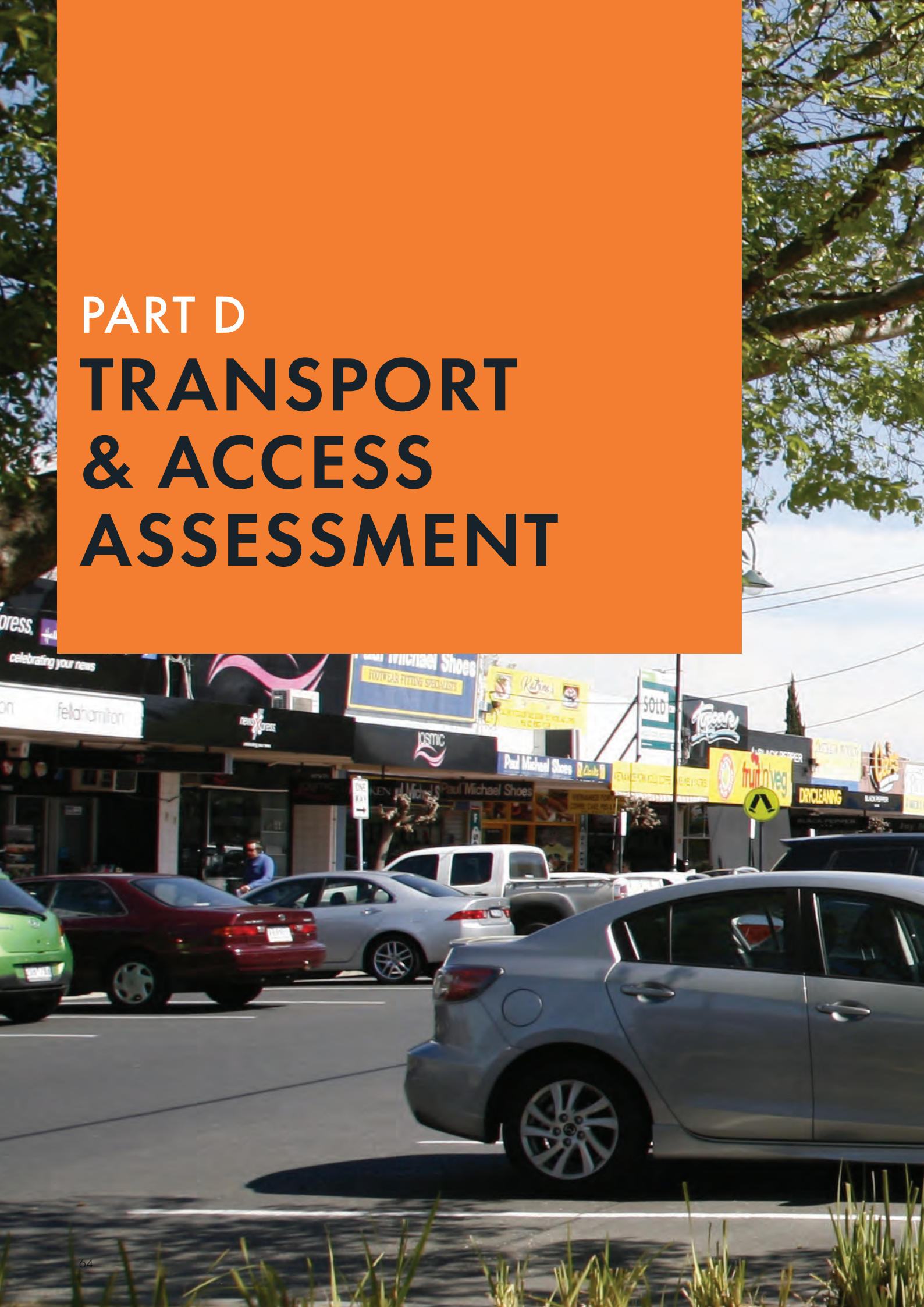
# PART D
# TRANSPORT & ACCESS ASSESSMENT




GIVE
WAY

# 17 EXISTING MOVEMENT & ACCESS PATTERNS

## 17.1 INTRODUCTION

The Mount Waverley Activity Centre is a well-used area by the local community that is starting to show signs of strain as its use steadily increases. The investigation area includes the shopping and commercial precinct, proximate low density residential area and a number of schools, as shown in Figure 11 below.

The shopping and commercial centre has historically been located on the western side of Stephensons Road in a horse shoe shape, with public car parking in the centre and back-of-house facilities on the outside. However, over the years the shopping centre has expanded beyond a simple U shape to be across the road on the eastern side of Stephensons Road, as well as extending north and south along Stephensons Road.

The resulting conditions being experienced today relate to a medium density, but fully built out activity centre. As such, one of the key focus areas of the Structure Plan is how to facilitate the continued growth in the activity centre, while maintaining the local community feel that makes it so attractive to its local residents.


**Figure 18.** Mount Waverley Investigation Area and Surrounds (SOURCE: Reproduced from Google Maps )

## 17.2 EXISTING MOVEMENT PATTERNS

Those accessing Mount Waverley for employment tend to use a car (76%), but has a reasonable amount also use public transport (20%), with the majority of this being rail.

Those travelling to Mount Waverley currently use public transport (20%) slightly more than Metropolitan Melbourne (19%), and significantly more than the nearby Clayton Activity Centre NEIC (9%). This indicates that on average there is an existing reasonable demand for public transport by people accessing their place of employment in Mount Waverley.

Moreover, car use to access employment is currently higher in Mount Waverley (76%) than across Metropolitan Melbourne (74%), but still lower than Clayton (86%). Active transport in Mount Waverley under performs with only 3% currently using it to access local employment.

The majority of people that live in the City of Monash access jobs outside of the LGA. According to ABS data some 80,000 residents of the City of Monash access jobs each day. Of these local residents, 29% of residents work within the City of Monash. Mount Waverley is only expected to have a small proportion of the above total jobs.

This data focuses on people accessing employment and does not include trips to schools, shops and leisure. Local trips to school and to undertake shopping would make up the majority of local movements in and around the MWAC.

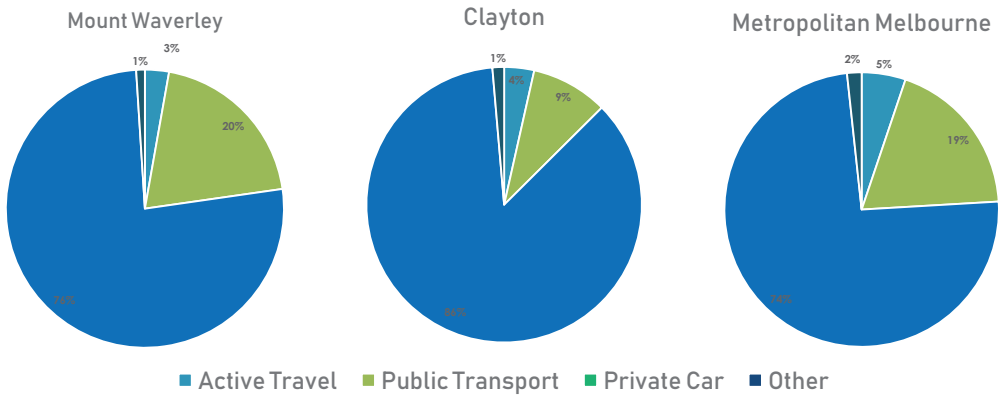



**Figure 19.** Existing Mode Share Comparison
(SOURCE: 2016 ABS Census Journey to Work Data based on Place of Work)

| Destination | Number | Percentage |
|---|---|---|
| Monash | 23,309 | 29% |
| Melbourne | 12,565 | 18.1% |
| Greater Dandenong | 5,295 | 6.6% |
| Whitehorse | 4,144 | 5.2% |
| Stonnington | 3,893 | 4.8% |
| Kingston | 3,820 | 4.8% |

**Figure 20.** 2016 ABS Journey to Work/Place of Employment of Monash LGA Residence
(SOURCE: ABS JtW, 2016, as compiled by ID. Consulting)

## 17.3 PEDESTRIAN ACCESS

The existing road network provides a reasonably permeable walking network, but has significant barriers in the form of the rail line, major roads and large at-grade car parks. Based on Figure 14, the catchment map, the area able to be accessed within 20 minutes is fairly uniform from the activity centre, except to the northeast and northwest due to the rail line.

It is also noted that there are limited pedestrian crossing points along Stephensons Road, resulting in a major severance between the land uses on the east and west of Stephensons Road. There are parts of Stephensons Road which are fenced off, preventing pedestrians from crossing mid-block.

The various large at-grade car parks are also pedestrian movement barriers, as there are limited dedicated routes through them and a high level of vehicle activity within them. When you then consider the built form within he activity centre, the attractiveness of moving around within it is low, let alone wanting to access it on foot by local residents and school students.

Pedestrians need to be prioritised over other transport modes to make the centre more attractive.


**Figure 22.** Key pedestrian routes in the retail centre (GTA Consultants)

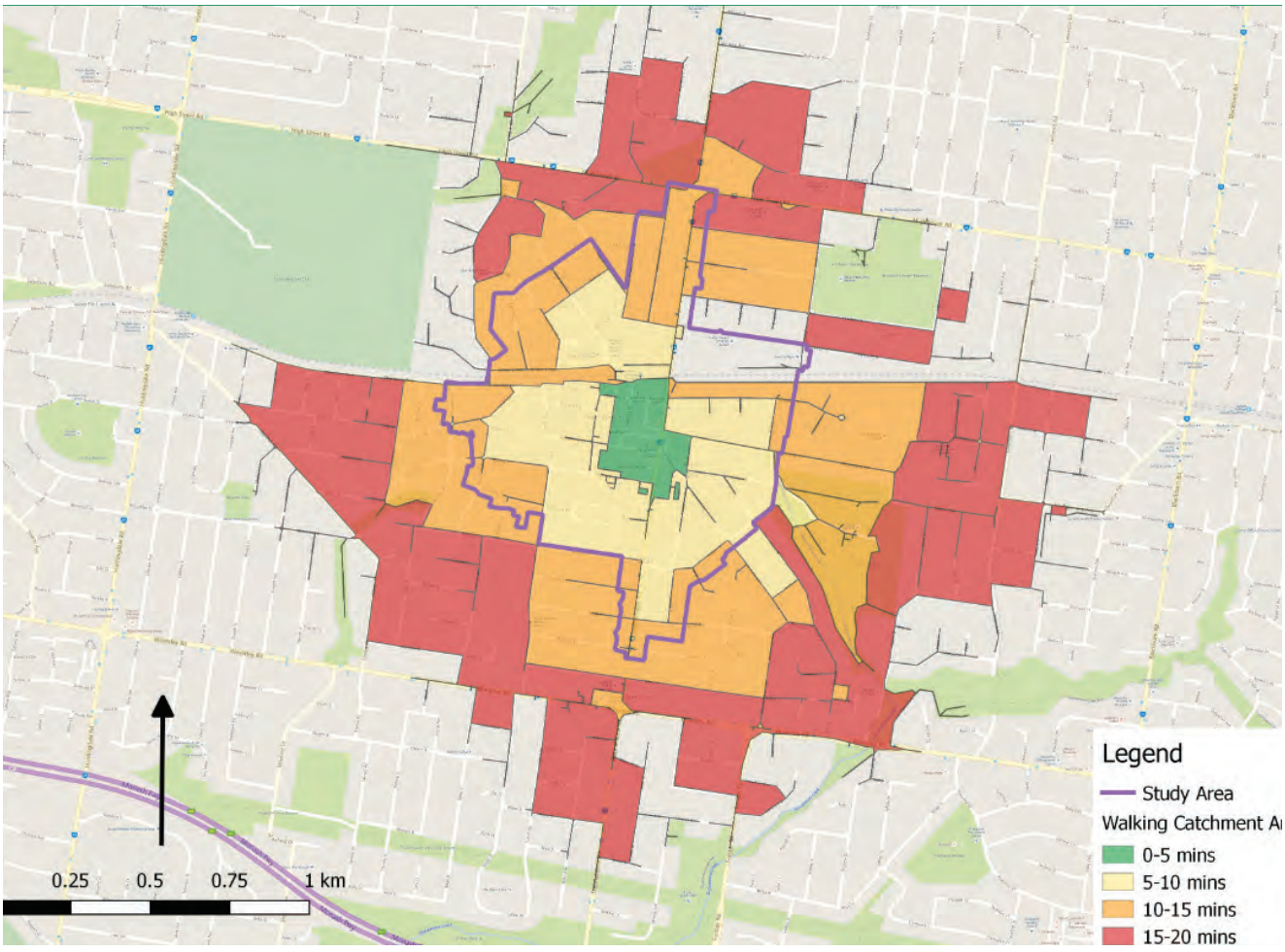



**Figure 21.** Walking Catchment by Travel Time (GTA Consultants)

## 17.5 LOCAL CYCLING CONDITIONS

Cycling infrastructure and bike facilities in the activity centre are very limited. Currently there is limited provision for safe and comfortable on road cycling, however there are several off road shared paths that connect cyclists to local parks, reserves and rail trails.

There is opportunity to improve safety and comfort for cyclists on local streets through the implementation of low cost traffic interventions and improved bike facilities.

Currently bike facilities and parking within the activity centre is limited to bike racks located around the train station and in some of the car parking areas.

There are other significant barrier that may be preventing more cycling activity from occurring throughout the MWAC. These include the steep topography and the high vehicle volumes, particularly along Stephensons Road. The lack of cycling culture should also be considered a barrier in terms of changing cycling behaviour.

The VicRoads SmartRoads framework indicates the proposed bicycle priority routes along the main arterial roads and rail corridor (see Figure 16 below).

A key consideration in the Structure Plan will be the provision of a safe and comfortable cycling network that connects to the proposed bicycle priority routes, the train station, as well as the provision of improved end-of-trip facilities.

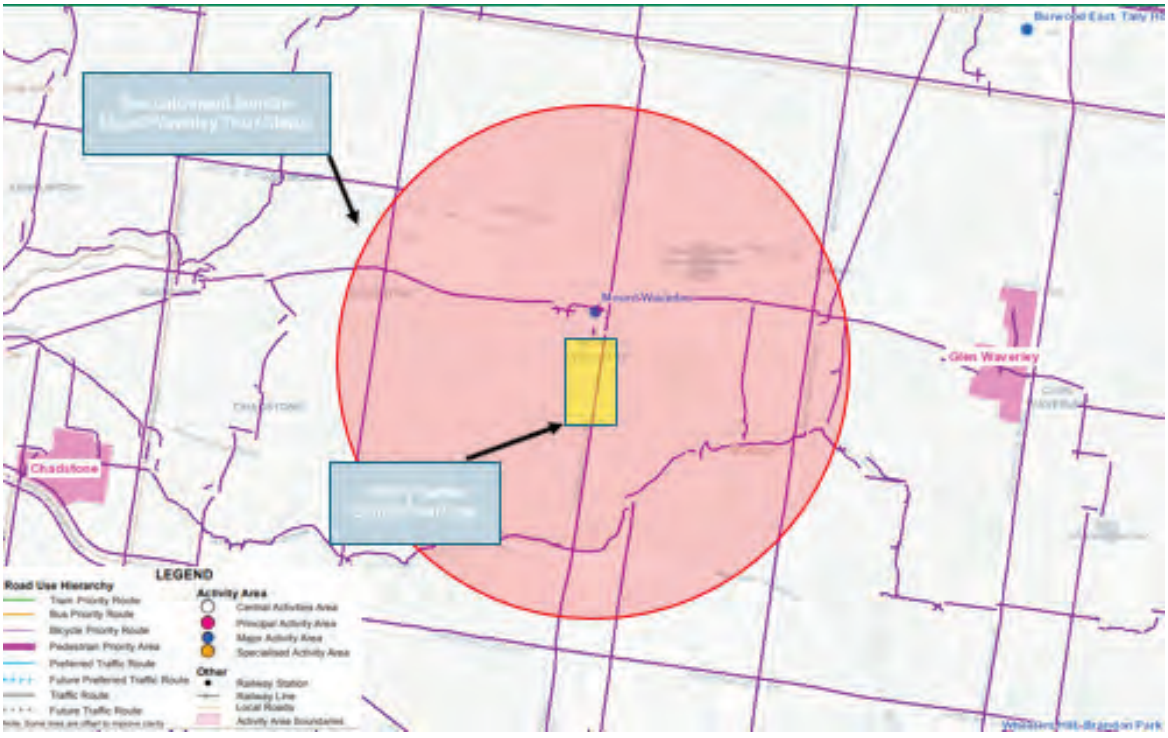



**Figure 23.** Existing Cycling Infrastructure
(SOURCE: https://data.vicroads.vic.gov.au/smartroads/index.html)

## 17.6 PUBLIC TRANSPORT ACCESS

The existing public transport network servicing the centre are bus services along Stephensons Road and the train station on the northern side of the centre.

This provides the centre with a reasonable level of access by public transport, including to a number of major trip destinations (i.e. Monash NEIC and Glen Waverley).

The trains running between Glen Waverley and the Melbourne CBD operate on approximately 15min intervals between 5.30am and 11.30pm on weekdays, and between 20 and 60min intervals on the weekend.

The buses operating along Stephensons Road operate at the following frequencies:

- 623 = 30min
- 733 = 30min

Via the train line, connections for the regular commutes is good but for those people travelling outside of these times journey time are long and unreliable.

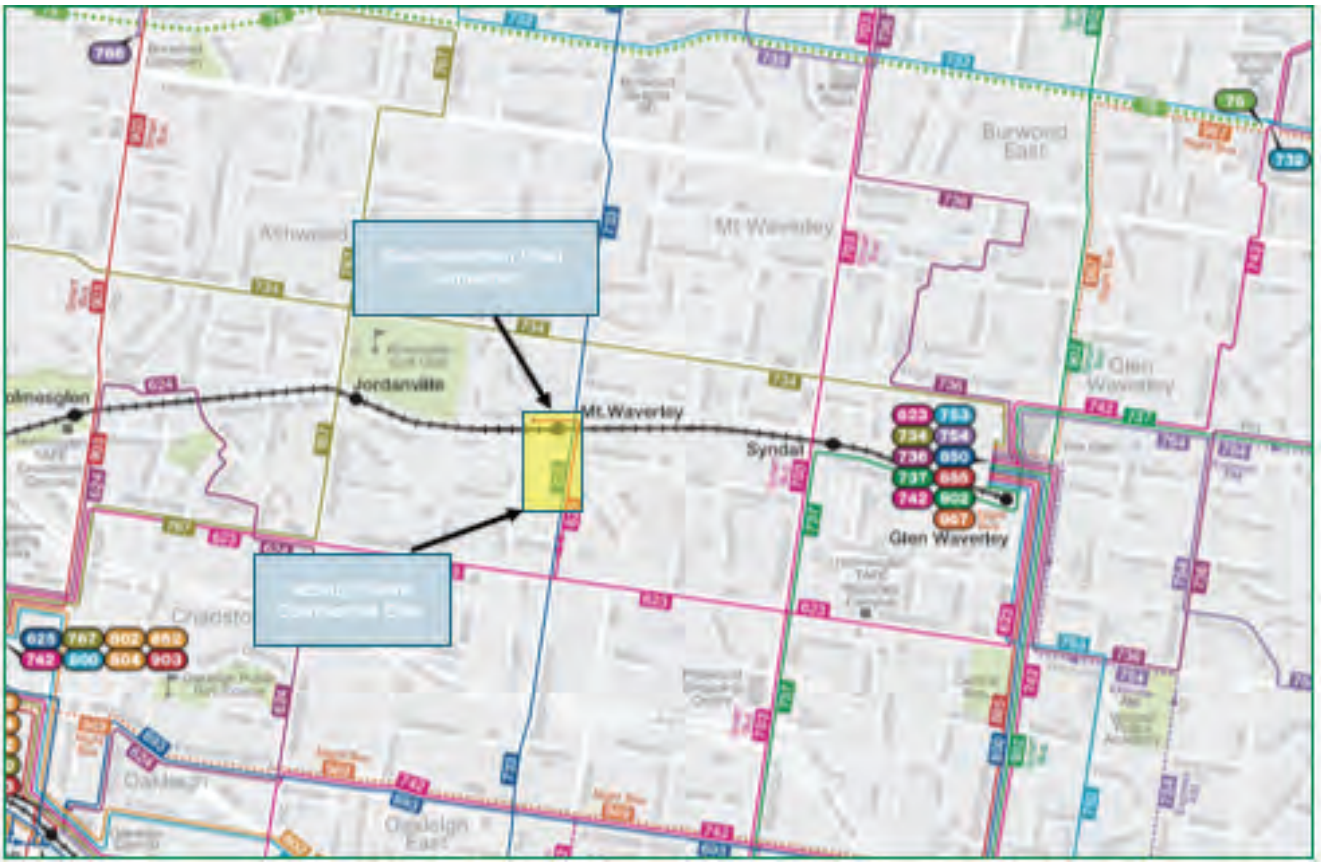



**Figure 24.** Bus and train services servicing the MWAC (GTA Consultants)

## 17.7 PUBLIC TRANSPORT CATCHMENT

A 20mn journey time between stops and stations has been calculated to show the potential distance that can be reached from the MWAC. Public transport journeys are focused along the train line and the major bus routes along Stephensons Road.

Figure 18 below shows locations that are accessible by public transport within 20min of the Activity Centre. It shows that the locations most accessible by public transport are those associated with the adjacent train stations by train and along Stephensons Road by bus. This is a function of the public transport service frequencies, travel speeds, integration and coordination of stops with the centre.

Increased residential and employment densities should be focused around these areas. Improved stop and station access integration with key trip destinations will make it easier to access the Mount Waverley Activity Centre by public transport, potentially helping to reduce car use and network congestion.

Transport for Victoria station patronage data suggests a decline in the station boarding's over the last 10 years. The data states that in 2008 there was an average of 4,000 boarding's per week day whilst current patronage numbers are averaging just over 2,000 boarding's per week day.

The decrease in station use is likely due to an ageing catchment population, especially in terms of ages that tend to work or study in the city. However, this will potentially change as the demographic and housing options change.

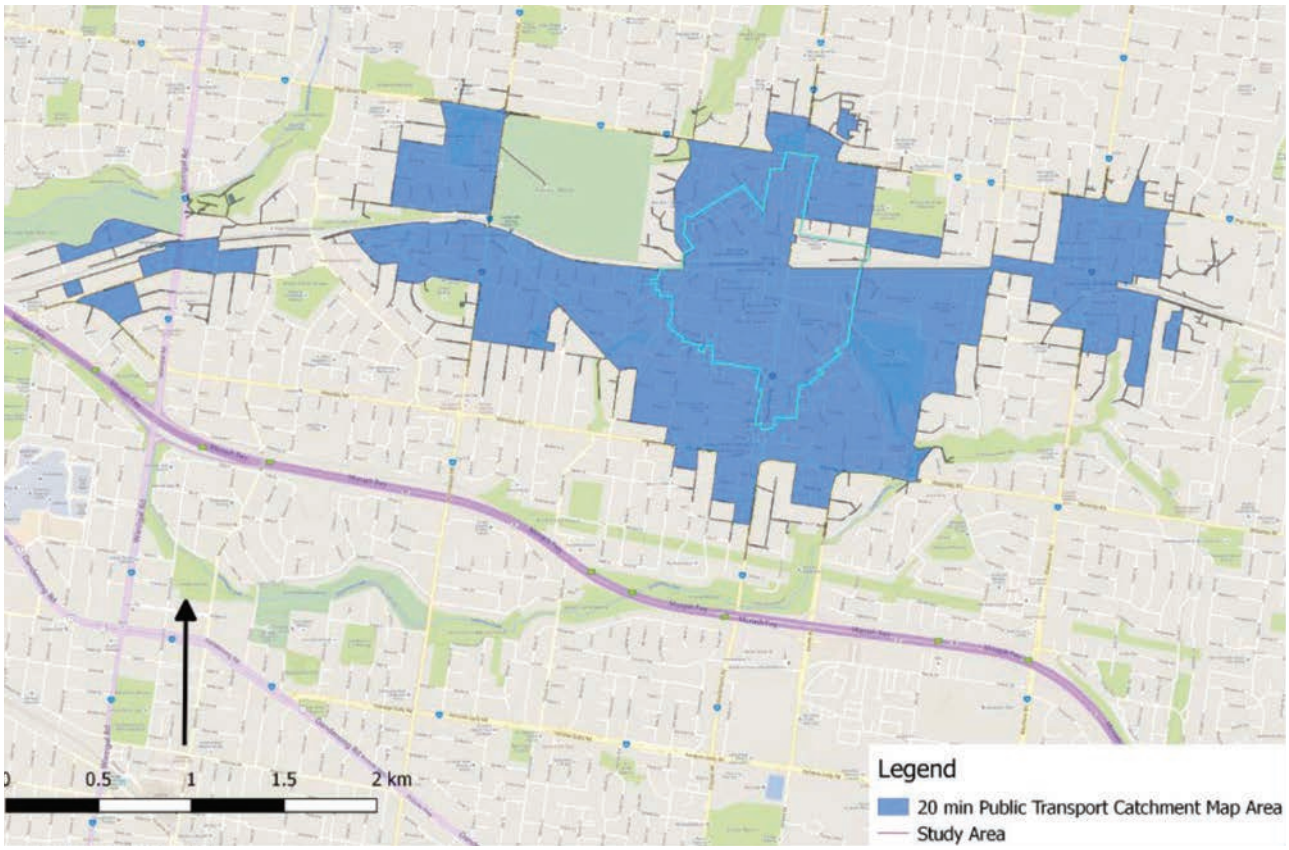



**Figure 25.** The 20minute public transport catchment (GTA Consultants)

## 17.8 TRAFFIC VOLUMES

Victoria's traffic signals are managed by the Sydney Coordinated Adaptive Traffic System (SCATS). SCATS is a traffic management system. SCATS data for the intersection of Stephenson Road and Waimarie Drive was interrogated to understand the existing through vehicle movement volumes adjacent to the Activity Centre.

Based on the above SCATS data the majority through vehicle movements head southbound in the AM commuter peak and northbound in the PM commuter peak. There are still reasonable volumes going in the opposing directions, but given access to the Monash Freeway and Monash NEIC is to the south, the majority of local resident's employment is accessed by car in this fashion.

The data also indicates that there is in the order of 40,000 vehicle movements per week day, which means it's a highly utilised arterial road. As such, the ability to reduce the road cross-section and reallocate it to more place based activities for the activity centre is probably limited, as it doesn't address the source of the current demands it is accommodating. Consideration of how the impacts of these traffic volumes can be minimised on the amenity of people moving around the centre is critical to ensuring the Activity Centre develops as a 'place' in it's own right.

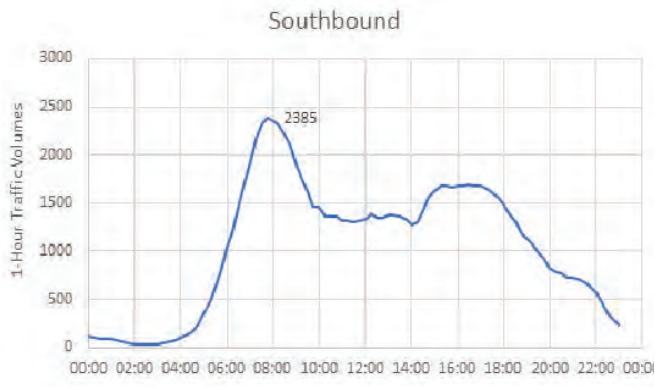



**Figure 26.** Southbound traffic volumes on Stephensons Road (GTA Consultants)

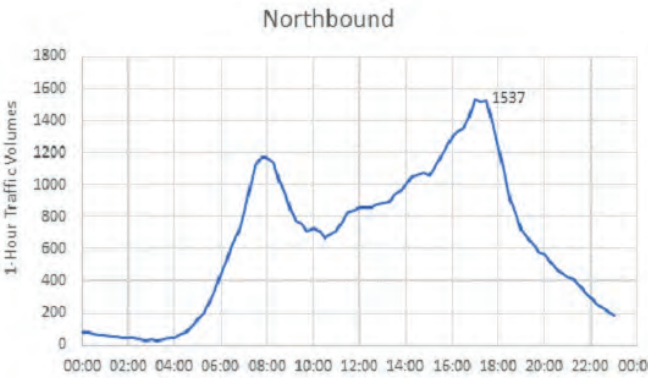



**Figure 27.** Northbound traffic volumes on Stephensons Road (GTA Consultants)

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## 17.9 CAR PARKING

Mount Waverley has a significant amount of free, publicly available off and on-street car parking servicing the centre and the train station. There are 1404 off-street publicly available car parking spaces within the commercial core of the Activity Centre, which are primarily located in seven car parks indicated in Figure 28 opposite. These spaces are generally time restricted and primarily cater for people accessing the shops and services within the retail core. The above at-grade off-street publicly available car parking supply is significant, from both a quantum and land area. The breakdown of car parking spaces can be catoegorised as thouse servicing the retail centre and those primarily functioning as rail commuter parking.

### RETAIL CENTRE PARKING

There off-street car parking located in the retail centre primarily consists of:

- Super IGA basement car parking,
- 636 at-grade parking spaces located throughout the retail centre on the eastern side of Stephensons Road,
- 245 at-grade parking spaces located on the western side of Stephensons Road, and
- The Library and Community Centre have a total of 76 parking bays (34 allocated for the library and 42 allocated for the community centre). Based on the requirements set out in Clause 52.06 of the Planning Scheme, the existing number of parking bays can support some 113 library patrons and 140 community centre patrons at one time. This number is considered suitable for facilities on this size and location. However, parking restrictions and enforcement should be employed to ensure they are being used by the approach users.

### COMMUTER PARKING

There are two rail commuter parking areas servicing the Mount Waverley Train Station:

- On the northern side of the rail line a 120 space car park is located to the west of the station for use by rail commuters. This is typically full each day and overflow occurs into the surround streets and some of the other off-street car parks that have spaces that are unrestricted, and
- On the southern side of the rail line is a car park providing 204 parking spaces, although not all of these spaces are unrestricted.

As the centre continues to grow there will be opportunities to redevelop these car parking areas. However, this should not occur at the expense of the supply be used to service the entire centre, as well as become difficult to find a vacant space.

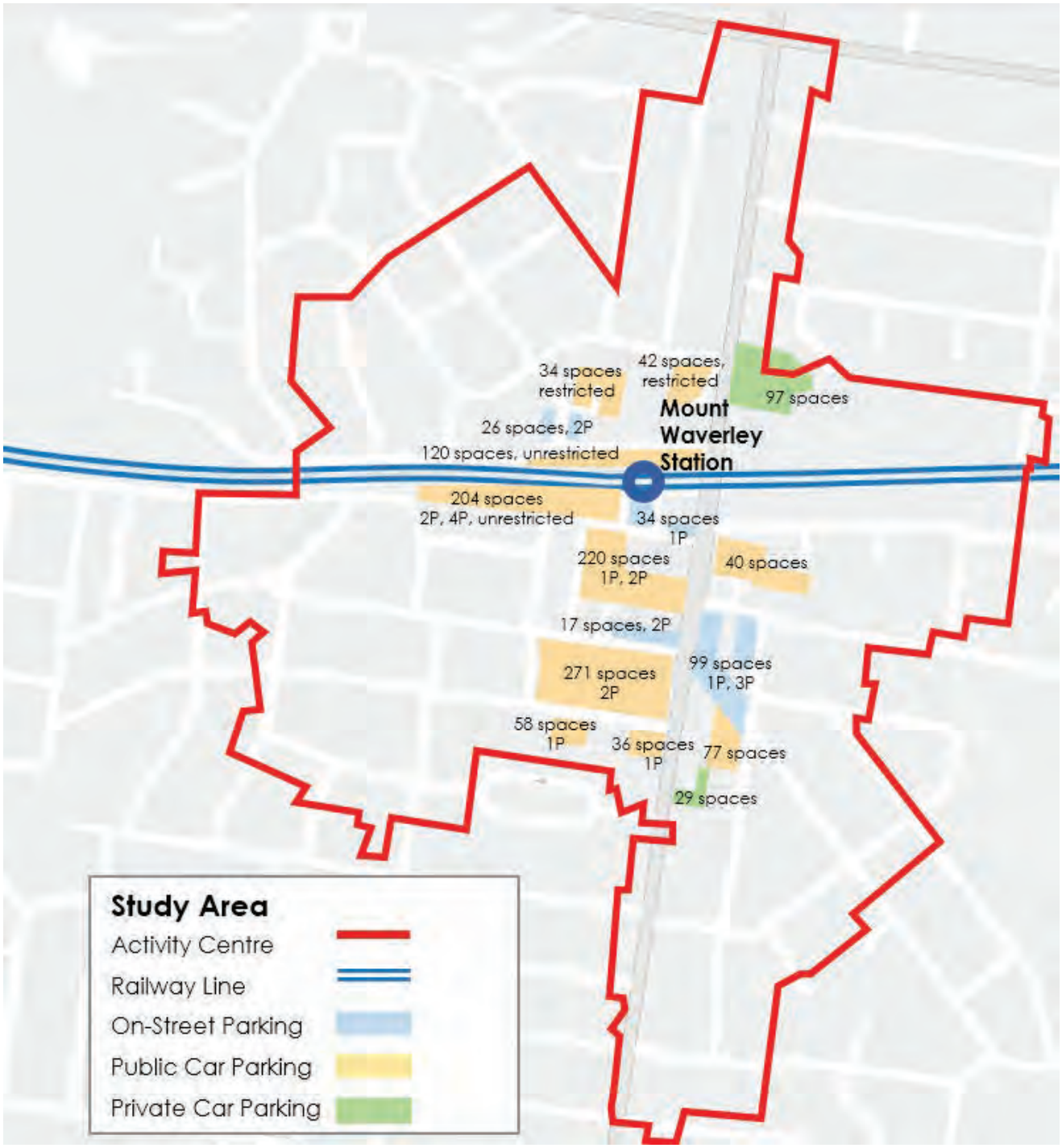


**Figure 28.** Retail parking locations and spaces (GTA Consultants)

## 17.11 THE VILLAGE SHOPPING CENTRE - PARKING & VEHICLE MOVEMENTS

The Village Centre carpark has developed over the years in line with the commercial growth of the area. However, the disjointed development of the carpark has resulted in a number of inefficiency and safety issues, as shown in Figure 29. Whilst the horse shoe configuration of the retail centre has many advantages such as providing an open and compact shopping area, the car park comprises a significant part of the shopping area. For this reason the centre does feel car dominated and the development of a Structure Plan provides the opportunity to assess the functioning efficiency of the existing car park configuration.

The following issues have been identified because they compromise the place function of the Village Centre and the movement function of Stephensons Road:

### INFORMAL CROSSOVER:

A vehicle crossover is located south of the Village Centre's main signalised intersection from Stephensons Road. This secondary crossover, located in close proximity to the main access to the retail centre, allows vehicles to turn left into the retail centre. It has no major delineation or clear priority between movements and as such has the potential to result in conflicts between pedestrians and vehicles turning left.

### SHORT QUEUING AREA:

The length of the access road between the signalised intersection with Stephensons Road and the internal roundabout is very short (26m) and only able to accommodate up to three queued vehicles. This is expected at times to result in queuing back out on to Stephensons Road and/or through the internal roundabout.

### HAMILTON PLACE ACCESS INTERSECTIONS:

There are three closely spaced car park aisles intersecting Hamilton Place. Moreover,the western most aisle intersection forms a X-intersection with Alexander Street. This high number of multiple movements from the local road is not typical or desired from a safety perspective.

### ONE-WAY AND TWO-WAY AISLES:

The mix of one and two-way aisles within the car park makes the internal circulation confusing to users, especially those not familiar to the centre.

### DEAD-ENDS:

Dead-ends within the car park result in driver confusion and unnecessary vehicle movements. They should be avoided or digital signage identifying carpark vacancies should be used..


**Figure 29.** Village Shopping Centre Car Park Key Issues (GTA Consultants)

## 17.12 LOCAL COMMUTER TRAVEL PATTERNS

It is expected that a significant amount of the local commuters accessing the centre will do so via Stephensons Road. As Stephensons Road becomes more congested potential local roads will become utilised by those coming from further afield. Stephensons Road frontage has a number of conflicting movements and modes. As such, more clear and separated arrangements by mode along Stephensons Road could be expected to help manage existing and future access demands to the centre.


**Figure 30.** Local Commuter Travel Patterns (GTA Consultants)

## 17.13 RETAIL CUSTOMER TRAVEL PATTERNS

Retail travel patterns tend to occur at different times to commuter peaks, however some overlap between commuters and shoppers can occur.

Consideration of the retail customer peaks need to be undertaken and managed, especially as these times often relate to the peak parking demand period and can contribute to excessive vehicle circulation in search of a vacant car spaces.


**Figure 31.** Retail Customer Travel Patterns (GTA Consultants)

## 17.14 RAIL COMMUTER TRAVEL PATTERNS

ABS data indicates that within Mount Waverley 15% of journeys to work are undertaken by rail. In the morning peak, the majority of commuters are travelling towards the Melbourne CBD, and in the afternoon returning to Mount Waverley. These tidal movement flow impact on specific access routes to the station from the adjacent park and ride facilities , as well as the bus stops located on Stephensons Road.

It is expected that those accessing the park and ride facilities are those beyond walking distance to the stations. Increasing the integration of connecting bus routes could help provide an alternative to driving to the station.

Tim improve local access to the train station, traffic interventions in the local road network to discourage rat-running, and make the streets for pedestrian and cycle friendly, should be considered.


**Figure 32.** Rail Commuter Travel Patterns (GTA Consultants)

## 17.17 SCHOOL TRAVEL PATTERNS

Mount Waverley contains a number of schools;

- Mount Waverley Primary School - approx. 800 pupils
- Hunting Tower School - approx. 730 pupils
- Holy Family Primary School approx. 360 pupils, and
- Avilla College – approx. 1100 pupils.

With the exception of Mount Waverley Primary School, the schools are generally private and significant in size. As such, these schools attract students from beyond the local school catchment. At school start and finish times these travel movements contribute to localised congestion, particularly along Stephensons Road.

Stephensons Road is the key connecting route by car and bus, as well as those using the train station. Finding ways to manage interactions with Stephensons Road with school access arrangements could be expected to help both network operations and safety.


**Figure 33.** School Commuter Travel Patterns (GTA Consultants)

## 17.15 SURROUNDING MAJOR PROJECTS

Two key areas of the transport network that are expected to be improved and will help with accessibility in the area relate to the Rail and Freeway Networks, as described below.

### RAIL IMPROVEMENTS

The most comprehensive outline of how the Rail Network will be developed is the Rail Network Development Plan released by the State Government in 2012, as shown to the right.

Current peak service numbers on the Glen Waverley Line is 4 trains per hour and expected to be upped to 9 in the future based on the Rail Network Development Plan, along with improved stations and train capacities.


**Figure 34.** Stage 4 Rail Network Development Plan (SOURCE: ptv/vic.gov.au)

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## 17.16 SUMMARY OF THE TRANSPORT ISSUES

The Mount Waverley Activity Centre is a well used area by the local community that is starting to show signs of strain as its use steadily increases. The resulting conditions being experience today relate to a medium density, but fully built out activity centre. The key focus of the Structure Plan is considered to be how to facilitate the continued growth while maintaining the local community feel that makes it so attractive to its local residents. The following provides a consolidated summary of the key identified movement and access issues in and around the MWAC.

**Existing Movement & Access Patterns**

- There is currently a high level of car use, low active transport us and some 20% (mostly train) public transport use by residents in accessing their jobs.
- The majority of residents in the area travel outside the City of Monash to their jobs, including almost 20% to the Melbourne CBD.
- Stephensons Road is a major through route that is also causing severance between the east and west parts of the Activity Centre
- The majority of the local cycling catchment to the centre is made up of local roads, so through local area traffic management measures can be made reasonably attractive to potential cyclists (and pedestrians).
- Mount Waverley Station provides direct mass transit access to various major trip destinations, such as the Melbourne CBD and Glen Waverley Activity Centre
- The at-grade off-street publicly available car parking supply is significant, from both a quantum and land area. As the centre continues to grow there will be opportunities to redevelop these car parking areas, but need to make the resulting ground place user centric and of a human scale.

### PEDESTRIAN ACCESS

We can encourage more walking within the MWAC by improving the key pedestrian routes accessing the retail centre,the train station, the Library, Community Centre and the Schools. Some of the potential key improvements include:

- Prioritising walking throughout the Activity Centrer which has the double effect of both liberating people from the need to drive a car, as well as delivering the message that the activity centre is a place for people.
- Use wayfinding to simplify the transport network and make it easy to access the land uses, especially as the centre expands and/or intensifies.
- Ensuring there is adequate pedestrian infrastructure located in the retail centre, local parks and and sporting facilities
- Recognise and mitigate barriers to pedestrian movement, such as Stephensons Road. The key to better access is making it easy for the community to come together by crossing the road and creating streets for everyone.
- Pedestrians crossing points and consideration of speed limit reduction on Stephensons Road could significantly increase the Activity Centre accessibility.
- Improve personal security and make sustainable travel feel safe for all users and at all times.
- Identify, develop and future proof a pedestrian network within the retail core that supports key desire lines between public transport facilities, crossing facilities and car parking areas. The paths should be clear of seating, clutter, obstructions, vehicle overhang, door openings, etc., as well as suitable off-sets as defined in the Transport for London Pedestrian Comfort Guidance.
- Reinforce pedestrian scale at larger vehicle crossovers by the use of road-markings, raised treatments, kerb build outs (with landscaping)
- Use Crime Prevention through Design techniques combines with universal access to create pedestrian networks which connect the retail and commercial developments with facilities that make people feel comfortable and be able to be used by all.

- Provide raised threshold treatments at all lanes and carpark entries
- Provide footpath entries to all carparks
- Widen the footpath widens on the bridge over the rail line to accommodate higher volumes of users and people who are mobility impaired (including using scooters).

## CYCLING NETWORK

We can encourage more cycling for recreational, transport and leisure, in and around the MWAC by providing improved bike infrastructure, in particular;

- Providing safe and comfortable cycling routes between the surrounding residential areas and the train station (within a 20minute catchment)
- Providing clear pathways between the Activity Centre/ Train Station and the Scotchams Creek Trail
- Providing the missing links in the Glen Waverley Rail Trail
- Creating inspiring pathway environments and journeys
- Providing high quality bike storage infrastructure at transport interchanges to allow a seamless transition between different modes of transport
- Encourage local business to provide change facilities at work places

## PUBLIC TRANSPORT NETWORK

Currently the MWAC is well serviced however Monash City Council should continue to advocate for increased public transport services frequencies directly connecting with the centre. Additionally we can improve passenger experience by:

- Improving the quality and access to bus stops and their surrounds
- Improving the arrival and departure experience at the train station

## CAR PARKING

- Parking policies need to create fair provision of parking, ensuring that people who really need it have access to it.
- Parking Policy can be used to future-proof the Activity Centre in response to disruption such as new technologies and purposeful building structures.
- Car parking guidance systems to help most efficiently use the off-street publicly car parking, ensure they help services the entire centre, minimise vehicle circulation, search of a vacant space and help direct vehicle access away from key pedestrian access points.

## 17.18 POTENTIAL TRANSPORT INTERVENTIONS

Three key transport themes have been identified to help create a transport network that is safe and sustainable and will help facilitate the growth of the Mount Waverley Activity Centre:

### Human Centred Connectivity

- Wayfinding is a powerful tool for creating 'places for people'. It removes confusion from our experience within the Activity Centre and emphasises the message that people they belong there.
- Prioritising walking, cycling and public transport liberates people from the need to drive a car. It also propels the message that the activity centre is a place for people.
- The scale of the infrastructure needs to be human focused.

| Principle | Key Element | Strategic Response |
|---|---|---|
| **Human Centred Connectivity** | **Convenient** | Use wayfinding to simplify the transport network and make it easy to access the land uses, especially as the centre expands and/or intensifies. Signage, lighting, supporting facilities and attractive spaces should be implemented within and connecting the centre.<br><br>Car parking guidance system to help most efficiently use the off-street publicly car parking, ensure they help services the entire centre, minimise vehicle circulation, search of a vacant space and help direct vehicle access away from key pedestrian access points. |
| | **Accessible** | Identify and improve key pedestrian and bicycle routes accessing the centre, especially within the proximate local road network through local area traffic measures.<br><br>Advocate for increased public transport service frequencies to those directly connecting with the centre. |
| | **Safe** | Use Crime Prevention through Design techniques combines with universal access to create pedestrian networks which connect the retail and commercial developments with facilities that make people feel comfortable and be able to be used by all.<br><br>Provide raised threshold treatments at all lanes and carpark entries.<br><br>Provide footpath entries to all carparks |
| | **Human Scaled** | Identify, develop and future proof a pedestrian network within the retail core that supports key desire lines between public transport facilities, crossing facilities and car parking areas. The paths should be clear of seating, clutter, obstructions, vehicle overhang, door openings, etc., as well as suitable off-sets as defined in the Transport for London Pedestrian Comfort Guidance.<br><br>Reinforce pedestrian scale at larger vehicle crossovers by the use of road-markings, raised treatments, kerb build outs (with landscaping) |

### Sustainable Parking

- Parking in the area needs to respond to the needs of the community and deliver the overarching transport objectives. This could mean consolidating parking to allow for on-street parking space to be better utilised by sustainable modes.
- Parking policies need to create fair provision of parking, ensuring that people who really need it have access to it.
- Parking Policy can be used to future-proof the Activity Centre in response to disruption such as new technologies and purposeful building structures.

| Principle | Key Element | Strategic Response |
|---|---|---|
| **Sustainable Parking** | Transport Objectives | Review existing parking restrictions to determine whether they could be adjusted to support mode shift and prioritise people who need parking most. |
| | Fair Provision | Consider parking supply at an Activity Centre level with any specific development proposal, including potential mode shifts as the centre density increases and the potential for sharing of the car parking provisions (i.e. minimise the potential for an over supply). |
| | Support Urban Design | The place, layout and accessibility of car parks should fit with the overarching urban design vision for the centre. |

### Reducing Community Severance

- Recognise and mitigate barriers to pedestrian movement. Stephensons Road is a key example of a road corridor that dissects the Activity Centre. The key to better access is making it easy for the community to come together by crossing the road and creating streets for everyone.
- Pedestrians crossing points and consideration of speed limit reduction on Stephensons Road could significantly increase the Activity Centre accessibility.
- Improve personal security and make sustainable travel feel safe for all users and at all times.

| Principle | Key Element | Strategic Response |
|---|---|---|
| **Reducing Community Severance** | All users | Widen the footpath widens on the bridge over the rail line to accommodate higher volumes of users and people who are mobility impaired (including using scooters). |
| | Remove Barriers | Apply the Movement and Place framework to the Mount Waverley Activity Centre to identify key movement corridors and places, and what environments are required to resolve current conflicts, especially along Stephensons Road.<br><br>Better align and integrate the signalised pedestrian crossings on Stephensons Road with access into the retail core and bus stops, as well as more regular and long crossing times, shelter at waiting locations and lighting.<br><br>Create direct connections to the station via footpaths that are even and have width<br><br>Investigate turning Hamilton Place into a semi-shared space to encourage more on-street activity and walking to the station. |
| | Safe Design | Consider reducing the road speed along Stephenson Road to 40km/h, at least during typical retail hours.<br><br>Change priorities at car parks entries to make pedestrian have priority and feel safer, particularly for the elderly |

## 17.19 POTENTIAL INTERVENTIONS TO IMPROVE EXISTING CONDITIONS

The following is a summary of transport specific measures that aim to better help guide access and increase pedestrian priority and safety.

Figure 36 illustrates the existing major attractors, car parks and pedestrian routes within the core of the Activity Centre. The diagram also presents a the following proposed measures to help guide pedestrian and cyclist access, namely:

- Aligning pedestrian and cycling wayfinding with key decision points for users to help remove confusion, and increase their priority and safety.
- Provide a more consistent footpath width to improve the user experience and achieve Universal Access principles
- Investigate the use of local traffic management devices on the local streets identified in green to improve the safety and comfort for cyclists

In addition, it is recommended that the following measures are applied to vehicular access within the Activity Centre:

- Lowering the speed limit along Stephensons Road from 60km/h to 40km/h within the boundaries of the Activity Centre to better support its place function but not impact the road way capacity.
- Install car parking guidance signage to direct customers to appropriate car park zones to better utilise all of them and reduce the number of vehicles circulating in search of a vacant car space.

It is noted that the above does not cover all the potential measures that could be implemented to improve accessing and spending time in the centre. Rather they relate to the key measures that are expected to lift the existing conditions

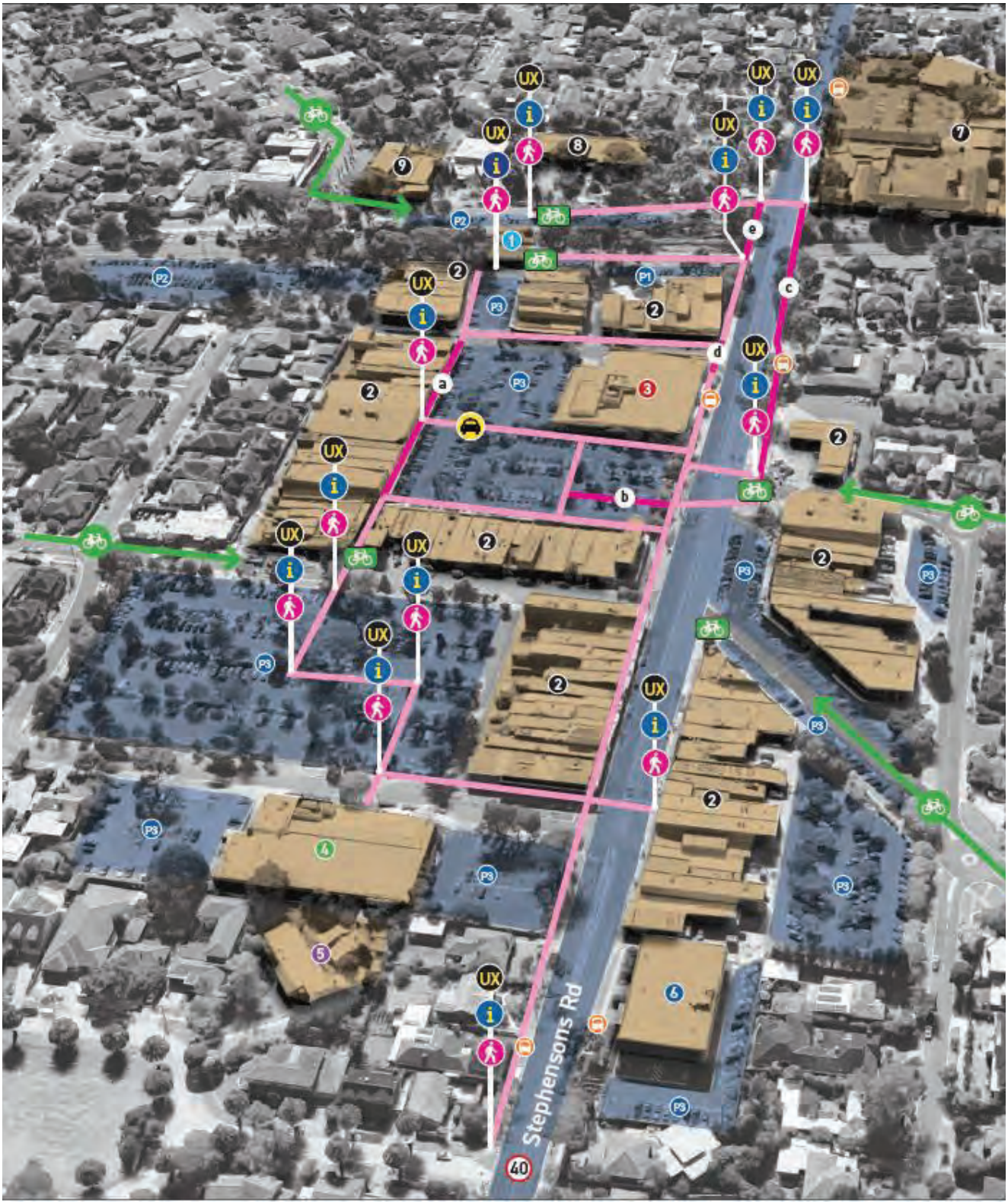



**Figure 36.** Transport Measures Diagram (GTA Consultants)

## 17.20 KEY OPPORTUNITIES TO IMPROVE VEHICLE MOVEMENTS IN THE THE SHOPPING CENTRE CAR PARK

There are several key opportunities to improve the efficiency and safety issues within the Village Shopping Centre Car Park. The following opportunities have been identified to make the car park access and use easier and safer for the community.

These opportunities are outlined below and mapped on Figure 37 opposite:

A - Remove the crossover located south of the Village Centres signalised access

B - Remove all dead end aisles where feasible, or consider installing pod sensors to inform approaching drivers of any car parking vacancies before they enter the aisle

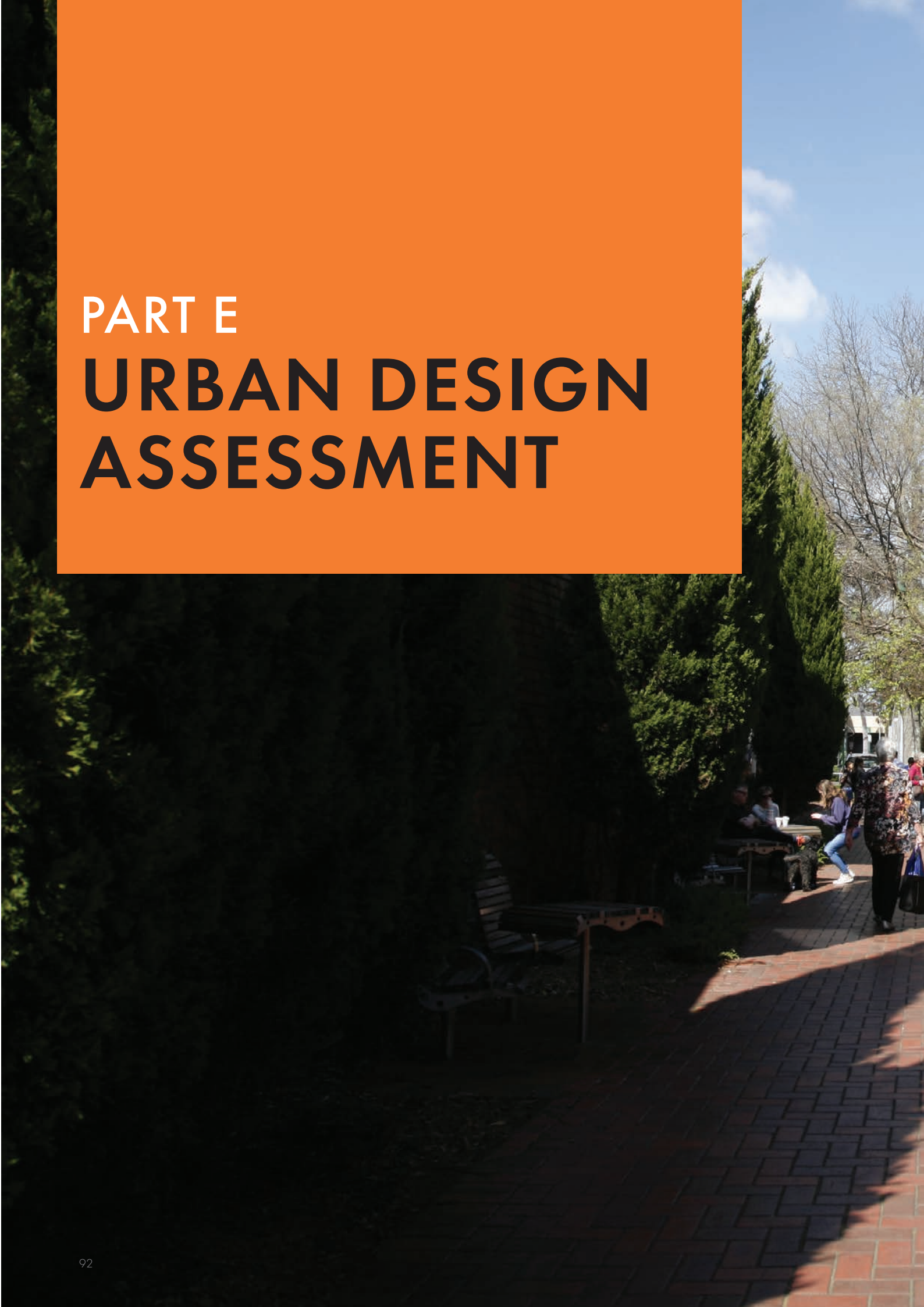
C - Remove the internal roundabout and lengthen the access road connecting to the Village Centres signalised access

D - Install a roundabout at the Hamilton Place/Alexander Street car park aisle intersection and to mange the various vehicle movements

E - Close other car parks aisles to Hamilton Place to minimise the potential number of conflict points

F - Convert one-way aisle to two way aisle


**Figure 37.** Village Shopping Centre Car Park Key Opportunities (SOURCE: GTA Consultants)



# PART E
# URBAN DESIGN ASSESSMENT


SON OF TUCCI

# 18 PUBLIC SPACES

Mount Waverley's public spaces play an important role in the Centre providing community focal points, spaces to gather and locations for active recreation. These include a mix of civic spaces co-located with public buildings, paved plazas, parks and sports open space.


**Figure 38.** MWAC Open Space Facilities

Investigation Area
Open Space Facility
Civic /Community Facility
Mt Waverley Train Station

## 18.1 CIVIC SPACES AND PLAZAS

The MWAC has several important community facilities located at its heart. The Mt Waverley Library and the Mt Waverley Community Centre. Not only are these buildings where formal activities and services are provided, it is the external spaces around these facilities where important social interactions occur.

### MOUNT WAVERLEY LIBRARY AND COMMUNITY CENTRE

The Mount Waverley Community Centre has recently undergone major redevelopment. The building has a large garden wrapping around the Miller Crescent and Stephensons Road frontage. As well as contributing to the amenity of the street the gardens have a significant memorial function. There is an opportunity to increase the use of these gardens by encouraging more use by the Community Centre.

The Mount Waverley Library is located opposite the Mt Waverley Train Station (on the northern side). The two storey library building is highly visible sitting opposite the train line, and whilst not situated directly adjacent to the Shopping Village there is a direct pedestrian connection via the pedestrian underpass.

### STATION ENTRY

The station is a major destination for the MWAC and centrally located in the suburb. There are opportunities to improve landscaping around the station and enhance the underpass. This should be combined with improvements to Hamilton Place which provides access to the station from the south.

Mt Waverley Community Centre Gardens

Mt Waverley Community Centre

Mt Waverley Community Centre Gardens

View of connection between the Station and underpass


**Figure 39.** Public realm and streetscape opportunities in and around the train station and community facilities

- Existing Open Space
- Streetscape upgrade opportunity
- Public realm upgrade opportunity
- Key interface area (external interface & internal function) upgrade opportunities
- Key connection points
- Key pedestrian linkages

## WINBOURNE ROAD PLAZA

This plaza links the central area of the Village Shopping Centre and the southern car park and supermarket. Protected from the traffic along Stephensons Road this is a key pedestrian route also functions as an informal sitting area.

The southern entrance to the walkway expands into a small plaza area. There is a large canopy tree providing shade and a focal point for the space. Seating is limited to a bench seat on the western side. Whilst this space interfaces with Winbourne Road on either side, there is no vehicular connection through. Located in the heart of the centre, with protection from vehicles, a focal point and lots of passing activity this site has the potential to become a valued public square.

There is an opportunity to provide a direct line of sight and improve connectivity between the retail centre and the southern car park by acquiring adjacent properties to:

- Improve the visual ameninity,
- Widen the walkway through to the car park,
- Provide improved solar access,
- Improve the seating arrangements and provide additional seating,
- Increase the amount of planting and landscaping,
- Provide space for community noticeboards, and
- Encourage activation from surrounding land uses.


Winbourne Road walk way


Southern entrance to the walkway


Potential plaza expansion area along Winbourne Road


**Figure 40.** Public realm and streetscape opportunities in and around the train station and community facilities

Existing Plaza - Public realm upgrade opportunity

Potential Expansion of Plaza

Key interface upgrade opportunity

Potential property acquisition

## 18.2 OPEN SPACE

The Monash Open Space Strategy reconginses the community's desire and the need to supply more open space. The Strategy recommeds that each suburb in Monash has access to a variety of open space facilities with a range of landscape settings.

The MWAC has a range of local parks, reserves and public spaces that accommodate various recreational and leisure activities, such as sporting events, meeting places, play and event spaces. Each of these open space facilities varies in size, quality and accessibility and all play an important role for residents, workers and visitors to the centre.

### VALLEY RESERVE AND SCOTCHMANS CREEK

Valley Reserve is a regionally significant open space of 15.2 Ha located approximately 300m east of the retail area. The Reserve functions as a regionally important social and recreational facility, attracting both locals and visitors to Mount Waverley. It has a large activity playground, good walking tracks and lots of comfortable spots to sit and watch the activities taking place.

Scotchmans Creek is located within Valley Reserve and features a shared trail. Once on the trail cyclists and walkers can continue their journey towards the city via the Gardiners Creek and the Main Yarra Trail.

There are significant opportunities to enhance the link between the retail centre, Valley Reserve and the Scotchmans Creek trail. Both Walmarie Drive and Valley Road provide a direct connection to the park and could be enhanced to support walking and cycling.

When identifying opportunities for recreational paths and links to these paths the local conditions, particularly the topography is taken into consideration to ensure the path conditions are comfortable for all. The slope analysis plan opposite reveals the area of increased grade are predominately located along the MWAC boundary.


Walking trail through Valley Reserve


Scotchmans Creek & the Scotchmans Creek Trail (Source:City of Monash)

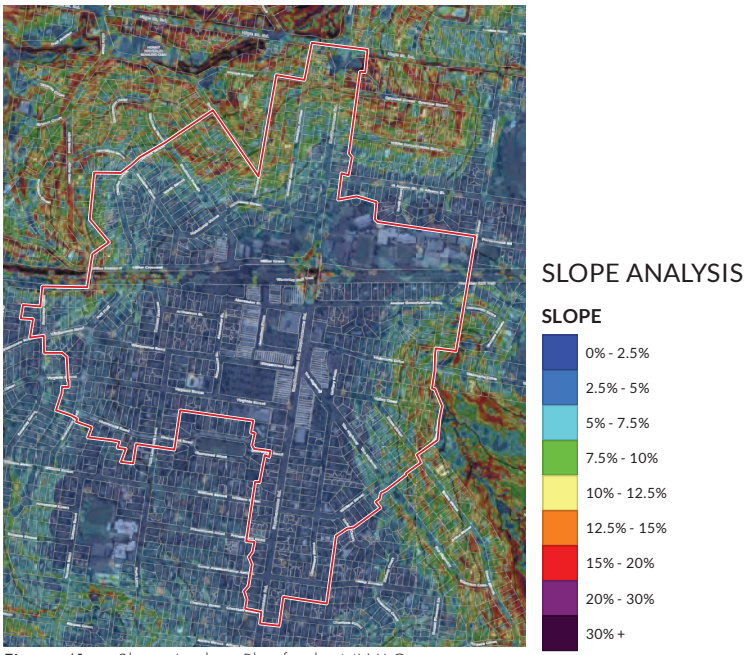



**Figure 41.** Slope Analysis Plan for the MWAC


**Figure 42.** Opportunity to extend the Scotchmans Creek Trail into the Village Shopping Centre

Valley Reserve

Scotchmans Creek

Pedestrian and Cycling Link Options

## SHERWOOD PARK

Located to the south of the retail centre, Sherwood Park, functions as a local park with a large, flat lawn area of approximately 4,900 sqm, including the corner sites in Sherwood Road (nos. 14A, 17A and 30A).

The large palm trees that line the parks rectangular perimeter are key elements and have historic significance. Rain and wind protection is limited, as is seating. Housing faces the park providing passive surveillance.

The park is located immediately south of the shopping precinct and provides great potential to be better connected to provide a space for workers and visitors to use. This could either be achieved through enhanced access and signage along Stephensons Road or through a new, direct link if the Woolworths site is redeveloped into the future.


Sherwood Park

## BOWMAN STREET RESERVE / DAMPER CREEK RESERVE

The Bowman Street Reserve is located approximately 250m north of the Mt Waverley Community Centre. This reserve connects up with the Damper Creek East Branch Reserve and also the Damper Creek Reserve via the Mt Waverley Bowls Club.

There is an opportunity to better integrate these parks to the Community Centre, Station and broader Activity Centre. This could be achieved with enhanced linkages and creation of new pathways within the reserves.

Mt Waverley Reserve

## MT WAVERLEY RESERVE

Whilst located just outside of the study area the Mt Waverley Reserve is a large active open space, that primarily functions as a sports facility. The Reserve has been considered as part of this analysis because it provides a range of sporting facilities to both locals residents and local school students.

## RAILWAY RESERVE AND TRAIL

Although not a tradition passive open space the rail corridor in Mt Waverley should be considered as a natural assets because of its landscape value .Parts of the rail corridor are accessible by cyclists and pedestrians via the Glen Waverley Rail Trail. There is opportunity to increase the use of this trail by providing the missing links in this part of the network.

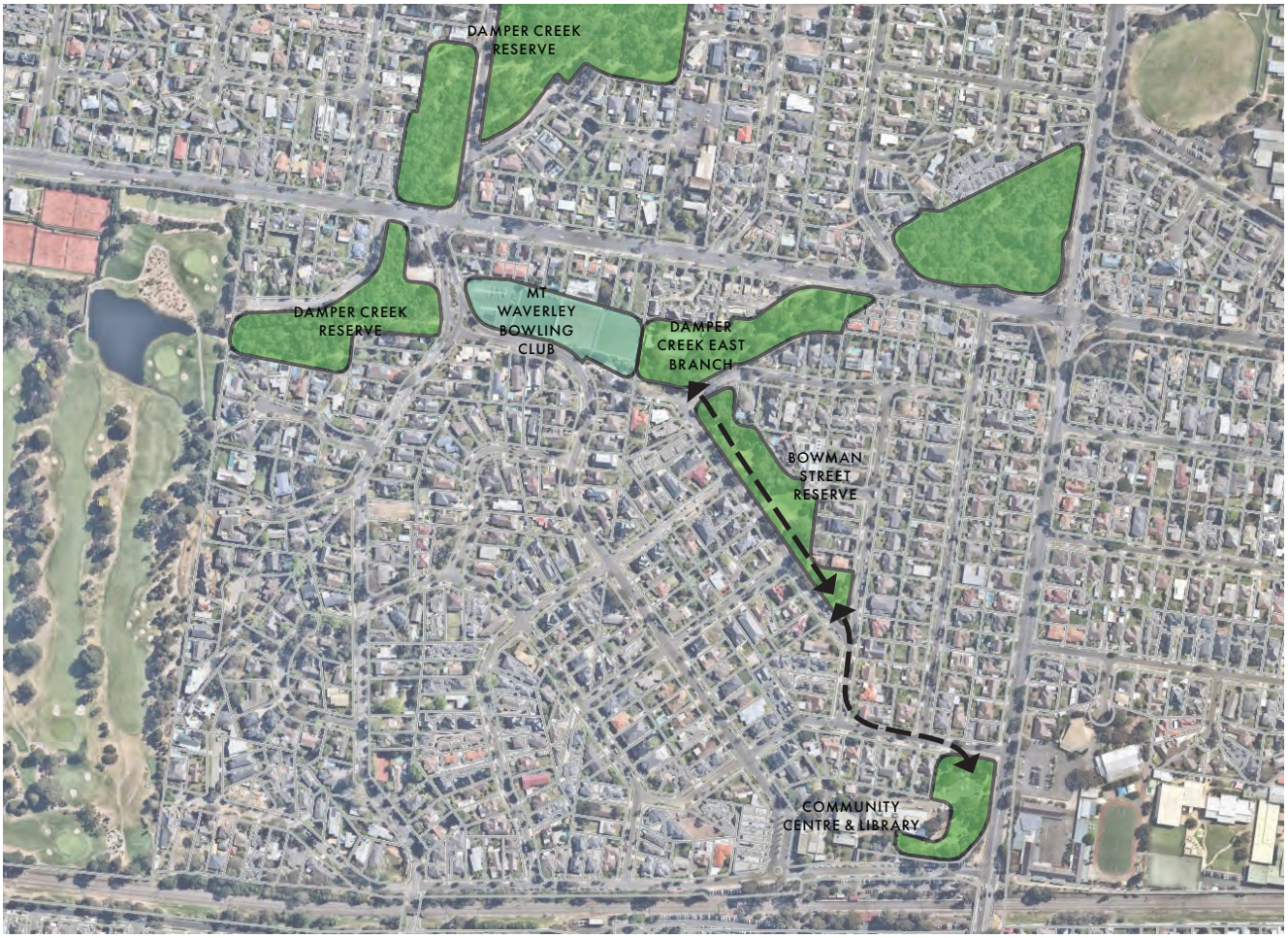
Rail Reserve and Trail


Sherwood Park

Potential Pedestrian and Cycling Link if Woolworths site is redeveloped and the MCH is refurbished

Opportunity to enhance walking link to park

**Figure 43.** Opportunity to enhance the connection to Sherwood Park




Existing Parks

Potential Pedestrian and Cycling Links

**Figure 44.** Opportunity to connect into Damper Creek Parklands

# 19 STREETSCAPES

One of the key ways to strengthen the role and function of the MWAC is to further improve the streets as active, safe and comfortable places for people. Supporting this is one of the priority strategies of the The Monash City Council Plan in improving walkability throughout the City of Monash.

The predominant land use in the MWAC is residential and the majority of local residential streets in the MWAC are used by vehicles and pedestrians. Currently there is low levels of cycling for commuting and recreational purposes. The Village Shopping Centre is located off Stephensons Road, a major arterial road that dissects the centre of the MWAC.

There is a significant opportunity to increase the amount of local trips undertaken on foot by improving the comfort and safety of the local street network. Whilst one of the key attributes valued by the community is the ability to be able to drive to the shopping village, there is a significant opportunity to provide a shift from car dominated streets to active streets where pedestrians and cyclists have higher priority.

This report has identified three key street typologies in the MWAC;

- Arterial roads - with a focus on Stephensons Road,
- Local Residential Streets - with a focus on the streets located within a 20minute walk of the Shopping Village and,
- Internal streets in the Village Shopping Centre.

Note, there are a number of public service lanes located behind the retail strips on Stephensons Road and in the Village Shopping Centre that provide access to the rear of businesses and commercial premises.


**Figure 45.** Key Streets in the MWAC

## 19.1 STEPHENSONS ROAD

Stephensons Road is a major north south corridor in the City of Monash road network. It functions as an arterial road linking providing a north south link between the Burwood Highway in the north and the Eastern Freeway in the south. Classified as a Category 1 Road in the Monash Road Management Plan 2017 and has a 60km per hours speed limit. The average daily traffic volume is around 30,000 vehicles per day.

Whilst Stephesons Rood is largely vehicle dominated the character and interface conditions vary. To the south of the Village Shopping Centre (south of Sherwood Road) and to the north of the train line where there are residential interfaces on either side, its predominately green in its character.

The heart of the MWAC is located between Sherwood Road and Holkskamp Street in the north and unfortunately, this section feels the most vehicle dominated and least people focused part.

Stephenson Road forms the spine of the MWAC. Structurally the activity centre is divided by Stephensons Road into a retail component located on the western side and a commercial and small business cluster situated on the eastern side. The road does act as a major barrier to pedestrian crossing informally

The following examples outline some of the key localised opportunities for improvement along Stephensons Road. Please note the Vic Roads Movement and Place Methodology provides an opportunity to strategically assess the future role of Stephenson Road. See the Transport section for more details.

### PEDESTRIAN BARRIERS

Pedestrian fencing have traditionally been used to control pedestrian behaviour and direct pedestrians to cross at the signalised intersections. There is debate that pedestrian fencing can contribute to a perceived feeling of unsafely.

Another key pedestrian barrier is the condition of some sections of the Glen Waverley Rail Trail. Some parts feel unsafe and unloved and could be improved by increasing opportunities for passive surveillance.

To date, there have been signalised pedestrian intersections installed to provide safe crossing points. Further localised opportunities to improve the pedestrian priority and comfort along Stephensons Road include:

- Reducing long/inadequate waiting times at the signalised intersections
- Using automatic call up at pedestrian signals
- Installing pedestrian countdown timers to provide users with information on the available crossing time remaining
- Improving the quality of the footpath and intersections, for example by installing pram ramps to assist wheeled devices such as prams, wheelchairs and mobility scooters
- Installing tools to make crossing wide rods easier and safer such as pedestrian refuges and median strips

### PEDESTRIAN & VEHICLE CONFLICT POINTS

The high traffic volumes and speeds make for a vehicular dominated environment along Stephenson Road. There are a few key conflict points that contribute to the feeling of vehicle dominance and priority, particularly for elderly and less able pedestrians.

This is a secondary entrance to the Village Shopping located only a few metres south of the main entrance. Whilst the footpath treatment suggests pedestrian priority there is no signage to make pedestrians aware of vehicles turning left

### UNINVITING STREETSCAPE

Stephenson Road is the 'front door' to the retail centre. Whilst it has some important public realm elements such as a strong street frontage of continuous fine grain shops and continuous awning cover, there are limited elements to mitigate the effects of high vehicle volumes and no cues to encourage pedestrian activity and people focused activities. Further localised opportunities to improve the pedestrian environment and amenity along Stephensons Road include:

- Introducing landscape elements to softening the harsh conditions and mitigate the negative impacts of high vehicle volumes,
- Introducing local traffic interventions to provide a signal to drivers they are entering the activity centre and are required to reduce vehicle speed,
- Introducing simple cues to invite people to stay, for example the design and placement of seating, and
- Introducing streetscaping elements to improve pedestrian comfort.

Introducing large canopy street trees are one example of an multi-functional intervention that improve the pedestrian environment and amenity by providing shade, wind protection, greening and multiple positive environmental services.


SIGNALISED CROSSING POINT
SIGNALISED CROSSING POINT
HAMILTON PLACE ENTRANCE
(LEFT IN LEFT OUT VEHICLE)
BUS STOP
BUS STOP
SIGNALISED CROSSING POINT
SHOPPING CENTRE ENTRANCE
SIGNALISED CROSSING POINT
SECONDARY CAR PARK ENTRANCE
SIGNALISED CROSSING POINT
SIGNALISED CROSSING POINT
MILLER CRES
HAMILTON PL
HAMILTON PL
AMBER GRV
WAIMARIE DR
WINBOURNE RD
STEPHENSONS RD
THE HWY/VALLEY RD
VIRGINIA ST
SHERWOOD RD
1
2
3
4
5
6


1


2


3


4


5


6

## 19.2 INTERNAL STREETS - VILLAGE SHOPPING CENTRE

Located adjacent to Stephensons Road is the Village Shopping Centre. These streets operate as internal circulation and movement in and around the Shopping Centre. Whilst small in scale they are important in the role they provide for the retail centre. They provide easy access to car parking which reinforces the convenience aspects of the shops.

The centre is configured in a horseshoe shape. This allows for access of Stephensons Road into the retail centre and visitors are able to park directly out the front of the retail stores. The IGA supermarket provides underground parking and the train station has separate at grade car parks.

Wide footpaths are located adjacent to the shopfronts. The red brick paving appears tired and uneven in many areas.

Hamilton Place is a wide no through road with angled parking on either side that connects to the station. Its configuration provides an opportunity to create a people focused forecourt to the train station. The economic analysis has indicated that this area has the potential to become a hospitality precinct.

The village shopping centre feels like a local centre and has a distinct feeling of openness. This is in part due to the long view into the centre from Stephenson Road. Large canopy trees are visible across the centre which are located in at grade carparks.


View along the shop fronts in the Shopping Centre


Typical paving and street trading in the Shopping Centre

Views from the south across to the north of the Train Line

## 19.3 RESIDENTIAL STREETS

Many of the residential streets in the MWAC have a spacious and leafy character.

An established suburb, the majority of street trees are large in size and many provide good shade canopy. Tree canopy cover plays a vital role in contributing to the Garden City Character. Monash City Council have established targets to help achieve the desired green, leafy character. Mt Waverley does contain slightly more canopy cover than the rest of than the municipal wide average. Wide green verges and landscaped garden beds soften the hard edges of the footpath, car parks and the street.

A consistent residential setback from the street to the front of the dwellings, combined with a predominately transparent and low fencing create an openness to the streetscape. Most residential streets are wide and allow for on street parking.

These elements, in particular the established street trees, green verges and wide streets, along with the established private front gardens all contribute to Mount Waverley's valued Garden City character.

Parts of the MWAC have significant cultural heritage value. The Glen Alvie was one of the first subdivisions to be developed in Mt Waverley. Sherwood Park was part of the prestigious estate that sought to bring country club type living to Mt Waverley.

The street layout and construction were significant. Streets were to be laid out adjacent to Sherwood Park, a huge central area, lined with date palms that are still seen today.

Some of Mt Waverley's original streets, including Park Lane, Virginia Street and Sherwood Road, were built of concrete, not the less expensive asphalt. The concrete roads are a unique local feature, that contributes to the valued residential streetscape character.

These roads are a valuable part of Mount Waverley's cultural heritage and as a result, some were reconstructed in recent years including some in the study area. The aim was to reconstruct these streets in a similar way to the original construction, maintaining the look and feel of the neighbourhood. This approach was supported by local residents who were consulted as part of planning for the project.

Typical wide open streetscape

Typical residential streetscape in Mount Waverley

Typical residential set allowing for a landscaped front garden

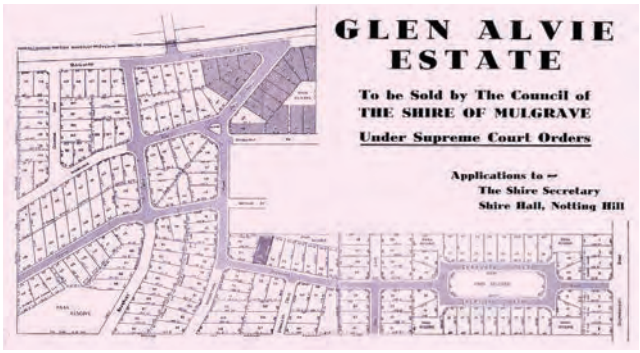



**Figure 46.** The original subdivision plan for Glen Elvie Estate, located to the south of the Mount Waverley Village Shopping Centre

## 19.4 SHORTEST ROUTE ANALYSIS

To reveal the level of pedestrian accessibility within the MWAC Principal Pedestrian Network shortest route analysis was undertaken. This modelling reveals where the most likely walking trips in and around the MWAC will be made. This analysis identifies which streets should be prioritised when undertaking streetscape improvements to encourage more local trips to be undertaken on foot.

The modelling predicts the shortest route between houses and key destinations within a study area. For this study the residential origin points and the key local destinations were mapped. Each household is assigned a population value, based on 2016 Census Mesh Block data.

To reveal the potential level of pedestrian activity within the study area the shortest route between 12 destinations categories was analysed. A weighting was applied to each of the destination categories that reflected the relative proportion of residents likely to travel to each destination category, and a walking catchment was determined to reflect the maximum distance locals are likely to walk to access the destinations.

The number of potential trips down each street in the MWAC is shown in the plan opposite. The green lines delineates low numbers of potential trips and red reveals the highest potential number of pedestrian trips along the route.

When the mapping for each destination category is overlaid on top of each other, the combined potential access is revealed. The combined access plan is shown opposite. The highest multiple number of trips, the red routes are generally located where multiple key destinations are situated.

In the case of the MWAC the highest used routes and as such the key streets in the MWAC include:

- Millers Crescent, providing access to the northern entrance to the train station,
- Virginia Street providing access to the western side of the Village Shopping Centre
- Sherwood Road, providing access to the local park and the residential area
- Park Lane, providing north-south access to the retail centre, and
- The northern section of the highway/Valley Road located on the western side of the retail centre

The secondary routes identified include:

- Amber Grove
- Waimarie Drive
- Valley Road
- The Highway

Based on this analysis, opportunities for improvements to key streets will be investigated in the next stages of the project. This improvements will include aspects such as increasing pedestrian priority at intersections, widening or improving footpaths, increasing street tree planting, slowing vehicle speeds and providing seating.

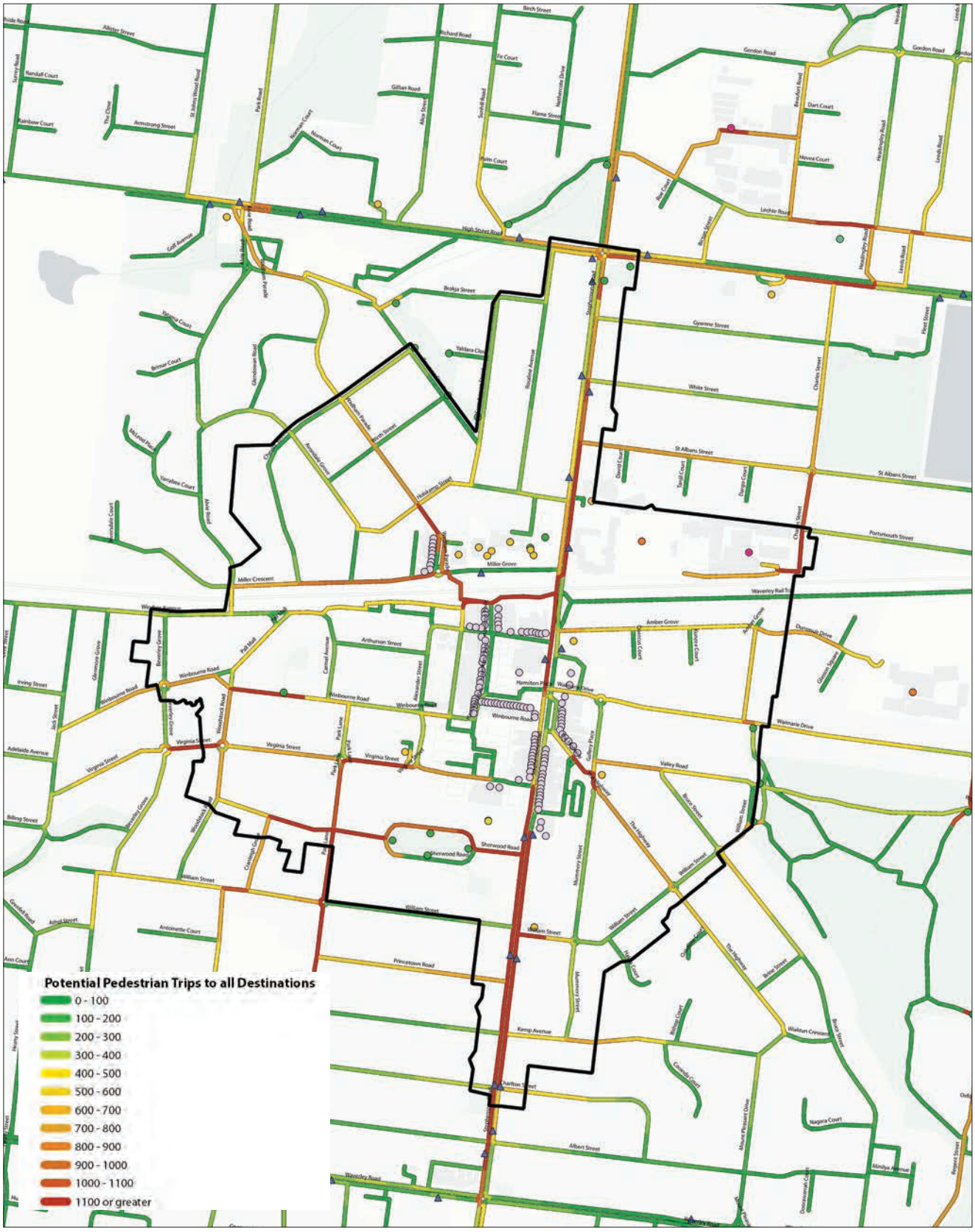



**Figure 47.** MWAC Shortest Route Analysis

# 20 SUMMARY OF PUBLIC SPACE AND STREETSCAPE OPPORTUNITIES

There are major opportunities to improve the role and function of the key elements identified in the public realm in the MWAC. The key streetscaping opportunities for Stephensons Road, the local residential streets (as identified in the shortest route analysis) and the internal movement in and around the Village Shopping Centre have been identified, as well as the major improvements to open space facilities and provision.

## OPEN SPACE PROVISION & RECREATIONAL OPPORTUNITIES

In addition to the recommendations outlined in the Open Space Strategy (refer to page 66 of the Strategy) the following key opportunities have been identified to improve the quality, use and provision of Open Space throughout the MWAC:

- Provide more local gathering places and small community event areas where small street markets and events can be held
- Improve the amenity of local parks to increase their patronage and activity. More people create more activity and an increased feeling of safety, particularly in the smaller parks after dark
- Create a stronger pedestrian and cycling links between the Village Centre Shopping Centre and Valley Reserve
- Create a stronger pedestrian link between Sherwood and the Village Centre Shopping Centre
- Create a safe cycling connection from the centre of the Activity Centre to Scotchmans Creek Trail

## CIVIC & PUBLIC SPACES

- Encourage the Community Centre and the Library to hold activities that spill out into the adjoining community gardens
- Expand the Winbourne Road Walkway into a more formalised public space and the green spine connecting the retail core to the surrounding community facilities and public transport services
- Create a people focused train station forecourt and plaza on the southern entrance on Hamilton Place

## IMPROVING THE PEDESTRIAN EXPERIENCE THROUGHOUT THE MWAC

- Encourage the key elements of the Garden City Character to be integrated into the streets of the Village Shopping Centre and the surrounding shared path network
- Encourage more uses that generate after-hours activity in the retail centre and provide the necessary improvements in the streetscape, such as street lighting needs to support after hours use
- Improve the identified primary pedestrian routes in the MWAC, with priority being given to upgrading the poor quality key footpaths in and around the retail centre
- Encourage more diverse activities and community participation at the Village Shopping Centre
- Provide outdoor seating to encourage adjoining businesses and the broader community to use the Square
- Create a unified pedestrian experience by using a cohesive streetscape palette (referencing the Glen Waverley and Oakleigh Streetscape Framework Plans),
- Create guidelines around the allocation of footpath space for street trading
- Pursue the discussion of Stephensons Road through the VicRoads Movement and Place framework, and
- Strengthen the Garden City character throughout the MWAC, prioritising an increase in the planting (and maintenance) of canopy street trees.

### KEY PUBLIC REALM OPPORTUNITIES

1. **Strengthen the pedestrian connection between the school and retail core**
2. **Priority streetscape improvements**
3. **Improve the connection to Scotchmans Creek Trail**
4. **Gateway opportunity for both the Activity Centre and the Village Shopping Centre and the**
5. **Create a public plaza to enhance the surrounding precinct**
6. **Future consideration subject to refurbishment of MCH and redevelopment of Woolworths site is to create a pedestrian connection between Sherwood Park and the Village Shopping Centre**
7. **Improve the pedestrian experience between the Mt Waverley Primary School and the Village Retail Centre**

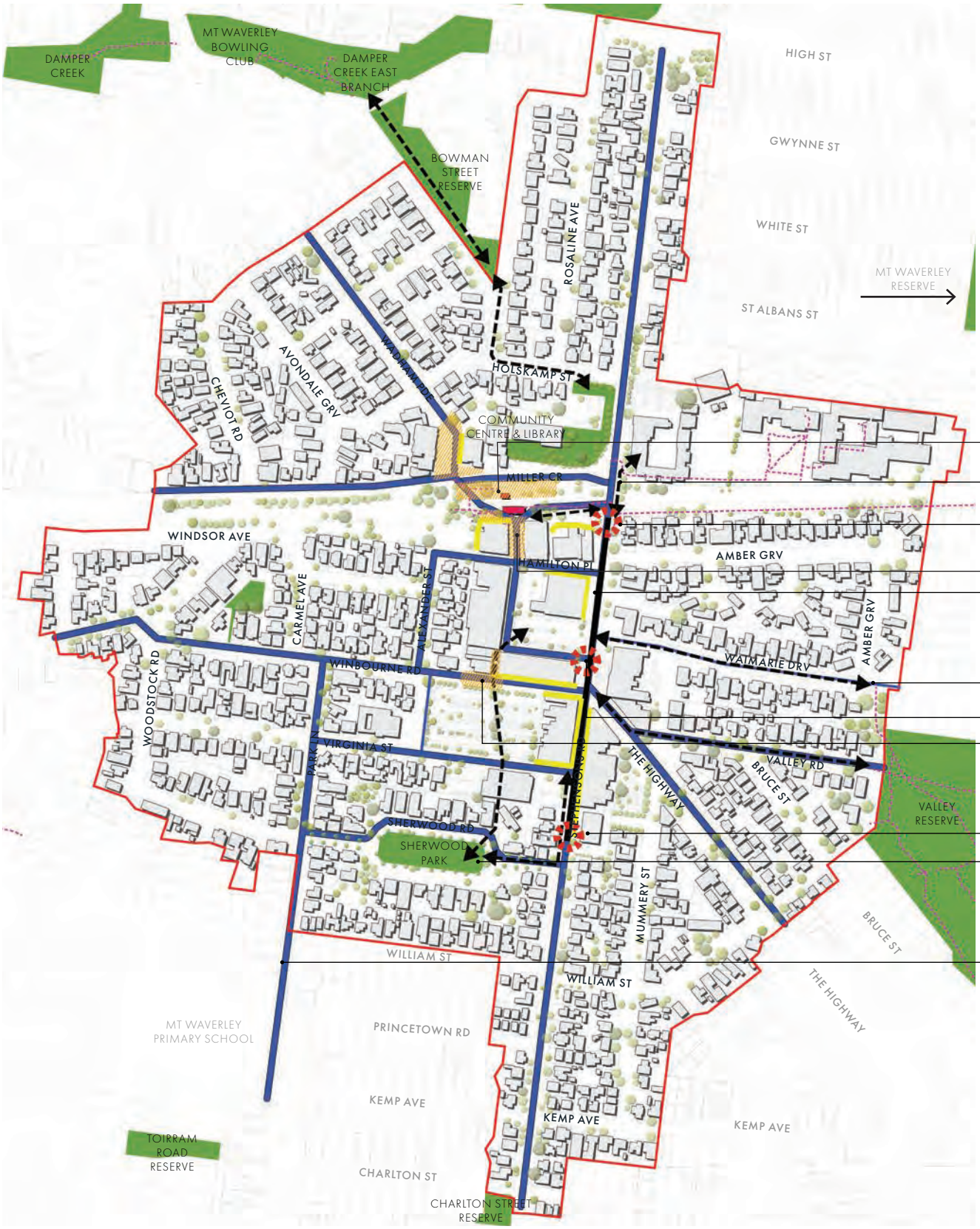



**Figure 48.** Public Realm and Streetscaping Opportunities

- Investigation Area
- Key Entrances
- Enhanced Pedestrian / Cycle connections
- Potential Principal Pedestrian Network
- Public Realm Improvement Areas
- Interface improvement opportunity
- Existing shared paths

# 21 BUILT FORM

## 21.1 RETAIL & COMMERCIAL BUILT FORM

The retail centre is distinctive in its scale, structure and unique character. Its character is best described as an open, convenient and navigable place. The key elements in the fabric of the built form that contribute to this character are outlined below.

Retail Precinct

- The main retail built form is set back from Stephensons Road allowing for a large at grade car park to be situated between. This structure provides protection from the traffic along Stephensons Road. The configuration results in a sense of openness and visual connection to all parts of the centre. Although the shops are set back there is a visual connection from Stephensons Road.
- The shopping centre is comprised of multiple small precincts, all of which are visually and physically connected. Its easy for pedestrians to move about and walk from one area to another. The visual permeability of the precincts help with wayfinding through the centre, and support the perception that the centre is manageable to move through.
- Most retail buildings have  narrow frontages (6-7m) whcih provides for a diversity of retail offerings in the centre.
- Retail buildings are generally single storey however commercial office buildings located along Stephensons Road and Hamilton Place are generally two storeys.
- The most prominent commercial built form is located at the intersection of Valley Road Stephenson's Road, just south of the main entrance to the Village Shopping Centre. This building is three storeys with a reflective glass facade. The library on the north side of the railway line is another building of scale within the centre.
- The general low scale of the centre means that the large canopy trees are prominent in many views.
- To the north of the train line, there is another small precinct that has a small strip of older style commercial built form. This strip primarily functions as a secondary commercial and local businesses and services.
- The setback of the shop fronts from Stephensons Road is a distance that mitigates the negative effects of high vehicle volumes and speeds but allows for a visual connection from the street. Pedestrians have a clear view before entering the Shopping Centre how to navigate through it.


The typical shop front is single storey with awning and signage

This view shows the size of the IGA Supermarket relative to the surrounding finer grain retail shops


The largest commercial building in the MWAC located on the corner of Stephensons and Valley Roads


Example of a typical two storey commercial buildings located at one of the key intersections in the MWAC, the intersection of Stephensons and Valley Roads.


Typical two storey commercial buildings frame Hamilton Place and the Train Station forecourt area


Typical two storey commercial buildings frame Hamilton Place and the Train Station forecourt area

The width and depths of lots in commercial areas has been analysed to better understand the potential redevelopment opportunities for residential located above retail or commercial uses.

## 21.2 LOT WIDTH

Lot width has a significant impact on the configuration of development and overall potential yield. The typologies on the opposite page provide an indication of the type of development that could be provided on various lot widths.

The colours have been applied to properties based on their width. It shows a strong presence of very narrow allotments within the retail core of the MWAC, with the grey colour indicating very limited development opportunity based on the width of the allotment. The analysis is based on the Better Apartment Design Standards , and the widths required for apartments to meet the standards.

Front and rear facing apartments provide the simplest development outcome for narrow lots, as they can facilitate apartments facing the street and apartments facing the rear of the property. This type of development occupies the entire width of the lot, and does not provide any articulation or activation to either side of the development (which is intended to develop in a similar manner).

Wider properties can accommodate a different model of development, which can have an outlook to other developments either side. This type of development can provide for a greater range of apartment types with varying aspects. It does however create issues of apartment separation for privacy and daylight that need to be considered.

Based on the analysis opposite, lot consolidation should be encouraged to allow for greater development opportunities within the retail areas of the MWAC.


**Figure 50.** Lot Width Typologies

**Figure 51.** Commercial Properties Lot Width Assessment

## 21.3 LOT DEPTH

Similar to lot width, the depth of a property has an impact on the type of development that can be provided as shown on the typologies opposite. The lot depth ranges have been mapped below.

The mapping shows generally good lot depths in the retail core of the centre.

The typologies indicate most lots would be able to provide for apartments facing the street and also facing the rear interface, with the exception of properties that front onto Wadham Parade, the east side of Hamilton Place and properties that abut Winbourne Road . This takes into account a typical setback to the rear, and a suitable upper level setback to the street frontage.

Lots greater than 55m approx could allow for two buildings with both front and rear facing apartments.

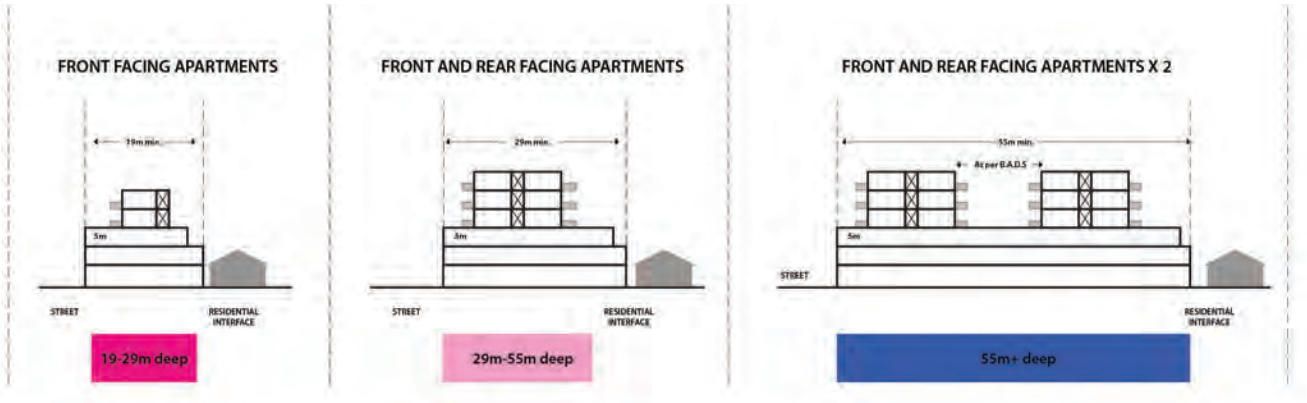



**Figure 52.** Lot Depth Typologies

**Figure 53.** Commercial Properties Lot Width Assessment

## 21.6 KEY INTERFACES

The predominate sensitive interface within the MWAC is the transition between retail and residential use. This type of interface is managed with a service laneway which provides a buffer between the different uses. If there is future opportunity to increase the housing diversity stock, such as with the development of multi-level mixed use buildings within the retail centre then consideration needs to be given to managing this interface.

The other key interfaces that exist are the rear of shopfronts to Winbourne Road and existing at grade car parks. Whilst the car park has areas of landscape and vegetation there are opportunities to improve this interface if redevelopment options are explored for the car park area.

Whilst not as sensitive as the residential and retail interface, another consideration is the transition between the Train Station ans the the retail core. Currently commuters using the train station are faced with blank walls and car parks located at the rear of retail stores. This condition contributes to a poor pedestrian environment, with limited opportunities for passive surveillance and wayfinding.

Service laneway's are located throughout the Village Shopping Centre and are the typical interface condition between the retail centre and surrounding residential neighbourhoods

Back of house is a typical interface condition between the train station and the retail centre

Access and loading is a typical interface condition found at the rear of the shops fronting Stephensons Road (this is the western side).

## 21.7 RESIDENTIAL BUILT FORM

As outlined in the Monash Neighbourhood Character Study, the predominant residential architectural style found Mt Waverley is the double fronted, single storey brick veneer dwellings generally from the post war period. The majority of houses are modest in size relative to the larger blocks of land, and are usually single storey dwellings.

Housing is usually set back from the street allowing space for a deep front garden. The majority of houses have established gardens and low front fencing. Often the front gardens in the residential neighbourhoods appear to extend out into the green, leafy streets, contributing to a feeling of openness and wide streetscapes.

There are a small number of mult-unit and dual occupancy developments in the study area. A number of these developments are located along Stephensons Road.

In terms of future developments, there are currently three proposals for townhouse developments, one of which is for three storeys.

Lot width and depth impact on future development opportunities. Lot consolidation, particularly in areas in close proximity to the train station and retail centre, should be encouraged.

Typical residential housing style and wide verge

Larger residential housing style with typical low fencing

Example of housing with no front fencing which contributes to an open streetscape

## 21.5 DEVELOPMENT POTENTIAL IN RESIDENTIAL AREAS

Schedule 2 to the General Residential Zone (GRZ2) applies to the majority of the surrounding residential areas of the MWAC. This zone supports some residential intensification to a maximum building height of 11 metres (3 storeys). A small section of the study area is zoned Schedule 3 to the Neighbourhood Residential Zone (NRZ3).

The map opposite analyses potential development opportunities in existing residential areas. This map shows lots above 700m$^2$ with residential zoning and excludes strata titled properties.

The map shows that there is a significant number of residential allotments in the 700-800m$^2$ range. However development opportunities on sites larger than 800m $^2$ are very limited.

Based on the existing zones and the configuration of existing lots the predominant development type within the boundaries will continue to be town houses of 2-3 lots per site.

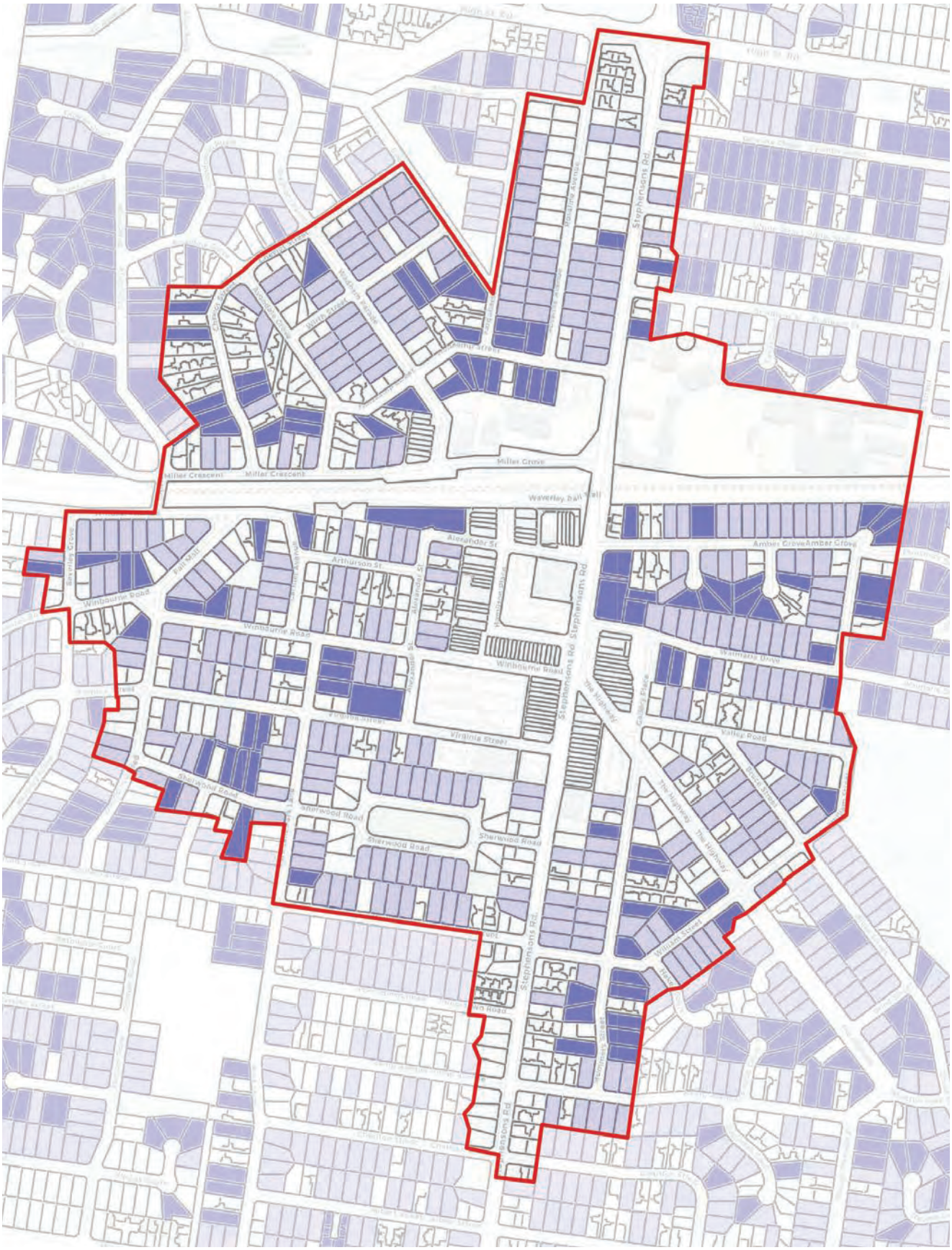



**Figure 55.** Residential allotments in the MWAC

## 21.4 KEY STRATEGIC SITES

The plan opposite identifies a number of key strategic sites within the MWAC. The sites are all strategically located within the commercial and retail core of the Centre and are of a significant size. They fall under a mix of private and public ownership.

The key strategic sites include:

- A - Commuter car park (3,463m²) - Well located close to the railway station however contains some large trees. Currently zoned GRZ2.
- B - IGA (2,642m²) - Very prominent site with good exposure to Stephensons Road. Opportunity to enhance the entry to shopping centre and Stephensons Rd frontage if redeveloped. Currently zoned C1Z.
- C - Service Station (1,954m²) - Opportunity for a land use anchor on east side of the Stephensons Road if redeveloped. Currently has a mix of zones including C1Z, PUZ6 and GRZ2.
- D - Virginia Street car park (9,186m²) - The largest development site within the centre with good access and potential for a new supermarket and mixed use development. A number of large trees on the site. Currently zoned GRZ2 and PUZ6.
- E - Winbourne Road car park (2,114m²) - A privately owned section of the large car park. A number of large trees on the site. Currently zoned GRZ2.
- F - Woolworths Supermarket (4,220m²) - Substantial land holding that anchors souther edge of the MWAC. Could be redeveloped and provide a pedestrian link through to Sherwood Park. Currently Zoned C1Z and GRZ2.
- G - Virginia St/Stephensons Road Car Park (1,512m²) - A prominent site fronting onto Stephensons Road. Currently zoned C1Z and PUZ6.
- H - The Highway Car Park (2,881m²) - At grade car park servicing the east side of Stephensons Road. Currently zoned PUZ6.
- I - The Waverley Masonic Centre - High profile site at southern gateway of the MWAC. Potential for anchor land use. Currently zoned C1Z.



**Figure 56.** Key Strategic Sites

Strategic sites
GRZ2 General Residential Zone
PUZ6 Public Use/Local Government
PPRZ Public Park & Recreation Zone

## 21.8 SUMMARY OF THE BUILT FORM OPPORTUNITIES

The following built form opportunities have been identified for the MWAC:

- **Strengthen the built form along Stephensons Road**
  Being a major north south connection in Mt Waverley Stephensons Road has high exposure. There is opportunity to increase the commercial mix with new high quality multi-level built form to enhance the entry into the Centre and provide activation to the street. Residential development north and south of the commercial area could also provide a stronger contribution to the character.
- **Low scale character**
  The Village Shopping Centre has a distinctly local feel, and this is in part due to the low scale, fine grain of the retail area. New development should generally respond to the local scale character of the centre while allowing for some intensification.
- **Improve the Identity of the Village Precinct**
  Currently the entrance to the Village Centre at the heart of the Activity Centre is signified by a traffic intersection. On the northern side of the train line there is a strong presence of community facilities, however this cluster of civic uses have no relationship to the southern side of the train line. There is an opportunity to strengthen the identity of the heart of the Activity Centre. Landmark buildings, landscaping and wayfinding are some of the design strategies that could help to define and tie the separate elements of the centre together.
- **Contribute to the Garden City Character**
  Monash's Planning Scheme and Housing Strategy seeks to protect neighbourhood amenity and ensure new development enhances neighbourhood character. New residential development should achieve architectural excellence and urban design outcomes that positively contribute to neighbourhood character and does not adversely impact places and precincts of cultural heritage significance.


**Figure 57.** Built Form Opportunities