

Glen Eira Transport Analysis and Forecasting

Discussion Paper: Elsternwick Activity Centre



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1 Introduction

1.1 Purpose

The purpose of this report is to provide an independent and expert view on transport-sector interventions that can support planned land-use change and development within the Elsternwick Activity Centre.

Glen Eira City Council is currently preparing structure plans for the Elsternwick Centre, alongside plans for the Carnegie and Bentleigh centres. These structure plans establish a vision, policy objectives, planned building typologies to guide future development and identify public sector interventions such as public realm projects to support the desired function and vision for each activity centre.

This report identifies potential transport sector interventions that can support planned land-use change at the Elsternwick Activity Centre during the next 10-15 years. This discussion paper will be used by the Glen Eira City Council to inform development of their Structure Plan for the centre. The discussion paper will be used internally by Council staff and will also be made publicly available as part of community consultation on the ITS.

1.2 Scope

This report considers transport-sector performance and interventions across all land transport modes operating within the Elsternwick Activity Centre (walking, cycling, public transport and motor vehicle traffic). The focus of recommended interventions, however, is on actions that are within the Council's jurisdiction. This means a focus on the Glen Eira City Council's role in influencing the physical street environment that it manages in partnership with VicRoads, walking and cycling networks, car parking management that is directly controlled by Council and opportunities for advocating improvements to public transport operations delivered by PTV within the area.

The report focuses on transport-sector performances and interventions. While land-use planning policy and transport outcomes are closely inter-related this report generally avoids recommendations on land-use planning policy. The land-use approach is taken `as given' and is based on Glen Eira City Council's *Elsternwick: Draft Concept Plans* (July 2017 for consultation). This report identifies how this planned approach to land-use change and development can be effectively supported by the local transport system.

The study area considered in this report is illustrated below in Figure 1-1. It focuses on the Elsternwick Activity Centre area, as defined by Glen Eira City Council.

Figure 1-1: Elsternwick Activity Centre study area



1.3 Approach

The approach used to guide this study follows a three-part structure as illustrated below. A review of existing local and state transport, urban growth and land-use policy is used to establish `what success looks like' for the Elsternwick activity centre's transport system. This understanding of desired objectives for the transport system provides a framework for assessing `how the system is performing' during both the recent past and into the future if current trends continue. From the assessment, a set of key challenges and opportunities are identified which provide a framework for identifying `how performance can be improved'. A set of potential interventions that address key challenges and opportunities are included to prompt discussion.



The performance assessment and recommended interventions chapters are structured around a set of indicative policy directions that were established during the preparation of the accompanying *Glen Eira Transport Analysis and Forecasting Discussion Paper* for the overall municipality. These policy themes summarise desirable directions for transport sector performance and provide an organising device for structuring the assessment and identification of interventions.



These six policy directions are consistent with the directions provided by existing local and state-level policy and are:

- Put walkability first providing good conditions for walking improves the safety of the overall transport system, supports public transport use and local amenity while reducing traffic congestion.
- Manage parking for streetscape amenity, town centre vitality and to support mode shift parking management can play a major role in changing transport behaviour.
- Intensify development around rapid transit public transport works best in locations with dense walkup catchments and excellent walking facilities to stations and stops.
- Ensure cycling plays its role cycling can play a significant role in providing for short-medium distance trips, extending the range of trips that can use active transport.
- Work toward `vision zero' road deaths and serious injuries improving the safety of the transport system is a critical component of encouraging walking and cycling.
- Plan for attractive congestion-free networks rather than reducing congestion prioritising congestion reduction with road capacity expansion risks making the environment for other modes less attractive. Public transport and cycling networks can provide congestion-free networks which is a more financially viable and effective measure.

These six policy directions draw on common themes that are prioritised in the four core policy documents that need to inform transport policy for Glen Eira:

- Plan Melbourne 2017-2050 (2017)
- Glen Eira Draft Council and Community Plan 2017-21 (2017)
- Glen Eira Activity Centre, Housing, and Local Economy Strategy (2017)
- Glen Eira Planning Scheme (2017).

Across the core policy documents the following are key common themes relevant to the transport sector:

- Providing for significant growth in transport demand and doing so by prioritising sustainable transport modes including walking, cycling and public transport.
- Managing increased transport demand by promoting distributed employment across Melbourne activity centres with `local jobs for local residents'.
- Ensuring good transport accessibility to activity centres particularly by sustainable modes.
- Promoting good local accessibility, with the concept of the '20-minute neighbourhood' and a particular emphasis on highly walkable neighbourhoods.
- Encouraging increased cycling.
- Managing the potential impacts of increased traffic and parking demand associated with land-use change and intensified development.

Table 1-1 summarises examples of connections between objectives established by existing core policy documents and the six key policy directions established for this study.

Policy direction	Relevant supporting statement/ theme in core existing policy document
Put walkability first	"A city that is easy to move around: full of safe travel options and walkable neighbourhoods" (Long Term Community Goal from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).
	"We will construct five per cent of our missing link footpaths" (Target from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).
	"We will achieve a five per cent improvement in the `Walk Score' across the municipality" (Target from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).

Table 1-1: Six key policy directions and examples of connections with established policy



Policy direction	Relevant supporting statement/ theme in core existing policy document
Manage parking for town centre vitality and to support mode shift	"Address the community's parking needs to minimise impacts on community wellbeing, and improve the connections and the vibrancy of the city" (Objective from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).
Intensify development around rapid transit	"A greater percentage of people (compared to 2017 numbers) will live within walking distance of a major transport node" (Target from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>)
	Reduce car congestion by encouraging greater local employment, health, education and shopping opportunities close to home and public transport networks (Objective from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).
	<i>Plan Melbourne</i> prioritises 20-minute neighbourhoods including promoting increased employment closer to where people live and increased proportion of new housing in established areas and in activity centres.
Ensure cycling plays its role	"We will increase bicycle usage by 10 per cent from 2017 figures" (Target from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>)
	<i>Plan Melbourne</i> aims for cycling to become a more important transport mode.
Work toward `vision zero' road deaths and serious injuries	"Enhance road user safety with particular focus around schools and activity centres" (Objective from the <i>Draft Glen Eira Council and Community Plan 2017-21</i>).
Plan for attractive congestion-	Plan Melbourne aims for increased use of public transport.
reducing congestion	<i>Glen Eira Activity Centre, Housing, and Local Economy Strategy (2017)</i> aims for activity centres to be highly accessible by sustainable transport modes; walking, cycling and public transport – reducing car dependency.



2 Elsternwick's transport network and urban environment

This section provides a brief descriptive overview of the transport networks available within the Elsternwick Activity Centre, outlining major elements of the road, public transport, walking and cycling networks, transport user groups and the land-use context within which the transport system operates.

2.1 Transport network

Elsternwick activity centre is located 9km south-east of Melbourne's CBD. The local centre is serviced by an extensive road network, Elsternwick Station on the Sandringham passenger rail line, and a tram route running on Glen Huntly road (see Figure 2-1). The activity centre is located at the junction of Glen Huntly Road and its tram route, the rail station and the Nepean Highway, a major arterial road of metropolitan significance on its western edge.

Glen Huntly Road is the major arterial road running east-west through the activity centre. It is the major shopping street and has the highest level of pedestrian activity as well as carrying high volumes of traffic and the 67 tram route. Glen Huntly road intersects with the Nepean Highway just to the west of the shopping strip.

The Sandringham rail line provide frequent passenger services between Elsternwick and the Melbourne CBD and runs south to Sandringham. The rail line runs beneath Glen Huntly Road with a below-grade station platform. The 67 tram route provides connections north to the CBD and east toward Carnegie.

Walking networks are primarily comprised of footpaths that are near-universally provided on all streets within the activity centre. Major road intersections include signalised pedestrian crossings. Cyclists use the road network and some limited cycling facilities such as painted on-street lanes on the Nepean Highway and some collector roads.

Figure 2-1 illustrates the area within a 10-minute walk from the Elsternwick retail strip. The 10-minute catchment extends a maximum distance of approximately 700m distance from the retail strip. To the east of the railway line the walking catchment has a relatively regular reflecting good pedestrian connectivity enabled by the regular street grid. The railway and the Nepean Highway introduce barriers to east-west pedestrian connectivity and mean reduced walking access from areas to the west of the shopping strip.







2.2 Land-use

The Elsternwick activity centre includes a local shopping and hospitality strip on Glen Huntly Road, a major office and production facility for the ABC immediately to the north of Elsternwick Station (to shortly be closed and presenting a major redevelopment opportunity) and surrounding residential uses.

The centre has a particularly vibrant hospitality function with a 65 restaurants, cafes and bars within the activity centre area (see Table 2-1). The centre attracts visitation from a wider catchment than some other Glen Eira activity centres due to its hospitality offer and the presence of the Classic Cinema (BWEC 2017). For context, Table 2-1 compares the retail and hospitality offer in Elsternwick with two other major activity centres in Glen Eira; Carnegie and Bentleigh.

					-			
	Food retailin	Ig	Non-food re	tailing	Hospitality		Total	
	Floorspace (m2)	Number of businesses						
Bentleigh	12600	32	15500	77	7200	56	35300	165
Carnegie	11900	25	8000	30	8200	55	28100	110
Elsternwick	6000	18	13700	65	9300	71	29000	154

Table 2-1: Retail and hospitality businesses in Glen Eira activity centres

Source: BWEC (2017) Glen Eira Economic Analysis and Forecasting Study.

Common residential building typologies include 2-storey attached units, multi-storey apartment buildings and detached single or double-storey houses. At least ten planning permits have been issued during the past four years for higher-density residential buildings of between 3 and 11 storeys. This higher density development is concentrated on the Glen Huntly Road corridor.



Employment functions includes the retail, hospitality and services along Glen Huntly Road and small office spaces in shoptops. A small private health facility (Cabrini Health) is located on Glen Huntly Road while further east and outside the activity centre area is Caulfield Hospital. At the south of the activity centre on the Nepean highway there is car retailing activity.





Source: Glen Eira City Council (2017) Elsternwick: Draft Concept Plans (July 2017 for consultation).

The resident population of the activity centre area is over 6,500 people, while there are around 2,700 jobs in the area (see Table 2-2). The area has higher employment levels and job density than Glen Eira's other major activity centres.

Table 2-2: Jobs and population in three Glen Eira activity centres

	Jobs	Job density (jobs/Ha)	Population	Population density (people/ Ha)
Bentleigh	1813	11	6080	35
Carnegie	1113	12	4899	52
Elsternwick	2730	18	6563	42

Source: MRCagney analysis of ABS 2011 Census data.



2.3 Forecast growth and implications for transport demand

The population of the Elsternwick activity centre has recently grown and is expected to continue doing so, alongside forecast growth across the Glen Eira municipality.¹ A total of 802 new dwellings were approved for construction in the past decade (2006-2016) within the activity centre area.² Recent assessment of the potential for further growth in dwellings found potential for adding just over 2,100 new dwellings within the activity centre area.³

This assessment of new dwelling potential is not a forecast for future growth but rather an assessment of development opportunities. Whether development opportunities are taken up, and over what time period will be subject to various market and policy factors. Nevertheless, the assessment highlights that there is significant potential for further residential growth in the area. For example, if all opportunities for additional dwellings within the activity centre area were to be built out this could result in approximately 5,700 additional residents (2,100 dwellings*average 2.7 people/ dwelling⁴), close to doubling the local population.

Additional population will have implications for transport demands. It will increase demands for commute travel, particularly to major service-sector jobs centres such as the CBD. The municipality has a relatively low level of employment self-containment, with the fourth-lowest level of locally-employed working residents among the 31 Melbourne local government areas.⁵ High levels of employment outside Glen Eira for its residents reflects the absence of any major employment centre within the municipality and the dominant `white collar', service-sector occupations of Glen Eira residents that tend to be concentrated in central Melbourne. While some additional local jobs may be created, there will likely be continuing high demands for commute movements in and out of Elsternwick, the bulk of which will need to be provided for with private vehicles or public transport due to trip distances that are beyond the range of walking and cycling for most users.

A growing local population in the activity centre will also be accompanied by increased walking and cycling demands for short-distance local trips. With recent population growth concentrated around the retail strip and rail station and future growth oriented toward these areas through planning policy, there is likely to be increasing demand for walking and cycling access to local shops and services.

With regard to growth in employment and retail and local services, the Glen Eira Economic Analysis and Forecasting Study⁶ suggests there are several opportunities for growth in commercial space in the Elsternwick Activity Centre:

2	ABC studios in Gordon Street:	~1.2 ha site
2	ABC production facilities site in Selwyn Street:	6,155 m ² site.

These are major development sites and the transport implications of intensification or changes of land use at these sites will depend on development outcomes. Whether residential or commercial development, they will place additional demands on roads, parking, public transport and local walking and cycling.

¹ Across the Glen Eira municipality, annual population growth is forecast to average 1.3% between 2011-21 and 0.9% between 2021-31. See: The State of Victoria Department of Environment, Land, Water and Planning (2016) *Victoria in Future 2016: Population and household projections to 2051.*

 $^{^{2}}$ Id Consulting (2017) City of Glen Eira – Housing id – analysis of housing consumption and opportunities

³ Ibid.

⁴ Average people/ dwelling for the Greater Melbourne Statistical Area,

http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/2GMEL?opendocument

⁵ For further analysis see: BWEC (2017) Glen Eira Economic Analysis and Forecasting Study.

⁶ Ibid.

3 Policy context

This section reviews the policy context relevant to transport and land-use planning for the Elsternwick activity centre. It identifies recently proposed changes to land-use planning policy for the activity centre that future transport sector interventions will need to support.

3.1 Overview of policy landscape

Figure 3-1 illustrates the key policy documents guiding future development of the Elsternwick activity centre. At a high-level, *Plan Melbourne* provides the overarching framework within which Glen Eira's policy documents fall. The *Elsternwick Structure Plan* (currently in preparation) will translate the principles of the *Activity Centre, Housing and Local Economy Strategy* to the Elsternwick local context. The Council's *Planning Scheme* will provide the detailed planning provisions that allow implementation of the vision developed by the Structure Plan.





Table 1 summarises these key relevant policy documents, describing the relevant policy directions from each document and how these translate to the Elsternwick context.



Policy document	Role of document and summary of key relevant policy directions	Implications for Elsternwick: `what does success look like for transport and land-use in Elsternwick?'
Plan Melbourne 2017-2050 (2017)	High-level direction for metropolitan-scale urban planning and managing strong growth in forecast transport demand and housing needs.	Good local transport connectivity to the Elsternwick Activity Centre, particularly walking and cycling connections.
	Prioritises 20-minute neighbourhoods including promoting increased employment closer to where people live, and local walking and cycling	Public transport, walking and cycling become more important transport modes.
	Promotes increased proportion of new bousing in	Transport capacity across all modes is sufficient to cater to growth in demand.
	established areas and in activity centres.	New housing is concentrated within the activity centre.
Glen Eira Draft Council and Community Plan	Five themes guiding policy objectives across all Glen Eira Council functions: Liveable and well designed. Accessible and well connected. Safe	Increased walkability in the Elsternwick neighbourhood.
2017-21 (2017)	healthy and inclusive, Clean and sustainable, Informed and engaged.	Increased levels of cycling.
		Parking and traffic demands accompanying growth are well-managed.
Glen Eira Activity Centre, Housing, and Local Economy Strategy (2017)	Establishes a long-term strategic framework for `managed change' in Glen Eira's activity centres – covering place-making, local economy and housing.	Elsternwick is highly accessible by sustainable transport modes; walking, cycling and public transport – reducing car dependency.
	Three policy themes: Well-connected and	Neighbourhoods are highly walkable and safe.
	distinctive neighbourhoods, Vibrant activity centres with a thriving local economy, Quality housing and buildings for the future.	Parking and traffic demands accompanying growth are well-managed.
Elsternwick Draft Concept Plans (2017) - consultation document to inform	Establishes a vision for Elsternwick and place- making, housing, economy and transport objectives.	"Elsternwick will be an accessible local shopping destination with a vibrant café and restaurant culture".
structure plan	Identifies opportunity areas for public sector interventions.	High levels of walking, cycling and public transport.
	Provides an outline of desired built form; `the right buildings in the right locations'.	
Glen Eira Planning Scheme (2017)	Provides a framework for land-use and development in Glen Eira, consistent with State- level policy – though objectives, zoning and planning provisions.	Population and employment growth and land- use development is accompanied by and well- coordinated with sufficient transport facilities and infrastructure.
	Plan-enabled capacity for housing and employment growth is focused on activity centres – particularly designated `urban villages' which include Elsternwick, Elsternwick and Elsternwick.	

Table 3-1: Key policy documents and implications for transport and land-use change in Elsternwick



The five policy documents have been prepared to be deliberately coordinated. As such, there are a considerable number of shared policy directions. We identify the following key common directions across the documents for the transport sector:

- Providing for significant growth in transport demand and doing so by prioritising sustainable transport modes including walking, cycling and public transport.
- Managing increased transport demand by promoting distributed employment across Melbourne activity centres with `local jobs for local residents'.
- Sensuring good transport accessibility to activity centres particularly by sustainable modes.
- Promoting good local accessibility, with the concept of the '20-minute neighbourhood' and a particular emphasis on highly walkable neighbourhoods.
- Encouraging increased cycling.
- Managing the potential impacts of increased traffic and parking demand associated with land-use change and intensified development.

With regard to the role of activity centres such as Elsternwick, these policy documents emphasise the following objectives:

- Making activity centres `work hard' in accommodating the bulk of increased housing demand and employment space.
- Promoting activity centres as vibrant, attractive, mixed-use areas.
- Secouraging high-quality design of built form in activity centres.
- Sector 2 Encouraging activity centres to accommodate growing housing needs with a diverse range of welldesigned housing options.
- Ensuring activity centres are well supported by transport links, particularly public transport, walking and cycling.

These transport and land-use planning Elsternwick activity centre. It provides a basis for assessing performance and identifying interventions in the later chapters of this paper.

3.2 Elsternwick Draft Concept Plans and implications for the transport sector

The Glen Eira City Council's *Elsternwick: Draft Concept Plans* (July 2017 for consultation) provides the most detailed level of policy direction specific to the activity centre. The performance assessment and proposed interventions seek to respond to this policy direction and improve understanding of the transport implications of realising this vision.

The Concept Plan establishes the following vision for the centre:

Elsternwick will be a safe, accessible and liveable centre that embraces its historic character and strong cultural and village feel. The centre will be a destination for its longstanding cultural and entertainment offerings, business and employment opportunities, and a range of quality local retail outlets and community spaces.

It also details a set of objectives across place-making, housing, economy and transport topics. For the transport sector the two objectives are:

Encourage walking, cycling and use of public transport

Explore innovative approaches to car parking and traffic management.

The Plan outlines a set of potential interventions or `transformation concepts'. Interventions with particular relevance for transport include:



- Seplacing the existing surface car parking lot at Stanley Street West with a mixed use building, while consolidating parking in a new multi-storey parking building at Stanley Street East
- > Investigating a new cycling link following the railway
- Improving pedestrian amenity on Gordon and Selwyn streets, side streets to Glen Huntly Road.

The Plan finally specifies a proposed `building transitions plan' that could form the basis of revised Planning Scheme provisions for building height and bulk in the activity centre (see Figure 3-2). Key features of the plan are to concentrate higher density development around the Nepean Highway corridor, preserve much of the housing in the immediate vicinity of the centre as heritage/ character housing and develop selected strategic development sites for community benefit.



Figure 3-2: Planned future land-use, Elsternwick Activity Centre

Source: Glen Eira City Council (2017) Elsternwick: Draft Concept Plans (July 2017 for consultation).



4 Transport performance assessment

4.1 Approach to performance assessment

The performance assessment aims to identify the extent to which current and forecast future performance of the transport sector is likely to be in line with the desired directions expressed by policy. This highlights policy goals that may be particularly difficult to achieve under `business-as-usual' trends and opportunities for interventions that can shift these trends.

In general, performance assessment requires definition of what is meant by `desirable' performance. Current performance can then be compared with a benchmark to identify gaps between desired performance and current and forecast future performance. We take desirable performance to be summarised by the six policy directions established in the previous chapter.

The performance assessment for Elsternwick has use the following sources of data and information:

- Quantitative indicators of recent transport activity (eg counts, surveys, government statistics)
- > Network connectivity assessment
- **u** Qualitative `design assessment' of current ground conditions against best-practices standards.

Table 4-1 summarises the approach used for assessment under each of the six policy directions. A mix of quantitative key performance indicators are reported on, alongside network connectivity assessment and qualitative assessment of design performance.

Policy direction	What does success look like?	Key performance indicators	Other tools for performance assessment
Put walkability first	High levels of walking for a range of trip purposes. Excellent walking environment.	Walking commute mode share Walking access to	Design assessment of infrastructure: comparison with international best practice `complete streets' design guidance.
		Activity Centres	Assessment of walking network connectivity.
Manage parking for streetscape amenity, town centre vitality and to support mode shift	 Peak-period parking occupancy of 70-90% (reflecting sufficient supply but not oversupply of parking spaces). High turnover of parking spaces allowing accessibility by high number of users. Parking does not detract from streetside amenity or reduce attractiveness of walking, cycling environment. 	Parking turnover Parking occupancy Parking revenue	Assessment on suitability of current parking management regime. Assessment of allocation of road space to parking vs other uses and impact of parking on other uses.
Intensify development around rapid transit	Residential and commercial development is concentrated within 800m walking catchment of high quality public transport (rail and trams). New development is well integrated with public transport through provision of good walking links to stations.	% of recent development within walking catchment of high quality PT	Assessment of development potential enabled by Planning Scheme. Development feasibility forecasting/ modelling

Table 4-1: Approach to assessing transport system performance



Policy direction	What does success look like?	Key performance indicators	Other tools for performance assessment
Ensure cycling plays its role	High levels of cycling for a range of trip purposes.	Cycling commute mode share	Assessment of cycling network connectivity.
	Excellent cycling environment.	Cycle counts	Assessment of network infrastructure quality against best-practice guidelines.
Work toward `vision zero' road deaths and serious injuries	Low level of road crashes, all modes. Road infrastructure conforms to best- practice design standards for safety.	Number of road crashes, by mode	Assessment or road speed limits.
Plan for attractive congestion- free networks rather than reducing congestion	Provision of high-quality public transport (spatial extent, temporal span of service, vehicle and facility quality, etc).	PT commute mode share % of population/ jobs within 800m of high quality PT station.	Assessment of spatial extent and connectivity of PT network.

4.2 Assessment: putting walking first

4.2.1 Recent trends in walking activity

Walking is a reasonably popular mode of transport to access the Elsternwick activity centre and for movement within the activity centre, although many people access the centre by car.

A recent Shopping Strip Survey⁷ of Glen Eira residents indicated that while the highest proportion of trips to Elsternwick activity centre are made on foot (51%), a significant proportion of trips are made by car (34%). The remaining 15% use other modes including public transport and cycling.

Data on mode of transport for accessing the Elsternwick rail station also shows that walking plays an important role for local, short-distance trips. As a proportion of Elsternwick train station users, 51% accessed the station by walking only in 2013-2014⁸. In addition, 23% accessed the station by car, 19% arrived by tram, 5% by bus and 2% by train. Public transport trips to the station and even trips by car (assuming the driver leaves the car parked at or nearby the station) result in some distance being covered on foot (point of origin to vehicle and vehicle to station entrance).

In comparison with other Melbourne stations that have similar levels of patronage, Elsternwick has average access by walking only (ranking 110 of 198 stations with between 500,000 and 1.5 million annual boardings for 2013-2014). Among stations within Glen Eira, Elsternwick is at the low extremity of the range of access by walking only (range: 51 to 79%), although the station also has the highest proportion of access by tram.

While walking is common around Elsternwick, there is also significant use of cars for local trips to and around the activity centre. Car park surveys⁹, indicate that almost half (44%) of people who visit the town centre by car reside in the centre's immediately surrounding suburbs bounded by Nepean Highway, North Road, Booran

⁹ BWEC (2017) Glen Eira Economic Analysis and Forecasting Study. Melbourne: Glen Eira City Council.



⁷ Shopping Strip Survey (2017) Glen Eira City Council.

⁸ Public Transport Victoria Train Station Patronage fact sheet. Available at: https://www.ptv.vic.gov.au/about-ptv/ptv-data-and-reports/research-and-statistics/. Accessed 27 July 2017.

Road and Glen Eira Road. Adjacent suburbs account for a further 21% of people who arrived by car, meaning that around 65% of people arriving by car live within a 2.5km radius of the centre.

The 10-minute walking catchment surrounding the main retail strip of Glen Huntly Road is shown in Figure 4-1.





4.2.2 Current state of walking facilities

Walking facilities in the Elsternwick activity centre is generally good, with provision of 3.0-3.5m wide footpaths and kerb build-outs in places. Pedestrian amenity is provided with bespoke paving, low planting and a suite of street furniture. The most important issues are the lack of crossings of Glen Huntly Road, the variable quality of side street treatments and major barriers to pedestrian network connectivity.

The lack of crossings on main street can be demonstrated by comparing with other town centre streets with better provision. Willoughby Road in Crows Nest, New South Wales provides a good example of frequent pedestrian crossings along a suburban activity centre main street (see Figure 4-2). The retail frontage of the street is around 500m long and zebra crossings and signalised crossings are spaced at an average of 100m. In comparison, Glen Huntly Road is far longer than Willoughby Road with around 1,200m of retail frontage but just three crossing facilities, with an average crossing spacing of 250m.



Figure 4-2: Crossing spacing along Willoughby Road, Crows Nest, New South Wales (not to scale)



Many of the side street treatments along Glen Huntly Road have not been designed to best practice standards (refer Figure 4-3). On many streets, flush pedestrian `courtesy' crossings and pedestrian refuges are provided at intersections with Glen Huntly Road. While this provides a level of convenience for pedestrians and goes some way to facilitating easy crossing, these facilities do not encourage low speeds for turning vehicles to the same extent that raised pedestrian crossings do, for example. Additionally, the provision of several turning lanes and over-dimensioned turning radii at several of the intersections with Glen Huntly Road encourage higher vehicle speeds and lengthen the distance over which crossing pedestrians are exposed to traffic danger and stress. Further adding to this issue are the steel fence style barriers used at some intersections along Glen Huntly Road (for example at the Carre Street intersection), which restrict pedestrian movement and encourage higher travel speeds, making the street environment less safe for vulnerable street users.



Figure 4-3: Poor side-street treatments, Elsternwick activity centre (Glen Huntly Road/Gordon Street intersection)

The walking catchment of Elsternwick's retail centre is truncated to the west by the rail line and Nepean Highway, which greatly constrains pedestrian connectivity. In and around Elsternwick's retail centre, the rail



line can be crossed by pedestrians using Glen Huntly Road and Hotham Street, 500m to the north on the edge of the study area. The Nepean Highway forms the western boundary of the study area, creating a barrier to pedestrian movement due to the hostile environment generated by the high speed and volume of traffic and the scale of the road and the intersections at which signalised crossing facilities are provided.

4.2.3 Providing for future walking needs

Increased residential density is planned to be located around the station, between the rail line and the Nepean Highway and along Glen Huntly Road, with accommodation of buildings up to 12 storeys proposed in the Elsternwick Draft Concept Plans (for consultation). This pattern of development will increase pedestrian traffic on the main street, placing further importance on the level of provision made for pedestrians with regard to crossing opportunities and side street treatments.

Further details on recommended interventions that respond to planned land use change are included in Section 6.1.

4.3 Assessment: parking management

4.3.1 Current parking supply

The Elsternwick Activity Centre has a moderately high level of parking provision primarily in the form of multiple medium and large sized at-grade public parking facilities provided behind the established shopping strip on Glen Huntly Road, in addition to a relatively high proportion of angled on-street spaces, particularly along the rail corridor. There are a total of just over 1,000 publicly-available parking spaces in the activity centre, with the majority being under control of Council (see Table 4-2).

Council Owned Car Parks		% of total
On Street	415	41%
Off Street	364	36%
Total	779	77%
Privately Owned Public Car F	Parks	
Privately Owned Public Car F Coles	arks 227	23%
Privately Owned Public Car F Coles Total	227 227 227	23% 23%

Table 4-2: Current publicly-available car parking supply, Elsternwick activity centre

Source: Glen Eira City Council.

The following provides an analysis of how current parking supply for commercial uses in the Elsternwick activity centre compares with parking supply guidance provided by Victorian standard parking rates and by best-practice guidance for appropriate levels of parking supply in centres well-served by public transport.

Using data on non-residential floorspace within the activity centre, an approximation of statutory parking supply requirements based on the Glen Eira Planning Scheme has been made to help contextualise the extent of existing non-residential parking supply in the precinct. This assessment is summarised in Table 4-3 below.

Table 4-3: Notional non-residentia	I parking requirements,	based on Glen Eira	Planning Scheme parking rates
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Type of Tenancy	Number of Tenancies ^a	Total Gross Floor Areaª	Corresponding Land Use (Cl. 52.06)	Adopted Parking Rate (Cl. 52.06) ^b	Stipulated Parking Supply
Housewares retailing	1	138	Shop	3.5	5



Type of Tenancy	Number of Tenancies ^a	Total Gross Floor Areaª	Corresponding Land Use (Cl. 52.06)	Adopted Parking Rate (Cl. 52.06) ^b	Stipulated Parking Supply
Manchester and other textile good retailing	2	234	Shop	3.5	8
Electrical, electronic and gas appliance	4	679	Shop	3.5	24
Computer and computer peripheral	2	226	Shop	3.5	8
Other electrical and electronic goods retailing	1	433	Shop	3.5	15
Sport and camping equipment	1	352	Shop	3.5	12
Toy and game	3	560	Shop	3.5	20
Newspaper and book	3	424	Shop	3.5	15
Clothing retail	19	2878	Shop	3.5	101
Footwear retail	4	703	Shop	3.5	25
Watch and jewellery	4	359	Shop	3.5	13
Pharmaceutical, cosmetic and toiletry	6	1751	Shop	3.5	61
Stationary goods retailing	2	1263	Shop	3.5	44
Antique and used goods retailing	1	43	Shop	3.5	2
Flower retailing	2	347	Shop	3.5	12
Other store based retailing	16	3353	Shop	3.5	117
Cafes and restaurants	62	8765	Restaurant	3.5	307
Takeaway Food Services	3	535	Convenience Restaurant	3.5	19
Bakery Product Manufacturing	6	1229	Food and drink, other	3.5	43
Supermarket and grocery stores	2	2598	Supermarket	5	130
Fresh meat, fish poultry	2	328	Food and drink, other	3.5	11
Fruit and vegetable retailing	2	477	Food and drink, other	3.5	17
Liquor	3	700	Shop	3.5	25
Other specialised food retailing	3	624	Food and drink, other	3.5	22
				Total	1,054

^a Source: BWEC (2017) *Glen Eira Economic Analysis and Forecasting Study.* Melbourne: Glen Eira City Council. ^b Reduced Column B rates have been adopted for the Activity Centre.

As detailed above, there is an existing minor undersupply of parking for non-residential uses compared with Glen Eira Planning Scheme requirements when adopting reduced Column B rates from Clause 52.06, however this does not consider that peak demand periods for different land uses occur at different times of day. In practice, different uses with different peak parking demand periods tend to complement each other such that less parking is needed to satisfy the peak parking demand of the precinct, compared to a simple assessment

of individual parking requirements. It is also noted that all on-street parking is assumed to be available to cater to this non-residential parking demand.

While this analysis suggests parking is undersupplied in Elsternwick, consideration of some additional best practice benchmarks for parking supply is instructive, and highlights the extent to which parking may in fact be oversupplied. The *Transit Oriented Development: Guide for Practitioners in Queensland*,¹⁰ is designed to build understanding of the transit oriented development (TOD) concept and provides guidance covering urban density, community diversity and various technical standards and specifications, including parking rates.

Rather than minimum rates, the TOD Guidelines support the adoption of *maximum* parking rates, in addition to a suite of demand reduction measures including unbundling parking from dwelling sales, consolidation and sharing of parking between different developments and land uses, introduction of car share schemes, and priced parking. Table 4-4 outlines the suggested maximum parking rates for different TOD precinct types. The varying rates recognise the different functions, demand for parking, density and supply of transit in different precinct types. The guideline suggests that parking should not exceed the base maximums, and adoption of the preferred maximums is strongly encouraged. An additional key feature of the TOD Guidelines is the simplification of land uses to residential and retail and office, preventing the transition to different uses being stifled by onerous and complex parking requirements.

Dresingt Turse	Residential (Car S	Spaces per Unit)	Retail and Office (Square Metres per Car Space)			
Precinct Types	Base Maximum	Preferred Maximum	Base Maximum	Preferred Maximum		
City Centre	0.75	0.5	400	600		
Activity Centre	1	0.75	100	200		
Specialist Activity Centre	1.25	0.75	100	150		
Urban	1	0.75	200	300		
Suburban	1.25	1	75	100		
Neighbourhood	1.25	1	50	100		

Table 4-4: TOD Guidelines – Maximum Parking Rates

*Complete Streets*¹¹ provides an additional set of benchmark parking rates with which to compare parking supply in Elsternwick. Similar to the TOD Guidelines, adoption of maximum rates is recommended throughout, particularly in areas where alternative transport options such as public transport, walking and cycling exist. Recommended maximum parking rates are derived from a review of parking rates from planning schemes throughout Queensland and from extensive research on urban mixed-use areas.

Table 4-5 provides an overview of the suggested maximum parking rates from *Complete Streets*.

Location	Commercial cation (Locations with Quality PT Access)		Residential (Locations with Quality PT Access)	Residential	
Capital CBD	1 space / 500m ²	1 space / 200m ²	0.5 spaces per unit	1 spaces per unit	
Regional CBD	1 space / 150m ²	1 space / 100m ²	1 spaces per unit	1.25 spaces per unit	
Capital Suburb	1 space / 100m ²	1 space / 75m ²	0.75 spaces per unit	1 spaces per unit	

Table 4-5: Complete Streets Maximum Parking Rates

¹¹ Institute of Public Works Engineering Australia. Queensland Division Inc & Parsons Brinckerhoff 2010, *Complete streets : guidelines for urban street design (based on the standards presented in the IPWEAQ Queensland streets)*, [New ed.], Institute of Public Works Engineering Australia - Queensland Division, Fortitude Valley, Qld



¹⁰ Queensland. Dept. of Infrastructure and Planning 2010, Transit oriented development guide, Dept. of Infrastructure and Planning, Brisbane

	Regional Suburb	1 space / 75m ²	1 space / 50m ²	1 spaces per unit	1.25 spaces per unit
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Adopting appropriate rates from Table 4-4 and Table 4-5 provides a basis for an assessment of existing parking supply in comparison to best practice benchmarks, as outlined in Table 4-6.

Tahle	1-6.	Renchmark	narking	requirements	- Elsternwick	Activity	(Centre
Table	4-0.	Denumark	parking	requirements	- LISIEITIWICK	ACTIVIT	y Genne

Total Commercial	Existing Supply	Glen Eira Planning	Complete Streets	TOD Guidelines	
Floor Area		Scheme	1 / 100 (max)	1 / 200 (max)	
28,999m ² GFA	1,066	1,054	290	145	
	(see Table 4-2)	(minimum)	(maximum)	(maximum)	

Table 4-6 demonstrates that the Elsternwick activity centre has a significant oversupply of car parking, relative to best practice guidance on appropriate parking supply for centres well-served by public transport.

4.3.2 Current parking management tools

Existing parking management regimes in Elsternwick include time limits, however parking is not priced. In addition, there are a number of marked loading zones and equal access parking spaces. Time limits for off-street parking in Elsternwick are generally 2 hours, while on-street parking is generally a mix of 1P and 2P restrictions, with some 4P and unrestricted bays provided along the rail line.

Time restrictions are enforced manually by parking officers without assistance from parking bay occupancy sensors.

4.3.3 Current parking demand

Parking occupancy surveys have been undertaken at Council car parks within the Elsternwick Activity Centre in order to audit existing parking supply, existing parking restrictions, and measure utilisation. Surveys were conducted by O'Brien Traffic on Tuesday 25 July and Saturday 29 July 2017 from 8:00am - 10:00pm and 9:00am - 2:00pm, respectively. A map of the surveyed parking areas is provided below.



Figure 4-4: Location of parking surveys



Source: O'Brien Traffic

Table 4-7 and Table 4-8 below show the parking occupancy with the surveyed parking areas across the Tuesday survey period and the Saturday survey period, respectively. The results indicate that parking occupancy is generally reasonably low, although total Tuesday occupancy may be approaching levels that warrant consideration of some minor changes to parking management strategies. Furthermore, the results suggest parking may be oversupplied in some areas, with CP17 and CP19 consistently recording low occupancy across both Tuesday and Saturday survey periods.

As shown in Table 4-7, Tuesday parking demand is very low before 9 am, before ramping up slowly to a peak from approximately 11 am - 12 noon, with elevated demand lasting until approximately 3 pm. There is little night-time parking demand, with occupancy remaining consistently low from 5 pm - 10 pm.

Parking Area	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM
CP16	36%	62%	64%	92%	91%	84%	79%	93%	61%	61%	33%	16%	7%	4%	1%
CP17	56%	23%	40%	76%	79%	64%	67%	67%	79%	46%	17%	12%	17%	13%	10%
CP18	9%	53%	77%	92%	92%	90%	88%	75%	82%	73%	49%	47%	58%	32%	27%
CP19	4%	29%	51%	66%	67%	67%	55%	64%	48%	42%	18%	15%	12%	3%	3%
Total	23%	41%	57%	80%	81%	75%	70%	74%	65%	54%	28%	21%	22%	12%	9%

Table 1 7.	Devidence		wa a u lka	Tuesday	ог	1	0017
1adle 4-7:	Parkinu	survey	results –	Tuesdav	20	JUIV	2017

As shown in Table 4-8, Saturday parking demand is generally very low at 10 am, before ramping quickly to an extended, albeit low peak (total occupancy does not exceed 69%) that occurs from approximately 11 am until beyond 2 pm. Parking area CP18 to the south of Glen Huntly Road is the only parking area that experiences high parking demand, however the adjacent CP19 experiences much lower parking demand.



	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM
CP16	27%	39%	69%	64%	61%	45%
CP17	12%	23%	67%	56%	59%	42%
CP18	31%	45%	92%	92%	86%	88%
CP19	14%	33%	52%	44%	35%	35%
Total	20%	35%	69%	62%	57%	51%

Figure 4-5 and Figure 4-6 below presents graphs of parking occupancy recorded across the Tuesday survey period and Saturday survey period, respectively, and provide a clearer picture of the change in parking demand recorded across the day.

Figure 4-5 shows that peak occupancy of around 80% occurs only briefly around 11 am, and while CP16 and CP18 record occupancies of above 90%, other car parking areas record much lower corresponding occupancies, suggesting that CP16 and CP18 are simply the most valued parking locations, rather than there being a genuine parking undersupply.





Similarly, Figure 4-6 illustrates that Saturday parking demand is generally very low across the precinct, albeit with localised high parking demand experienced only in CP18.



Figure 4-6: Surveyed parking occupancy – Elsternwick, Saturday 29 July 2017

Figure 4-7 outlines the average 4-hour peak parking occupancy for the Tuesday and Saturday survey periods. The average 4-hour peak occupancy is a metric that is often used as a reference to judge whether additional parking management strategies, including priced parking, are warranted. The average 4-hour peak occupancy represents the average of the four highest hourly parking occupancies recorded across the day. The four highest parking occupancies do not have to occur across consecutive hours. Generally, if the average 4-hour peak occupancy peak occupancy is greater than 85%, then further parking management strategies should be considered.



Figure 4-7: Average peak occupancy across carpark locations, Elsternwick Activity Centre

Figure 4-7 shows that Tuesday parking occupancy at 78% is within the 85% threshold, suggesting that there is not a strong basis for introducing management tools such as pricing if current levels of supply are maintained. Saturday parking occupancy at 60% certainly suggests further parking management is not required. It is noted however, that parking occupancy at CP16 and CP18 is in excess of the 85% threshold, and may warrant some localised tweaking of management regimes.



Parking areas CP17 and CP19 are notable for their low recorded parking occupancies, which may suggest that there is little appetite for parking in these locations and that parking is oversupplied in these locations.

It is noted that parking surveys do not cover on-street locations. Demand for on-street parking spaces in town centres is generally than off street locations due to convenience, and as such this may mean that survey results somewhat under-represent true demand for parking.

4.3.4 Impacts of parking facilities on public realm quality

The extent of surface parking provision in the Activity Centre is having some negative impact on the quality of the public realm. Significant space is devoted to surface parking within accessible public transport catchments and the walkable catchment of the main street. The prioritisation of space for on-street parking rather than footpath space on Glen Huntly Road also contributes to somewhat drab pedestrian experience, and offers little opportunity for quality footpath dining.

Glen Huntly Road has a relatively long main street frontage and the public realm can occasionally lack a consistent feeling of activity. Large car parks within key walkable catchments, particularly those on Stanley Street and Staniland Grove, contribute to this perception and represent unfulfilled opportunities for increased vibrancy and activity through quality infill development. The long car park frontages on these sites contribute to a poor pedestrian experience for people walking to and from the main street from nearby residences, particularly by minimising casual surveillance through `eyes on the street'.

The combined impact of existing parking provision is at odds with several aspects of Council's Building Transition Plan Background Report for Elsternwick, in particular:

- Policy Direction, Transport: "Due to broader catchment, driving to the centre is required, however aim for majority of visits to be accessible by public transport, foot or bike.
- Solution States and a sector of the sector o
- Solution Objective, Placemaking: Encourage development that provides a community benefit
- Objective, Placemaking: Support safe, accessible and friendly streets
- Solution State Sta
- Solution Objective, Transport: Explore innovative approaches to car parking and traffic management.



Figure 4-8: Large surface car park fronting key site on Orrong Road

4.3.5 Providing for future parking needs

Non-Residential Parking



Quantifying future parking needs is somewhat difficult as it requires balancing various factors including demand, ability to provide supply, support for pricing and management mechanisms, and broader transport, movement, urban form and character considerations.

It will be necessary to maintain an appropriate level of parking supply in Elsternwick to support accessibility for people who genuinely rely on travel by private vehicle, however more broadly, parking policy should be treated as a tool that must support the urban form, sustainable transport and public realm visions for the precinct.

The Glen Eira Economic Analysis and Forecasting Study¹² suggests there are two key opportunities for retail growth in the Elsternwick Activity Centre:

2	ABC studios in Gordon Street:	~1.2 ha site
N	ABC production facilities site in Selwyn Street:	6,155 m ² site.

ABC production facilities site in Selwyn Street: 6,155 m	m² si
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The ABC production facilities site on Selwyn Street has recently been purchased by Woolworths, and represents an opportunity to provide a second supermarket. On that basis, an additional 4,000m² of supermarket floorspace for the Selwyn Street site and a nominal figure of 5,000m² additional retail and/or restaurant floor space for the Gordon Street site has been adopted as an approximation of the Activity Centre's capacity to support additional retail floor space, in order to estimate the potential increase in future parking needs. Table 4-9 below provides an assessment of potential future non-residential parking needs based on Council's Cl. 52.06 parking rates, and maximum parking rates outlined in Complete Streets and the TOD Guidelines.

	Potential Increase	Corresponding	Parkir	ng Rate			Parking Su	pply
Site	in GFA (m ²)	Land Use (Cl. 52.06)	Council Cl. 52.06	Complete Streets	TOD Guidelines	CI. 52.06	Complete Streets	TOD Guidelines
ABC studios, Gordon Street	5,000	Restaurant/Shop	Minimum 5 spaces / 100 m²	Maximum	Maximum	250	50	25
ABC production facilities. Selwyn Street	4,000	Supermarket	Minimum 3.5 spaces / 100 m²	1 space / 100 m ²	1 space / 200 m ²	140	40	20
		·			Total	390 (min)	90 (max)	45 (max)

Table 4-9: Potential additional future non-residential parking needs

Combining data from Table 4-6 and Table 4-9 provides an overview of the total future parking needs compared to existing supply based on the three approaches to parking provision.

Table 4-10: Potential total future parking needs

	Cl. 52.06	Complete Streets	TOD Guidelines
Existing Parking Requirement	779 (minimum)	290 (maximum)	145 (maximum)
Additional Future Parking Needs	390 (minimum)	90 (maximum)	45 (maximum)
Total Future Parking Needs	1,169 (minimum)	380 (maximum)	190 (maximum)

¹² Add full reference

xisting Parking Supply	1,006
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Table 4-10 clearly highlights the disparity between existing parking provision regulations and best practice approaches to parking supply in Activity Centres.

Reconciling this with observations that existing parking supply is generally well utilised requires consideration of the policy intent behind these differing rates of parking provision. Minimum parking rates such as Council's CI. 52.06 rates are designed to provide parking supply that matches demand, essentially ensuring parking does not become a scarce resource. This however removes a potential signal to encourage people to alter parking behaviour and travel choices. The unintended consequence of this is that the extent of parking supplied in adherence to minimum parking rates significantly detracts from the vibrancy and quality of the public realm, and excessive space allocated to parking can crowd out the potential for greater active travel participation.

Conversely, maximum parking rates such as those adopted within Complete Streets and the TOD Guidelines do not necessarily seek to fully cater to unmanaged parking demand, but rather seek to provide an appropriate level of parking that is congruent with desired outcomes for walkability, active travel, mode share and footpath activity. A suite of demand management initiatives such as priced parking, car share schemes, unbundled parking, and shared parking are generally employed to manage demand in conjunction with the adoption of maximum parking rates.

Residential Parking

Recent Census data (2016) shows that 10.2% of households in Elsternwick-Gardenvale do not own a car, compared to 8.9% across the whole of Glen Eira and 8.5% across Greater Melbourne. However, review of available 2011 Census data mapping for Elsternwick shows car-free households are somewhat more prevalent in the activity centre precinct, as shown in Figure 4-9, with the proportion of car-free households exceeding 20% in some areas. This suggests there is an appreciable appetite for housing options without bundled parking (and the associated cost) within activity centre precinct given the available services, PT provision, social infrastructure and retail activity.





Figure 4-9: Households without a car (2011 Census)

Source: atlas.id

The Glen Eira Planning Planning Scheme requires a minimum of 1 spaces for every dwelling/unit, even where an overlay applies. As intensification and redevelopment of the activity centre occurs, there is likely to be some demand for car-free housing options. Planning policy that does not cater to this demand will impose unnecessary costs on housing provision and may encourage higher car ownership and usage.

4.4 Assessment: intensification of development around rapid transit

4.4.1 Recent development trends

Recent infill development in the Activity Centre can generally be characterised as medium-large scale, higher density development. Planning approval data presented by id Consulting¹³ from 2006-2016 shows a spread of new permits along Glen Huntly Road, with some notable clustering around Orrong Road and the Coles Supermarket, and development yields of greater than 40 dwellings are typical. Between 28 August 2013 and 8 June 2017, 11 planning permits were issued for buildings of 3 or more storeys in the Elsternwick Activity Centre, as outlined in Figure 4-10 below, including a number that are now under construction. Most approvals relate to buildings of 7 levels or greater, and some of these permits relate to multiple blocks.

Figure 4-11 provides an example of a recently completed multi-unit dwelling on Glen Huntly Road that is representative of new development in the activity centre.

¹³ Id Consulting (2017), Analysis of housing consumption and opportunities.





Figure 4-10: Planning permits (3 or more storeys) from 23/08/2013 to 08/06/2017



Figure 4-11: Multi-unit dwelling representative of recent development on Glen Huntly Road



Further infill development within the Elsternwick activity centre, and particularly within walkable distances from quality public transport, will be beneficial in terms of fostering main street activity and capitalising on the high quality existing public transport offerings in the area.



A 2006 study¹⁴ by Newman and Kenworthy provides some context to inform an assessment of activity density within Elsternwick, and to what extent further infill development is required in order to realise Council's and the community's vision for the precinct. The study reviews the relationship between population density, job density and motor vehicle use in various Australian and international cities, and concludes that there is a fundamental threshold density of approximately 35 persons per hectare plus 35 jobs per hectare where motor vehicle dependence is significantly reduced. That is, once this threshold urban intensity is reached, viable public transport and diversity of land uses within a walkable distance tend to result in reduced car use in urban areas. This is an instructive minimum benchmark that should inform plans for the intensification of the Elsternwick Activity Centre.

Table 4-11 outlines the existing population and job density within a walkable distance to quality public transport in the Elsternwick Activity Centre. The data highlights that while population density is generally at requisite levels to support local activity and a reduction in car dependency, employment density is significantly lagging.

Catchment	Walk Time	Jobs # (% of total activity centre)	Population # (% of total activity centre)	Area (sqm)	Population Density (person / Ha)	Job Density (jobs / Ha)
Elsternwick Rail Station	5 min	643 (24%)	820 (12%)	229,138	36	28
Elsternwick Rail Station	10 min	1,667 (61%)	3,331 (51%)	774,232	43	22
Tram stops	5 min	1,434 (53%)	2,629 (40%)	638,096	41	22
Tram stops	10 min	2,463 (90%)	5,914 (90%)	1,416,867	42	17
Elsternwick Activity Centre Area (as defined by Glen Eira City Council)	-	2,730 (100%)	6,563 (100%)	1,556,089	42	18

Table 4 11. Deputation and	والمعرفة والمتحمين والمحمر والم	والماميا المنبي مناطئاتين	a stale was such of two was	tatana Elatanaudali
Table 4-11: Population and	a employment densit	y within walkable	calchiment of trans	IL SLODS – EISLEITIWICK

4.4.2 Future development trends

Council's draft Building Transition Plan shown in Figure 4-12 outlines desired future building forms, and identifies key strategic sites. The plan identifies the existing surface car parks behind the existing shop frontages on Glen Huntly Road between Orrong Road and Beavis Street as key strategic mixed-use sites for development, in addition to the car park on Stanley Street near the rail station. The existing surface car park at the library is designated as future open space.

¹⁴ Peter Newman and Jeffrey Kenworthy (2006) "Urban Design to Reduce Automobile Dependence", *Opolis: An International Journal of Suburban and Metropolitan Studies:* Vol. 2: No. 1, Article 3.



Figure 4-12: Draft Building Transitions Plan

BUILDING TRANSITIONS PLAN



4.5 Assessment: ensuring cycling plays its role

4.5.1 Recent trends in cycling activity

Cycling plays a minor role in providing transport access to and within the Elsternwick activity centre. This is despite the flat topography and orthogonal street pattern of the centre and its surrounding suburbs, which is conducive to cycling. Most people access the town centre by car or on foot. The low cycling activity is demonstrated by a number of surveys.

The recent Shopping Strip Survey¹⁵ of Glen Eira residents indicated that around 15% of people access Elsternwick by cycling or using public transport. The results did not distinguish between these two modes. This figure is reiterated by the results of the car park survey of Elsternwick¹⁶ showing that around 65% of people arriving by car live within a 2.5km radius of the centre, an easy cycling distance.

Public Transport Victoria's train station access survey recorded 0% of Elsternwick train station users arriving by bicycle¹⁷. While this survey result may under-represent actual cycling access to the station over a longer time than the survey period, it appears that cycling access to Elsternwick Station is relatively low in comparison with Melbourne stations with similar levels of patronage (with between 500,000 and 1.5 million annual boardings for 2013-2014) and in comparison to other stations in the municipality. While most Melbourne stations have a cycle access mode share of 2% or below, 14 stations have numbers above 2%, including Patterson within Glen Eira at around 4%.

Super Tuesday cycle count sites also show low numbers of cyclists, particularly within the core of the activity centre. However, sites on edge of the study area and immediately outside it are the busiest in Glen Eira. At the

¹⁷ Public Transport Victoria Train Station Patronage fact sheet. Available at: https://www.ptv.vic.gov.au/about-ptv/ptv-data-and-reports/research-and-statistics/. Accessed 27 July 2017.



¹⁵ Shopping Strip Survey (2017) Glen Eira City Council.

¹⁶ BWEC (2017) *Glen Eira Economic Analysis and Forecasting Study.* Melbourne: Glen Eira City Council.

site at the corner of Glen Huntly Road and Orrong Road 52 cyclists were counted over the two-hour morning peak in the 2016 survey. At the site at the Nepean Highway/Glen Huntly Road/New Street intersection, 277 cyclists were recorded, and at nearby sites 222, 147 and 48 cyclists were recorded.

4.5.2 Current state of cycling facilities

Cycling facilities in Elsternwick are limited, with most facilities not meeting best practice standards. The routes identified in the municipality's Cycling Guide¹⁸ include painted cycle lanes, a signed on-road route and the Rosstown Rail Trail, as summarised in Figure 4-13. Existing facility types do not facilitate all ages and abilities cycling for transport. The painted cycle lanes on collector roads and within the Nepean Highway corridor allocate some space to cycling, although they do not meet best practice standards. This is due to the presence of parking immediately alongside the cycle lanes, the lack of adequate provision for cyclists at intersections and the traffic conditions. The Rosstown Rail Trail and the signed on-road route to the town centre from the south use quieter streets, but have almost no specific cycle facilities and expose people on bicycles to conflicts with parked cars.



Figure 4-13: Existing cycling infrastructure network

4.5.3 **Providing for future cycling needs**

The planned increase in residential density around the station between the rail line and the Nepean Highway and along Glen Huntly Road could lead to increased demand for cycling trips around and to/from Elsternwick, especially if other planning and design measures are taken to encourage reduced car dependence. Key destinations for cyclists include the train station, the retail strip including the Coles supermarket and local schools.

¹⁸ City of Glen Eira (2005) Cycling Guide. Melbourne: Glen Eira City Council.



Further details on recommended interventions for cycling that respond to planned land use change are included in Section 6.1.

4.6 Assessment: working toward vision zero road deaths and serious injuries

4.6.1 Recent trends in road crashes

A total of 76 crashes were recorded within the Elsternwick study area between 2012 and 2017, including 14 which caused death or serious injury, as detailed in Table 4-12. Most of the people killed or seriously injured were pedestrians (6) or cyclists (5).

Street users type	Number of crashes	Number of people killed or seriously injured
Pedestrian	23	6
Cyclist	22	3
Motor vehicle occupant	31	5
Total	76	14

Table 4-12: Summary of crashes in Elsternwick 2012-2017 by street user type

Source: VicRoads CrashStats

Crashes causing injury and fatalities in the study area are clustered along the Nepean Highway, Glen Huntly Road and Glen Eira Road where traffic volumes for all modes are highest, particularly at intersections (refer Figure 4-14).



Figure 4-14: Heat map of crashes causing injury and death (all street users) in Elsternwick, 2012-2017

Source: VicRoads CrashStats



Crashes involving pedestrians are clustered along Glen Huntly Road around the intersection with Orrong Road and the Nepean Highway (refer Figure 4-15).

Figure 4-15: Heat map of number of pedestrians involved in crashes causing fatalities or serious injuries in Elsternwick, 2012-2017



Source: VicRoads CrashStats

Cyclist-related crashes are clustered along Glen Huntly Road around the intersection with St Georges Road (refer Figure 4-16).

Figure 4-16: Heat map of number of cyclists involved in crashes causing fatalities or serious injuries in Elsternwick, 2012-2017



Source: VicRoads CrashStats



4.6.2 Current safety of the street network

Speed limits on Elsternwick's streets are mostly 50km/h regardless of the street function. Exceptions are Glen Huntly Road, which has a 40km/h speed limit between 8:00 AM and 12:00 midnight (Monday to Saturday). High compliance rates of all posted speed limits are recorded, suggesting that changes to infrastructure design and reductions in speed limits may induce changes in driving behaviour¹⁹. The street network accommodates private vehicles, public transport and walking and cycling, although the balance of priority is tilted toward private vehicles. This is evident in various design parameters, including street geometry, signal phasing, streetscape design and the provision of parking. Public transport, walking and cycling is marginalised in places, diminishing safety for all street users and discouraging the use of alternative modes which have a low impact on their surroundings and contribute positively to public life.

4.6.3 Future road safety outcomes

Glen Eira City Council actively reviews speed limits on selected streets, which could lead to improvements in road safety. For example, the speed limit of Riddell Road in Elsternwick was reduced from 60 to 50km/h in 2016. Ongoing infrastructure upgrades and improved provision of walking and cycling facilities may improve safety outcomes for vulnerable road users.

4.7 Assessment: attractive congestion-free networks

4.7.1 Recent trends in public transport patronage

The Elsternwick Activity Centre is well serviced by public transport in the form of bus, tram and train routes, as illustrated in 220 Sunshine – City – Gardenvale

- 246 Elsternwick Clifton Hill via St Kilda
- 625 Elsternwick Chadstone via Ormond, Oakleigh
- 978 Night Bus Elsternwick Ormond Huntingdale Mulgrave Dandenong
- 979 Night Bus Elsternwick Bentleigh Clarinda Keysborough Dandenong

Figure 4-17. Existing PT provision includes:

- Selection (Sandringham Line)
- Sector Tram Routes
 - 67 Melbourne University Carnegie
- Bus Routes
 - 216 Caroline Springs Brighton Beach
 - 219 Sunshine South Gardenvale
 - 220 Sunshine City Gardenvale
 - 246 Elsternwick Clifton Hill via St Kilda
 - 625 Elsternwick Chadstone via Ormond, Oakleigh
 - 978 Night Bus Elsternwick Ormond Huntingdale Mulgrave Dandenong
 - 979 Night Bus Elsternwick Bentleigh Clarinda Keysborough Dandenong

¹⁹ Glen Eira City Council (2017) Vehicle Volumes database.



Figure 4-17: Existing PT services in Glen Eira



Patronage data for rail stations in Glen Eira is provided in Table 4-13 below. Patronage at Elsternwick Station is strong, with a slight trend towards growth from 2010-2014.

Station	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Bentleigh	0.990	1.029	1.006	0.898	N/A	0.785
Carnegie	0.831	0.860	0.894	0.829	N/A	0.951
Elsternwick	1.008	1.047	1.069	1.004	N/A	1.075

Table 4-13: Annual train patronage (millions) by financial year

Public Transport Victoria conducted passenger behaviour surveys in 2013-14 determining how passengers access transit stops.

The 67 tram running between Carnegie and Melbourne University via Melbourne CBD uses the Glen Huntly Road route. The 67 route has annual average daily patronage of almost 19,000 passengers. Tram passenger loadings through the Elsternwick activity centre are unknown.

Figure 4-18 below shows results of the survey for Elsternwick Train Station. The survey results indicate a high proportion (51%) of passengers arriving at Elsternwick Station do so by walking, while a further 19% do so by tram. This suggests some integration between the tram and train network.

The 67 tram running between Carnegie and Melbourne University via Melbourne CBD uses the Glen Huntly Road route. The 67 route has annual average daily patronage of almost 19,000 passengers. Tram passenger loadings through the Elsternwick activity centre are unknown.



Figure 4-18: Weekday entries by access mode – Elsternwick Rail Station

Metropolitan bus services provide quality coverage to support the train and tram services. Patronage data for bus routes servicing the activity centre is shown in Table 4-14 below. The 625 service provide important coverage and accessibility however patronage is quite low, while the 220 and 246 services receive very strong patronage.

Route Number	Route Name	Annual Patronage 2014 to 2015	Average Weekday 2014 to 2015	Average Saturday 2014 to 2015	Average Sunday 2014 to 2015
216	Caroline Springs - Brighton Beach	936,270	3,027	1,707	1,103
219	Sunshine South – Gardenvale	730,674	2,318	1,537	879
220	Sunshine – City – Gardenvale	1,655,158	5,142	3,778	2,245
246	Elsternwick - Clifton Hill via St Kilda	1,538,713	4,975	2,775	1,846
625	Elsternwick - Chadstone via Ormond, Oakleigh	262,722	856	418	340

Table 4-14: Metropolitan bus patronage – Financial year 2014 to 2015

4.7.2 Current state of public transport networks and facilities

Elsternwick Station is of reasonable quality with direct access from the main street, equal access, toilets and Myki machines, however the facilities are somewhat dated and worn, and the platforms are only partially sheltered.



Source: PTV Passenger Behaviour Survey, 2013-2014

The 67 tram along Glen Huntly Road is well utilised, however tram stops are not wheelchair accessible, nor is the high floor tram fleet that services the 67 route. Service frequency is however approaching `timetable free' frequencies of approximately 10 minutes throughout the day.

Bus stops along Glen Huntly Road are only of average and sometimes low quality and generally lack amenity and consistent shelter and seating (see Figure 4-19). Bus services are generally not wheelchair accessible and service frequencies are only average, although the 220 and 246 services run at frequencies of 10-15 minutes throughout the day. Service frequencies for other services are however typically in the order of 30 minutes, albeit with some additional services during morning and afternoon peaks.



Figure 4-19: Bus stop with low amenity, and partially sheltered seating (Glen Huntly Road, adjacent Riddell Parade)

4.7.3 Providing for future public transport needs

Public transport in the activity will need to provide quality service consistent with Council's vision for increased local activity and vibrancy coupled with reduced car dependence as intensification of the activity centre occurs. Planned growth in the centre will require supporting public transport that may require improvements to bus and train service capacity and quality.

Metropolitan Train Load Standard Surveys are conducted once a year in May by Public Transport Victoria to measure passenger loads against benchmark standards of capacity. The survey helps identify times and locations where passenger loads exceed benchmark standards. The results are used to determine when and where extra services may be needed to reduce crowding. Results from 2016 are outlined in Figure 4-20 and Table 4-15 below. As shown below, a significant proportion of AM peak train services are below benchmark standards. This may have some discouraging effect on increased patronage growth in the future.





Figure 4-20: Number of AM Peak services below and above benchmark levels – Sandringham Line

Table 4-15: AM Peak services above benchmark levels and percentage of passengers travelling on services above benchmark levels – Sandringham Line

	May 2011	May 2012	May 2013	May 2014	May 2015	May 2016
Number of AM Peak services above benchmark	1	3	5	5	5	5
% of AM Peak services above benchmark	5.3%	15.8%	26.3%	26.3%	26.3%	26.3%
% of AM Peak passengers on services above benchmark	8.3%	24.1%	38.3%	38.4%	37.5%	36.9%

5 Key challenges and opportunities

The assessment in the previous chapter highlights several key challenges for working toward the six policy directions and opportunities to build off current successes. Table 5-1 summarises challenges and opportunities across the six policy directions that were used to structure the assessment in the previous chapter:

- Challenges notes factors that will make it difficult to achieve policy goals and that are realities that will need to be addressed in developing interventions that shift current trends
- Opportunities notes areas where relatively smalls-scale or low-cost interventions may result in significant change or where Elsternwick can build off existing good conditions.

These challenges and opportunities are used to develop a series of recommended interventions in the following chapter.

Policy direction	Key challenges	Key opportunities
Put walkability first	Long trip distances to major employment centres results in limited use of walking for	High levels of existing walking to the activity centre for accessing shops and rail station (40-
	commuting trips.	50% mode share).
	Presence of some major barriers that reduce the connectivity of the walking network; Nepean highway and Sandringham rail line.	Intensification of population and employment will provide a greater diversity of local services for more people, make walking a more viable choice.
	High existing use of cars for short, local trips may mean encouraging behaviour change toward increased walking may be challenging.	
Manage parking for town centre vitality and to support mode shift	Managing increased demand for parking accompanying residential and commercial development and population growth.	Potential to consolidate parking supply at Council-owned with multi-story parking buildings.
	Making trade-offs between kerbside space for parking and other uses such as cycling lanes, tram priority and extended footpaths.	Potential to reduce council land devoted to off- street parking.
	Ensuring parking is not `over-supplied' through application of minimum parking regulations	Potential to reduce parking demand through increasing use of walking, cycling and PT.
	accompanying new development, or through over-supply of public off-street parking facilities.	Potential to use new parking management tools such as pricing to manage demand.
	Managing community expectations about parking availability, given current relatively high levels of parking provision.	
Intensify development around rapid transit	Ensuring intensification is accompanied by improvements to local amenity and is not accompanied by congestion on local transport networks.	High market demand for residential development around rapid transit reflected in recent concentration of development around Elsternwick activity centre.
	Encouraging increased job density alongside residential population density.	Council-owned land adjacent to high quality public transport presents opportunities for strategic Council-led intensification.

Table 5-1: Key challenges and opportunities for the transport sector, Elsternwick Activity Centre



	Draft Plan suggests limiting intensification to selected areas and protecting much of existing low-density housing as heritage/ character housing.	
Ensure cycling plays its role	Limited provision of a connected, safe cycling network limits uptake of cycling to a niche user group.	Low existing cycle mode share means major opportunities for growth.
	Relatively high number of cycle crashes in area.	Fiat terrain supports increased cycling uptake.
	Reallocation of kerbside space for improved cycling facilities will require trade-offs with provision of on-street parking and other potential uses such as extended footpaths.	Reasonably high levels of activity density means a diversity of destinations are available with short trips, well-suited to cycling. Provision of high quality infrastructure can lead
	Presence of major road barriers such as the Nepean Highway may detract potential cyclists.	to major increases in cycling demand.
Work toward `vision zero' road deaths and serious injuries	Reducing road crash deaths and serious injuries, particularly pedestrian and cyclist crashes on Glen Huntly Road.	Walking and cycling facility upgrades can improve safety.
	Lowering speed limits will require trade-offs with other goals for high speed vehicle movement.	
Plan for attractive congestion-free networks rather than reducing congestion	Major mode shift to public transport depends on the quality and connectivity of broader metropolitan-scale networks.	Opportunities for increasing quality of service on Glen Huntly Road tram route.
	Increasing demands on metropolitan rail network may lead to future overcrowding reducing the appeal of rail.	
	Improving speed of tram route on Glen Huntly Road will require re-allocating road and kerbside space.	



6 Potential interventions

The following section identifies a set of potential interventions for consideration by Glen Eira City Council in preparation of their activity centre structure plan for Elsternwick and their municipality-wide Integrated Transport Strategy.

6.1 Potential interventions: putting walkability first

Improving conditions for walking is central liveability and function of Elsternwick, particularly in the context of demographic and land use change. The requirement to complete at least part of every journey on foot and the vulnerability of pedestrians in the street environment mean that walking should maintain the highest position when prioritising modes. A safe, convenient, comfortable and attractive walking environment results in improved safety for all street users. With appropriate network and street design, will also result in improved levels of service for cycling and public transport and a reduction in car use and dependence locally.

Recommended interventions for the Elsternwick activity centre focus on improving pedestrian safety and connectivity through signalised intersection improvements, side street treatments, a new signalised pedestrian crossing and new and upgraded pedestrian rail line overbridges. Potential interventions are summarised in Figure 6-1.



Figure 6-1: Potential walking interventions

Improvements to pedestrian safety, comfort and convenience can be achieved through installing best practice signalised intersection and side street treatments along Glen Huntly Road in Elsternwick.

The signalised intersections of Glen Huntly Road with Nepean Highway and Orrong Road should be upgraded, including the following measures:



- Re-calibrate signal phasing to minimise pedestrian wait times and maximise crossing times to reduce pedestrian delay and discourage crossing on red.
- Remove through and turning lanes and reduce turning radii to minimise the crossing distance for pedestrians. Smaller turning radii will also encourage lower speeds turning vehicle speeds.
- Simplify intersection geometry to facilitate one-stage crossing for pedestrians.

While selected side street intersections have recently had pedestrian refuges installed, turning radii reduced and/or planting beds added, the intersection designs could be improved upon and implemented along the length of the retail strip. Side street treatments should comprise the following:

- Raised tables which allow pedestrians to cross flush with kerb level.
- Zebra crossings to communicate pedestrian right-of-way.
- Reduced turning radii to minimise the crossing distance for pedestrians and lower turning vehicle speeds.
- Continuity of footpath materials to indicate a continuous path of travel for pedestrians.

An example of the potential change in geometry and levels of a side street intersection is shown in Figure 6-2.



Figure 6-2: Side street treatment example (Glen Huntly Road/Gordon Street intersection)

A new signalised pedestrian crossing should be introduced at the intersection of Glen Huntly Road and Hopetoun Street to reduce the spacing of crossing opportunities along the retail strip. This location will serve the increased pedestrian traffic resulting from intensified residential development in this part of Elsternwick. Additionally, more frequent crossings may result in lower traffic speeds.

Pedestrian rail overbridges are currently provided 200m to the north and 700m to the south of Elsternwick station. These facilities should be upgraded to allow universal accessibility (lifts or ramps), which will also allow for ease of use by cyclists. A new bridge should also be considered linking Horne Street and Riddell Parade as part of the planned urban renewal development to the west of the rail line. This link could provide a second point of platform access.



6.2 Potential interventions: managing car parking

The assessment of current approaches to parking management in the Elsternwick activity centre (see Section 4.3) found that the centre is potentially over-supplied with parking, relative to guidance on appropriate parking supply levels for locations with high levels of public transport accessibility. This may contribute to increased car use, local congestion and negative impacts on pedestrian and public realm amenity. Reforms to parking management in the centre present opportunities to contribute to multiple transport and urban development goals for Glen Eira.

There are opportunities for reforms to:

- Provision of off-street, Council-owned parking
- Provision of on-street parking
- Management regimes for both on- and off-street parking
- Planning regulations for parking provision.

Off-street parking

Glen Eira City Council have identified a number of opportunities for re-purposing and consolidating existing off-street surface parking areas owned and managed by the Council within Elsternwick activity centre (see Table 6-1).

Table 6-1: Opportunities identified for repurposing of Council-owned off-street carparks, Elsternwick activity centre

Carpark	Opportunity identified by Council for redevelopment
Eastern Stanley Street	Multi-story carpark (3-4 levels) with active uses at ground floor
Western Stanley Street	Residential or office building

Consolidating current Council-owned surface parking into one multi-story carparking building will provide a more efficient use of land at these locations with high value for alternative uses. It will also allow for intensification of activity within the centre by allowing for commercial and residential redevelopment.

We note that current Council proposals plan to consolidate parking at the Eastern Stanley Street site, while using the western site for redevelopment. We recommend that further analysis is undertaken on the advantages and disadvantages of using each of these sites for consolidated parking, specifically:

- a) Whether current and future forecast parking occupancy of these carparks and surrounding on-street parking justifies retaining either of the sites as Council-owned parking. There may be a case for redevelopment for commercial and residential uses at both sites rather than only at one.
- b) If a single site is decided to be used for parking, test further whether the east or west site is best used for a multi-storey parking building. Property market testing of the relative value and potential uses of each of the sites will be useful in improving understanding of the potential for each site. We note that the size of the east site is roughly double the west site and will likely provide enhanced options for mixed use development than the west site currently proposed.
- c) Potential for integration of active street frontages on each site with existing areas of high pedestrian activity. We note that a multi-story parking building with active ground floor frontages (eg retail) is proposed by Council for the west site. We recommend further investigation of the viability of successful ground floor retail uses at this location given the lack of pedestrian integration with the major areas of pedestrian activity on the Glen Huntly Road shopping strip.

In considering redevelopment of surface carparking lots, we note the following general points:



- Multi-storey parking buildings do not always provide the same functionality as surface lots. Multi-story buildings can introduce additional barriers to potential users (eg increased time to find a space) and are likely to be more useful for long-stay rather than short-stay parking. This may reduce demands for parking relative to existing surface lots.
- Ahead of development of multi-story parking buildings or other replacement uses, Council should improve its understanding of the current use of existing parking facilities. Replacement of parking spaces on a like-for-like basis may not be required, depending on occupancy of current facilities and the future use of management tools such as pricing that may reduce parking demands. Benchmarking of parking supply at Bentleigh against best-practice guidelines (see Section 4.3.1) suggests parking supply may be significantly higher than levels that are appropriate in locations such as Elsternwick with high levels of public transport accessibility.
- Provision of off-street parking facilities needs to be considered in an integrated way with interventions to on-street parking supply (see below). Enhanced off-street parking facilities may mitigate losses of onstreet parking and likewise, more efficient use of on-street parking (eg through pricing management tools) may reduce the need for off-street facilities.
- New multi-storey parking buildings should be designed and managed for the widest possible range of uses, including integration with new residential development sites. These car parking buildings should be treated as `shared' public parking facilities that enable efficiencies in parking supply by providing for complementary demands (eg shopping during the day and residents at night).

Review of parking occupancy data suggests that parking is generally oversupplied in Elsternwick, with some facilities particularly underutilised. Such underutilised car parks (CP17 and CP19) should be considered opportunities for repurposing on the basis of their minimal existing utility. Conversely, more well utilised parking areas (CP16 and CP18) should be considered more suitable locations for any consolidated parking facility.

Notwithstanding the above, it is probably preferable to pursue redevelopment of CP18 and CP19 on Stanley Street as per Council's identified opportunities outlined in Table 6-1 for the following reasons:

- Residential and commercial uses at the western Stanley Street site would maximise activity within a walkable (400m) catchment of the Elsternwick Train Station;
- The eastern Stanley Street site is more centrally located and would be more accessible to a great proportion of the Activity Centre.
- While there is an apparent preference for parking at the western car park based on parking occupancy data, the close proximity of the two site suggests demand for the western car park could be acceptably catered to by the eastern car park.

On-street parking

On-street parking is nearly universally provided on all kerbsides either as parallel or angle parking within the Elsternwick activity centre. While on-street parking provides valuable access to shops and other facilities within the centre, there may be higher value uses for this kerbside space in some locations and parking demand management or enhanced off-street facilities may enable on-street parking to be re-purposed to enable tram priority, expanded footpaths, street trees or cycling facilities.

The most substantial potential for re-purposing existing on-street, kerbside parking within the Elsternwick activity centre is on Glen Huntly Road and its adjacent side streets where pedestrian and on-street dining activity is highest. The following options could be considered for repurposing on-street car parking space at these locations. These interventions interact with interventions included in other sub-sections of this chapter in relation to improving walkability, cycling facilities and public transport priority:

Re-purposing on-street parking for expanded footpaths/ public spaces: Glen Huntly Road is the main retail strip within the Elsternwick activity centre. While existing footpaths are of adequate width,



there are opportunities for `parklet' – type treatments involving re-purposing on-street parking space to expanded footpath/ alfresco dining space. Figure 6-3 illustrates an existing alfresco dining area using footpath space on the south side of Glen Huntly Road at Elsternwick. This area offers an obvious location for re-use of adjacent kerbside space for expanded footpaths to provide more generous space for both dining and for pedestrians. The existing condition introduces a constrained pedestrian corridor (approx. 1.5m width).

Parklet treatments should also be considered for side-street locations immediately adjacent to Glen Huntly Road. These locations offer opportunities to extend pedestrian and public life activity beyond the retail strip and provide quieter areas for outdoor dining away from traffic.

Finally, selected kerb build-outs could be considered along the length of Glen Huntly Road within the activity centre to allow for an avenue of street trees. There are few street trees within the activity centre and trees can improve amenity for pedestrians and encourage a more active public life and lingering activity within the centre. These types of treatments will need to be considered against other options for using limited kerbside space for cycle or public transport priority.



Figure 6-3: An opportunity for repurposing kerbside parking for expanded alfresco dining space

Re-purposing on-street parking for cycling facilities: Glen Huntly Road is designated as a Principal Bicycle Network Corridor (an important, but secondary corridor to `Strategic Cycling Corridors'), providing an east-west connection within a grid of major cycling facilities. As discussed in Section 6.4 below, the preferred treatment for a cycling facility on this road with high traffic volumes would be a separated cycle lane. This would require re-purposing existing on-street parking on at least one side of Glen Huntly Road.

A bi-directional cycle-lane on one side of the road would minimise impacts on other potential uses of kerbside space while still providing a facility that physically separates cyclists from traffic. Such a facility could be investigated further as part of broader cycle network planning. We note, however, that a separated facility on Glen Huntly Road at Elsternwick centre would have a substantial impact on the street and may not be warranted given competing priorities for use of kerbside space in this location.



Impacts of a cycle lane through the activity centre would include losing opportunities for other uses of kerbside space such as kerb-build outs for street trees, parklets for al-fresco dining and enhanced priority for trams. We note that a `Strategic Cycling Corridor' is designated on Glen Eira Road, parallel to Glen Huntly Road, approximately 750m to the north. We recommend providing a high-quality facility on the Glen Eira Road corridor is a higher immediate priority than providing separated cycling facilities through Elsternwick centre on Glen Huntly Road. Analysis of current cycle demand shows that demands are currently significantly higher on Glen Eira Road than Glen Huntly Road. Nevertheless, some form of treatment to improve cycling attractiveness and safety on Glen Huntly Road is recommended (eg shared cycle traffic road with a low speed limit of 30km/h and other traffic calming devices).

Re-purposing on-street parking to enable tram priority: A third option for re-purposing existing kerbside parking space on Glen Huntly Road is to manage road space use to allow for enhanced priority for trams using the route. The 67 tram running between Carnegie and Melbourne University via Melbourne CBD uses the Glen Huntly Road route. The 67 route has annual average daily patronage of almost 19,000 passengers. Tram passenger loadings through the Elsternwick activity centre are unknown.

Tram priority through Elsternwick could be enhanced by re-purposing on-street parking space as a general traffic lane, either at all times or peak periods only. This would then allow the middle road lane to be exclusively for tram use, reducing the impacts of traffic congestion on the tram that cause longer journeys and reduced operational efficiency.

As described above, there are multiple, mutually exclusive options for re-purposing existing on-street parking space on Elsternwick Road. Expanded footpaths and public realm will enable some retention of on-street parking while tram priority or cycle lanes will require more substantial reductions in parking spaces. Effective decision-making will require a more detailed Glen Huntly Road corridor study that further identifies and quantifies the costs and benefits and trade-offs of these options.

Parking management

Aside from reforms to off-street and on-street parking supply, there is also potential for changes to the parking management regime to better support policy objectives. On- and off-street parking in the activity centre is currently managed using:

- Time restrictions (eg 1P and 2P restrictions)
- Reserved parking (eg reserving spaces for particular users such as loading zones, people with disabilities, local residents)
- Accompanying enforcement by council officers of these restrictions.

The major opportunities for reforming the parking management regime at Elsternwick activity centre are:

- Increased enforcement activity. If compliance rates are found to be low, additional enforcement can increase parking turnover and ensure that reserved spaces are being used by intended high-value users.
- Changes to time restrictions. Parking occupancy in off-street facilities is generally acceptable, however on-street spaces are expected to experience high occupancy. Council should review on-street occupancy and consider altering time restrictions where occupancy is particularly high e.g. reducing time limits from 1P to 30 min where current on-street occupancy is 85%.
- Introduction of pricing. Current parking occupancy does not quite warrant priced parking, however Council should continue to monitor this in the short to medium term. Should Council choose to repurpose some under-utilised facilities and consolidate parking supply, priced parking should be pursued in conjunction with such a scheme in order to support less than like-for-like replacement of lost spaces.

Planning regulations for parking provision



Glen Eira City Council's Planning Scheme specifies minimum off-street, on-site parking requirements accompanying development of various types of land-uses. These rates are consistent with standard Victorian rates mandated by the State. However, at Elsternwick activity centre these rates may be having negative impacts on:

- Residential and commercial development activity minimum parking rates can reduce development activity by enforcing a higher rate of parking provision than would otherwise be delivered by market actors in the absence of regulation. This can increase development costs and reduce the feasibility of residential or commercial development.
- Housing affordability minimum parking rates can increase the cost of residential development, increasing the cost of housing.
- Transport behaviour minimum parking rates can encourage higher car ownership and use.

At Elsternwick activity centre, a location with excellent public transport accessibility and local walking and cycling accessibility to a range of services there is an opportunity for the Council to develop a `Parking Overlay' covering the activity centre areas that changes the standard State-mandated parking rates. The Parking Overlay may:

- Reduce minimum rates for all or specific types of land uses
- Introduce maximum rates for all or specific types of land uses
- Allow for special provisions such as cash in-lieu payments that allow developers to contribute to development of shared parking facilities rather than private on-site parking.

The accompanying *Re-thinking Parking* Discussion Paper provides further detail on opportunities for reforms to regulation of on-site parking provision, including cash-in-lieu.

In Elsternwick, a cash-in-lieu provision requiring financial contribution to be paid in place of providing car parking spaces on-site may provide a funding mechanism for a consolidated public parking facility. The required financial contribution should relate to the actual cost of providing a car parking space such that the public are not simply excessively subsidising developers' responsibilities to fulfil planning scheme requirements (i.e. when contributions are significantly lower than the real cost of providing parking), nor are developers offered no incentive to reduce on-site parking provision (i.e. when contributions are higher than the real cost of providing parking on-site). Council may however identify significant benefits associated with consolidated parking facilities in Elsternwick, in which case a reduced rate of contribution may be prudent to incentivise contribution to the cash-in-lieu scheme rather than compliance with on-site minimum parking rates.

The amount of money that can be leveraged from cash-in-lieu schemes depends on four factors:

- The per space rate charged for parking shortfalls compared to Council's minimum requirement The rate charged should ideally match the cost for Council supply commensurate parking provision in a consolidated public facility, however without an appreciable discount, developers may opt to simply comply with minimum parking requirements on-site.
- The minimum rate of parking provision required by Council Cash-in-lieu schemes generate higher contributions in conjunction with higher minimum parking rates, however this must be weighed against the broader benefits of reduced minimum parking rates (or for that matter the complete removal minimum parking rates)
- > The extent of future development
- The extent to which developers comply with minimum parking provisions.

The following provides a picture of the potential range of cash-in-lieu revenue that may be generated by non-residential development in Elsternwick assuming future non-residential development will require 375 additional



parking spaces based on the analysis of future parking requirements outlined in Table 4-9, which assumes current Council minimum parking rates will continue to apply.

Figure 6-4 below presents the range of potential total contributions raised based on various cash-in-lieu rates and various levels of developer compliance with minimum parking rates for non-residential development. The below is provided as a guide only, and Council must consider how cash-in-lieu rates charged may:

- 1. Incentivise on-site parking provision rather contribute cash-in-lieu that the market considers poor value; and
- 2. Discourage development in the activity centre.

Figure 6-4: Potential money raised from cash-in-lieu schemes – Non-residential development in Elsternwick



Note 1: Insufficient data on future residential yield is available for inclusion in this analysis. Note 2: Typical cash-in-lieu rates charged by Australian LGAs are in the order of \$5,000 - \$15,000

6.3 Potential interventions: intensifying activity around rapid transit

The assessment of recent development activity (see Section 4.4) found that recent large-scale residential development in Elsternwick has been highly concentrated around the rail station and retail strip. This is positive, as population growth is occurring in location with high levels of public transport accessibility to regional employment markets, and local walking and cycling accessibility to shops and services. This should assist in minimising additional vehicle transport demands accompanying growth. Analysis of activity density suggests the activity centre area has good levels of population density, exceeding benchmark levels that support excellent public transport service. It also has the best mix of employment and residential density of all major Glen Eira activity centres.

Interventions that influence the intensity of future development around the Elsternwick rail and tram public transport hub are most importantly land-use planning regulations impacting on the bulk and form of potential development. However, transport-sector interventions that are the subject of this paper can indirectly influence development outcomes. In particular:

Improving walking access and public realm quality around Elsternwick rail station and particularly around key strategic development sites may contribute to increased development activity by ensuring a legible, safe and attractive town centre environment



- An effective public transport system, including fast trains and trams with sufficient capacity can support intensification
- Appropriate parking management policy tools, including land-use planning regulations for on-site parking provision, can encourage high-density development.

These type of interventions interact with other interventions considered in other sub-sections of this chapter.

Improved walkability and public realm

The Elsternwick Draft Concept Plan (Glen Eira City Council, July 2017) identifies major areas for intensification at the activity centre as the Nepean Highway corridor and the Glen Huntly Road Corridor. On the Nepean corridor `urban renewal' development of 6-12 storeys is envisaged, representing substantial intensification relative to existing conditions. On the Glen Huntly corridor, a number of `strategic sites' are identified with mixed use development of 5-8 storeys envisaged (see Figure 3-2 in previous section 3).

Walking connectivity and public realm quality at these locations will be particularly important for incentivising residential and commercial development and ensuring development is supported by effective transport infrastructure. Specific recommended interventions are:

Improve pedestrian connectivity across the railway

The rail line running through Elsternwick creates a substantial barrier for pedestrian movement between planned intensification areas on the Nepean Highway Corridor and the town centre. Overcoming this barrier with new bridge connections will enable improved walking access between planned residents and workplaces and the shops, hospitality services and other facilities within the existing Elsternwick centre. This type of pedestrian infrastructure can also incentivise developers to take up these new development opportunities.

Potential locations for new pedestrian connections across the railway are limited by the existing street network and existing property developments. There are, however opportunities at:

- Corner of Horne Street and McMillan Street to Riddell Parade on the east side of the railway, including provision of a southern entrance to the Elsternwick station platform
- Sherbrook Avenue to Riddell Parade
- Enhancements to existing overbridge between Ripon Grove and Gordon street, north of Glen Huntly Road.

Opportunity that would be more complex to implement could involve construction of a platform across the railway either:

- North of Glen Huntly Road (as identified by the Elsternwick Draft Concept Plans)
- South of Glen Huntly Road connecting the station platform with the Elsternwick Station Reserve on the east side and private properties fronting Horne Street on the west side.

Improve walkability and public realm on Glen Huntly Road

As the major shopping strip within Elsternwick centre, the attractiveness and quality of the walking environment on Glen Huntly is vital for enhancing the attractiveness of the centre for further development. Walking interventions such as increased crossing points, kerb build outs and side road treatments as described in Section 6.1 will assist in encouraging intensification on the Glen Huntly corridor and throughout the area.

Improve pedestrian and public realm amenity on the Nepean Highway

Substantial intensification is envisaged for the Nepean Highway. Ensuring that residential and commercial development opportunities are taken up at this location may benefit from improvements to the streetside amenity of the highway. The Nepean Highway is a major traffic route creating with

accompanying noise and air pollution. Street design elements such as extensive provision of street trees and vegetation can mitigate some of the impacts of the highway and make adjoining sites more attractive for development.

Public transport

Public transport interventions are discussed in more detail in Section 6.6. The most important potential action that can support further intensification is ongoing advocacy for increased service frequencies and passenger capacity on the Sandringham line. Passenger crowding is already common during peak periods and rail capacity may become a limiting factor for further intensification in the future.

Parking management

The most important aspect of parking management that will impact on intensification outcomes is land-use planning regulations that specify minimum rates of on-site parking provision accompanying development. Current parking regulations may be hindering some types of residential or commercial development due to onerous and costly requirements for providing excessive levels of parking (see also parking regulation interventions in Section 6.2).

At Elsternwick activity centre, a location with excellent public transport accessibility and local walking and cycling accessibility to a range of services, parking provision may not need to be as high as standard rates set by the State of Victoria. There is an opportunity for the Council to develop a `Parking Overlay' covering the activity centre areas that changes the standard State-mandated parking rates. The Parking Overlay may:

- Reduce minimum rates for all or specific types of land uses
- Introduce maximum rates for all or specific types of land uses
- Allow for special provisions such as cash in-lieu payments that allow developers to contribute to development of shared parking facilities rather than private on-site parking.

6.4 Potential interventions: cycling

Interventions to improve the safety and attractiveness of cycling is Elsternwick is important to offer a viable, low impact travel option for Glen Eira residents in the context of demographic shifts and planned changes to land use. Increased levels of cycling have the potential contribute to transport goals by improving accessibility for local people and reducing congestion and transport emissions, while simultaneously improving people's health, enhancing place and liveability outcomes and helping to sustain the local economy.

Improvements to cycling infrastructure in Elsternwick should work with the municipality-wide network, incorporating the Strategic Cycling Corridors (SCC) and Principal Bicycle Network (PBN) (as proposed by Vic Roads²⁰) and local routes (as proposed in the Glen Eira Transport Analysis and Forecasting Discussion Paper). The proposed indicative network and specific interventions in Elsternwick are shown in Figure 6-5. Cycle facilities should be designed according to specific street conditions, but will comprise the following types:

- Separated cycle lanes (on-street) or dedicated cycle paths (off-street locations) for SCC and PBN routes
- Mixed user, traffic calmed streets and shared paths for local routes and on some town centre main streets.

All works within the street corridor in Glen Eira should be designed and implemented with reference to the cycling infrastructure network. In the case of Elsternwick, Glen Huntly Road plays a crucial role as four SCC and PBN routes either follow or intersect with this main street. Implementing the proposed cycling network will require intersection as well as mid-block treatments along the main street.

²⁰ VicRoads (2017) <u>https://www.vicroads.vic.gov.au/traffic-and-road-use/cycling/bicycle-network-planning</u>



Due to the number of uses of Glen Huntly Road and its narrow width - approximately 17m between building frontages - the best approach to providing for cyclists is to design for a low-speed, mixed traffic environment in mid-block sections. This could be achieved by, for example, introducing frequent street trees planted in kerb build-outs with parallel car parking in between.

The intersections of Glen Huntly Road with Brighton Road-Nepean Highway and Orrong Road should be prioritised for best practice cycle facility designs, including physical protection for people on bicycles and cycle phasing and detection. Side street treatments that benefit people walking commonly also benefit people on bicycles and should incorporate bicycle-specific measures where relevant.



Figure 6-5: Potential cycling network interventions

6.5 Potential interventions: road safety

Improvements in road safety should focus on protecting vulnerable road users, which are overrepresented in crash statistics in Elsternwick. Prioritising the safety of pedestrians and cyclists through strategies to reduce traffic speeds and improve walking and cycling infrastructure will result in enhanced safety for all road users. While Elsternwick's pattern of streets and development is well suited to active mobility, the infrastructure within street reserves needs redesigning in places to prioritise the safety and convenience of vulnerable road users.

While the Elsternwick's pattern of streets and development is well suited to active mobility, the design of infrastructure within street reserves requires improvement in places to prioritise the safety and convenience of vulnerable road users. Slowing traffic speeds to improve conditions for people walking and cycling will result in increased safety of all street users.

The walking and cycling improvements recommended in Sections 6.1 and 6.4 above will contribute to improving overall road safety. Interventions should be focused on Glen Huntly Road, particularly at the intersections with the Nepean Highway, Riddell Parade, St Georges Road and Orrong Road, where collisions



are most common. A review of traffic speeds on Glen Huntly Road should be conducted to consider whether a further reduction to 30km/h will achieve added safety benefits. Figure 6-6 illustrates that substantial safety benefits are likely to be achieved with the 40km/h speed limit, however further reduction to 30km/h will further reduce risk of pedestrian deaths from vehicle collisions.



Figure 6-6: Traffic speed and risk of death from vehicle-pedestrian collision. Source: World Resources Institute (2015).

6.6 Potential interventions: congestion-free networks

The assessment (see Section 4.7) found that Elsternwick activity centre has excellent access to congestionfree transport options with regular rail service on the Sandringham line and the 67 tram on Glen Huntly Road. In addition, a number of bus services provides supplementary public transport connectivity. Within the activity centre the 67 tram does not have dedicated road space and so is subject to road congestion delays.

Interventions for improving public transport quality and service levels for the Elsternwick activity centre will be particularly important for catering to residential growth in the area and increased commuting travel demands to major employment centres such as the Melbourne CBD. Potential interventions include:

- Advocating to State agencies for ongoing capacity and service frequency upgrades for the Sandringham rail line
- Installing tram priority measures within the activity centre
- Installing bus priority measures within the activity centre.

<u>Rail</u>

The assessment found that during the past four years, 2013 - 2016 over 36% of rail passengers travelling at peak times on the Sandringham line were on services where passenger loadings exceeded benchmark standards. This indicates that there is significant crowding on the line at peak period that may be impacting on the attractiveness of rail for users at Elsternwick.

Rail service provision is outside the jurisdiction of Glen Eira City Council. Nevertheless, the Council can continue to play a role in advocating to State agencies for improved rail frequencies and passenger capacity on the Sandringham line. It is recommended that Council continue to monitor PTV data on crowding levels. Heavy overcrowding on this line will impact on the travel options available to a growing population at the Elsternwick activity centre and may have indirect impacts on the attractiveness of further residential intensification at the activity centre.



<u>Tram</u>

The major opportunity for improving the quality of service of the 67 tram running through Elsternwick is to improve tram priority along Glen Huntly Road. Tram priority through Elsternwick could be enhanced by repurposing on-street parking space as a general traffic lane, either at all times or peak periods only. This would then allow the middle road lane to be exclusively for tram use, reducing the impacts of traffic congestion on the tram that cause longer journeys and reduced operational efficiency.

As discussed in Section 6.2, there are multiple, mutually exclusive options for re-purposing existing on-street parking space on Elsternwick Road. Expanded footpaths and public realm will enable some retention of onstreet parking while tram priority or cycle lanes will require more substantial reductions in parking spaces. Effective decision-making will require a more detailed Glen Huntly Road corridor study that further identifies and quantifies the costs and benefits and trade-offs of these options.

<u>Bus</u>

High frequency bus services (15 minutes+ inter-peak) running through Elsternwick that may benefit from bus priority measures are the 220 service that runs north-south on Orrong Road and the 246 that terminates at Elsternwick Station and travels on the Nepean highway.

Further analysis of the magnitude of passenger delay on these services within the Elsternwick activity centre area should be undertaken. If delay is considered to be significant, potential interventions could include:

- Removal of kerbside parking on the north side of Glen Huntly road opposite its intersection with Horne Street to allow for the 246 service to use the tram lane as a dedicated space for its the movement from Glen Huntly Road to Horne Street.
- Priority measures along Orrong Road including in-line bus stops and signal priority.

6.7 Summary of interventions

Table 6-2 summarises the potential interventions discussed in the previous sub-sections into a consolidated list. Some interventions have been discussed previously under multiple headings but are listed only once in the table. The table provides an indicative assessment of the degree to which implementation of the interventions will positively contribute to achieving the six policy directions that structure this discussion paper.

The table highlights that all proposed interventions contribute to at least two of the six policy directions and some interventions have wide-ranging impacts across almost all policy themes. A large number of interventions contribute to improving walkability, encouraging intensification in the activity centre and improving road safety. These interventions generally involve upgrades to the pedestrian environment and public realm. Interventions for improving parking, cycling and public transport require more targeted, mode-specific projects.



Table 6-2: Summary of potential recommendations and contributions to achieving policy directions

Potential Intervention	Put walkability first	Manage parking for streetscape amenity, town centre vitality and to support mode shift	Intensify development around rapid transit	Ensure cycling plays its role	Work toward `vision zero' road deaths and serious injuries	Plan for attractive congestion-free networks rather than reducing congestion
Improve side-road treatments along Glen Huntly Road	~~~		4		4	
Install new signalised pedestrian crossings across Glen Huntly Road at Hopetoun Street	~~		4		~~	
Upgrade signalised pedestrian crossings at Glen Huntly Road/ Nepean Highway and Glen Huntly road/ Orrong Road	~~		4		~~	
Upgrade existing pedestrian bridges across railway	~		4	4		
New pedestrian bridge across railway- south of Station	~~		<i>√<i>√√</i></i>	4		
Consolidate Council-owned off-street parking	~	~~~	~~			
Re-purpose selected on-street parking on Glen Huntly road for expanded footpath	~~~	~~	4			
Re-purpose on-street parking on both sides of Glen Huntly road for tram priority		~~				$\sqrt{\sqrt{2}}$
Re-purpose on-street parking on one side of Glen Huntly road for separated cycle route		~~		<i>√√√</i>	~~	



Potential Intervention	Put walkability first	Manage parking for streetscape amenity, town centre vitality and to support mode shift	Intensify development around rapid transit	Ensure cycling plays its role	Work toward `vision zero' road deaths and serious injuries	Plan for attractive congestion-free networks rather than reducing congestion
Revise parking management regime (TBC)		√ √ √				
Review Planning Scheme provisions for on- site parking requirements		√ √ √	~~~			
Upgrade pedestrian amenity on Nepean Highway frontage	¥		4		4	
Improve cycle facilities at major intersections on Glen Huntly Road				√ √ √	~~	
Reduce speed on Glen Huntly Road to 30km/h	~~			√ √ √	√ √ √	
Upgraded cycle facility on Orrong Road				~~	~~	
Advocate for increased service frequency and capacity on Sandringham rail line			~~			√ √ √
Investigate bus priority measures on Orrong road						44
Investigate bus priority measures at Glen Huntly road/ Horne Street intersection						4

(✓✓✓ - major impact, ✓✓ - moderate impact, ✓- minor or indirect impact)

