasing levels of public, informal and community transport to ensure access to these services and social networks.

What are the strategic transport challenges in the region?

- Growth is expected to be lower in the western and northern areas of the region, with some towns and areas even facing population decline.
- Regionally focused travel is as important as Melbourne focused travel, and for most of the region it is the most important travel activity
- Services, such as health and legal services, are increasingly focused on larger centres so access to these centres is important for communities. Being accentuated by the ageing of populations in smaller settlements. Education is also being centralised and Bendigo has major regional educational role.
- The aging population may require increased levels of public transport, which would not be met by the existing service provision, especially in the context of lower population density in many of the regions; services (health, education, social) disseminated across the region, or transport services are strengthen to those centres that have the services. Ageing population requires increasing levels of public, informal and community transport to ensure access to services and social networks. Small towns can have high percentages of elderly people who require access to services that are located in the major centres.
- Gentrification led by tree change communities creates demands for different services and priorities in the southern/ peri urban councils. Tree change communities in the south-east of the region have high expectations of access to services that are similar to communities living in Melbourne.
- Unique and distinct transport demands and network needs across the region (e.g. Macedon Ranges benefits from public transport commuter capacity to Melbourne, whereas Loddon focuses on primary production links from farm

gate to market). Diverse economies and transport linkages provides a challenge for the development of consistent and applicable criteria across the region.

- Northern shires are constrained by public transport (predominantly V-Line) services that promote a one-direction tidal flow, which although strengthening the connections into major centres, (Bendigo/Melbourne) does not promote the economy of feeder (smaller) regional areas. Southern shires have connections both ways (into Bendigo and centres or Melbourne) but have train timetables that do not always align with employment demand at all times.
- Regional linkages and requirements across the region have different focus. For example around the Macedon Ranges there is a strong Melbourne focus, while Central Goldfields has stronger ties with Bendigo/Ballarat.
- Lower income families are being forced out of towns such as Castlemaine and Kyneton into towns with lesser transport options and further from services, such as Malmsey.

What are the strategic regional opportunities developed through this Strategy?

- A fast efficient, reliable and frequent public transport system would benefit the diverse employment patterns and tourism opportunities. Connecting public transport services, including better funding for community services, and more capacity for park and ride at stations will improve social accessibility. Cycling networks and taxi industry can meet the needs of particular groups and help fill the gaps.
- As route based public transport services will not be viable for many small communities, alternative means of non-private car travel will become increasingly important (small town UBER?)
- Bendigo provides a concentration of higher order services and facilities to the Loddon Mallee South region. For example, upgrades to Bendigo Hospital may result in more people within and outside the Loddon Mallee South region travelling to Bendigo instead of Melbourne to access healthcare services. Therefore, accessible and appropriate transport throughout the region and beyond will allow people from across the region to access these services.

Goal 4	Desired Strategy (10 year)	Actions (5 year)	Priority	Major contributors	Council's role
S4.1	Improve public transport services for smaller communities through flexible and responsive non private travel options.	28. Roll out rural connectivity plans for small towns based on a needs assessment of communities that coordinates transport planning, community planning and health (with input from health and social service providers and key institutions).	High	Council, service providers	Lead, Facilitate
		29. AS part of the connectivity plans review needs and demand for community transport and taxi services (with input from community planners) in towns, and develop programs to improve access to community services.	High	Council	Lead, Facilitate
S4.2	Improve non-motorised networks and facilities within small towns to support active travel.	30. Develop bicycle, mobility scooter and walking plans for small towns to provide an alternative to private car travel	Medium	Council	Lead
S4.3	Better align public transport services with user needs, including increasing the role of community transport where public transport services are not available.	31. Review regional and local bus operations to ensure they match current and emerging needs and travel patterns.	High	Council PTV	Advocate
		32. Improve commuter facilities at railway stations as patronage grows	Medium	Council PTV	Facilitate
		33. Share knowledge between Councils, communities and PTV to improve accessibility decision making that will assist communities	Medium	Councils, service providers, PTV	Lead

Goal 5: Support efficient and sustainable transport of products between producers, markets and nodes within the region and with other regions.

Changes in agricultural and manufacturing practices have seen greater concentration of activities in particular parts of the region, such as chicken farms, and hay production.

Understanding freight movements and transport supply chain networks will be important into the future as the economy diversifies and the types of commodities being carried potentially changes. Changes to fleet characteristics may also mean that small local roads are not able to cope with increasing numbers of higher volume trucks taking products to processing or export locations. Therefore key transport spines within the region will require good connections not only with Melbourne, but also with other parts of the state and interstate.

The Calder Freeway between Melbourne and Bendigo is a designated route for high productivity freight vehicles. This allows larger vehicles to more efficiently transport goods. Freight networks that traverse the region enable movement of goods throughout northern Victoria and southern New South Wales through to ports and activity centres in Melbourne and southern Victoria. Protecting these important freight corridors, taking into account future transport needs, and integrating with land use planning will lead to continued prosperity. Businesses in the region have strong links to Melbourne and Sydney. Sydney access is via the Hume corridor, however there are also links also into southern NSW, SW Victoria, NW Victoria and Adelaide.

The Calder road and rail corridor is the key transport spine in the region providing access to and from Melbourne in the south and Mildura in the North West. Upgrades to the Calder Freeway and the Bendigo rail line over the past decade have helped support strong growth in the movement of people and goods along this important transport corridor.

What are the strategic transport challenges in the region?

- Town centres can be barriers to efficient freight movement: Local amenity can also be compromised by freight and other movements through the centres of towns: therefore there can be tension between improving main street amenity and affecting trade from through traffic (e.g. Maiden Gully is being developed across the Midland Highway. Growth and increased local movements could adversely impact on the operation of the highway).
- Permit issuing system (NHVR) for restricted access vehicles (RAVs) is poor and curfews will impact on industry development without township bypasses. Interstate freight travel is made inefficient as different states have different rules/costs. B-Doubles are using narrow roads with insufficient shoulders and sharing with commuter and tourist traffic.
- Changing agricultural practices – creating an expectation/desire for B-Doubles to farm gates as well as a consolidation of activities (e.g. feed lots).
- Lack of competition between ports – rather than having the state's two bulk ports compete, the rail gauge differential has the effect of isolating the Murray Basin from the Port of Portland. The Port of Geelong has an advantage because it is serviced by both broad and standard-gauge networks, while Portland is only serviced by standard gauge.
- Bridge capacity limits HPV access, e.g. irrigation channels restrict B-Double milk tanker access to dairy farms, bridges of New Gisborne forces freight through town, rail bridge restricts truck access to Don Smallgoods in Castlemaine. Many low capacity bridges are on local roads and impact on 'last mile' efficiency, councils have limited funds for upgrading.
- Some industries and freight operators are pushing for the greater use of high productivity vehicles (HPVs, such as A-Triples) to improve productivity of operations. However, HPVs are often unsuited to the asset condition of both local and state roads.

What are the strategic regional opportunities developed through this Strategy?

- The potential of rail freight to be a viable alternative to road freight will be realised through rail upgrades, improved intermodal facilities and improved access roads to intermodal sites.
- Provision of access for higher productivity vehicles to farms and industry at a local road level will improve operational productivity. This could be through a combination of timely asset renewal, upgrade of unsealed roads, intersection improvements and bridge/culvert widening/strengthening, overtaking opportunities and rest areas. Consideration for freight will improve access to established industry clusters and improve the connectivity for emerging local industries via the road network.
- Facilitation of new vehicle technologies in the region by council actions can improve the efficiency of supply chain logistics, and support development of a transport network that is responsive to industry needs.
- Matching actions to the needs of different parts of the region will ensure that local economies are supported, e.g. Macedon Ranges focus is on service industries, Loddon agricultural, Bendigo service.
- Changes in agricultural and manufacturing practices has seen greater concentration of activities in particular parts of the region, such as chicken farms and strong reliance on logistics chains. Flexible and adaptable freight access interventions, such as the clustering of intensive agricultural industries and the potential upgrade of Bendigo Airport will provide access for different types of freight, such as perishable goods.
- Roads carry the majority of freight through the region. Need to explore if rail freight is a viable alternative to road freight to match current movements to market, distribution or processing. Centres such as Bendigo create inefficiencies for freight movements and conflicts with local communities.

Goal 5	Desired Strategy (10 year)	Actions (5 year)	Priority	Major contributors	Council's role
S5.1	Ensure the region has effective and efficient intra and inter regional freight links to the region and to external markets.	34. Adopt a consistent regional wide freight network and hierarchy consistent with the Functional Classification/Network Operating Strategy, which is co-ordinated with adjacent regions and into NSW.	High	Councils, VicRoads	Facilitate
		35. Implement Echuca Moama Bridge to improve freight efficiency and reduce impacts.			
		36. Identify the need for and protect strategic town bypasses and new regional and intra-regional links.	Medium	VicRoads, Council	Facilitate
		37. Work with DEDJTR and NHVR to remove cross border differences in freight regulations that cause inefficiencies in freight movement into and out of NSW.	High	VicRoads, industry, freight operators	
		38. Identify the impact of changing vehicle and fleet characteristics and regulations on rural roads (to determine if local roads are fit for purpose for increasingly larger vehicles).	Low	VicRoads, Industry, Councils, freight operators	Advocate, Facilitate
S5.2	Develop integrated logistics chains that serve regional business needs.	39. Identify high potential rail and road intermodal sites and take land use and/or transport actions necessary to protect these sites.	High	Council	Lead Facilitate
		40. Use opportunities offered by heavy vehicle regulatory reform initiatives to better position the region to facilitate the efficient movement of freight.	Low	VicRoads, Council, freight operators	Advocate, Facilitate
		41. Share knowledge between Councils, DEDJTR, VicRoads and Industry to improve freight transport decision making.	High	Councils, freight, business operators, VicRoads	Facilitate

Goal 6: Support the achievement of improved community health and environmental outcomes.

Better conditions for walking and cycling facilitate benefits to the quality of life in towns and overall community health. In a growing number of communities, walking and cycling are considered as indicators of a community's liveability, a factor that has a profound impact on attracting businesses and workers, as well as environmentally sustainable tourism. In towns where people can regularly be seen out walking and cycling, there is a palpable sense that these are safe and friendly places to live and visit.

Infrastructure is an important aspect of encouraging people to consider walking and cycling as a viable and legitimate transport option, as are travel behaviour change programs. Active transport can also play an important role in connecting people to the places they need to access such as shops, residential areas, public transport and other services.

What are the strategic transport challenges in the region?

- The region has high levels of obesity and low health outcomes. Transport and lifestyle decisions often correlate to produce health related problems, such as obesity.
- Health services are becoming increasingly centralised so either improved ways to access services, or a return to more distributed services, is required to meet community needs. If access is difficult then use of services, and hence health outcomes can suffer as a result.
- There is strong competition between regions for recreational travel (by car, cycling and public transport). The region has a limited number of integrated tourism networks and these should be expanded to offer a greater range of experiences to visitors.

What are the strategic regional opportunities developed through this Strategy?

- Increased uptake of active transport will lead to improved health outcomes across the region. This is needed in both the large centres and the smaller towns.
- Greater provision of non-motorised options, along with public transport services. This will increase the range of travel alternatives for people with limited access to motor vehicles, and in turn increase their opportunities for employment, education, and socialisation and so on.
- Rail trails and cycling tourism are growing and traffic calming/Main Street masterplans reflect shifting demographics and community lifestyle choices. This should link with park and ride facilities and public transport nodes to create an integrated, safe and accessible system for all road users.
- Walking and cycling holidays are becoming increasingly popular and have spin off benefits to local communities. Tourism trails provide great opportunities for cycle based tourism, not only for tourists but for residents of the region as well (including school groups), which build on the tourism and lifestyle interest in bicycle touring and outdoor activities. The Echuca to Bendigo track is an example of such a project.
- Integrate bicycle touring with public transport to increase the range of options for visitors.

Goal 6	Desired Strategy (10 year)	Actions (5 years)	Priority	Major contributors	Council's role
S6.1	Encourage bicycle and walking travel to improve health and reduce environmental impacts.	42. Develop sustainable travel plans for small towns that encourage active transport and improve accessibility to services.	High	Councils	Lead
		43. Councils and businesses to develop Green Travel Plans for the business and staff, and take leadership in the use of more sustainable modes for work activities.	Medium	Councils, service providers, businesses and industry	Lead
S6.2	Develop the region as a recreational cycling hub to support tourism and local travel.	44. Link the region's key rail trails and other recreational/tourism bicycle networks to form a network of routes and access to centres and public transport services.	High	Councils	Lead
S6.3	Promote emergency access information and mitigating plan.	45. Clearly identify to the community (through several information providing techniques) the emergency access/egress to better equip residents of the region in event of an emergency.	Medium	Councils, State Government	Lead
		46. Maintain and manage routes that offer the best safety, access and egress.			

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