

# Nillumbik Integrated Transport Strategy

Issues and Options Paper for Consultation



Nillumbik Shire Council acknowledges the Wurundjeri Woi-wurrung people as the Traditional Owners of the Country on which Nillumbik is located. We pay our respects to Elders past, present and future, and extend that respect to all First Nations People. We respect the enduring strength of the Wurundjeri Woi-wurrung and acknowledge that sovereignty was never ceded.

Nillumbik Shire Council is committed to creating a fair, equitable and inclusive community. We value diversity in our community and support the rights of all people regardless of age, gender, ability or background.

# Contents

<b>Executive Summary</b> .....	<b>22</b>
<b>1 Introduction</b> .....	<b>23</b>
1.1 Background .....	23
1.2 The need for an Integrated Transport Strategy .....	24
1.3 The need to be climate conscious .....	25
1.4 Purpose .....	26
1.5 Council’s sphere of influence .....	26
1.6 Strategic position & policy context .....	27
<b>2 The role of Transport in Nillumbik</b> .....	<b>29</b>
2.1 Nillumbik’s Transport network overview .....	29
2.1.1 Nillumbik’s road network overview .....	29
2.1.2 Nillumbik’s public transport network overview .....	30
2.1.3 Nillumbik’s active transport network overview .....	31
2.2 Nillumbik and how we travel .....	32
2.2.1 Nillumbik’s age and population.....	33
2.2.2 Motor Vehicle ownership .....	34
2.2.3 How do residents travel to work? .....	35
2.2.4 How Nillumbik residents travel to other point of interest .....	37
2.2.5 Travel reach by Public and Active Transport Modes .....	39
2.2.6 Car parking and utilisation.....	41
<b>3 Key challenges and opportunities</b> .....	<b>43</b>
3.1 Challenges .....	43
3.1.1 Topography.....	43
3.1.2 Perception that driving is the only way to travel .....	44
3.1.3 Low use of public & active transport.....	44
3.1.4 Other challenges .....	44
3.2 Opportunities .....	45
3.2.1 Limited congestion .....	45
3.2.2 High levels of walking to education .....	45
3.2.3 Population growth is focused around the activity centres.....	45
3.2.4 Other opportunities .....	46
3.3 Why not business as usual .....	46
3.3.1 More roads is not the answer .....	47
3.3.2 Induced demand and traffic .....	48
<b>4 Strategic Directions</b> .....	<b>49</b>

## Figures

Figure 1 - Nillumbik's planning framework .....	27
Figure 2 - Sample of documents to inform the ITS .....	28
Figure 3 - Nillumbik's road and DTP declared road network.....	29
Figure 4 - Nillumbik's public transport network.....	30
Figure 7 - Nillumbik's active transport network (strategic cycling corridor and trails, paths and missing footpath links).....	31
Figure 8 - Nillumbik Age Profile (ABS 2021) .....	33
Figure 9 - households with children under 15 (ABS 2021) .....	34
Figure 10 - Mode of transport to work across Nillumbik, Banyule, Manningham and Whittlesea (ABS 2021)..	35
Figure 11 - Distance to work, Nillumbik (ABS 2016)	
Figure 12- People living and working in Nillumbik, mode of travel to work.....	36
Figure 13 - Number of people living in Nillumbik and travelling to other LGAs for work. 8000 people live and work in Nillumbik. ....	36
Figure 14 - Mode of transport to destinations - Nillumbik (VISTA, 2020).....	37
Figure 15 - Travel distance to location - Nillumbik vs Darebin: .....	38
Figure 16 - Eltham 60min peak public and active transport isochrone departing at 7:30AM weekday (left). Eltham 60min off-peak public and active transport isochrone departing at 11:00am weekend (right).....	40
Figure 17- Diamond Creek 60min peak public and active transport isochrone departing at 7:30AM weekday (left). Diamond Creek 60min off-peak public and active transport isochrone departing at 11:00am weekend (right)...	40
Figure 18 - Parking utilisation (%) across Nillumbik carparks during December 2022 survey periods.....	41
Figure 20 – More roads equals more traffic.....	47

## Tables

Table 1 - Three pillars of sustainability .....	25
Table 2 – Nillumbik vs Greater Melbourne Household Vehicle Ownership (ABS 2021).....	34

## Executive Summary

Nillumbik Shire Council is seeking to develop an Integrated Transport Strategy (ITS) to set directions for transport planning decisions within the Shire.

The ITS will provide a strategic framework that will guide Council to promote more sustainable transport outcomes, reflecting Council's declaration of a 'Climate Emergency' and our Climate Action Plan 2022-2032.

This Issues and Options Paper provides a description of the role of transport in Nillumbik Shire Council, the key challenges and opportunities and strategic directions.

Nillumbik is home to 65,000 residents and is proudly Melbourne's 'Green Wedge Shire'. The Shire boasts several townships and villages with the activity centres of Diamond Creek and Eltham home to 70% of the Shire's population. Nillumbik presents an idyllic rural setting with the Green Wedge revered locally and regionally for its natural landscapes and biodiversity. Nillumbik is disadvantaged by the dispersal of communities that lack connections and exacerbate the need to use private vehicles to complete daily tasks such as commuting to work, shopping, social and recreational activities. This is highlighted further by private motor vehicle ownership of two or more vehicles being higher in Nillumbik compared to surrounding councils and Greater Melbourne. Further compounding these challenges are relatively scarce public transport choices, accessibility and low use within the Shire.

Transport is a leading contributor to climate change, with private automobiles accounting for a substantial portion of emissions. Over the past years Council has taken significant steps towards encouraging more sustainable forms of transport and land use by creating a series of strategic documents to guide development and prosperity within the Shire. For example, the 2020 Diamond Creek and Eltham Activity Centre Structure Plans set out a framework to encourage urban growth to occur within their activity centres. In 2022 Council declared a climate emergency and adopted an updated Climate Action Plan. Council's Community Vision – Nillumbik 2040 and Council Plan 2021 – 2025, identify a series of aspirations and priority actions to help achieve positive sustainable community benefits for the residents within Nillumbik. One of these priority actions is to develop an Integrated Transport Strategy. Council Plan recognises the importance of developing an Integrated Transport Strategy that builds upon the Integrated Transport Strategies of 2001 and 2010, as well as the 2014 Integrated Transport Statement.

The ITS will seek to build on the principles and objectives established by current and preceding Council strategies. The ability to enable sustainable transport outcomes, such as improving Nillumbik's public and active transport networks, is an essential component for Nillumbik Shire Council to realise its Climate Action Plan.

# 1 Introduction

*Transport is a vital component to Nillumbik as it connects people to activities in their day to day lives.*

As Melbourne's 'Green Wedge Shire', Nillumbik Shire Council is where Greater Melbourne connects with the foothills and natural environment of the Great Dividing Range. The Shire is over 430 square kilometres in area, extending from approximately 25 kilometres north-east of the Melbourne CBD to Kinglake National Park, and is home to approximately 65,000 residents, with the majority (70%) of people living in the activity centres of Eltham and Diamond Creek.

Transport connects people to activities in their day to day lives such as employment, education, healthcare, shopping, and leisure activities. The movement of people and goods into, out of, within and across Nillumbik is primarily through road networks consisting of regionally significant arterials connecting to suburban Melbourne to the south. Nillumbik is serviced by the Hurstbridge railway line connecting key urban areas of Eltham, Diamond Creek, Wattle Glen and Hurstbridge to the metropolitan railway network. Nillumbik also has a network of passenger and school buses that run throughout the Shire and many recreational trails that are used for active transport like walking, cycling and horse riding.

## 1.1 Background

*Council can influence the character of Nillumbik's localities and built environment, including the transport options offered.*

In 2001, Council recognised the importance of integrated transport and adopted the Integrated Transport Strategy. The vision was to decrease car use by promoting walking, cycling, and public transport. In 2014, the Nillumbik Integrated Transport Statement aligned with this vision and outlined Council's responsibilities and actions. The vision for the 2014 Integrated Transport Statement was: "Nillumbik has a transport network that meets the needs of the community and encourages sustainable transport modes".

In May 2022, Council declared a climate emergency and adopted an updated Climate Action Plan (2022-2032). The Climate Action Plan establishes a pathway for Council to work collaboratively to help address the climate change emergency. Enhancing sustainable transport is a key focus area for proactive climate change action.

While Council's directives across its strategic documents over the past 20 years have signalled sustainability focused transport outcomes, there has been limited meaningful movement in the community adopting more sustainable travel choices. Car ownership and use has continued to increase year on year. Providing additional capacity through more road space and parking for additional vehicles is not a sustainable solution, as the increase in trips by private vehicles will continue to outpace road capacity, leading inevitably to more congestion. Conversely, incorporating sustainable modes of integrated transportation can result in improved mobility outcomes and ultimately a cleaner, greener, and more liveable Shire. As the population expands and urbanisation intensifies within the Eltham and Diamond Creek activity centres, it is an opportune time to develop an Integrated Transport Strategy, the primary aim of which is to enhance Nillumbik's sustainable transport choices.

## 1.2 The need for an Integrated Transport Strategy

*Concerted focus is required to enable and encourage more public and active travel choices within the Shire for local trips.*

Changing travel patterns and Nillumbik's physical environment and urban form to favour public and active modes of transport takes time, sustained commitment, and long-term focus. At the same time, there needs to be a refocus away from policies and strategies that unconsciously prioritise private vehicle use. The continued focus on major road infrastructure (such as lane duplication, the oversupply of parking and the low tolerance of congestion) and the recent pandemic (COVID-19) has seen Shire residents continue to favour their car over more sustainable modes of transport.

In 2001, just 25.8% of the Nillumbik population owned three or more vehicles compared to 31.6% in 2021 (ABS 2001 and 2021). These numbers reflect that, whether people have always lived in Nillumbik or have come for short periods of time (for work or education), heavy reliance on private car usage has predominated. To break this nexus, concerted focus is required to enable and encourage more public and active travel choices within the Shire for local trips, particularly around the activity centres where 70% of the Shire's population reside.

Between 2001 and 2021, Nillumbik's population increased by only 6.5%. In contrast, neighbouring local government areas of Banyule and Whittlesea grew by rates of 8.5% and 14.5%, respectively. Notwithstanding this level of population growth, a contemporary ITS is required to optimise the transport network, cater for the accessibility of all residents and balance the community's diverse needs. This strategy prioritises sustainable and efficient modes of transportation for the movement of people and goods, making Nillumbik a more sustainable and liveable place for residents, workers, and visitors.

Transportation not only plays a crucial role in promoting economic growth and socially sustainable development by providing access to various opportunities, but it also has the potential to boost women's productivity, promote gender equality, and enhance mobility for people with disabilities, carers, older people and/or disadvantaged individuals. This strategy acknowledges the importance of catering to the unique needs of women and those with mobility challenges through an approach that recognises their specific requirements.

### 1.3 The need to be climate conscious

*Nillumbik Shire Council declared a state of climate emergency in May 2022.*

Climate change is a complex global challenge that requires an immediate and strategic response. Increased levels of greenhouse gases in the atmosphere as a result of human activities is causing changes in the global climate. These changes include increased average land and ocean temperatures, and increased severity of extreme weather events such as bushfires and floods.

Nillumbik Shire Council declared a state of climate emergency in May 2022, joining numerous other councils and cities worldwide. The Climate Action Plan 2022-2032 details the Council's response by defining objectives, strategies, and a path for active and collaborative work to tackle the climate change emergency.

Taking early action to reduce emissions and prepare for climate change is more cost effective than delaying action. With regards to transportation, an effective response to climate change delivers a range of other benefits for the community that align with the three pillars of sustainability.

<b>People</b>	The provision of a socially inclusive, fully accessible, well connected, and safe passenger and active transport network provides real choice and therefore freedom for people to choose how and when they travel.
<b>Planet</b>	A reduction of single occupancy vehicle use and uptake of more public transportation and active travel reduces fossil fuel and greenhouse gas emissions.
<b>Prosperity</b>	As the transportation system utilises the allocation of public resources, it directly affects people's quality of life. Economic opportunities may be achieved in part by enabling public transport modes to be a genuine competitor to single vehicle occupancy travel, and reducing journey times for all commuters.

*Table 1 - Three pillars of sustainability*

## 1.4 Purpose

### *To guide current and future transport development within the shire*

The ITS will set out a strategic direction and key interventions for Nillumbik in relation to transportation. The purpose of the Integrated Transport Strategy is to guide current and future transport development within the Shire over this period.

The strategy intends to:

- Guide transport planning, sustainable transport initiatives and advocacy efforts in Nillumbik Shire Council. This is highlighted as a priority action of the Council Plan 2021-2025.
- Replace Council's Integrated Transport Statement (2014).
- Provide direction for new strategies the Council will develop.
- Assist Council and other stakeholders such as the Department of Transport and Planning (who are a major contributor to transport within Nillumbik), developers, and the broader community.

The ITS will set a vision for Nillumbik in relation to transport, along with establishing key objectives, strategic directions and actions.

## 1.5 Council's sphere of influence

Transport planning in Nillumbik is shared between Council and the Department of Transport and Planning (Victorian Government). When implementing the ITS, Council is responsible for executing certain transportation actions directly. However, in other cases, it will need to collaborate closely with neighbouring shires and the Victorian Government to enhance the transport system within and around the Shire.

The Shire's local road network, footpath network, and a significant portion of its cycling network (such as the Diamond Creek Trail) are overseen by the Council. The Department of Transport and Planning (DTP), under the Victorian Government, oversees planning and management of the declared arterial road network, strategic cycling corridors and public transport.

Council has responsibility over several aspects of the ITS, which include:

- Programs that can alter travel behaviour, fostering a preference for more sustainable modes of transportation such as walking and cycling.
- The creation of strategies and policies which relate to pedestrian and bicycle networks, as well as parking policies and parking provision.
- Capital works projects, including footpaths, bicycle paths, and the local road network.

Nillumbik has a number of interfaces with other local governments – Murrindindi, Yarra Ranges, Banyule, Whittlesea and Manningham – and the road network provides an ability to move in and out of the Shire. Council recognises the importance of collaboration with interface councils with regard to this broader transport network.

To effectively execute the ITS, Council will need to advocate for improvements to the infrastructure and services provided by DTP. This advocacy is critical in highlighting and addressing areas for improvement in the current transport networks.

## 1.6 Strategic position & policy context

This ITS will align with Nillumbik's planning framework, which includes the Community Vision Nillumbik 2040, Council Plan 2021-2025, and the Climate Action Plan 2022-2032, and provides a systematic approach to creating an accessible and sustainable integrated transport system. Figure 1 illustrates how the ITS will fit within Nillumbik's planning framework.

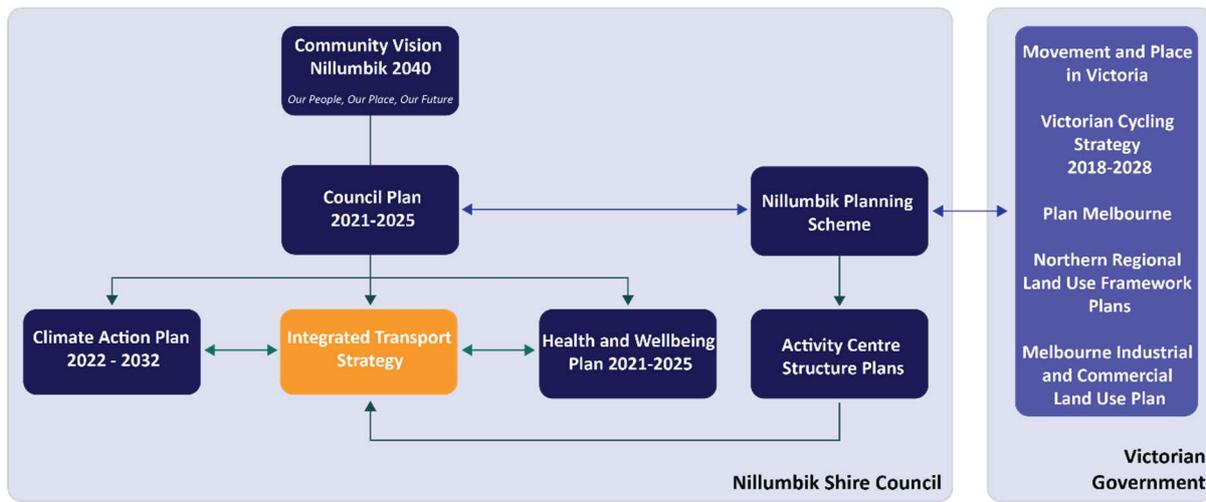


Figure 1 - Nillumbik's planning framework

Many Nillumbik residents choose to live in the Shire due to its green wedge appeal. The Shire is within proximity to the CBD but is far enough to retain a rural charm. The Council Plan 2021-2025, Community Vision Nillumbik 2040 and Planning Scheme call for the integration of land use and transport planning to make Nillumbik a more liveable Shire.

Council Plan 2021-2025 introduces the concept of Movement and Place to acknowledge the dual role of roads and streets as places both for movement and as destinations. Movement and Place, as outlined in the Movement and Place Victoria document published by the DTP, provides a collaborative framework for Victorian Councils to work together to enhance the region by creating streets that work from both a place and transport perspective.

Council Plan and the Eltham and Diamond Creek Structure Plans envision compact development in designated activity centres, where a majority of the population already resides. These plans also aim to promote walking, cycling, and public transport as the preferred transport options for residents in these areas.

Transport is a significant contributor to greenhouse gas emissions in Victoria, accounting for about 25% of the State's total emissions, and with private vehicle use being responsible for nearly half of these transport emissions. In Nillumbik, transport-related emissions remain stable and account for 23% of the community's emissions. The Climate Change Action Plan highlights Focus Area 6 – Enhancing sustainable transport including strategies to avoid

transport emissions. The following objectives are nominated as key priorities to address the intersection of climate change and transportation:

- Objective 6.1 – To avoid transport emissions.
- Objective 6.2 – To improve public transport, vehicle-share, walking and cycling options.
- Objective 6.3 – To transition to zero-emissions vehicle use within Nillumbik.

The Climate Change Action Plan identifies a mitigation target for Council emissions of net zero by 2030 and a community emissions target of net zero by 2035. This is more ambitious than the Victorian Government’s net zero community emissions target by 2050.

In addition to the Climate Change Action Plan and activity centre Structure Plans, the preparation of the ITS will be informed by several other Nillumbik and Victorian Government documents (refer Figure 2).

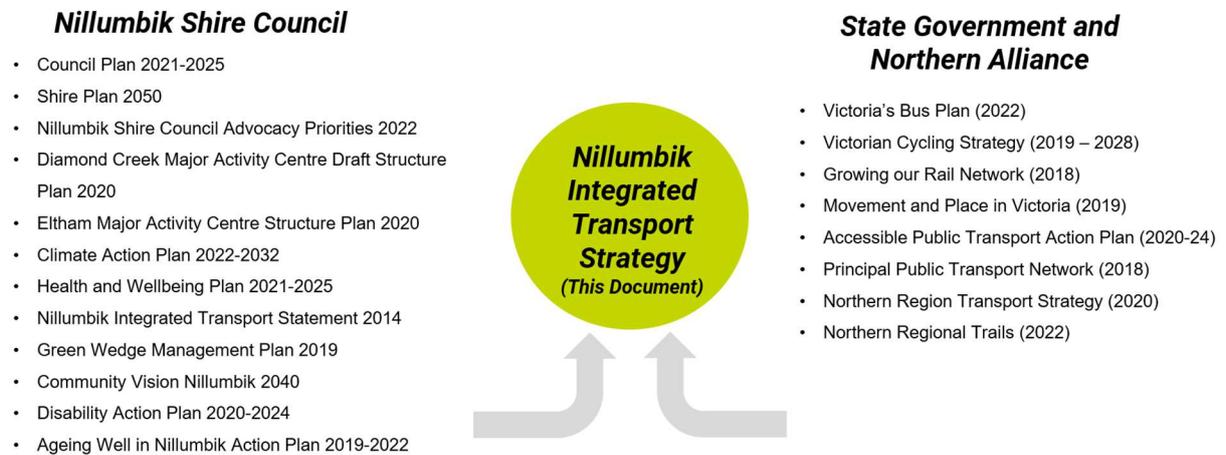


Figure 2 - Sample of documents to inform the ITS

## 2 The role of Transport in Nillumbik

### 2.1 Nillumbik's Transport network overview

The following Figures 3, 4 and 7 provide an overview of the current road, public transport, and active transport networks in Nillumbik. Notably, Figures 4 and 7 highlight that the population density is concentrated in the southwestern sector, particularly around the activity centres of Eltham and Diamond Creek, as well as in areas bordering the City of Banyule and City of Whittlesea.

#### 2.1.1 Nillumbik's road network overview

Figure 3 provides an overview of the road network in Nillumbik, consisting of local roads (planned and managed by Council) and declared arterial roads (planned and managed by DPT). The road network in Nillumbik provides strategic connections to higher-density growth areas in neighbouring local government areas, such as Yan Yean Road connecting to Whittlesea City Council in the northwest, Eltham-Yarra Glen Road connecting to Yarra Ranges Council in the northeast and Research-Warrandyte Road and Kangaroo Ground-Warrandyte Road connecting to the City of Manningham in the south. These regional arterial road connections and the people utilising them for the purposes of work, study and accessing key regional shopping and activity centres contribute to the volume of traffic experienced within the Shire.

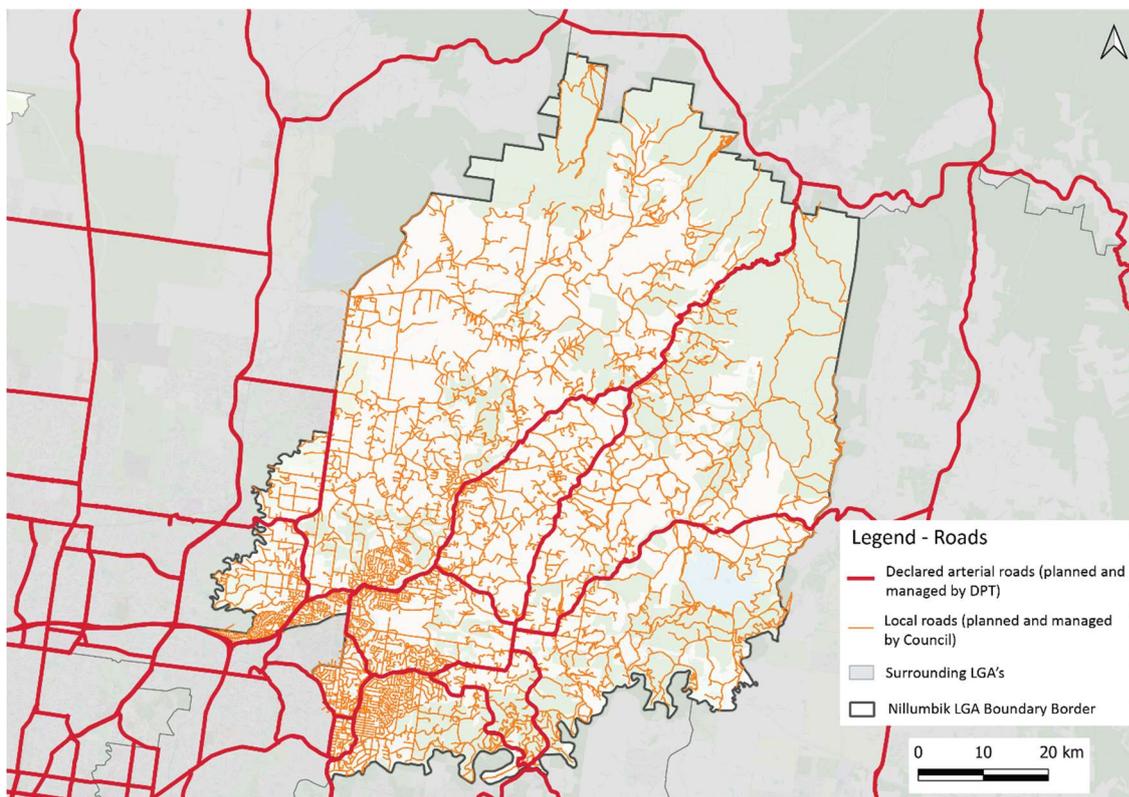


Figure 3 - Nillumbik's road and DTP declared road network.

Local road networks in Nillumbik are constrained by topography and the heavily vegetated character of some areas. This influences the type, width and engineering of many roads (e.g. windy, unmade, naturally drained / swales, narrow). Many residents value this character, and some are unhappy particularly with dust from unmade roads and recurrence of potholes – but this unique neighbourhood character is quintessentially Nillumbik.

### 2.1.2 Nillumbik's public transport network overview

Figure 4 provides an overview of the public transport networks, including bus and rail, that operate within and through Nillumbik. These networks are located near higher density areas, and the Hurstbridge rail line is a key corridor for many residents, with duplication works completed in 2023. While the line services Eltham, Diamond Creek, Wattle Glen and Hurstbridge, buses also play an important role in the overall public transport system. However, to provide a viable alternative to private vehicle use, it is crucial to ensure that buses are direct, frequent, reliable, accessible, and have appropriate frequencies and sufficient operating span of hours.

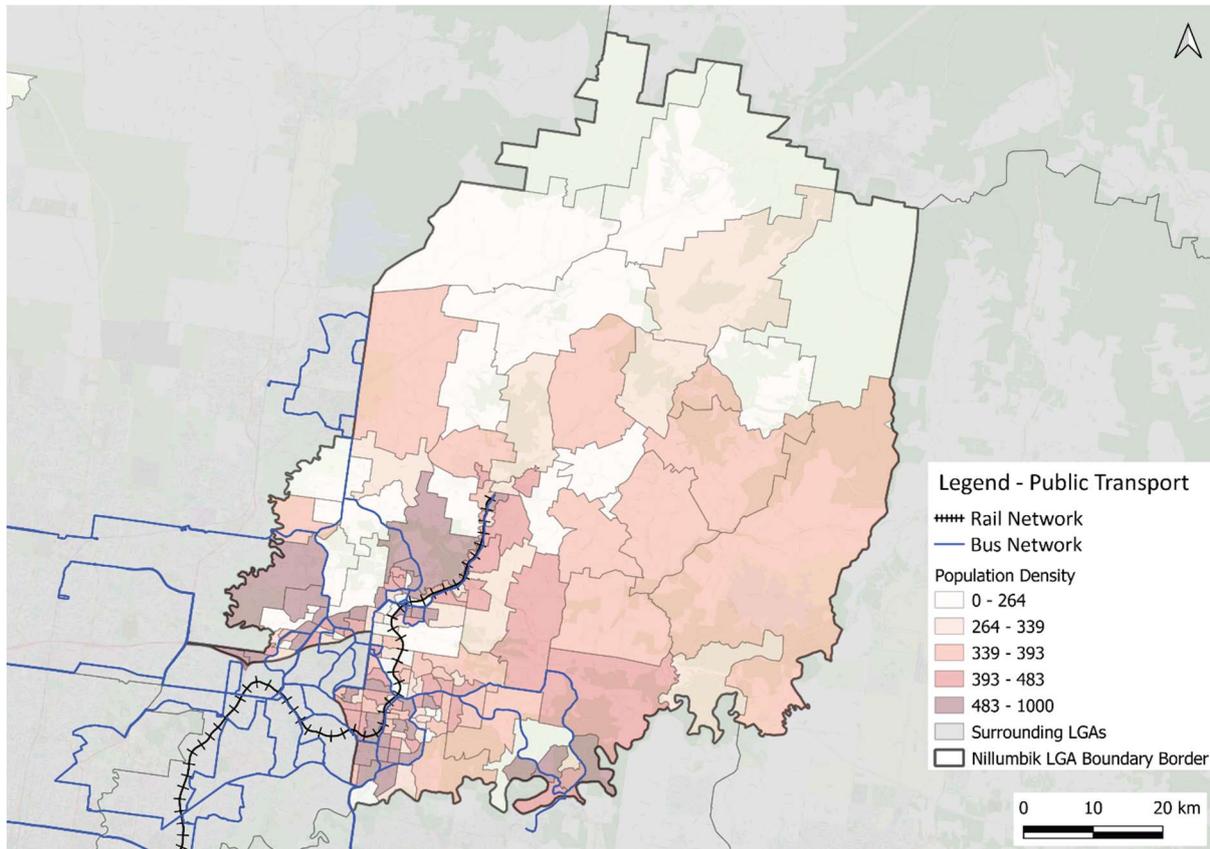


Figure 4 - Nillumbik's public transport network

In November 2022, a workshop was conducted with DTP to assist with the development of the ITS. During the workshop, a number of high-level bus network proposals were presented to better serve a wider range of destinations, remove duplication, and cater to a larger number of people. Council has identified in its Advocacy Priorities: 2022 document the need to conduct a Local Area Bus Review across the Northern Metropolitan Partnership Region to identify improvements and encourage increased uptake of public transport.

### 2.1.3 Nillumbik's active transport network overview

Active transport means travelling in ways which get us up and moving, and our hearts pumping, typically via walking and cycling, skateboarding, scootering or rollerblading. With the emergence of new mobility trends modes, it now also includes e-bikes, e-scooters, mobility scooters, e-skateboards and other forms of micro mobility.

Although Nillumbik has made progress in relation to walking strategy through the Nillumbik Trails Strategy and Nillumbik Footpath Strategy in 2011, there is currently no Walking Plan in place other than Council's annual Capital Works footpath and trails programs and one-off grant funded project works such as the recently completed Diamond Creek Trail. In terms of cycling, the Strategic Cycling Corridor (SCC) developed by DTP in 2020 is the primary reference for Council. These corridors are designed to provide safe and low-stress cycling for transportation to important destinations, both on and off-road, and on municipal and State roads. There is room for improvement to plan and deliver the missing links in the network as illustrated in Figure 7.

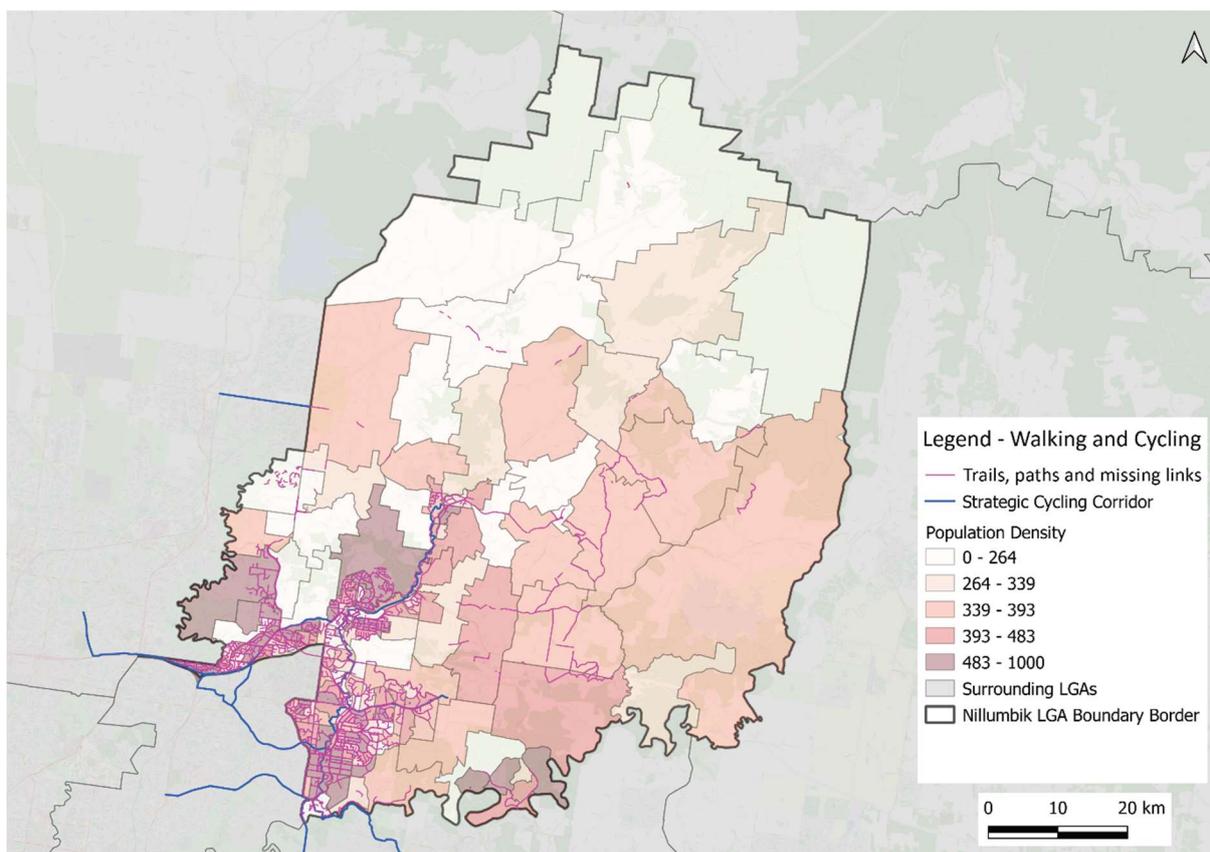


Figure 5 - Nillumbik's active transport network (strategic cycling corridor and trails, paths and missing footpath links)

## 2.2 Nillumbik and how we travel

Nillumbik is an outer Melbourne LGA recognised and loved for its natural landscape; notably its hills, bushland, trees, and rural community living. The slope or gradient of terrain can have a profound impact on the walkability of a particular area. The desire and/or ability for people to walk or cycle, particularly if urban conditions are not conducive, also limits mode of travel. As a result, the aspects of Nillumbik's topography create difficulty for residents to travel via modes other than private motor vehicles.

During the development of this paper, an analysis of data was conducted that provided insights into the following:

- Age, population, and population growth
- Occupation profile
- Travel to work
  - Mode of travel to work
  - Number of shire residents working in Nillumbik
  - Number of shire residents working outside of Nillumbik
  - Number of people travelling to Nillumbik for work
- Purpose of trips for residents
- Mode of travel and distance to key destinations
- Motor vehicle ownership across the Shire
- Car parking utilisation surveys across the Shire
- Household make-up
- Travel isochrones public transport - how far residents can travel via public transport within 60 minutes.
- Travel isochrones - how far residents can walk within each town centre (0-30minutes)
- Comparisons of the above data to other LGAs

The data analysis revealed a low population growth in Nillumbik over the past two decades in comparison to neighbouring municipalities, with the majority of residents residing in Activity Centres of Eltham and Diamond Creek.

Despite significant efforts from past strategies, there has been no notable progress in encouraging people to switch to more sustainable transportation modes with residents remaining heavily reliant on cars for transportation. Compared to Greater Melbourne there are a large number of households which own two vehicles. This is likely influenced by limited access to public and active transport modes.

A snapshot of parking utilisation across the municipality's carparks suggests most parking areas are not usually close to full utilisation. The ITS will need to cater for both a young population as well as an older population. It is essential to consider transportation movements to, from, and within Nillumbik.

## 2.2.1 Nillumbik’s age and population

*Within the next 5 years, two-thirds of the Nillumbik population are the ideal demographic for incorporating walking or cycling for some of their travel requirements.*

Nillumbik has a population of 63,000 people with a median age of 42 years, with official projections indicating a trend towards an ageing population in the long term. However, it is essential to address the needs of a younger population as well. Figure 8 highlights that around 47% of the population is under 40 years old, and an additional 14% is between 40-49 years old. Therefore, over the next 5 years, approximately two-thirds of the population may be considered prime candidates for walking or cycling for at least for some of their trips.<sup>1</sup>

26% of Shire residents are aged between 0-19. Of these 11% are aged under 10 years old and therefore are likely to rely on someone else driving them around for many of their trips. 20–29-year-olds account for 10% of the population. Members of this cohort may or may not have their licence and if they do, may not necessarily be able to afford to operate a private vehicle.

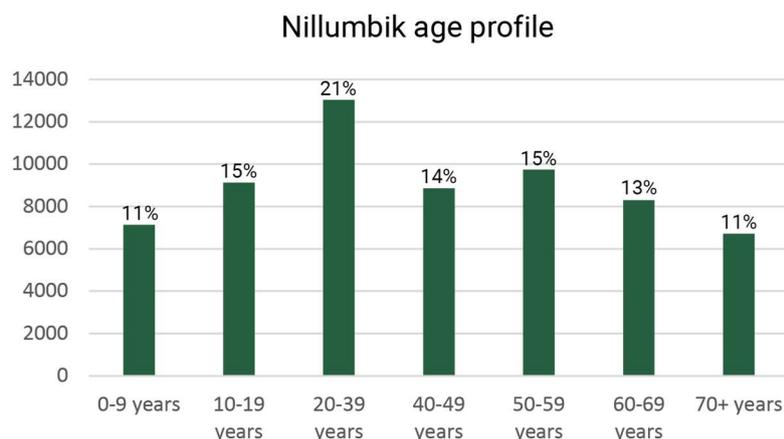


Figure 6 - Nillumbik Age Profile (ABS 2021)

The World Health Organisation in its Global Age Friendly Cities - A Guide identifies that one of the eight domains for age-friendly cities and communities is transportation. Around a quarter of the Shire’s population is currently aged over 60, with 11% aged 70 or above. This age profile is expected to continue over the next five years. Moreover, around 12% of the entire population either require assistance to carry out daily tasks or suffer from arthritis<sup>2</sup>, making private vehicles and easily accessible walking and public transport options essential for them. Council's Ageing Well in Nillumbik Action Plan 2019-2022 highlights the most pressing concerns of older adults in Nillumbik, including the challenging topography, lack of transportation choices, and the need for reliable transportation options to help them stay active and mobile.

56% of households contain children under 15 years of age. Moreover, 7% of these households contain a single parent, indicating that Nillumbik contains a significant proportion of young families with children. If public transport modes are not readily useful for daily trips, families

<sup>1</sup> Australian Bureau of Statistics, Census of Population and Housing, 20121 (Usual residence data) identifies that XX% of the population do not rely on assistance for core activities.  
<sup>2</sup> ABS (2021)

are likely to rely on travelling by private vehicle. This may also indicate why a large number of families have more than one vehicle to move around (Table 2).

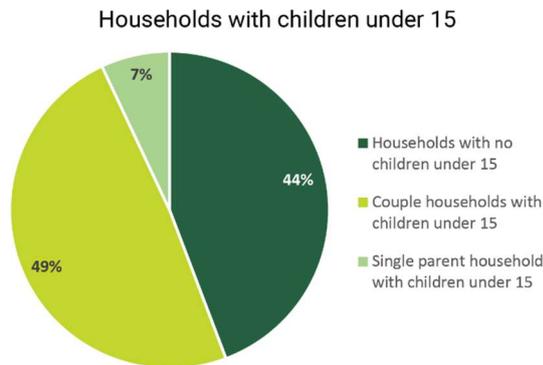


Figure 7 - households with children under 15 (ABS 2021)

Considering the above population and age data it is estimated that in order to move around, at least 25% of the Shire's inhabitants rely on public or active transport or are dependent on being passengers in private vehicles. This can limit their independence in terms of mobility.

## 2.2.2 Motor Vehicle ownership

*44% of households own two vehicles, compared to 26% across greater Melbourne.*

Nillumbik Shire Council's Climate Action Plan identifies 8% of residents have an electric or hybrid vehicle. Overall vehicle ownership in Nillumbik is significantly higher than any other Melbourne Local Government Areas (LGAs). 96% of households within Nillumbik own one or more motor vehicle, versus 71% for Greater Melbourne (ABS, 2021 Census). More significantly, 44% of households own two vehicles, this is drastically higher than the 26% across greater Melbourne. These statistics highlight the need for people and families to have two vehicles to move around. This poses a challenge to long-term sustainability and contributes to congestion within the Shire. As such, there is a pressing need to encourage a behavioural shift towards more sustainable forms of transport.

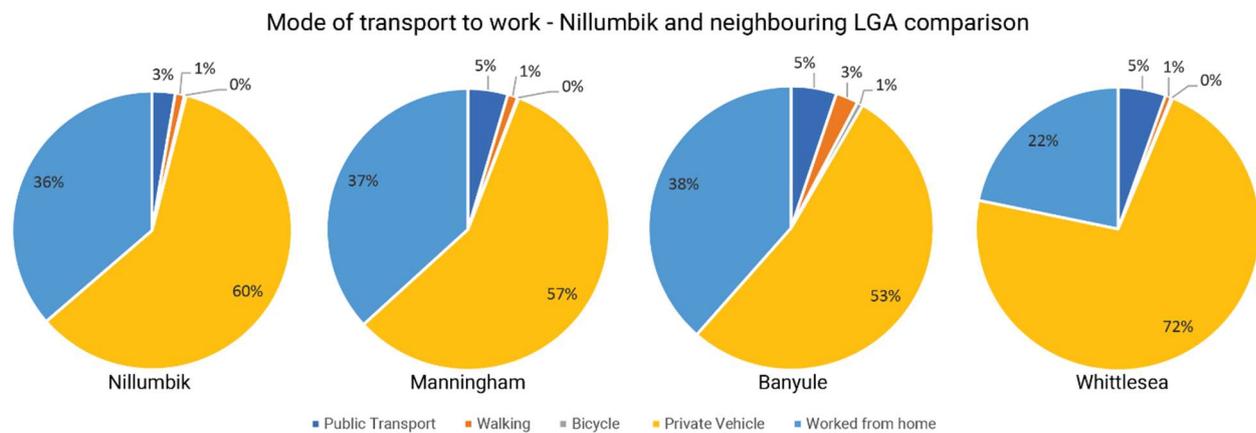
Number of motor vehicles	Nillumbik	Greater Melbourne
No motor vehicles	1%	6%
One motor vehicle	13%	5%
Two motor vehicles	44%	26%
Three or more motor vehicles	39%	40%
Not stated	3%	23%

Table 2 – Nillumbik vs Greater Melbourne Household Vehicle Ownership (ABS 2021)

### 2.2.3 How do residents travel to work?

*A significantly high proportion of residents travel to work by private vehicle.*

Figure 8 below highlights the mode of transport to work between Nillumbik and several neighbouring LGAs. 2021 data indicates approximately 17,500 Nillumbik residents (60% of the working population) currently use a private vehicle as their mode of transportation to work. This figure ranged between 82%-85% from 2006-2016 before working from home (sparked by the Covid-19 pandemic) was common. This is a higher proportion than Banyule and Manningham but lower than Whittlesea. This may be due to the types of public transport available in Banyule and the types of jobs available in Whittlesea that may require a private vehicle. Of the total working population in Nillumbik, 36% have continued to work from home following the easing of Covid-19 restrictions. This is consistent with neighboring councils of Banyule and Manningham which reported similar figures; however, the City of Whittlesea reported a much lower proportion.



**Figure 8 - Mode of transport to work across Nillumbik, Banyule, Manningham and Whittlesea (ABS 2021)**

Figure 12 highlights public transport and active travel modes make up less than 5% of journey to work trips in Nillumbik, lower than all other neighbouring councils. This could be attributed to unfavourable topographic and road conditions, including unsealed roads that make walking and cycling uncomfortable and a lack of frequent public transport options. However, some residents may require a vehicle to get to work (refer Figure 11 and 13). Nillumbik's occupation profile identifies 23% of the working population work in the trades industry and require a private vehicle, whereas the remaining 77% (approximately 13,400 people) may not rely on a vehicle and use it due to convenience and the perception that private vehicles are necessary to get anywhere.

Distance to work - Nillumbik

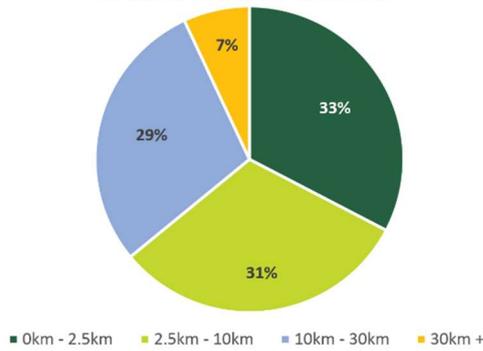


Figure 9 - Distance to work, Nillumbik (ABS 2016)

People living and working in Nillumbik - mode of travel to work

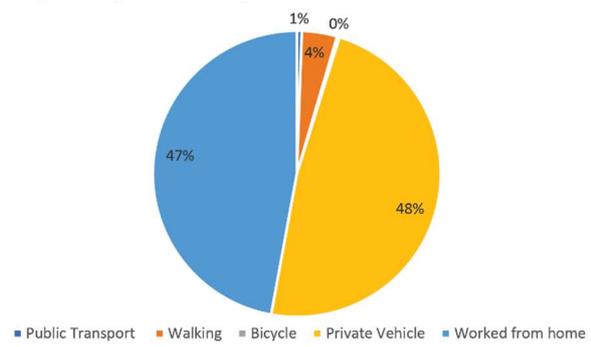


Figure 10- People living and working in Nillumbik, mode of travel to work

Approximately 24% of the working resident population (8,000 individuals) live and work within the Shire. Of these, 40% use a private vehicle to commute to work, while 40% work from home<sup>3</sup>. Moreover, Figure 11 indicates that a significant number of people and jobs are concentrated within or near Eltham and Diamond Creek activity centres or nearby towns like Greensborough, where commutes via private vehicles are typically short distances. A third of the working population travels less than 2.5km to work, while 31% travel between 2.5-10km. Figure 13 highlights that the number of people living and working within Nillumbik is roughly equivalent to the number who travel to work in both the City of Melbourne and Banyule (3000-5000 people). This further highlights the need to provide attractive sustainable modes of transport which can be used for short trip distances.

Travel from Nillumbik to neighbouring LGAs for work

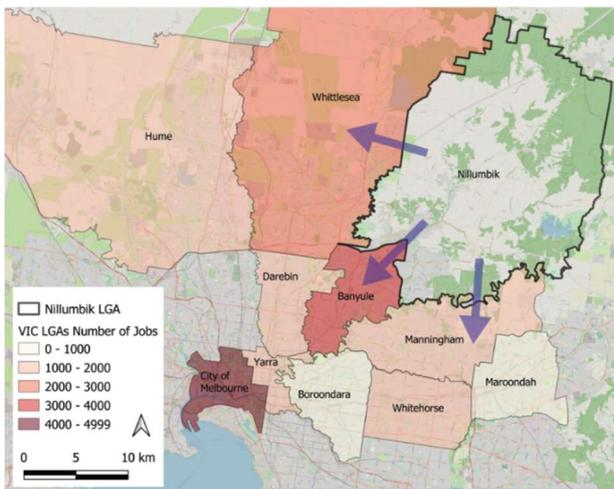


Figure 11 - Number of people living in Nillumbik and travelling to other LGAs for work. 8000 people live and work in Nillumbik.

<sup>3</sup> Australian Bureau of Statistics, 2021.

## 2.2.4 How Nillumbik residents travel to other point of interest

*Most of Nillumbik’s residents drive to their destinations.*

Travelling by private vehicle is the preferred mode of transport for residents across a range of trip purposes. On average, cycling accounts for 2% of trip modes across all purposes of travel, while for education and social recreation, walking accounts for 25% and 19% of trips respectively. This is significantly higher than the proportion of people walking to work or shopping purposes. Public transport is also relatively high for education trips sitting at 20% (figure 14).

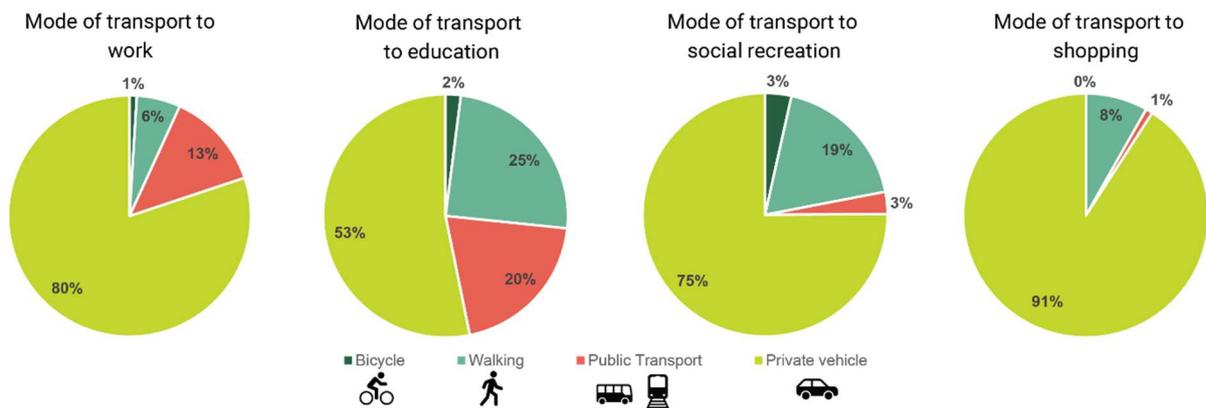


Figure 12 - Mode of transport to destinations - Nillumbik (VISTA, 2020)

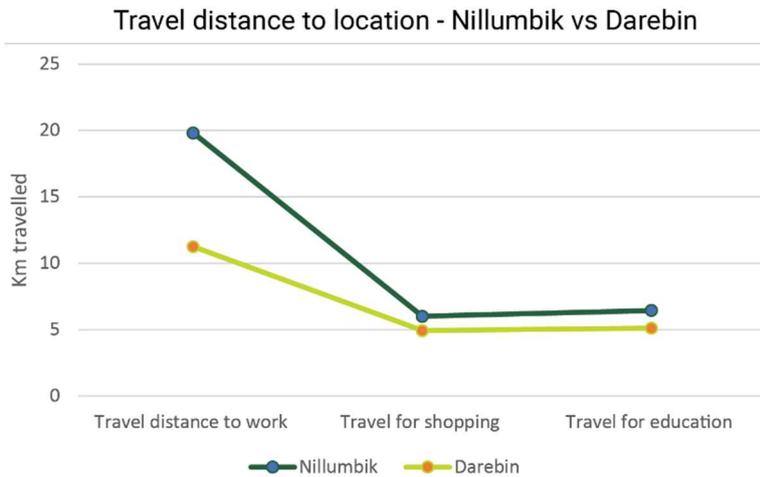
A community survey was undertaken by Chatterbox in 2020 to better understand the communities of Diamond Creek and Eltham<sup>4</sup>. For Diamond Creek, 81.5% of the total respondents lived within or in close proximity to the activity centre. In terms of mode of transport to the Diamond Creek Activity Centre, 72.5% drive, 18.8% walk, 6.5% catch public transport and 1.4% bike. For the Eltham Activity Centre 65.2% of the total respondents live within or in close proximity to the activity centre. 68.4% of the respondents drive to the Activity Centre, 23.5% walk, 4.95% catch public transport and 2.16% ride. It is noted these figures align with ABS data and that sustainable modes of transport into the activity centres could be much higher, considering people live within close proximity.

Travel distances to work, shopping and education for Nillumbik were also compared against the City of Darebin (Figure 15). Darebin council sits within Melbourne’s middle ring of LGAs while Nillumbik is in the outer ring. While both councils have their differences regarding demographics, building/population density, and topography, both LGAs share remarkably similar values for distances travelled for shopping and education purposes.

Data shows that work trips on foot are infrequent in Nillumbik due to the average distance of 20km, which is impractical for walking. Whilst Nillumbik is not directly comparable to Darebin, it is worth noting that Nillumbik lags behind Darebin in terms of walking trips for shopping, with only 8% of shopping trips done on foot compared to Darebin’s 20%, despite similar average distances between the two areas. Nillumbik, however, does outperform both Darebin and the wider Melbourne Metropolitan area when it comes to walking trips for education purposes, with 23% of trips for education purposes completed by walking. This is a

<sup>4</sup> Survey was undertaken to inform the Diamond Creek and Eltham Activity Centre Structure Plans (2020)

large contrast compared with people walking for shopping purposes even though the distance for both across Nillumbik are similar.



**Figure 13 - Travel distance to location - Nillumbik vs Darebin:**  
Darebin LGA area is 54km<sup>2</sup> and Nillumbik is 432km<sup>2</sup>. 460,000 trip were completed for Darebin during the survey of 2020. 20% of those trips were walking trips. 20% walk for shopping purposes. 15% walk for education purposes. 220,000 trips were completed for Nillumbik, with 16% of those trips being done by walking. 8% of people walk to shops. 23% walk to education, (VISTA 2020)

The above data confirms that most of the Nillumbik population drive to their destinations. Investing in and enabling a greater choice to travel via public or active transport is key to facilitating Nillumbik to achieve its Climate Action goals as well as catering for a larger demographic of people who may not be able to, or dislike, using a private vehicle. The argument that topography influences mode choice does have some merit. However, when considering the significant difference in the number of trips completed by walking for education and shopping purposes (Figure 14), topography alone cannot account for this variation. The abundance of free parking available at activity centres in Nillumbik is a key factor driving short, private vehicle trips that could easily be completed on foot. Furthermore, the lack of well-designed walking connections between townships and activity centres exacerbates the problem.

Council has the ability to improve both parking and walking environments, which would make walking a safer and more comfortable mode of transportation for shopping purposes. This can be achieved by creating better walking environments that include high amenity, street trees for shade, improved crossings, and wider, continuously accessible paths of travel with associated seating provision. Additionally, managing parking across activity centres can encourage behaviour change in relation to how people access and utilise these centres, resulting in more people choosing to walk for shopping purposes.

## 2.2.5 Travel reach by Public and Active Transport Modes

Travel isochrones were created to determine the reach of public or active transport for residents in the townships of Diamond Creek, Eltham, Hurstbridge, and Wattle Glen in Nillumbik. Greensborough train station was also evaluated due to the significant number of Nillumbik residents using this location.

Isochrones measured the distance a person could travel in 60 minutes at 7:30am on weekdays (peak hour) and 11:00am on Sundays (off-peak) from each township's train station. A 60-minute time period was chosen as it takes most Nillumbik residents between 30-60 minutes to travel to Melbourne CBD via vehicle. They also recorded how long it may take someone to return home on weekdays at 6pm (peak) within 60 minutes. The isochrones were developed using existing public transport network information and timetabling of buses, trains, and trams. The collected information can help Council identify areas that require improvement such as frequency and operation of hours. Public transport stations were chosen as starting points as they are where people consider their commute time to start. Walking is also considered within these travel isochrones, particularly to and from PT stations/stops, and to make connections between different modes of PT. There is a marked difference between peak weekday day travel reach and that of off-peak weekend travel across all locations analysed.

Figures 16 and 17 depict the travel ranges for a person departing from Eltham and Diamond Creek during the weekday and weekend, additional figures for other activity centres are provided in Appendix 1.

Eltham offers better public transport reach than Diamond Creek for Nillumbik residents due to its closer proximity to Melbourne CBD and suburbs, more peak services in the morning, and express services to the city. The ongoing Hurstbridge line duplication works between Diamond Creek and Wattle Glen will further improve the reach of PT modes. Eltham Station is a key hub for bus routes that service Nillumbik and neighbouring LGAs, with shading on the isochrone map reflecting the extent of these bus routes. Being the larger suburb by population, Eltham justifies more frequent and extensive PT services. The reach of weekend travel is significantly less than that of peak weekday travel, particularly for suburban areas of Melbourne. This is due to reduced demand and a wider spread of people's travel intentions/destinations. Weekend travel reach from Eltham is significantly less, but it is still possible to reach the city within 60 minutes. Bus routes/services are typically reduced on weekends, resulting in less travel reach for suburban areas not along train lines.

Compared to Eltham, Diamond Creek has less reach due to its distance from Melbourne CBD and fewer peak services running. However, it is still possible to reach the city fringe within 60 minutes. Diamond Creek also has less public transport reach to neighbouring LGAs connected by the bus network. Figure 17 shows that PT services during the morning peak focus on transporting people towards inner Melbourne, resulting in superior travel reach in inbound directions. Like Eltham, Diamond Creek's off-peak weekend travel reach is significantly less compared to weekday peak travel reach, with reduced bus service frequency and certain routes not running on weekends, making suburban areas harder to reach within the 60-minute timeframe. However, both peak weekday and off-peak weekend travel reach will improve after the completion of the Hurstbridge Line duplication between Diamond Creek and Wattle Glen by mid-2023.

The PT isochrone maps offer a comprehensive representation of the travel reach available to Nillumbik residents during peak travel periods and off-peak periods over the weekends. These maps serve as an excellent visual aid in identifying gaps within the existing network and gaining insight into travel demand, including location, day of the week, and time of day. They offer a valuable resource for advocating for the improvement of PT services in Nillumbik and beyond.

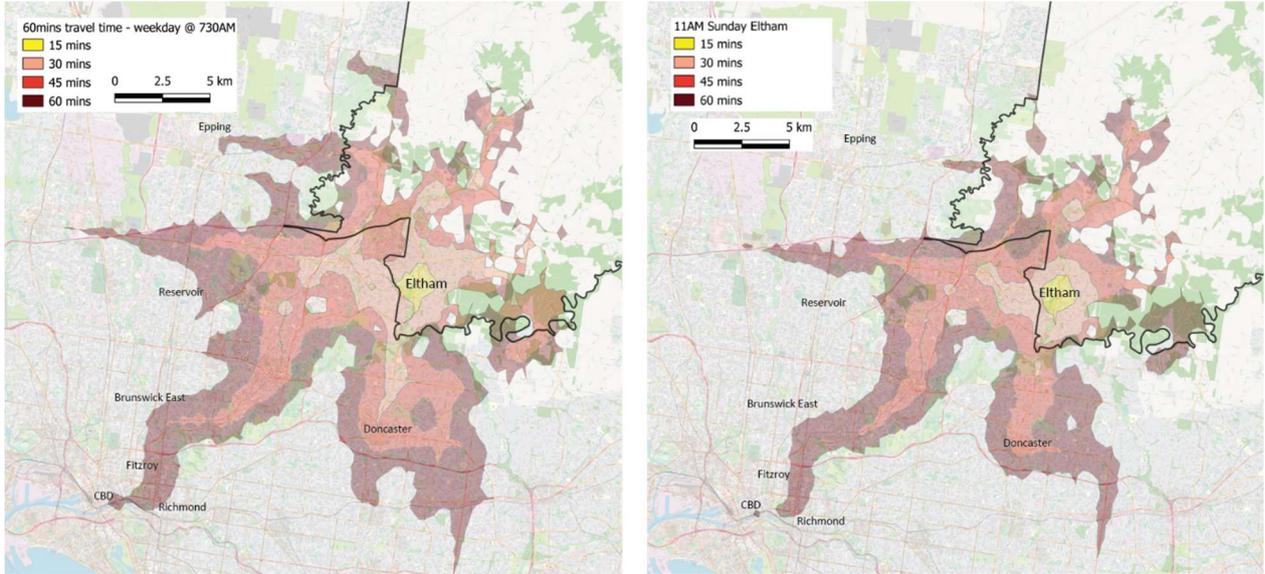


Figure 14 - Eltham 60min peak public and active transport isochrone departing at 7:30AM weekday (left). Eltham 60min off-peak public and active transport isochrone departing at 11:00am weekend (right).

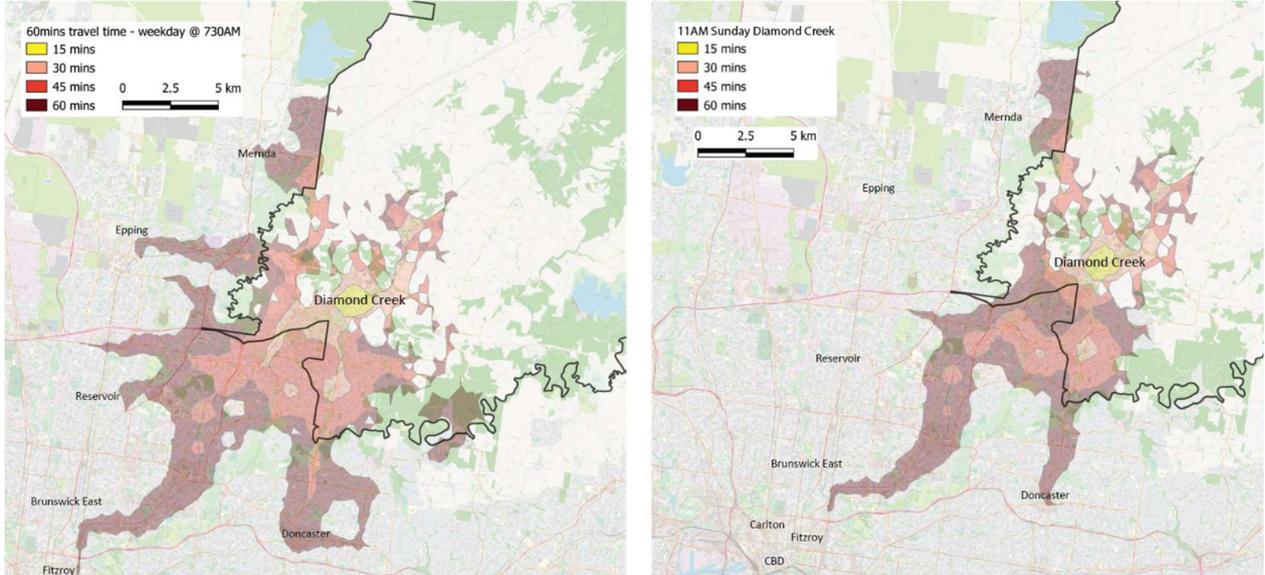


Figure 15- Diamond Creek 60min peak public and active transport isochrone departing at 7:30AM weekday (left). Diamond Creek 60min off-peak public and active transport isochrone departing at 11:00am weekend (right).

## 2.2.6 Car parking and utilisation

*Surveys indicate an adequate supply across most Activity Centre carparks.*

Surveys on parking usage were carried out at several car parks across Eltham, Diamond Creek, Wattle Glen, and Hurstbridge. These townships are all situated along the Hurstbridge train line. The surveys included the commuter park and ride lots. The surveys were conducted in December 2022 at 15 minutes intervals on a Thursday afternoon during the peak hours of 3:00pm to 6:00pm and during the Saturday midday peak from 10:00am to 2:00pm. The surveys, while not comprehensive, provide valuable insights into parking utilisation and peak hours across the four townships.

In general, the parking occupancy levels at most surveyed sites did not exceed 85% utilisation. 85% utilisation (i.e., when parking is around 85% occupied) is, according to industry best practice, considered an efficient utilisation rate. A small number of sites did exceed this range for part of the periods surveyed. These were in Eltham (site A - the ALDI car park, and site B - the Woolworths car park) on Saturdays, and site A on Thursdays and Diamond Creek (site A, - the train station), on Thursdays. Whilst exceeding 85% utilisation, none of these sites approached 100% utilisation, so free parking spaces were available at all times surveyed. The remaining sites were consistently below 85%, suggesting that there may be an existing aggregate oversupply of parking across these four townships.

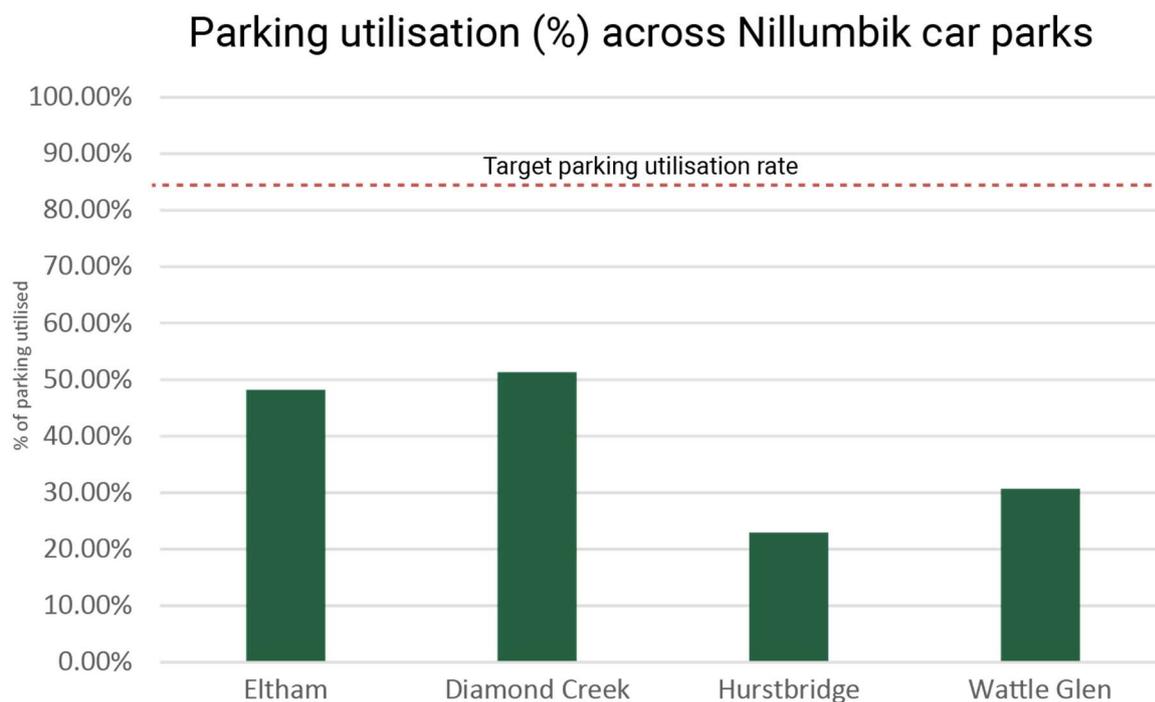


Figure 16 - Parking utilisation (%) across Nillumbik carparks during December 2022 survey periods

With regards to accessible (for people with disability) car parks, only a handful of car parks across the entire shire were being utilised. In Eltham, site A – the ALDI carpark and site B – the Woolworths carpark were the most utilised on Saturdays with at least a 60% utilisation rate across the day, with several sites at capacity at various points of the day. This continued for site B on Thursdays, but dropped below 40% utilisation for site A. For Diamond Creek, site C – the Coles carpark was consistently utilised at 40%-50% on Thursday's, this was

further reflected on Saturdays with peak utilisation at 10am of 75%. Accessible car parks at Wattle Glen and Hurstbridge were not utilised on either Thursday or Saturday.

Given Nillumbik's low population growth rate, alternative parking solutions such as bike parking and ride share services should be explored and considered before building any new parking facilities. Further, parking management tools such as undertaking a review of existing unrestricted or timed parking should be considered before considering increasing parking provision at these sites.

## 3 Key challenges and opportunities

Key challenges Council could face when developing the ITS relate to:

- Access and connectivity, particularly Nillumbik's challenging topography, vegetation impacts and unsealed roads.
- A perception that you must drive a motor vehicle to move around due to the perception that public transport is unreliable and active transport has limited connections.
- A perception that there is a lack of safety within the road, active transport and public transport networks.
- Limited access to funding for Shire related upgrades.
- The unique neighborhood character of Nillumbik as both important and challenging to the provision of transport infrastructure.

Several opportunities have been identified. These relate to:

- Road congestion within the Shire is not yet at its peak.
- High levels of walking to education – potentially indicating this market segment will use active modes of travel for other purposes if encouraged so to do.
- Population growth is concentrated around the activity centres – enabling place making and public realm improvements that favour self-containment and reduce the need for excessive travel.

This section summarises the key challenges and opportunities to be considered when developing the strategic transport actions for the Shire.

### 3.1 Challenges

#### 3.1.1 Topography

Topography refers to the physical features of the land, including hills, mountains, valleys, and other natural formations. Nillumbik is an area characterised by rugged terrain, with many hills, valleys, and gullies, which can present challenges to infrastructure development and transportation planning. Nillumbik's rugged topography poses unique challenges for infrastructure development, transportation planning, and access to essential services. The steep gradients and tight curves of the landscape require significant engineering efforts for road and rail infrastructure development.

Walking isochrones were developed for the townships of Diamond Creek, Eltham, Wattle Glen and Hurstbridge (Appendix 1) revealing that Nillumbik's topography and cul-de-sac environment restrict residents from walking as far as they could in say, a typical flat urban grid layout. Pedestrians and cyclists may find it difficult to navigate the steep inclines and declines, impacting their mobility. Consequently, access to essential services such as healthcare facilities, schools, and shopping centres may also be affected.

Despite these challenges, Nillumbik possesses many aspects that create a high amenity streetscape and walkable environment, such as extensive tree cover, natural creeks, and flora that foster comfortable and positive walkable connections. Creating better pedestrian paths and links can help meet sustainable transport objectives and provide people with travel choice. Furthermore, the significant concentration of population, employment and services in

the main activity centres within the Shire and the fact that almost all future growth will be in these areas, represents a rather unique opportunity.

### 3.1.2 Perception that driving is the only way to travel

The perception that owning a car is necessary in Nillumbik is driven by several factors. These include the challenging terrain (as mentioned above) and partially dispersed population, as well as limited public transport options. These can make accessing essential services for some without a vehicle challenging. Nillumbik's car-centric infrastructure and culture reinforces the idea that owning a car is necessary for everyday life. The area's road network is primarily designed for motor vehicle use, with limited bike lanes and pedestrian infrastructure. Additionally, there are few car-sharing or ride-sharing options available, making it more challenging for residents to rely on alternative modes of transport. The relative lack of job opportunities within Nillumbik also contributes to the perception that owning a car is necessary for commuting to other parts of Melbourne for work.

### 3.1.3 Low use of public & active transport

There are several reasons why public and active transport use is low in Nillumbik. These include the factors identified above such as challenging terrain and partially dispersed population, which make it challenging to provide efficient and reliable public transport services. Nillumbik's car-centric infrastructure and culture in the area, along with limited infrastructure for cyclists and pedestrians further discourage residents from using active transport options. Nillumbik's road network does not currently experience much congestion, meaning people find it easier to drive directly to where they want to go, knowing that they will find parking. At the same time, the public transport, cycling and pedestrian networks are not as connected, efficient or integrated as they could be. There may also be a lack of awareness and education about the benefits of public and active transport. In addition, the perceived inconvenience and time-consuming nature of public and active transport options may also discourage residents from using them. Limited frequency and coverage of public transport services may also make it difficult for residents to use them for commuting or other regular travel.

Another reason is that many of our townships are located in Green Wedge locations – not close to activity centres and people find it difficult to access public transport from rural townships. Given 92% of the land area of the Shire is Green Wedge this is a key challenge particularly for those people aging in Green Wedge locations.

### 3.1.4 Other challenges

In addition to the challenges identified, the Diamond Creek and Eltham Activity Centre Structure Plans identified challenges in relation to access and movement within their activity centres. Broadly, these challenges relate to:

- Poor pedestrian and cycling connectivity between each centre's train station and Activity Centre.
- Poor pedestrian infrastructure, acting as a barrier to movement due to the high traffic volumes.
- Limited pedestrian connectivity across arterial roads, causing accessibility issues to and from the train stations.

- Lack of cycling infrastructure including on road cycle lanes and bike parking facilities.
- Poor provision of bike paths into and through the commercial areas of the centre.
- Safety concerns and potential conflicts between pedestrian, cyclists and heavy, fast-moving traffic.
- Level crossings, which disrupt vehicular and pedestrian movement.

## 3.2 Opportunities

### 3.2.1 Limited congestion

Despite not having reached peak road congestion, it is crucial to develop and implement a sustainable transport strategy for Nillumbik as early as possible. This proactive approach will allow Council to better prepare for potential future challenges and capitalise on current opportunities to improve the transport system. By developing a comprehensive transport strategy, Nillumbik can ensure that its infrastructure and services are designed to meet the needs of its population, reduce dependence on private vehicles, improve road safety, and promote sustainable transport options. Additionally, by acting now, the Shire can avoid costly and disruptive measures in the future that may be necessary to address problems that were not effectively addressed earlier. Therefore, developing a transport strategy at this stage would be a prudent and forward-thinking decision for Nillumbik.

### 3.2.2 High levels of walking to education

In Section 2.2.4, it was revealed that although walking to many destinations was not a prevalent mode of transportation in the Shire, a noteworthy proportion of individuals (23% of the population) walked to attend educational activities. This finding suggests that the topography of Nillumbik alone cannot account for the limited adoption of walking as a mode of travel for other purposes. To address this issue, the proposed strategy aims to stimulate more walking trips to educational facilities and leverage the insights gained from this initiative to encourage walking for other purposes.

### 3.2.3 Population growth is focused around the activity centres

The transport sector has the potential to support the growth and development of Nillumbik's activity centers by providing residents with reliable and convenient transport options that cater to their needs, particularly as the population grows. As the population grows, there will be increased demand for public transport services, particularly for commuting to and from work. This could enable increased investment in public transport infrastructure, such as improved bus routes or the introduction of new rail services. Growth within the activity centres could also lead to increased demand for active transport options, such as cycling and walking and see an increased investment in infrastructure such as bike lanes and footpaths. Additionally, car-sharing and ride-sharing services could become more accessible and affordable for residents particularly for those who may not own a vehicle or occasionally require a second car. This presents an opportunity for the transport sector to invest in sustainable and efficient transport options that can help reduce traffic congestion and improve accessibility for all residents.

Integrating land use and transport in Nillumbik's activity centers is crucial to reduce reliance on private vehicles, enhance social equity, and support local economic development. By creating human centered environments, there can be fewer car trips and less congestion. Improving access to facilities such as health care, education, and employment can further reduce social exclusion. Attractive and accessible activity centers can attract businesses and investment, creating a more sustainable and prosperous community overall. Activity centers can attract businesses and investment, supporting economic development. Integrating land use and transport is essential for creating more sustainable, equitable, and prosperous activity centers that can help reduce traffic congestion and improve accessibility for all residents.

### 3.2.4 Other opportunities

In addition to the opportunities identified, additional opportunities relate to:

- The Green Wedge is a well-known feature of Nillumbik that its residents take pride in due to its rural charm. This presents an opportunity because promoting eco-friendly modes of transportation can align with the residents' values of preserving the Green Wedge, making it easier to encourage sustainable travel habits.
- The Northern Council Alliance collaboration and partnership with DPT offer a chance to enhance regional transportation flows in and out of Nillumbik and the greater northern area. By teaming up with adjacent LGAs, the opportunity exists to create a sustainable and competitive regional economy.
- Gaining community input and buy-in on a shared vision and adopting practical measures. It is possible to encourage a shift in behavior towards sustainable travel within the Green Wedge community. While private vehicles will still have a place, managing car travel efficiently and sustainably requires a collaborative effort through a unified vision.

## 3.3 Why not business as usual

Traditional city planning and design response to road congestion has been characterised by:

- Widening or building new roads to cater for increasing traffic, and
- Assuming that private cars are the only realistic 'solution' to all transport needs.

In Nillumbik's case a lack of realistic transport alternatives that are frequent, reliable and accessible means that many households run at least two cars, despite the substantial cost. Despite, high car ownership across the region, Nillumbik has yet to experience major congestion. It is therefore important that rather than widening to superficially cater for more traffic, transport outcomes within the Shire seek to level up on public transport and active travel modes.

Widening arterial roads has real implications for vegetation and the character of Nillumbik. The draft Neighbourhood Character Strategy notes detached dwellings are the predominant form of housing in Nillumbik Shire, comprising 93% of the total housing stock and the large open spaces and waterways provide habitat for native flora and fauna, and are highly valued natural assets to residents of both the local community and the wider metropolitan Melbourne area.

### 3.3.1 More roads is not the answer

We know, from experience in Nillumbik and elsewhere, that ongoing urban expansion and unrestrained investment in road capacity, as the only ‘solutions’ to growth, is not sustainable, effective or economically feasible. Given an increasingly competitive funding environment, the Shire needs to ensure infrastructure investments are well targeted towards initiatives with optimal whole of network outcomes and supported by improved land use integration.

Walking or cycling to work, school or using public transport is a practical way to incorporate daily healthy activity into busy lives. Replacing car trips with active and public transport also reduces traffic congestion, costs far less than new roads and eases pressure on road infrastructure. Globally, regions with a focus on active and public transport are increasingly seen as more liveable, more desirable and more economically successful than communities dominated by car-based transport.

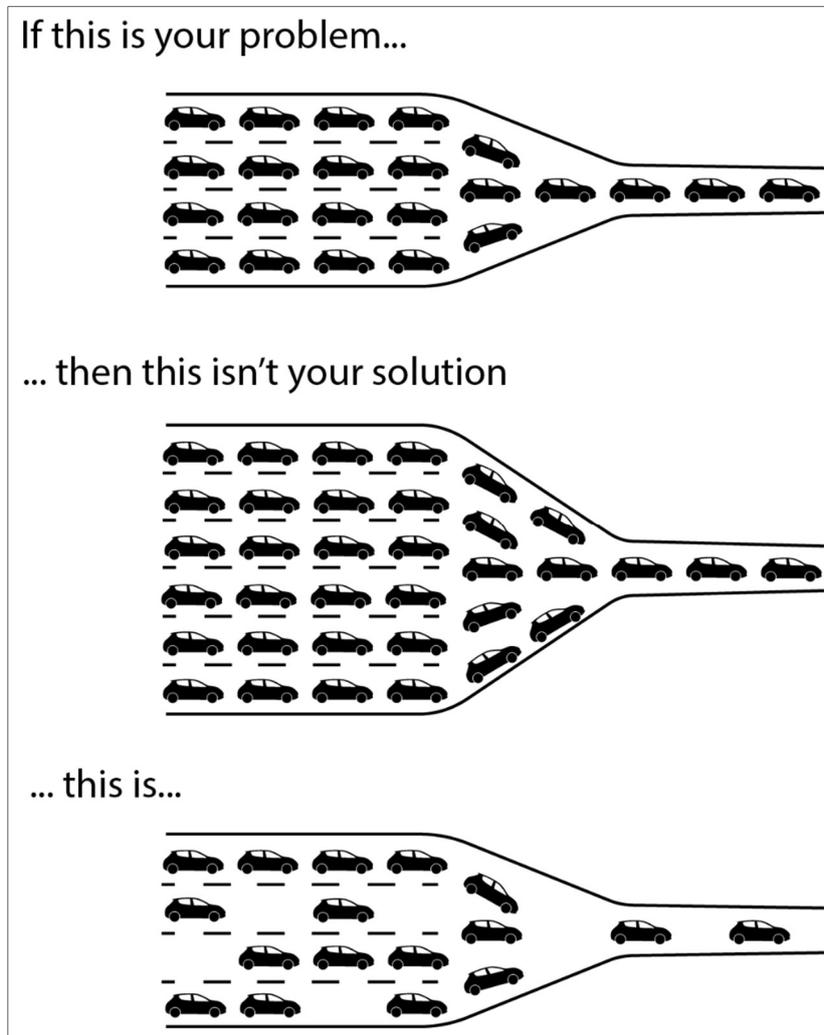


Figure 17 – More roads equals more traffic

### 3.3.2 Induced demand and traffic

More often than not, road projects that aim to remedy vehicle traffic congestion by road capacity building observe an increased rate of traffic growth. The consequence of induced traffic is that road projects experience a return to pre-upgrade levels of traffic congestion much sooner than anticipated. In this case, induced traffic “is all traffic which would be present if an expansion of road capacity occurred, which would not be there without the expansion”.

Induced demand is a well-recognised phenomenon that is nonetheless regularly unaccounted for when planning future networks. The Pacific Motorway upgrade between Logan and Gaven in Southeast Queensland in 2000 is a prime example of induced demand in Australia. The 36km highway segment was widened to eight lanes, boosting its capacity by 33%. However, traffic volumes rose by 38% in the two years following construction and continued to increase by 25% above pre-construction levels. This substantial growth was attributed to the increased capacity rather than other factors such as land development. After this initial surge, traffic growth returned to pre-upgrade rates.

## 4 Strategic Directions

Four Objectives and a suite of Strategic Directions has been developed to achieve sustainable transportation outcomes for the Shire, these include:

### Objective 1 - Enable emerging sustainable transport

**Strategic Direction 1.1 - Actively promote new opportunities such as car share and shared micro mobility services that will improve transport choices and reduce transport emissions.** It is crucial for Council to increase community awareness and actively promote the benefits of sustainable travel to encourage the adoption of more sustainable modes. Promoting car sharing and shared micro mobility services can reduce reliance on private vehicles, improve accessibility to transportation, address social equity, stimulate economic growth, and contribute to addressing climate change and promoting public health. By enabling occasional use when required, these services can enable people to live with fewer cars in their household. Without the sunk cost and commitment of additional cars people are more easily able to choose more sustainable options especially for shorter trips.

**Strategic Direction 1.2 - Support the transition to zero emission vehicles, including electric vehicles for Nillumbik residents.** Transitioning to zero-emission and electric vehicles can reduce Nillumbik's carbon footprint. However, as it will not, in itself, decrease the number of vehicles on the road, it is important to prioritise the transition to zero-emission and electric buses and electrifying the rail network for a more significant and sustainable impact on emissions and sustainable transportation.

**Strategic Direction 1.3 - Prioritise short trips (under 2km) for active travel modes.** To reduce reliance on private vehicles for short distance trips that create congestion within the activity centres, prioritise active travel initiatives such as footpath upgrades, wayfinding signage (including mobility maps) and more bike racks in key destinations to encourage and support more sustainable methods of travel.

**Strategic Direction 1.4 - Support the use of electric micro mobility and other mobility modes both within activity centres and on the periphery of trails further into the Shire.** SD1.3 seeks to support and prioritise short active travel trips within the Shire, SD1.4 seeks to support the use of electric micro mobility and other mobility modes will extend the reach people may travel via these more sustainable modes further into/within the Shire.

The Victorian Government has committed to being a leader in climate change action and has adopted a zero net emissions target by 2050. As the Green Wedge Shire, Nillumbik has taken a more aggressive approach with a net zero target for Council emissions by 2030 and a community emissions net zero target by 2035. Accordingly, Council has to play a leadership role when it comes to green energy alternatives and sustainable options, with a series of Strategic Directions and Actions reflecting Actions 6.1-6.3 of the Climate Action Plan.

Encouraging a shift towards sustainable transportation (walking, cycling and public transport) requires individuals to take ownership of their personal travel choices. By recognising the convenience of alternatives like walking, cycling, micro mobility and public transit, the

community can embrace a more responsible travel behaviour. Council can play a vital role in promoting this mindset by raising awareness of the Shire's climate change commitment and the challenges posed by the growing number of vehicles on the road, which lead to more traffic and parking issues. Council will need to fund programs aimed at altering travel behaviour and increasing awareness and take up of more sustainable transportation choices that ensure mobility while mitigating emissions. Effective behaviour change depends on:

- Increasing Capability – e.g., via education and training
- Increasing Motivation – e.g., via persuasion/incentivisation/advertising; and
- Increasing Opportunity – e.g. safe cycle lanes, end of trip facilities on campus, access to bike hire schemes, walk and cycle to work promotional days etc.

Unlike Melbourne, Nillumbik has not experienced significant growth in alternative transport options over a short period of time. Car sharing schemes like Flexicar and GoGet, which allow registered members to book and rent a 'pool car' for short-term use, have become increasingly popular in Melbourne (and many other centres) in recent years. Additionally, the emergence of micro mobility and dockless bicycle sharing offers a new way of renting bicycles. The term micromobility refers to the use of lightweight vehicles, including electric and non-electric bicycles, scooters and skateboards, some of which are often available for short-term use through self-service rental schemes within urban areas. Although this form of mobility has had some issues, it can thrive in Nillumbik if implemented correctly. The Council plans to use a variety of communication methods to create community awareness about sustainable transport options. This will include developing and implementing promotional campaigns that explore options such as social media and website development. The Council will also promote sustainable transport at events in Nillumbik and set an example within the organisation. For example, Council has planned to transition its fleet to EVs by 2030, which is in line with its goal of achieving net zero emissions by the same year.

The gradual adoption of electric vehicles has the potential to significantly contribute to environmentally friendly transportation by reducing greenhouse gas emissions. Despite the likelihood of private vehicles retaining their prominent role in Nillumbik's transportation system over the next five years, Council has a responsibility to raise awareness of all transport choices and suitable initiatives of raising awareness of all transport choices and suitable initiatives aimed at curbing transport-related emissions. Since approximately half of the trips taken in Greater Melbourne are less than 5km, with 30% being less than 3km, there is significant potential for e-bikes and other types of e-micro mobility to cater to a shorter-trip journeys within Nillumbik and the Greater Melbourne region. E-mobility (mobility scooters/e-scooters/e-bikes) enable people to cover this range comfortably and with a heavier load (i.e. for shopping, moving some goods and transporting children), particularly when considering Nillumbik's terrain in addition to the potential initiatives listed above, Council may enhance this by creating more inviting, efficient and effective walking and cycling networks.

## Objective 2 - Plan and deliver active transport networks that are safe, accessible, connected, comfortable and inclusive

**Strategic Direction 2.1 – Seek to improve end of trip facilities in stations, town centres and new developments.**

**Strategic Direction 2.2 – Seek to facilitate universally accessible outcomes across Nillumbik’s streets, paths, crossings, stops and stations.**

**Strategic Direction 2.3 – Seek to facilitate a safe and connected walking and cycling environment, that also enables the safe uptake of micro mobility and other mobility modes.**

To make active travel (walking and cycling) viable transportation options in Nillumbik, it is crucial to plan and develop a network of safe and continuous protected bicycle lanes and paths and prioritise the diverse needs of users. Nillumbik's population is projected to have a larger proportion of elderly residents compared to the metropolitan average, while the next five years will see a relatively young and able-bodied population. Different life stages require varying mobility necessities for Nillumbik's residents and visitors, including children learning to ride bikes on roads, parents/carers with strollers, and individuals using mobility aids and/or wheelchairs and mobility scooters. Older people are also utilising e-bikes in increasing numbers as it makes our hilly terrain less taxing while still enjoying the benefits. It is vital to consider how transportation and street infrastructure can be thoughtfully designed and maintained to meet these unique needs and be universally accessible – meaning a person of any ability is able to access and physically interact with transport and its related infrastructure. Moreover, by implementing uncomplicated measures that reduce physical barriers to access and movement, not only will the quality of life for these users improve, but the wider Nillumbik community will also benefit. Considering Nillumbik’s age profile, if we design the Shire to cater to the needs of both an 8-year-old and an 80-year-old, it will undoubtedly benefit people of all ages.

The streets in Nillumbik are an integral aspect of our community, providing access to a variety of users for different purposes. To ensure a safe, accessible, and efficient transport system, it's crucial to proactively manage our streets. User-friendly streets feature measures such as low vehicle speeds, low traffic volumes, balanced priority for various transport modes and users, and enable greater sharing between users of streets and public spaces.

Nillumbik Council aims to develop an active transport strategy to identify a range of comprehensive actions aimed at promoting walking, cycling, and other active travel modes in the Shire. These actions may include network improvements and educational programs aimed at overcoming any barriers often associated with these modes of transportation, improving wayfinding signage (including mobility maps), creating firm, wide, continuously accessible paths of travel and lighting along well utilised paths and implementing crime prevention measures. Strategically spaced seating (e.g. every 60m) also promotes walking for older people and people with a disability who can only travel short distances at any one time.

End-of-trip facilities such as bike racks, secure parking, charging options for mobility scooters, showers, and changing rooms make it easier and more attractive for people to

choose active transport modes over motorised transport. Having secure bike storage facilities and designated pedestrian paths or walkways can help reduce the risk of theft or accidents, promoting a safer environment for active transport users. Quality end-of-trip facilities can also increase the accessibility of workplaces, public spaces, and other destinations to active transport users, including people with disabilities or those who need to travel with gear or equipment. Furthermore, encouraging active transport modes through end-of-trip facilities can reduce carbon emissions and improve air quality, promoting a more sustainable and environmentally friendly transport system, that will assist Council to reach its climate action goals.

## Objective 3 – Advocate and encourage public transport by enhancing its accessibility, safety, convenience, and attractiveness

### **Strategic Direction 3.1 - Engage with the State Government to review and improve Nillumbik's public transport network.**

Council will advocate for better public transport services and infrastructure to enhance the appeal of public transportation as a viable transportation alternative for the Nillumbik community, including a regional Local Area Bus Review.

### **Strategic Direction 3.2 – Advocate to the Victorian Government to improve the access to and between public transport modes for users.**

Making the public transport system universally accessible will allow individuals of all abilities to utilise it within the Shire. Additionally, enhancing the integration between public transport and other modes of transportation such as walking and cycling will provide the community with a variety of transportation options when travelling to a bus stop or train station as part of a larger journey.

### **Strategic Direction 3.3 – Further explore accessible on-demand services (e.g. community bus and taxi/uber) in areas living in the Green Wedge areas of the Shire.**

Accessible on-demand services ensure equal transportation access for those with disabilities, older adults, and those without private transportation. They improve mobility and independence, reduce social isolation, and promote inclusion, creating a more equal society. There are opportunities to expand the Flexiride model for Greensborough and surrounding areas.

As a community situated in the green wedge, rural residents within the Shire face obstacles relating to access and mobility, particularly among children, young adults, and elderly individuals. The issue of accessibility can significantly impact health and wellbeing, including access to employment and social connections. Surveys conducted in support of the development of Council's Health and Wellbeing Plan 2017-2021 and community engagement activities that informed this ITS both indicated that public transportation in the green wedge received relatively low satisfaction ratings from residents.

Public transport serves as a vital means of transportation by linking people to various destinations through a diverse range of transport modes, such as buses, trains, taxis, and on-demand community transport. It offers an alternative travel option for individuals who lack access to a private car due to factors such as age, disability, or socioeconomic circumstances.

While Council can improve access, connectivity and amenity around public transport stops, within Victoria, public transport is the State Government agency's (DTP's) responsibility for the coordination, connectivity and frequency of services. However, in trying to secure improvements to the public transport system within Nillumbik, Council has an important role in advocating to the State Government for public transport improvements on behalf of the community.

Although 60% of people commute to work by driving, only 3% of Nillumbik residents use public transportation. Among those using public transport, 2.25% use trains while the

remaining 0.75% mostly rely on buses. The current state of public transport in Nillumbik calls for enhancements, particularly in the efficiency, frequency, and directness of bus services within the Shire and to neighbouring LGAs. To achieve these improvements, the Council will lobby the DTP for better bus services and more frequent weekday and weekend service frequencies for the Hurstbridge line.

Mobility as a Service (MaaS) and on-demand services encompass a variety of innovative mobility providers, including ride-sharing and e-hailing services (such as Uber), bike-sharing programs, and car-sharing services (such as GoGet). Millennials are likely to be the early adopters of MaaS, as they are generally less interested in driving or owning private vehicles compared to previous generations who were more familiar with this option. However, older people are also interested in MaaS as it offers a more socially inclusive and cost-effective package of transport modal choices.

## Objective 4 - Encourage land use planning that supports safe and sustainable transport outcomes

**Strategic Direction 4.1 - Ensure parking, including accessible parking, is appropriately supplied and managed.**

**Strategic Direction 4.2 - Encourage the operation of car sharing services and carpooling among residents, institutions, and businesses.**

**Strategic Direction 4.3 - Ensure streetscapes serve their appropriate movement and place functions.**

**Strategic Direction 4.4 - Encourage the safe uptake of micro mobility and associated infrastructure to support behaviour change within the Shire.**

The way in which land is used has a significant impact on the transportation choices made by the community. This is because the location of new developments can affect the availability of parking, access to public transportation, and the presence of safe and appealing areas for walking or cycling. Plan Melbourne prioritises the development of "20 minute neighbourhoods," where people can meet most of their everyday needs within a 20-minute walk, cycle, or local public transport trip from their home. These neighbourhoods rely on activity centres, which are central to serving the surrounding community. By concentrating land use in and around these centres, the idea of living locally is reinforced, reducing the need for long-distance travel and improving liveability and economic vitality. However, this is only possible when there is sufficient planning to increase the use of sustainable transportation modes. Through the implementation of zoning regulations, overlays, and policies, Council can shape and influence the development of the Shire. The Eltham and Diamond Creek Activity Centre Structure Plans provide the strategic framework for the development and growth of each centre, while the Nillumbik Planning Scheme outlines the guidelines for the use, protection, and development of land in the area.

A high-level parking analysis across the Shire car parks identified a number of them to be significantly underutilised (85% utilisation is, according to industry best practice, considered an efficient utilisation rate). This may suggest a review of the Shire's parking policies may be required to enable efficient land use outcomes within activity centres and to promote more sustainable modes of travel for short trips.

Car-pooling and car sharing have become increasingly popular in Australia in recent years, with many successful programs and initiatives implemented across the country. GoGet and Flexicar are two car-sharing program companies that allows members to rent cars by the hour or day. The program has been successful in promoting sustainable transportation options in cities like Sydney, Melbourne, and Brisbane where households may not need to purchase a vehicle to travel. With regards to car-pooling there is a larger promotional role Council could play to various institutions and businesses within the Shire.

Council will apply DTP's Movement and Place Framework when undertaking streetscape upgrades and planning for transport upgrades along corridors. At the core of movement and place ideology is acknowledging that streets serve multiple purposes. While transport links

facilitate movement from one place to another, they also function as important destinations and gathering places in their own right.

A key aspect of changing the behaviour of people to uptake more sustainable travel mode outcomes is the providing the appropriate associated infrastructure. To encourage the safe uptake of micro mobility for short trips around the Shire, Council will explore the feasibility of installing micro mobility associated infrastructure such as recharging facilities, provide quality infrastructure such as raised bike paths with appropriate surfacing and safe crossings around the shire.