ATTACHMENT TO AGENDA ITEM

Ordinary Meeting

20 December 2016

Agenda Item 10.1 **Greater Shepparton Movement and Place Strategy - Draft Challenges and Opportunities Paper**

AECOM

Greater Shepparton Movement and Place Strategy
Greater Shepparton City Council
17-Nov-2016

Challenges and Opportunities Paper

Greater Shepparton Movement and Place Strategy

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Greater Shepparton Movement and Place Strategy

Client: Greater Shepparton City Council

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1.0 Introduction

1.1 Overview

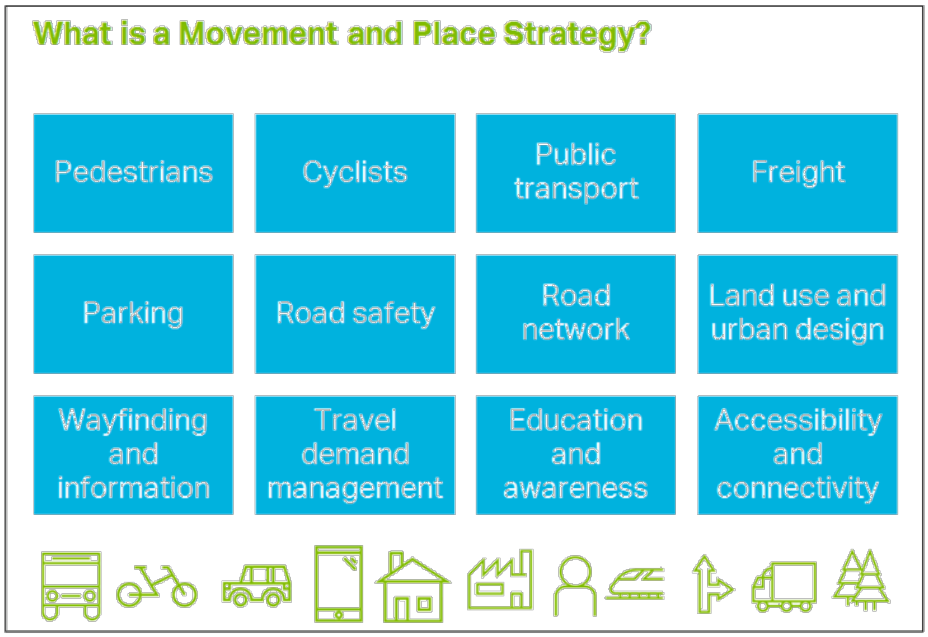
As the largest regional city in northern Victoria, Shepparton is a major hub for industry, employment and essential services serving approximately 230,000 people in Victoria and New South Wales. The region accounts for 25 percent of the total value of Victoria's agricultural production and is often referred to as the 'Food Bowl of Australia'.

Shepparton's population is projected to grow by over 16 percent to 73,700 by 2031. This growth will provide momentum for positive changes across the city including the opportunity to support a greater range of jobs and economic opportunities, increase housing options, improve infrastructure and provide more sustainable mobility options. Managing this growth and the provision of a suitable, safe and interconnected transport network for the travelling public will be vital to securing Shepparton's role as an important regional economic, social and cultural hub.

Over the next year, Greater Shepparton City Council will be preparing a Movement and Place Strategy (MAPS) which will provide the opportunity to critically examine Greater Shepparton's transport needs, including opportunities to improve the integration of land use, transport and urban design. The MAPS will serve as a blueprint to ensure that Greater Shepparton continues to be a healthy, vibrant, prosperous and liveable city where residents, businesses and visitors can travel safely and efficiently using various modes of transport. The strategy will identify a number of key priorities, with significant input from the public and stakeholders, which will enable people to make healthier, more efficient and economical choices in the way they travel.

The figure below shows the common elements of a MAPS, which considers a range of travel modes as well as land use, urban design, place-making, wayfinding, travel demand management, accessibility, connectivity and education and awareness initiatives.

Figure 1 Common elements of a MAPS



1.2 Process

This Challenges and Opportunities Paper has been prepared to provide a preliminary review of relevant documents and a summary of the initial round of public and stakeholder consultations. It identifies issues and opportunities as they relate to the movement of people and goods across the City of Greater Shepparton, and will provide the background information to guide the development of the subsequent phases. The overall MAPS process is illustrated in Figure 2.

Figure 2 MAPS process

1.3 Objectives

Preliminary analysis and consultation highlighted a number of transport challenges and opportunities for Greater Shepparton. From these the following objectives have been identified for the MAPS:

- ✓ **Population growth –** Providing transport improvements which support the needs of a growing population.
- ✓ **Freight task –** Improving the strategic freight network to support local jobs, businesses and industry, further cementing Greater Shepparton's position as an important regional economic hub while reducing freight related neighbourhood safety and amenity impacts.
- ✓ **Place-making** – Planning for complementary land uses, urban design, and traffic and parking management solutions to create more inviting, accessible and vibrant public spaces which support the local economy, promote social interaction and improve health and well-being.
- ✓ **Safety –** Improving safety for both motorised and non-motorised modes of transport.
- ✓ **Equity –** Supporting the needs of the widest possible range of users with varying travel requirements, incomes and mobility levels.
- ✓ **Health –** Encouraging people to improve physical and mental health by incorporating incidental physical activity as part of their daily travel needs.
- ✓ **Environment –** Developing the transport system to actively contribute to environmental sustainability by supporting the use of more energy efficient low carbon transport modes and enabling more people to travel by walking, cycling or public transport.

2.0 Planning Context

2.1 Location and Environment

The City of Greater Shepparton is part of the Hume Region in northern Victoria, situated within the heart of the Goulburn Valley. The Goulburn Valley produces a substantial portion of Victoria's agriculture and supports a diverse range of industries related to food processing, manufacturing and transport. **Greater Shepparton is the largest regional city in northern Victoria and the fourth largest regional urban centre in Victoria, serving as a major employment and services hub for 230,000 people from Victoria and New South Wales.** Greater Shepparton includes the nearby towns of Shepparton East to the east, Kialla to the south and Mooroopna and Tatura to the west; and towns that are slightly further from Shepparton such as Tallygaroopna to the north, Dookie to the east and Murchison to the south west. The Maude Street Mall and surrounding streets constitutes the central business district (CBD) and is located approximately 60 kilometres south of the New South Wales border. The confluence of the Goulburn River, Broken River and Seven Creeks presents a flood risk in this area, which may impact infrastructure in extreme weather conditions, which is likely to increase in the face of climate change. Maintaining transport and freight network resilience over the long-term, particularly to manage the risk pose by climate change, will be an important component of the MAPS.

Figure 3 Regional context map (Source: Make Shepparton Greater Prospectus, 2014)

2.2 Demographic Factors

Over the past 10 years, the City of Greater Shepparton's population has increased by 8 percent (Table 1). The Estimated Residential Population (ERP) of the City of Greater Shepparton as at 30 June 2015 was 63,366. *Victoria in the Future 2016* forecast that Shepparton's population will grow to about 74,000 by 2031. Assuming a trip rate of 3.3 (as per VISTA 2012-13), **the Greater Shepparton transport network will have to accommodate around 35,000 additional trips per day by 2031**.

The proportion of younger people in the City of Greater Shepparton is expected to decrease, whilst the proportion of people aged 65 or older is expected to increase (Table 1). This suggests that greater emphasis will be required on providing more transport options to improve accessibility for people with mobility challenges.

Table 1 Forecast population patterns in the City of Greater Shepparton

Total population			Total households			% aged under 20		% aged 65 or older	
2011	**2021**	**2031**	**2011**	**2021**	**2031**	**2011**	**2031**	**2011**	**2031**
61,800	67,000	73,700	24,300	26,900	30,200	28.4	25.9	14.6	20.7

Source: Victoria in the Future 2016

In general, areas further outside Shepparton city centre have fewer transport options and are consequently more reliant on motor vehicle travel. This presents a challenge particularly for people under 15 or over 65, as travelling by car (as a driver or passenger) is not a consistently reliable option. As such, it is critical that transport planning in Shepparton consider these varying challenges across the full extent of its geography. **The challenge will be to deliver a transport system that responds to the diverse needs and priorities of all types and ages of residents to make it easier for all Greater Shepparton residents to move about the region.**

2.3 Economy

The City of Greater Shepparton's Gross Regional Product (GRP) was $2.88 billion in the year ending June 2015, up 0.9 percent from the previous year and up 16.1 percent since 2001, indicating consistent long-term economic growth. (Note: Growth rates have been adjusted for inflation each year to allow for direct comparison.)

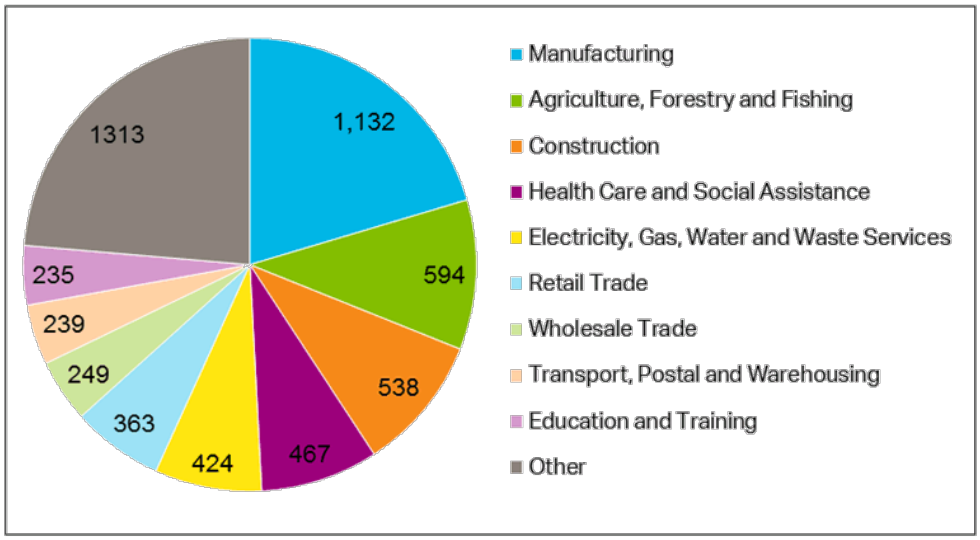
The top three industries in Greater Shepparton by value of contribution to product are manufacturing, agriculture and construction, all of which are reliant on an efficient freight transport network. The breakdown of production output in Shepparton and its comparison to Victoria by industry is summarised in Figure 4.

Greater Shepparton's natural assets (such as suitability of land and climate conditions) underpin its agricultural production creating a competitive advantage over other regions in Victoria. As a result, **Victoria will continue to rely on the Shepparton area for agricultural production**, and demand will continue to increase as the population and export demand grows.

With a catchment of approximately 230,000 people, Shepparton plays a significant role in catering both for the region's commercial/retail needs and its health service needs. **Health Care and Social assistance and Retail Trade had outputs of $467m and $363m respectively in the 2014/15 financial year** (National Institute of Economic and Industry Research (NIEIR), 2016).

Tourism is also a key industry in Greater Shepparton. In 2015 Greater Shepparton received over 1.2 million visitors, including 915,000 daytrip and 300,000 overnight domestic visitors, and 10,000 international visitors. The visitors to Greater Shepparton from other municipalities, states and countries contributed $190 million in economic output and supported 1,171 jobs across Greater Shepparton in 2015 (Greater Shepparton: Economic Development, Tourism & Events Strategy 2016-2020). Many of the domestic visitors were from Greater Shepparton's regional catchment area, reflecting the strength of the city as a key cultural, sporting and entertainment hub. Many visitors are attracted to events in Greater Shepparton such as the BMX State Titles, triathlon, World Cup Show Jumping, equestrian events and Spring Car Nationals.

Figure 4 Industry production in Shepparton by value ($m)



Source: National Institute of Economic and Industry Research (NIEIR) ©2016. Compiled and presented in economy.id by .id

3.0 Policy framework

3.1 MAPS policy context

The Greater Shepparton MAPS will seek to align with a range of local and State policies, including the Transport Integration Act (2010) (TIA) and the Greater Shepparton 2030 Strategy.

The *TIA* is the main overarching State policy framework for transport in Victoria which seeks to achieve:

> *'an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible State'.*

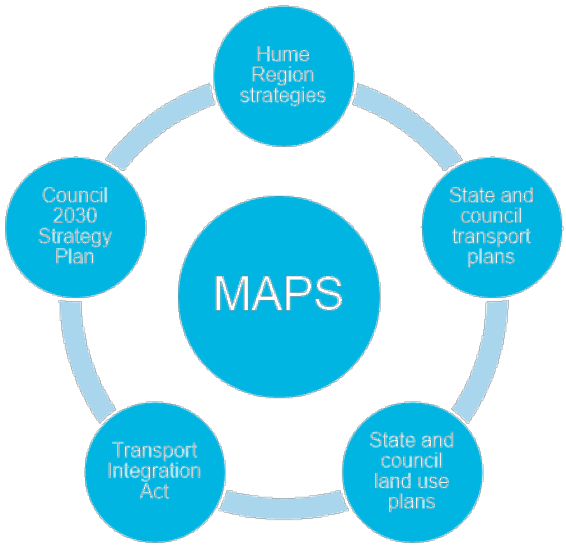
Greater Shepparton is classified as an 'interface body' under the Act. This means that when Greater Shepparton City Council makes decisions that have a significant impact on the transport system, they must have regard to the objectives and decision making principles of the TIA. Therefore, the MAPS must align with these objectives and principles as listed in the table below.

Table 2 Objectives and decision making principles of the TIA

Transport system objectives	Decision making principles
1. Social and economic inclusion 2. Economic prosperity 3. Environmental sustainability 4. Integration of transport and land use 5. Efficiency, coordination and reliability 6. Safety, health and wellbeing	1. Integrated decision making 2. Triple bottom line assessment 3. Equity 4. Transport system user perspective 5. Precautionary principle 6. Stakeholder engagement and community participation 7. Transparency

The MAPS also seeks to align with additional municipal and State policies and strategic documents as represented in the figure below.

Figure 5 MAPS policy context



The *Greater Shepparton 2030* strategy is holistic in that it provides the overarching community vision for Greater Shepparton's future. The strategic outcomes of *Greater Shepparton 2030* strategy include the following:

- *A smarter and more prosperous city*
- *A city not as vulnerable to climatic events*
- *A more active community*
- *A less fuel dependent city*
- *Attractive towns and rural villages retained*
- *A bigger and more compact city*
- *Different new residential development*
- *A more attractive image to the city*
- *Substantial change in the character and built form of the CBD*
- *A more integrated and diverse community*
- *A greener and healthier city.*

3.2 Summary of key directions for the MAPS

Shepparton is a nationally significant regional hub for employment, retail, health, education, court services, agriculture related activity, innovation and technology. Greater Shepparton's strategic location on the Goulburn Valley transport corridor that links Melbourne and Brisbane contributes to its role as a key Victorian and national logistics centre. Significant transport infrastructure investment will be required to meet the demands of the regions projected future population, much of which is expected to be accommodated within Shepparton's diverse and vibrant urban area.

In contribution to the *TIA* and the *Greater Shepparton 2030 Strategy*, the key directions to be considered in the MAPS include the following:

- ✓ Encourage transport options and technologies which significantly reduce greenhouse gases and other pollutants that contribute to climate change.
- ✓ Address inefficiencies to meet the growing demands for local, regional and interstate freight movements.
- ✓ Design the transport system to better accommodate the needs of people with limited mobility, including the elderly and children.
- ✓ Enhance walking and cycling links to key destinations such as the new SAM, CBD, rail station, schools, recreation areas and employment hubs to reduce the proportion of residents reliant on private vehicles for commuting, particularly during peak periods.
- ✓ Enable public transport to be a more demand responsive, flexible, convenient and viable mode of transport for a greater proportion of the population.
- ✓ Consider a range of other transport modes into the future, including car share, carpool, bike share, electric vehicles, autonomous vehicles, taxi, mobility aids, and community transport.
- ✓ Improve the CBD and other key destinations across the city to make them safer, more vibrant, inviting and accessible for pedestrians and cyclists as well as drivers.
- ✓ Optimise parking amenity, design and efficiency across the municipality, and in particular the CBD.
- ✓ Be ready for emerging technology and ideas such as Intelligent Transport Systems (ITS), carbon-free vehicles, real time traveller information and increased automation in vehicles.

4.0 Challenges and opportunities

4.1 Overview

There is increasing concern that the present transport system in Greater Shepparton is, to some degree, adversely affecting the environment, hindering economic growth and impacting public safety and health. Greater Shepparton is a large and diverse regional hub with many and varying demands on the transport system. The challenge into the future will be to deliver integrated transport and land use solutions that respond to the diverse needs and priorities of residents, businesses, industry and visitors.

Many of the existing challenges are related directly to the growth in traffic and conflict among various modes of travel. Specifically, these include:

- effects of truck movements on safety and quality of experience in an around the Shepparton CBD
- visual and functional impact of car parking on retail and residential sub-areas of the community
- interplay between pedestrians, bicycles, cars and trucks, especially with respect to areas where the objective of smooth, fast traffic flow may undermine efforts to improve conditions for other road users
- limited options for effective public transport
- accessibility challenges for pedestrians, particularly for public transport users with a mobility restriction.

It is for these reasons that the MAPS is intended as a fully integrated approach to transport planning, identifying key priorities and challenges for each type of transport sector while ensuring they complement (rather than risk interfering with) one another. This approach also takes into account concurrent place making goals within the community with the intention that transport initiatives support rather than inhibit the overarching community vision.

4.2 Key Considerations

4.2.1 Transport disadvantage

Transport disadvantage is commonly defined as difficulty accessing transport due to cost, availability of services or physical accessibility. In 2011 the City of Greater Shepparton scored 942.4 on the Socio-Economic Indexes for Areas (SEIFA) of relative social advantage and disadvantage and was ranked 13th from the bottom in Victoria (out of a total of 80 communities). The SEIFA index is derived from characteristics that reflect advantage and disadvantage such as: level of income, access to and completion of education, balance of employment and unemployment, and job type. Areas that have a low SEIFA ranking are more likely to have a higher prevalence of transport disadvantage.

Transport disadvantage is also more common in outer-suburban or rural areas which are typically more car dependant and have less frequent and accessible public transport services. This could apply to north and south peripheral estates within Shepparton and Mooroopna as well as smaller rural towns in Greater Shepparton such as Tatura, Murchison and Dookie. People who live in these areas may also travel longer distances to work, school or to access services, compared to people who live in inner or middle suburbs. These challenges result in forced car ownership, which can be a challenge for lower income households. As a general rule of thumb, transport costs are considered unaffordable if they exceed 20 percent of a household's income. Lower income households generally spend a greater portion of their income on transport costs.

Transport disadvantage can also affect certain population groups more than others. These groups include:

- young people who are not old enough to drive or cannot afford car ownership
- older people
- families with young children

- unemployed, underemployed or low income people
- culturally and linguistically diverse (CALD) people
- people with a disability
- senior citizens.

Shepparton's lower ranking on the SEIFA index suggests that transport disadvantage could be prevalent within the community (particularly in outer areas that are less accessible by public transport) and should be strongly considered in the development of the MAPS.

4.2.2 Employment

The 2011 unemployment rate in Greater Shepparton was marginally greater than regional Victoria's rate of 5.2 percent.

The average youth unemployment rate for Greater Shepparton in 2011 was 11.9 percent, which is slightly higher than regional Victoria and the Hume Region average, but lower than the whole-of-Victorian average. Shepparton's southern region has the lowest youth unemployment rate, while the eastern regions of Greater Shepparton maintain high youth employment.

Connecting all Shepparton's residential and employment clusters more efficiently through a range of transport modes including public transport would allow greater labour force participation and contribute to reducing the unemployment rate across the whole of Greater Shepparton. Moreover, improved freight efficiency could have positive flow on effects across various business supply chains, which may lead to increased employment opportunities.

Understanding how improved connectivity may contribute to youth employment participation, improved health outcomes and a more equal and improved allocation of SEIFA ratings will be a key aim of the MAPS.

4.2.3 Travel patterns

Compared to the Victorian average, Shepparton has a significantly higher proportion of residents who travel to work by car (76% versus 67%). The proportion of trips made by car has slightly increased from 73% in 2006 to 76% in 2011. The proportion of Shepparton residents who take public transport (bus and train) to work is low compared to the Victorian average (1% versus 9%). The high reliance on cars for transport can be partially attributable to the long distances between towns and the limited options for public transport and low density urban design of Shepparton-Mooroopna. Shepparton has a relatively high proportion of people who walk to work (4%)The majority of Victorian households have one or two motor vehicles. There is a slight trend in Shepparton toward more motor vehicles per household than the Victorian average, with 19 percent of households having three or more motor vehicles compared to 16 percent in Victoria as a whole (ABS, 2016).

Exploring opportunities to increase public transport use in light of growing traffic and population pressures will help to moderate the impact of future travel demand and is a key consideration of the MAPS.

4.2.4 Health

The Victorian Population Health Survey (VPHS) is conducted annually and provides self-rated health information including body mass index, presence of chronic diseases, nutrition, physical activity, smoking and alcohol consumption. The key findings for the City of Greater Shepparton in the latest VPHS from 2014 include the following:

- Over half of Greater Shepparton's adult population is considered pre-obese (33.1%) or obese (23.4%). This is slightly higher than the Victorian average for pre-obese (31.2%) and obese (18.8%)
- 4.1 % are sedentary, 50.3% do not get enough physical exercise (less than 150 minutes per week) and 42.1% get enough exercise (150 minutes or more per week)
- 12.5% have indicated that they are in high or very high psychological distress
- 25.4% have been diagnosed with high blood pressure, which is slightly less than the Victorian average of 25.9%.

Numerous studies have demonstrated the link between the built environment and health. Built environment features such as land use mix, density, urban design and transport network connectivity all influence travel patterns and therefore health. Car-oriented communities tend to be associated with lower levels of physical activity. On the other hand, communities with more compact and mixed-use development patterns with good access to public transport, walking and cycling infrastructure are physically and mentally healthier. A Canadian study calculated that every additional hour a day spent in a car is associated with a six percent increase in the risk of being obese, whilst every additional kilometre walked results in a 4.8 percent reduction in the risk of being obese (Heart Foundation, 2014 as cited in Frank et al.). In addition, an analysis of the Victorian Integrated Survey of Travel and Activity (VISTA) found that people who used public transport spent an average of 41 minutes walking and/or cycling as part of their daily travel. This is five times more physical activity than those who only use private transport.

Encouraging people to replace more car trips with walking, cycling or public transport can help improve health, and is a key focus of the MAPS in coordination with other transport and design goals.

4.2.5 Land use context

The Greater Shepparton planning ordinance identifies that the urban areas of Shepparton and Mooroopna, along with the four main residential growth areas listed below, are expected to accommodate the majority of new residential development, with remaining growth distributed throughout Tatura, Murchison, Merrigum, Dookie, Congupna, Katandra West, Tallygaroopna, Toolamba, and Undera.

Shepparton's urban growth framework seeks to maintain the diverse natural environment created by the Goulburn River and encourage residential growth in the following areas:

- North of Shepparton's existing urban environment
- South of Shepparton's existing urban environment
- West of Mooroopna
- South of the Broken River in Kialla.

The introduction of Precinct Structure Plans in the South East and North East Growth Corridors will bring considerable population growth and associated travel demand. To reduce the traffic impacts in these growth areas, developments should be permitted in coordination with adequate transport infrastructure provision including bike paths, footpaths, public transport and roads, in addition to land use patterns which minimise the need to travel by car.

The *Residential Land Supply Monitoring Project 2016* identifies that as of March 2016 there is a total residential lot supply of around 15,954. This is comprised of:

- 7,366 unzoned broad hectare lots – Urban Growth Area (46% of supply)
- 4,797 zoned broad hectare lots (30% of supply)
- 2,490 unzoned future rural residential lots (16% of supply)
- 686 vacant urban residential lots (4% of supply), and
- 615 vacant zoned rural residential lot capacity (4% of supply).

Given the residential land supply and projected population growth, it is estimated in the *Residential Land Supply Monitoring Project 2016* that there is 14 to 16 years of zoned broad hectare residential land supply in the urban centre of Shepparton, 20 to 24 years of unzoned broad hectare residential land supply within Shepparton's Urban Growth Area and 16 years supply of housing in Tatura's urban centre.

In light of this growth potential, it is critical that the design of any new developments are fully coordinated with a multi-faceted approach to transport planning, with the objective that the designs lend themselves to the achievement of parallel transport goals. **A key aim of the MAPS is to ensure that the transport system and urban development are designed in an integrated manner that helps achieve transport and community design goals simultaneously.**

4.3 Key challenges to address

The initial public and stakeholder consultation phase, site visits and existing document review highlights a range of key challenges for Greater Shepparton. The key challenges and a range of opportunities, many of which are drawn from existing plans and studies, are discussed in the following sections. The key challenges are:

- car parking in the CBD
- mode share
- place making
- accommodating freight
- road safety
- connectivity.

4.3.1 Car parking in the city centre

Initial community and stakeholder consultation has highlighted that inadequate provision of car parks and parking fees are seen to be one of the largest issues that Shepparton's residents have with the existing transport system, and 15 of 42 survey participants identified that providing more parking options in the CBD is an extremely high infrastructure priority. Sub-optimal parking supply coupled with poorly planned off-street parking may be affecting the utilisation of off-street car parks.

A peak hour parking demand analysis was conducted based on survey data provided by Council. The following peak occupancies were found over the two surveyed days as follows:

Tuesday, 20 May 2016

- At 12:00pm , **58%** (2,002 of 3,436) of on-street parking spaces were occupied and **22%** (743 of 3,436) of the parking spaces were occupied at a utilisation of >85%
- At 6:00pm, **65%** (699 of 1,023) of off-street parking spaces were occupied and **22%** (224 of 1,023) of the parking spaces were occupied at a utilisation of >85%

Friday, 24 May 2016

- At 1:00pm, **53%** (1,813 of 3,436) of on-street parking spaces were occupied and **22%** (740 of 3,436) of the parking spaces were occupied at a utilisation of >85%
- At 6:00pm, **60%** (613 of 1,023) of off-street parking spaces were occupied and **22%** (221 of 1,023) of the parking spaces were occupied at a utilisation of >85%.

The figures below spatially illustrate the peak parking demands for the two surveyed days.

Parking utilisation - Tuesday Midday

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Parking utilisation - Friday 1 PM

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This analysis suggests that there are several areas with high parking utilisation (>85%) during peak hours, however there is sufficient capacity on nearby streets within easy walking distance. The availability of parking capacity during peak hours indicates that there could be opportunities, in some areas, to reallocate the space used by parking to enhance streetscapes and traffic circulation across the CBD.

As part of the MAPS process, it is also important to recognise the adverse effects of parking on the potential for growth in the use of alternative travel modes. Parking takes up on-street space that could be allocated to pedestrians and cyclists, as well as urban design features like landscaping which enhance the experience of alternative travel modes. As such it will be important to draw upon innovative and context-sensitive design solutions to ensure that any efforts to improve parking are not enacted at the expense of wider transport objectives.

Challenges

- There is a significant presence of cars in the CBD, causing safety and amenity issues
- There is a discrepancy between the perception of parking in the CBD and the evidence of actual use.
- There is a strong preference for on-street parking and a low use of off-street facilities.
- There is a perception by businesses that longer parking time limits are associated with increased commercial revenue, which is often not the case and limits the efficient use of strategically located car parking spaces.
- There is a lack of high quality, well designed and centrally located off-street car parking facilities.
- There may be opportunities to improve the cost recovery scheme for parking initiatives.

Opportunities

Existing Council strategy and review documents indicate that there are many opportunities with regard to Shepparton's car parking. The MAPS will build on these strategies and explore potential short and long-term solutions as discussed below.

- **Multi-deck car park provision or upgrades:** Improvements that are likely to result in higher use, thus reducing on-street parking, include: line marking alterations to ensure drivers feel comfortable manoeuvring into and out of spaces; and improvements to the signage, access and aesthetics of the car park, which would increase the attractiveness of the car park. Some facilities are privately owned so Council is not able to make any direct improvements on private property. However, there may be ways Council could encourage improvements, such as offering incentives to the owner of the car park to complete these works since both parties would benefit from higher utilisation of the facility. Alternatively, Council could also buy back the facility to take full control over the improvements. Larger scale provision of multi-deck car parks will result in significantly greater benefits. For example, the large increase in both long and short duration spaces, potentially combined with some residential infrastructure, has a large upside and would likely allow for a large reduction in on-street parking supply. This would free up a large amount of space to improve amenity and encourage pedestrian activity on street frontages.
- **Remove on-street parking where feasible:** Identify areas where on-street parking may be reducing amenity and explore opportunities to re-purpose this space (e.g. lease to commercial sector and use the proceeds to improve off-street parking). This can most likely only be undertaken in conjunction with an increase in on-street parking elsewhere, or improvements to off-street parking close by. It will be beneficial to work in collaboration with surrounding businesses to explore ideas to reduce or off-set the potential impacts of removing on-street parking to some traders.
- **Cash in lieu scheme and use of parking funds**: Ensure that parking revenue is spent on improving the parking facilities and that there is mechanism in place for saving these funds for large scale projects in the future. The strategy for cost recovery and potential subsidies offered on

the development of car parks also should be clear to market and promote private investment in the sector. Also, explore opportunities and incentives to encourage land owners and developers implement well designed off-street parking facilities.

- **Employ Crime Prevention through Environmental Design (CPTED) principles**: Security fears can encourage many drivers to park their vehicle on-street and in full view of high pedestrian areas in order to discourage theft and vandalism to their vehicle. The driver themselves may also feel unsafe at certain times if they feel isolated when they need to access their vehicle. Principles involved in CPTED are intended to deter criminal activity and increase security through both active and passive surveillance. Natural surveillance involves increase the visibility of the area by removing obstructions or by encouraging a higher flow of pedestrian traffic. This could be achieved through measures such as: improving lighting, pedestrian access, encouraging cafés/restaurants to use areas at the rear of their buildings for customer seating and removing obstructions. Using CCTV (active) and fencing (passive) to increase security will also have a positive effect on utilisation of a car park.
- **Review parking pricing structure**: In a study assessing parking environments and driver habits in more than 10 cities, Shoup[1] identified that parking issues are largely caused by people who have already arrived at their destination, but that are 'cruising' for the most optimal car park spot. Shoup explains that around 30% of traffic in central business areas is commonly attributable to 'cruising' vehicle drivers that are looking for a car park, and thus that these vehicles contribute significantly to local congestion. It was found that the average time it takes for a driver to find a curb space for parking in a CBD is around eight minutes, or two and a half laps of a city block. There are several ways to address the problems associated with 'cruising', one of which is setting an optimal pricing structure for on-street parking so that demand for parking is slightly lower than supply of parking. More effective parking pricing in Shepparton can provide a number of benefits, such as reduced traffic congestion and increased revenue for council.

4.3.2 Mode share

There is a high reliance on private vehicles for transport in Greater Shepparton, with car trips comprising over 76 percent of all trips to work.

It follows that it can often be difficult to travel around Greater Shepparton without a car, as public transport is not a viable option for many trips. Additionally, the combination of segregated land uses and the lack of safe, alternative transport options (such as walking and cycling amenities) are further contributing to these concerns.

Challenges

- Local bus services limited in frequency, with most bus routes limited to one bus per hour at a maximum.
- Limited bus operating hours, including very few services on Saturdays and none on Sundays.
- Indirect, inefficient bus running patterns.
- Perceptions of safety issues and anti-social behaviour at major bus facilities, particularly the visually constrained Maude Street interchange.
- Inadequate passenger rail service levels.
- Perception of inadequate train/bus connections between Shepparton and nearby regional towns.
- Lack of a direct pedestrian connection between Shepparton Railway Station and the CBD.
- Limited degree of interconnectivity between local and regional services at Shepparton Railway Station.
- Gaps in footpaths and pedestrian connections adjoining bus stops.

[1] Shoup, D. (2007). *Cruising for Parking.* Retrieved 10 November 2016 from http://shoup.bol.ucla.edu/CruisingForParkingAccess.pdf

Opportunities

- **Improve bus efficiency** - In the future it may be necessary to examine opportunities to restructure some of the bus services as frequent, more direct routes focussing on major destinations such as the CBD and GV Health, supported by less frequent services covering the more lightly travelled sections of Greater Shepparton.
- **Improve public transport amenity and customer experience** – In addition to operational enhancements, including additional services and changes to route structures, it will be necessary to provide modern amenities for public transport to broaden its appeal beyond captive riders, particularly:
  - Real-time information
  - Expanded greenery and public space
  - Improved lighting
  - Improved street furniture and shelters
  - Improvements to the connecting pedestrian and cycling environments
  - Public art and other place-making measures.
- **Explore opportunities for regional rail service improvements**, including more frequent service and more usable operating hours, which will have to be balanced against the end-to-end running objectives of each specific V/Line service (particularly the coaches) and/or supported by additional shorter routes focussing on Shepparton and surrounding regional communities.
- **Redevelop the Railway Station Precinct** to draw more value from the existing asset of Shepparton Station, through improved connectivity and redevelopment of adjacent lands within an integrated urban framework. This plan will also provide for improved pedestrian and cycling links between the station and CBD, further increasing the degree to which the station is accessible by means other than driving.
- **Additional such measures that can support walking and cycling should also be explored** throughout Greater Shepparton, as these modes serve as critical connecting links to public transport and can extend the effective service area of a train or bus. In addition to footpath and cycle facility enhancements (see below), attention should also be given to opportunities such as traffic calming in critical areas to ensure the safety of people walking or cycling to/from key public transport facilities.
- For Shepparton residents and businesses to **draw maximum value if the proposed high-speed rail proceeds**, it is critical that strict attention is paid to the details of the linkages between the proposed station and existing concentrations of activity within the region, particularly Shepparton CBD and GV Health.
- **Improve pedestrian and cycling links which connect key destinations** such as the SAM, botanical gardens, CBD, Shepparton Railway Station, GV Health, Victoria Park Lake and Eastbank Centre.
- **Improve key problem intersections and crossings for pedestrians** including:
  - Welsford Street and Nixon Street
  - Fryers Street and Knight Street
  - Welsford Street and Midland Highway (despite being signalised)
  - The Boulevard and Knight Street. This intersection is where leisure walking (along The Boulevard) meets CBD destination walking (along Knight Street into the city centre)
  - Archer Street (due to high traffic volumes and limited crossings). A proposal to signalise the Archer Street and Hayes Street intersection has been considered in recent years, however this has not been successful.

- **Strive towards an 'all ages and abilities' walking and cycling network** to accommodate a wider range of user abilities and needs. This includes improving infrastructure to comply with the Disability Discrimination Act (DDA); accommodating people who require mobility devices such as motorised mobility scooters, wheelchairs and prams and implementing the relevant actions from the *Greater Shepparton Universal Access and Inclusion Plan (2013-2017)*.
- **Implement the *Greater Shepparton Cycling Strategy (2013-17)*.** Due to the relatively flat topography and pleasant climate in Shepparton, there is great potential to encourage opportunities for cycling as a form of transport. A shift away from private motorised vehicles for commuting to and from work or school would help reduce traffic congestion, particularly in higher activity areas such as the CBD.
- **Explore and implement transport demand management (TDM) measures which incentivise the shift towards more environmentally sustainable and healthy forms of transport.** TDM refers to incentives or disincentive measures which influence travel behaviour. There are a broad range of TDM measures including: parking supply management, road space reallocation, subsidised transit passes, user pricing and flexible work arrangements. The goal will be to develop equitable TDM measures suitable for Greater Shepparton which factor for differences such as income, physical ability and household obligations.
- **Explore opportunities to enhance the viability of other modes of transport** including car/bike share, motorcycle, electric vehicles, taxis and community transport.
- **Undertake more promotional and marketing campaigns** to encourage sustainable modes and to increase awareness of its benefits.

4.3.3 Place making

Place making involves measures to make public places safer, more vibrant, inviting and accessible for pedestrians and cyclists as well as drivers. Key areas of Greater Shepparton such as the CBD, GV Health and social gathering areas of smaller country towns are prime areas where new infrastructure and streetscapes can be designed to establish a unique and desirable sense of place.

Challenges

- The Shepparton CBD, in particular the Maude Street Mall, is currently experiencing a relatively high vacancy rate and moderate levels of customer activity. Parking and accessibility within the CBD is perceived by locals to be poor. The attractiveness of the CBD as a place to shop is undermined by a number of factors including perceptions of anti-social behaviour, areas of low quality urban form and a lack of integration of the various precincts within the centre.
- Existing bus interchange in Maude Street is located on a visually constrained segment of street with limited building-to-footpath visibility contributes to perceptions of safety issues and anti-social behaviour.
- While the Maude Street interchange includes basic shelters, benches, and posted timetables, it lacks modern public transport amenities such as real-time information and has limited lighting (most significant in the winter months) and greenery.
- A major redevelopment of GV Health is needed to address ageing infrastructure, inefficient site configuration and capacity constraints. Goulburn Valley Health (GV Health) is a major regional hub for health care in northern Victoria, serving a catchment of approximately 230,000 people.

Opportunities

- **Implement the CBD revitalisation project.** This is a strategic urban renewal project that includes three major components:
  - Vaughan Street and Maude Street Redevelopment, which comprises a number of sub-components/stages, including:
    - Vaughan Street – Corio Street to Maude Street Improvements (completed)
    - Bus Interchange on Maude Street at the south side of Vaughan Street

- Maude Street – Vaughan Street to High Street improvements
- Maude Street Mall improvements

- Shepparton Railway Station Precinct Redevelopment
- Shepparton Court Precinct Development.

Figure 6 Proposed new bus interchange looking south across Vaughan Street (source: SED Advisory, 2014[2])

4.3.4 Freight task and community safety and amenity

Shepparton's largest industries include construction, manufacturing and agriculture. These industries rely on efficient and effective transport movement within, to and from the Greater Shepparton region.

Shepparton is a major hub for freight, particularly with food products. Orchards and small scale horticulture often use on-farm coolstores and packing sheds for general storage and warehousing. Also, several large multinational companies operate in and around Shepparton including: SPC, Campbell Soups, Bega, Unilever, and Visy.

Projected volumes for heavy vehicles in Shepparton suggest significant growth and pressure on the road network over the 30 year period from 2011 to 2041.

However, one of the major challenges of the accommodation of freight in Greater Shepparton, particularly in the city centre, is that roads and adjoining land uses are often not compatible as residential and community uses have expanded to these areas. This is impacting on safety and amenity for the more vulnerable road users, such as school children, people with mobility challenges, pedestrians and cyclists.

Challenges

The key challenges which currently impact freight are summarised as follows:

- **Shepparton Alternative Route is a heavily used freight route that is currently unsuitable for various reasons including road design and user conflict**. This route serves freight related land uses clustered in the east/north east of the CBD, which has enough industrial land supply to meet the anticipated demand for the next 20 years.

[2] SED Advisory (2014). *Maude Street Bus Interchange: Business Case.*

- **High demand for east-west freight movement via the CBD.** This is problematic for freight operators due to congestion and the constrained nature of the road network. This also creates significant amenity and safety issues for local businesses and the community. Another challenge is to provide suitable last mile access to local businesses, while reducing risk to the degradation of safety and amenity in the CBD.
- **Community and industry uncertainty around the implementation of GV Link (intermodal freight hub) and Shepparton Bypass** as they are located to the west of the CBD away from some of the existing freight activity to the east of the CBD.
- **Lack of feasible rail options for freight movement.** The Shepparton line remains on a broad gauge rail corridor where passenger trains share the corridor with intermodal container trains and grain trains. The use of broad gauge for rail freight prevents greater rail mode share for freight as specific equipment are required. If the rail corridor is converted to standard gauge, this would improve access and compatibility for a wider range of train operators.
- **Dispersed freight generation** sites scattered across the municipality creating a wide impact on local roads
- **Rat running between arterials on local roads**. For example, Lemnos North Road between Koonoomoo and Katamatite is used as an alternative access to Campbell's Soups site.
- **Need for trailer decoupling and fatigue management facilities**. In the interim, the facility could be located at the north end of the Shepparton Alternate Route. However, in the longer term, there is a need for facilities to operate as a natural changeover point for trucks between Melbourne and Brisbane.
- **Providing a resilient transport and freight network.** This is increasingly a critical issue due to the risk of extreme weather caused by climate change.

Opportunities

The key opportunities for freight improvements, including many from the *Greater Shepparton Freight and Land Use Study (2013)*, are as follows:

- Identify routes that are suitable for high productivity vehicles (including B-triples) so that there is a clear strategy for managing movement by these vehicles.
- Deliver traffic calming measures on freight impacted local roads once strategic freight route impediments have been removed from the strategic B-double routes.
- Construct the Goulburn Valley Highway Shepparton Bypass – proposed vehicle and heavy vehicle route to bypass the CBD. Negotiations with State and Federal representatives indicated that Council would have a greater likelihood of obtaining funding if it adopted a staged approach to the bypass construction and partially deferred the financial ask of government. The first stage is Midland Highway to Goulburn Valley Highway, which would include single lane carriageways in each direction with the option to duplicate the road if necessary.
- Implement the Strathmerton Deviation - expected to be developed as a two-lane, two-way single road with overtaking lanes and provision for duplication if required.
- Improve east-west routes to support a new bypass if industry continues to be primarily located in the east and north east.
- Identify strategically important freight transport corridors and links and reserve land to facilitate delivery of future infrastructure projects.
- Continue to advocate for the Melbourne-Brisbane inland freight route via Shepparton.
- Strongly advocate for opportunities to increase the mode share of rail for freight transport, through measures such as standardising the rail track from Tocumwal to Melbourne. This would increase the availability of wagons to operate on this line due to the large supply base, while also allowing trips from Shepparton to Sydney or Brisbane to be completed without going via Melbourne.

- Develop GV Link and investigate feasibility of a container terminal – GV Link would allow for the freight industry to grow through providing opportunities for multiple industries to co-locate. A container terminal in the region would reduce the complexity of the supply chain and the turnaround time for containers.
- Increase the freight network to allow private connections to the main line. This would reduce the need for trucks to complete the 'last kilometres of the journey', significantly improving the supply-chain cost. It may also open the opportunity for 'short-haul' rail trips within the Hume Region.

4.3.5 Road safety

Between 2010 and 2014, there was an average of 270 fatalities from road crashes in Victoria (TAC, 2016). Road crashes are the biggest killer of young Victorians aged 18 to 25.

Greater Shepparton City Council has a strong focus on community safety and employs a range of infrastructure and non-infrastructure initiatives to improve road safety. There are a number of road safety specific initiatives including the 'Cool Heads' Road Safety Program, 'Dob in a Hoon' Program as well as the implementation of specific speed zoning. 'Cool Heads' focuses on informing young drivers on the consequences of road crashes and how to be a safe driver. 'Dob in a Hoon' is the encouragement of residents to report drivers who take part in dangerous driving activities. Speed limits for a number of roads have been put into place with the assistance of VicRoads to help improve the road safety in Greater Shepparton.

Challenges

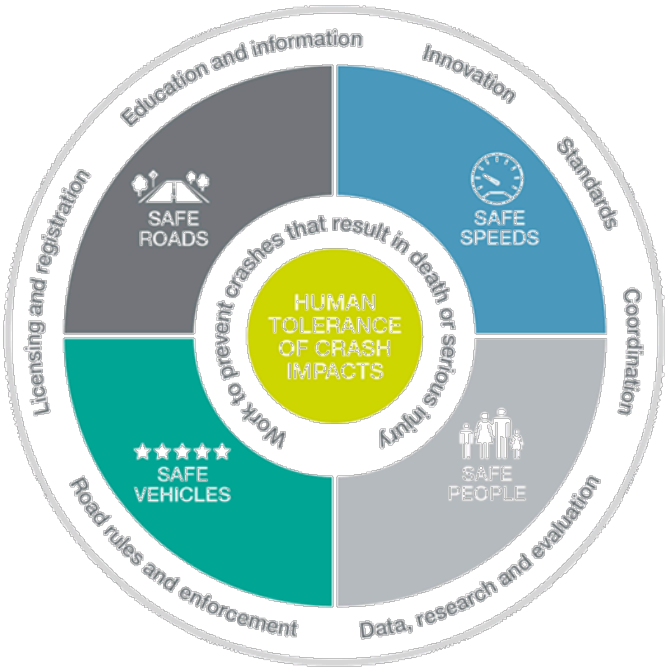
Roads that have experienced a high frequency of crashes include:

- Goulburn Valley Highway (between Broken River and Midland Highway) had a total of 1 fatal crash and 12 serious injury crashes, 5 of these serious injury crashes involved cyclist and/or pedestrians
- Midland Highway (between Goulburn River and Doyles Road) had a total of 16 serious injury crashes, 4 of these involved pedestrians
- Archer Street (between Midland Highway and Broken River) has had 1 fatal crash and 5 serious injury crashes, the fatal crash involved a pedestrian and 2 of the serious injury crashes involved cyclists
- St George Street has had 1 fatal crash and 1 serious injury crash, both involved pedestrians
- Maude Street has had 1 fatal crash and 1 serious injury crash, the fatal crash involved a pedestrian
- Corio Street has had 4 serious injury crashes along its length.

Opportunities

- Many Victorian municipalities are adopting the 'Safe System' approach to move 'Towards Zero'. The State and national vision is to eliminate fatalities and serious injuries from road crashes. The 'Safe System' approach to road safety aims to minimise the risk of death or serious injury by considering the interaction between roads, vehicles, speeds and road users (Transport Accident Commission, 2015). The objective is to provide a more forgiving and intuitive road system which factors for human error and vulnerability.

Figure 7 Safe Systems Approach



Source: roadsafety.gov.au

- Prioritise road safety improvements on roads which have recently experienced a high frequency of crashes (between 2011 and 2015), such as:
  - Goulburn Valley Highway (between Broken River and Midland Highway) had a total of 1 fatal crash and 12 serious injury crashes, 5 of these serious injury crashes involved cyclist and/or pedestrians
  - Midland Highway (between Goulburn River and Doyles Road) had a total of 16 serious injury crashes, 4 of these involved pedestrians
  - Archer Street (between Midland Highway and Broken River) has had 1 fatal crash and 5 serious injury crashes, the fatal crash involved a pedestrian and 2 of the serious injury crashes involved cyclists
  - St George Street has had 1 fatal crash and 1 serious injury crash, both involved pedestrians
  - Maude Street has had 1 fatal crash and 1 serious injury crash, the fatal crash involved a pedestrian
  - Corio Street has had 4 serious injury crashes along its length.

4.3.6 Connectivity between towns

There are number of suburban and smaller country towns within Greater Shepparton beyond the core urban area (e.g. Tatura, Mooroopna, Murchison and Dookie) which play an important role in the economy and identity of Greater Shepparton. As such, ensuring adequate transport connectivity and accessibility for people who live, work and visit these areas are an essential component of the MAPS.

Challenges

- Non-viability of public transport for many trips
- Lack of safe and accessible active transport options (e.g. concerns around pedestrian safety at crossings, near schools and some streets)

- Lack of information about transport services
- Heavy vehicles travelling through residential areas
- Perception of safety at Railway Stations.

Opportunities

- Improve access to and from Shepparton, particularly for the transport disadvantaged groups such seniors, youth and people with a mobility challenge. This could be in the form of community and public transport, as well as shared path and road improvements.
- Improve the Tatura area mobility options per the *Tatura Community Plan (2015)*:
  - Improve walking and cycling facilities, including the existing trail network.
  - Improve pedestrian crossings, the existing footpath network, access corridors from Hogan Street and upgrade car parks behind the main street with signage and minor works to improve aesthetics.
  - Develop additional parking for bicycles, buses and caravans.
  - Encourage Greater Shepparton City Council to use Universal Design Principles in all future developments in Tatura and to undertake an Access Audit to identify facilities that are not compliant with the Disability Discrimination Act, with a view to rectifying these facilities.
  - Improve the existing V/Line bus stop and improve information about transport services that are available.
  - Review existing major crossings in Tatura and develop a plan to upgrade these crossing points and develop priority crossings to schools, with particular attention to improving accessibility for people with mobility challenges.
  - Undertake a review of speed limits in Tatura with a view to ensuring that the limit around schools remains at 40kilometres per hour and that the remainder of the town is reduced to 50kilometres per hour.
- Improve the Mooroopna area mobility options per the *Mooroopna Community Plan (2015)*:
  - Support the development of walking tracks in and around Mooroopna.
  - Improve access and perceptions of safety at the Mooroopna Railway Station.
  - Advocate for improved public transport within Mooroopna, to Shepparton and to Melbourne.
  - Advocate to fast track the bypass / freight hub.
  - Advocate for improvements to roads, footpaths and parking including long vehicle parking.

5.0 Next steps

The Greater Shepparton MAPS will aim to provide a comprehensive understanding of the existing and future transport requirements, including informing the pipeline of projects for Council's 10 year capital expenditure program. The strategy will take a holistic approach to the provision of an improved transport system for various modes including: walking, cycling, public transport, driving and freight movement. A key output of the MAPS will be a prioritised list of transport projects to inform Council's long-term investment planning.

With the Challenges and Opportunities paper completed, the next step will be to establish the vision and policy directions to guide and inform the development of specific strategies and design concepts. Further community consultation will take place throughout the process, the proposed schedule for which is shown in Table 3.

Table 3 MAPS program

Stages	Timing
Initial consultation	August to September 2016
Draft Challenges and Opportunities Paper	October/November 2016
Public consultation on Draft Challenges and Opportunities Paper	January to February 2017
Vision and directions	Early 2017
Strategy and concept development	Early to mid-2017
Public consultation on Draft MAPS	Early to mid-2017
Finalise MAPS	Mid-2017

D R A F T

Movement and Place Strategy

Overview

Shepparton is the largest regional city in northern Victoria, and is a major hub for industry, employment and essential services. The region accounts for 25 percent of the total value of Victoria's agricultural production and is often referred to as the 'Food Bowl of Australia'.

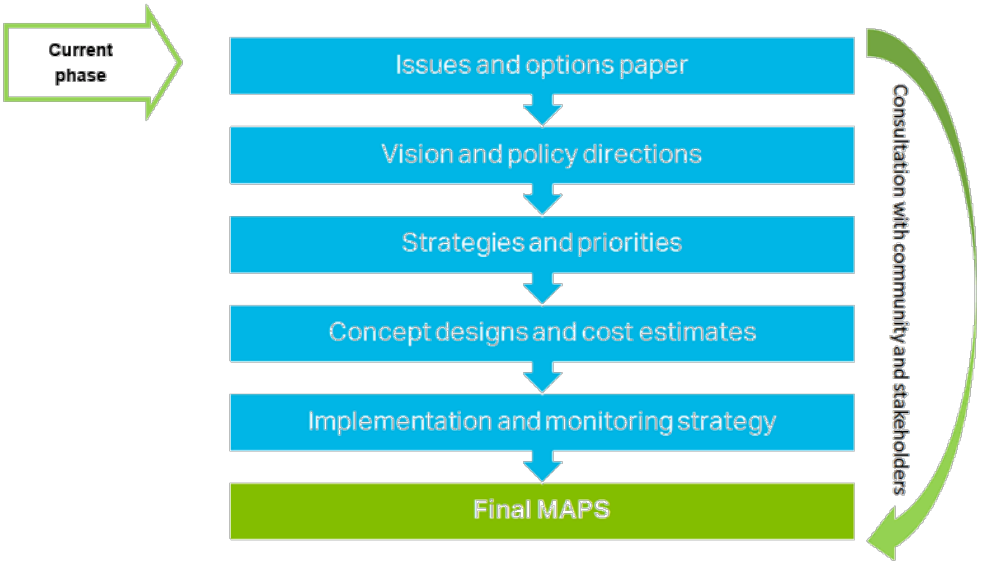
Shepparton's population is projected to grow by over 16 percent by 2031. This growth will provide momentum for positive changes across the city. Ensuring a safe and interconnected transport network will be vital to securing Shepparton's role as an important regional economic, social and cultural hub.

Over the next year, Greater Shepparton City Council will be preparing a Movement and Place Strategy (MAPS) which will provide the opportunity to examine Greater Shepparton's transport needs. The strategy will identify a number of priorities, with significant input from the public and stakeholders, which will enable people to make healthier, more efficient choices in the way they travel. These transport priorities will inform Council's long-term investment planning.

Process

An Challenges and Opportunities Paper has been prepared to provide a preliminary review of relevant documents and a summary of the initial round of public and stakeholder consultations. It identifies issues and opportunities as they relate to the movement of people and goods across the City of Greater Shepparton, and will provide the background information to guide the development of the subsequent phases. The overall MAPS process is illustrated in Figure 1.

Figure 1 MAPS process



D R A F T

Summary of key issues for the MAPS

In meeting the requirements of *Transport Integration Act 2010* and contributing towards the *Greater Shepparton 2030 Strategy*, the key directions to be developed in the MAPS include the following:

- ✓ Encourage transport options and technologies which significantly reduce greenhouse gases and other pollutants that contribute to climate change
- ✓ Address inefficiencies to meet the growing demands for local, regional and interstate freight movements
- ✓ Design the transport system to accommodate the needs of people with limited mobility, including the elderly and children
- ✓ Enhance walking and cycling links to key destinations such as the new SAM, CBD, rail station, schools, recreation areas and employment hubs to reduce the proportion of residents reliant on private vehicles for commuting, particularly during peak periods
- ✓ Enable public transport to be a more demand responsive, flexible, convenient and viable mode of transport for a greater proportion of the population
- ✓ Prepare for a wider range of transport modes including car share, carpool, bike share, electric vehicles, autonomous vehicles, taxi, mobility aids, and community transport
- ✓ Improve the CBD and other key destinations across the city to make them safer, more vibrant, inviting and accessible for pedestrians and cyclists as well as drivers
- ✓ Optimise parking amenity, design and efficiency across the municipality, and in particular the CBD
- ✓ Be ready for emerging technology and ideas such as Intelligent Transport Systems (ITS), carbon-free vehicles, real time traveller information and increased automation in vehicles.

Next steps

With the Challenges and Opportunities paper completed, the next step will be to establish the vision and policy directions to guide and inform the development of specific strategies and design concepts. Further community consultation will take place throughout the process, the proposed schedule for which is shown in Table 1.

Table 1 MAPS program

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