

PTG.02590

Transport Impact Assessment Lot A39 (No. 1818) Lakes Road, North Dandalup Proposed Scheme Amendment

25 July 2025 | Revision B

Prepared for: The Trustee for Valley Holdings WA Unit Trust

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REPORT DETAILS

Unique Document Identification

	Information
Document Title	Transport Impact Assessment - Proposed Scheme Amendment - Lot A39 (No. 1818) Lakes Road, North Dandalup
Project Number	PTG/02590
Document ID	Rev B
Client	The Trustee for Valley Holdings WA Unit Trust

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Revision Details

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Rev A	16 July 2025	Final	KC/DR	SJL
Rev B	25 July 2025	Minor Updates	DR	SJL

1 INTRODUCTION

1.1 Background

PTG Consulting (PTG) has been commissioned by **The Trustee for Valley Holdings WA Unit Trust** ('the Client') to prepare a Traffic Impact Assessment (TIA) for a proposed Scheme Amendment located at lot A39 (No. 1818), Lakes Road, North Dandalup ('the Site').

This report has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 2- Planning Schemes, Plans and Activity Centre Plans* (2016) and the Transport Impact Assessment (TIA) Checklist is included at **Appendix A**.

This report aims to assess the proposed internal transport networks' accessibility, circulation, and safety for all modes of transportation. It seeks to evaluate the level of transport integration between the scheme amendment area and surrounding land uses, along with determining the impacts of generated traffic on both the surrounding land uses and transport networks.

Specifically, this report outlines the requirements and opportunities associated with traffic and transport within the development, referencing relevant Council and WAPC policies and guidelines as well as best-practice planning within Western Australia.

2 PROPOSED SCHEME AMENDMENT

2.1 Site Location

The Site is located at Lot A39 (No. 1818), Lakes Road, North Dandalup. **Figure 1** shows the location of the proposed Scheme Amendment area.

Figure 1 Site Location



Source: Landgate

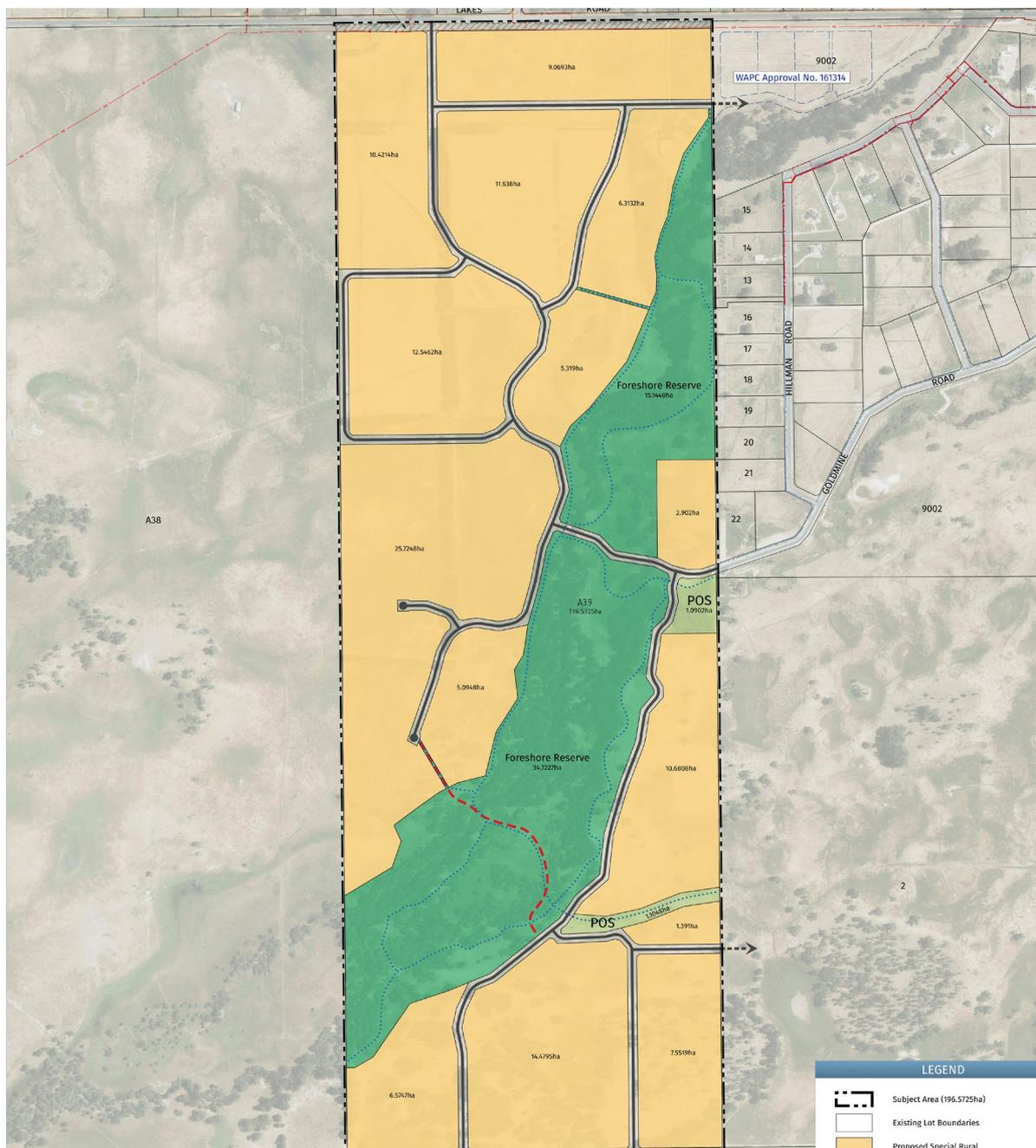
2.2 Proposed Land Uses

The proposed scheme amendment yield is summarised in **Table 1** and illustrated in **figure 2**.

Table 1 Proposed Land Uses

Lands use	Land Use
Residential Lots	127 lots (estimated) (1.11 ha average lot size)
Public Open Space	39.337 ha
Road Reserves and Road Widening	15.1755 ha

Figure 2 Proposed Land Uses



Source: Harley Dykstra (2025)

2.3 Specific Issues

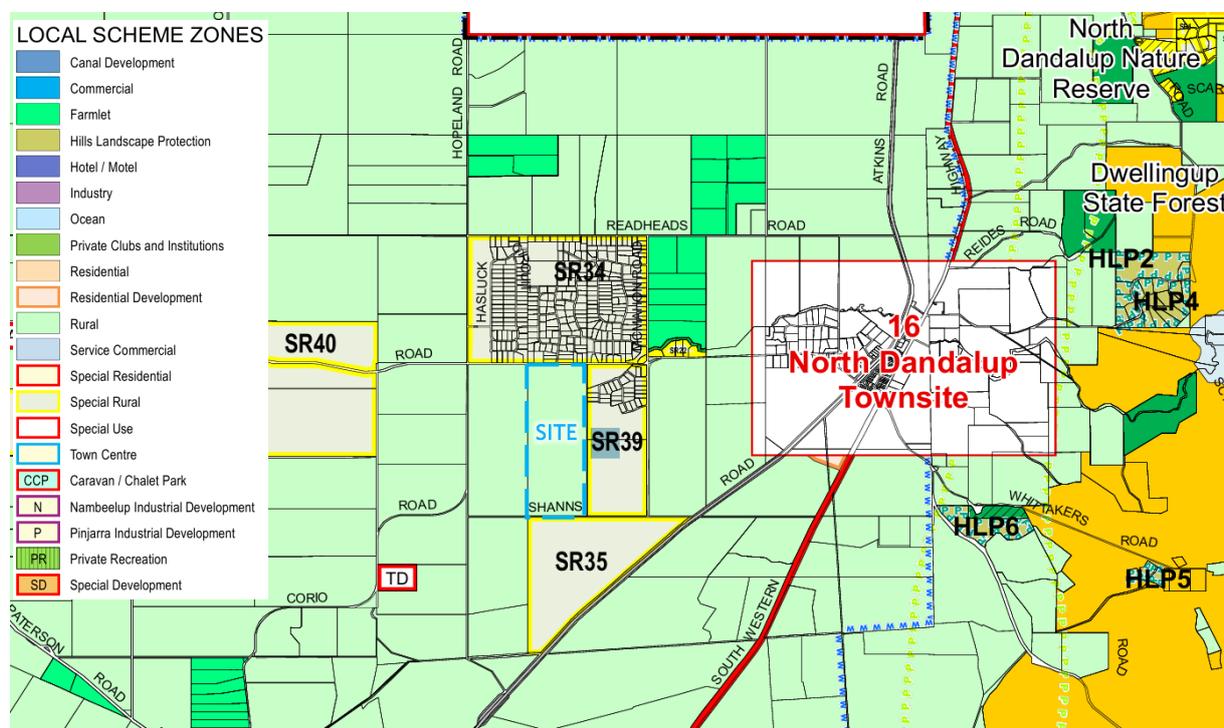
No specific issues are noted directly related to the Site area. Access to and from the Site will be via Lakes Road to the north, Shanns Road to the south and future development of adjacent lots to the east. The Site area will require the internal road network of the adjacent lots to the south-east and the south-west of Shanns Road to be fully constructed (currently underway) and open to public traffic and allow access to the Site.

3 EXISTING SITUATION

3.1 Existing Land Uses

Pursuant to the *Shire of Murray Local Planning Scheme No.4 (LSP4)*, the scheme amendment area is currently zoned "Rural" as shown in **Figure 3**. The Site is surrounded by other rural developments to the west and special rural development land uses to the north, east and south.

Figure 3 Existing Land Uses



Source: Shire of Murray Local Planning Scheme No. 4

3.2 Existing Road Network within Scheme Amendment Area

The scheme amendment area is currently developed as a larger rural lot and vacant land and does not contain an existing established road network.

3.3 Existing Pedestrian/Cycle Networks within Scheme Amendment Area

Other than narrow shoulders along Lakes Road, the scheme amendment area has no existing roads with any existing pedestrian/cycle networks.

3.4 Existing Public Transport Services within Scheme Amendment Area

The scheme amendment area is currently developed as larger rural lot and vacant land and does not contain an existing public transport network.

3.5 Existing Road Network within 2 (or 5) km of Scheme Amendment Area

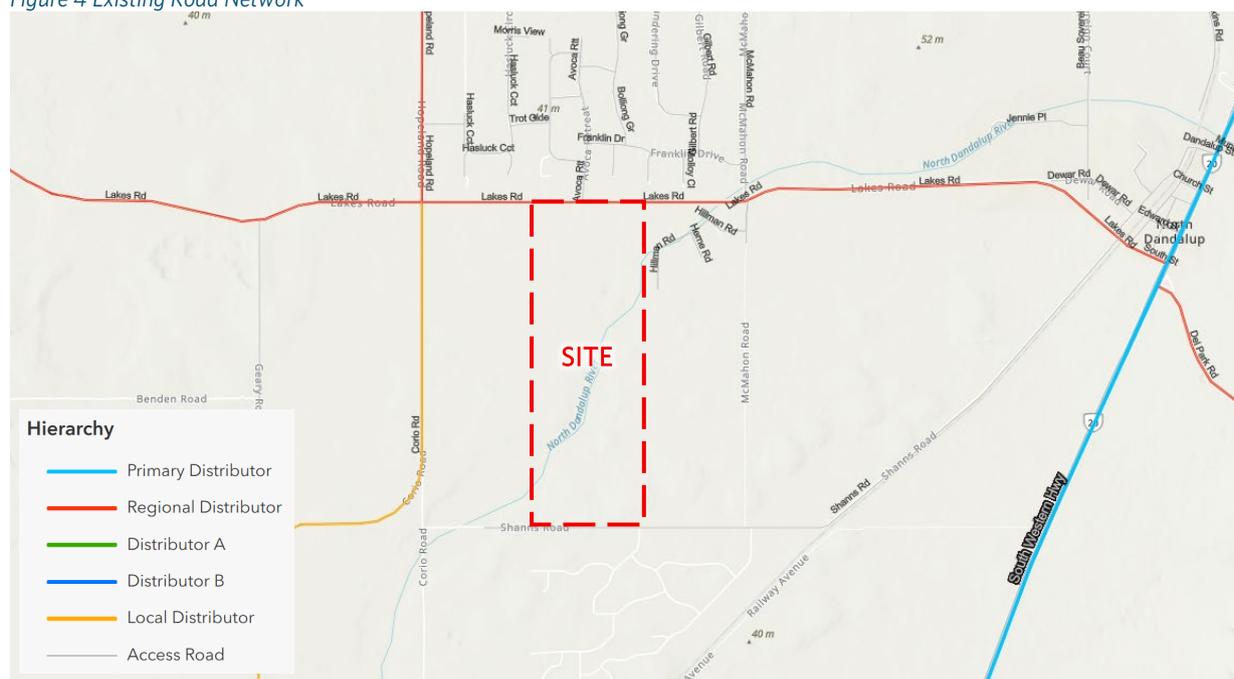
The Road network within Western Australia is defined by Main Roads WA road hierarchy which describes the function, characteristics and management of each type of road. The Road Classifications are defined in the Main Roads Functional Hierarchy as follows:

- » Primary Distributors (light blue): Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes and all are National or State roads. They are managed by Main Roads.
- » Regional Distributors (red): Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.

- » District Distributor A (green): These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by Local Government.
- » District Distributor B (dark blue): Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- » Local Distributors (orange): Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local government.
- » Access Roads (grey): Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local government.

Figure 4 shows the surrounding area road hierarchy and the characteristics of the surrounding road network are summarised in Table 2.

Figure 4 Existing Road Network



Source: MRWA Road Information Mapping

Table 2 Existing Road Network

Road Name	Hierarchy	Lanes	Footpaths	Width (m)	Speed Limit (km/h)
Lakes Road	Regional Distributor	2 - 3	-	7.0 - 12.0	80/100km/h
Hopeland Road	Regional Distributor	2	-	7.5	100km/h
Corio Road	Local Distributor	2	-	7.0	110km/h open limit
Shanns Road	Access Road	2	-	5.0	110km/h open limit
McMahon Road	Access Road	2	-	8.0	110km/h open limit

Source: MRWA Road Information Mapping

3.6 Traffic Flows on Roads within Scheme Amendment Area (AM and/or PM Peak Hours)

There are no traffic volumes associated with the scheme amendment area as it is currently vacant and does not contain an established road network.

3.7 Traffic Flows on Roads within 2 (or 5) km of Scheme Amendment Area (AM and/or PM Peak Hours)

Existing traffic volumes were sourced from the Main Roads WA Traffic Map and are summarised in Table 3.

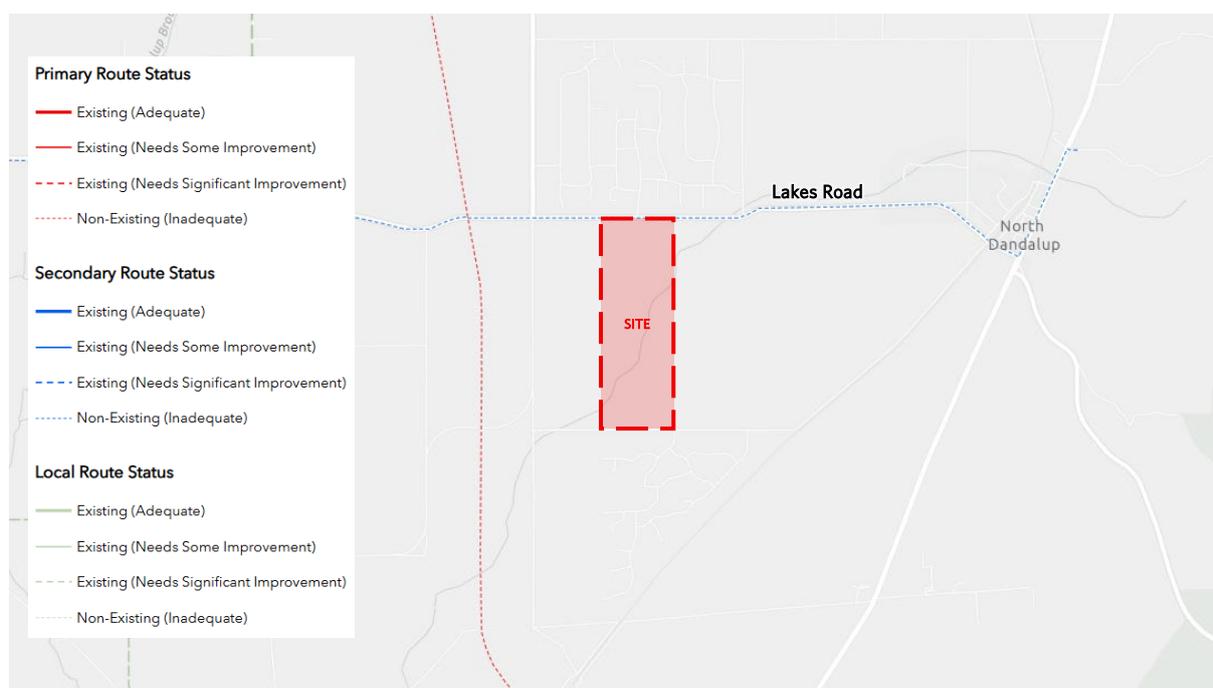
Table 3 Traffic Volumes

Road Name	Date	Average Daily Traffic Volume	AM Peak Hour	PM Peak Hour
South Western Highway (South of Del Park Road)	2021	2,905	199	283

3.8 Existing Pedestrian / Cycle Networks within 800m of Scheme Amendment Area

Figure 5 shows the pedestrian/cycle networks within the surrounding area of the Site. According to the Perth and Peel Long Term Cycle Network, Lakes Road is a potential secondary route but is still currently non-existing with regard to suitable infrastructure.

Figure 5 Existing Pedestrian / Cycle Networks

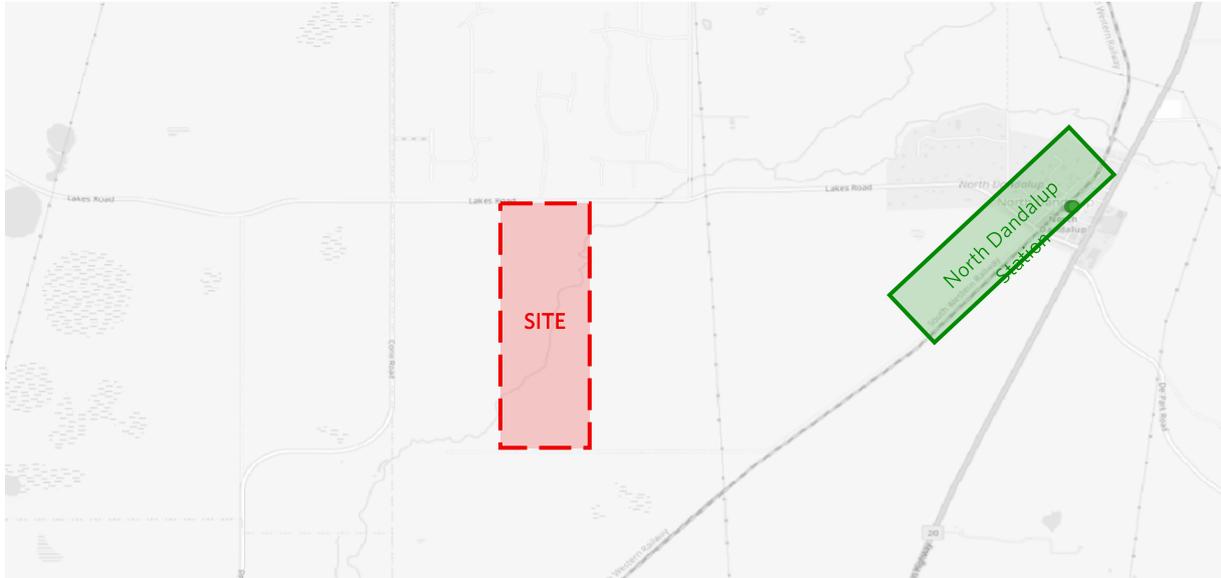


Source: Perth and Peel Long Term Cycle Network

3.9 Existing Public Transport Services

North Dandalup Train Station is located approximately 4 km west of the Site, as shown in **Figure 6**. However, train services are currently suspended for upgrades. Australind Road Coach bus service runs as a temporary replacement.

Figure 6 Public Transport



Source: TransWA/OpenStreetMap

4 PROPOSED INTERNAL TRANSPORT NETWORKS

4.1 Changes/Additions to Existing Road Network or Proposed New Network

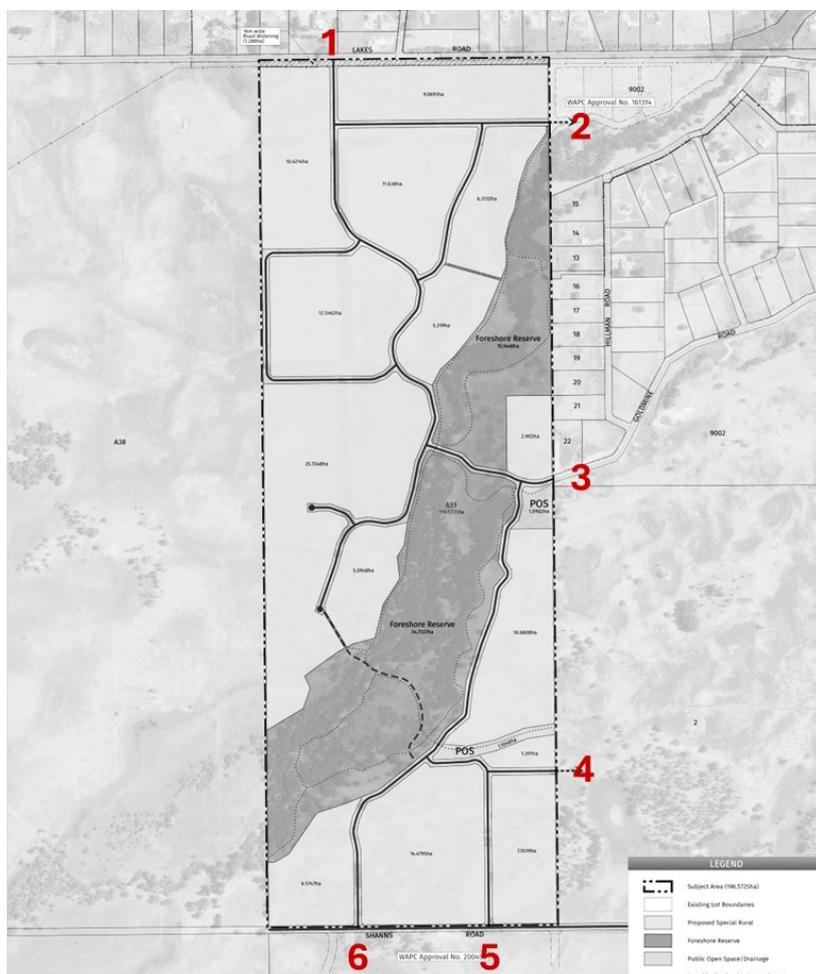
All roads within the scheme amendment area will be newly constructed and classified as "Access Streets" as shown in **Figure 7**. Access 1 along Lakes Road, Access 3 onto Goldmine Road and access 5 along Shanns Road are proposed onto the existing road network. The 6 access points are as follows:

- > Access road 1 - Full movement access at existing east-west road
- > Access Road 2 - Full movement access at future east-west road
- > Access Road 3 - Full movement access at existing east-west road
- > Access Road 4 - Full movement access at future east-west road
- > Access Road 5 - Full movement access at existing east-west road
- > Access Road 6 - Full movement access at future east-west road

Lakes Road, to the north of the site, is proposed to be upgraded which will require widening of the road reserve from 20m to 36m, with the widening to be provided on the southern side of the road (as per plan provided by Shire). The scheme amendment plans show a provision of 16m of widening on the southern side of Lakes Road, into Lot A39 to facilitate the future upgrades.

The remainder of proposed access points along the eastern and southern boundaries of the scheme amendment area will be connected to roads constructed as part of the adjacent lot developments and are expected to be built to an appropriate rural standard.

Figure 7 Scheme Amendment Road Network



Source: Haley Dykstra

Based on aerial photographs taken in February 2025, Both Shanns Road and Simmons Road are undergoing construction to provide upgraded carriageways to service adjacent subdivisions. Shanns Road in particular is expected to eventually be constructed and sealed up to at least the western boundary of the Site to satisfy the conditions of approval for the land development to the south.

Due to Lakes Road being upgraded by the Shire, Shanns Road being fully upgraded by the neighbouring subdivision to the south, and the other eastern roads all to be newly built, no upgrades to the existing road network other than intersection tie ins are likely to be required.

4.2 Road Reservation Widths

The road reserve widths of the internal access roads will be finalised during the subdivision stage in order to accommodate final road and intersection geometry. Typically, the anticipated road reserve widths within the plans are summarised below:

- > Access Road - 18m - 20m (to accommodate drainage infrastructure)

4.3 Road Cross Sections and Speed Limits

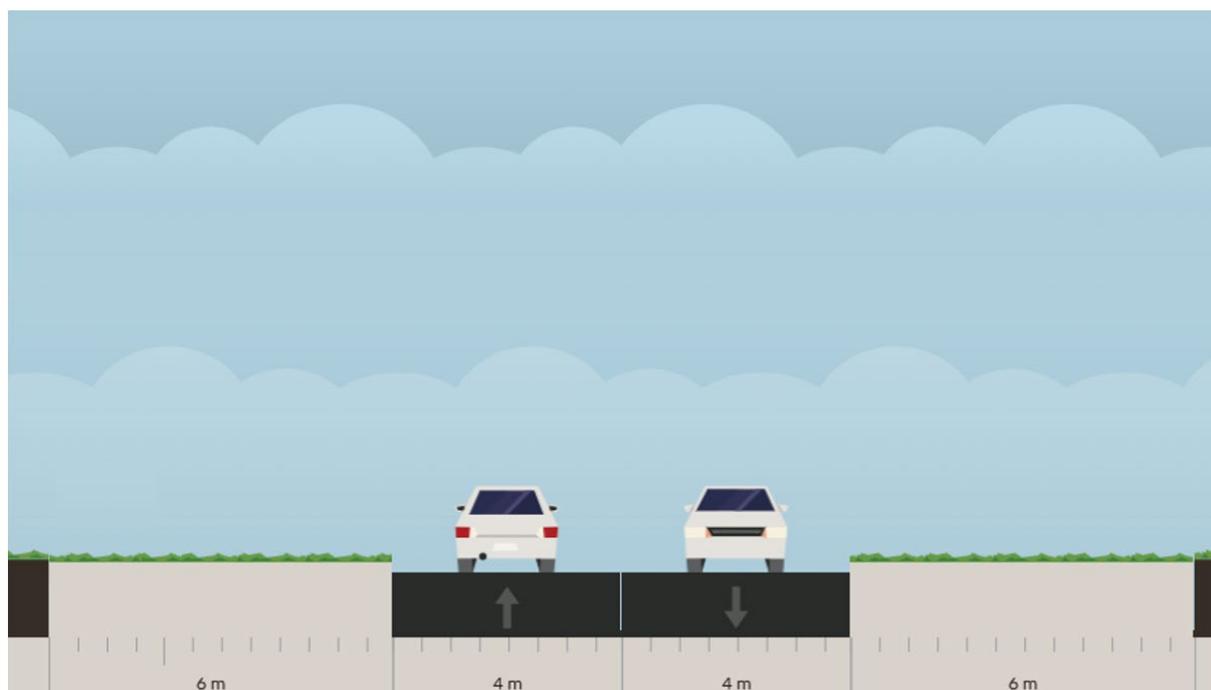
The indicative cross sections of access streets are shown in **Figure 8** and **Figure 9**. Embayed on-street parking can be accommodated within the verge strips with some modifications if required.

As the roads within the scheme amendment area are all planned to be access streets, the speed limit will likely be 50km/h which is the default speed limit for built-up areas within Western Australia.

Figure 8 Concept Sketch of Access Street (18m)



Figure 9 Concept Sketch of Access Street (20m)



4.4 Intersection Layouts and Controls

All intersections internal to the scheme amendment area have been arranged at T-intersections and as such, standard intersection give-way rules will apply.

4.5 Pedestrian / Cycle Networks and Crossing Facilities

The pedestrian and cycle networks will be determined later in the detail design or subdivision stage.

4.6 Public Transport Services

There are no public transport routes planned within the scheme amendment area.

5 CHANGES TO EXTERNAL TRANSPORT NETWORKS

5.1 External Road Network

The Shire of Murray has been undertaking the following projects as of 2024:

- > Lakes Road - Reconstruction of the existing road to upgrade and preserve the asset, as well as increase safety. - (60% complete)
- > Hopelands Road - Reconstruction/design - Planning and Design Phase

5.2 Pedestrian / Cycle Networks and Crossing Facilities

Figure 10 shows the Department of Transport's aspirational future cycling network within the Perth metropolitan region. The map shows the proposed cycle route hierarchy for the roads surrounding the scheme amendment area which are summarised below:

- > Lakes Road: Secondary Route
- > South Western Highway (portion): Secondary Route

Figure 10 Long Term Cycle Network



Source: Department of Transport Perth and Peel Long Term Cycle Network

5.3 Public Transport Services

No changes are proposed to the existing public transport services within the short term.

6 INTERGRATION WITH SURROUNDING AREA

6.1 Surrounding Major Attractors / Generators

The Site is located within an existing rural residential area. The closest attractors and generators surrounding the development consists of:

- > North Dandalup Townsite
- > North Dandalup Train Station

6.2 Proposed Changes to Land Uses within 800 metres

There is an existing structure plan for Lot 1 Lakes Road & Lot 2 Shanns Road, which is the adjacent lot east of the Site. It aims to facilitate the subdivision and development of the lot, which is zoned as Special Rural. The structure plan also indicates public open space areas and provision for widening on Lakes Road.

6.3 Travel Desire Lines from Scheme Amendment Area to the Attractors / Generators

Under the current road network arrangement, access to key generators and attractors will be via Lakes Road. Once the surrounding road network is built up and more route options are available, drivers are more likely to use local roads (such as Shanns Road) to travel to and from the attractors within the surrounding area.

6.4 Adequacy of Existing Transport Networks

Much of the surrounding transport network is incomplete and will continue to improve as the surrounding area continues to be developed.

7 ANALYSIS OF INTERNAL TRANSPORT NETWORKS

7.1 Assessment Years and Time Periods

The assessment years are assumed as follows:

- > Future Year 2034 with development

As per WAPC Transport Impact Assessment Guidelines for Structure Plans, the assessment will be undertaken only for the full build-out of the development.

7.2 Scheme Amendment Plan Generated Traffic

The trip generation rates for the scheme amendment area were obtained from the following sources:

- > Roads and Maritime Services (RMS) Guide to Traffic Generating Developments - Updates Traffic Surveys (trip generation rates)
- > Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition (trip distribution percentages)

Table 4 shows the trip generation rates for the proposed land uses, **Table 5** shows the directional distribution and **Table 6** shows the total traffic generated by the scheme amendment area.

Table 4 Trip Generation Rates

Land Use	Source	Yield	AM Peak	PM Peak	Daily
Residential	RTA	127 lots	0.95 trips per dwelling	0.99 trips per dwelling	10.7 trips per dwelling

Table 5 Trip Distribution

Land Use	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Residential	26%	74%	64%	36%	50%	50%

Table 6 Total Trip Generation

Land Use	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Residential	34	90	81	46	680	680
Total	124		127		1360	

The proposed scheme amendment area represents an increase in traffic of approximately 124 vehicle trips in the AM peak period, 127 vehicle trips in the PM peak period and 1,360 daily vehicle trips.

7.3 Extraneous (Through) Traffic

Not applicable as the proposed Site does not contain any existing roads or traffic and due to the higher order roads surrounding the Site it is unlikely to attract any significant through traffic once developed.

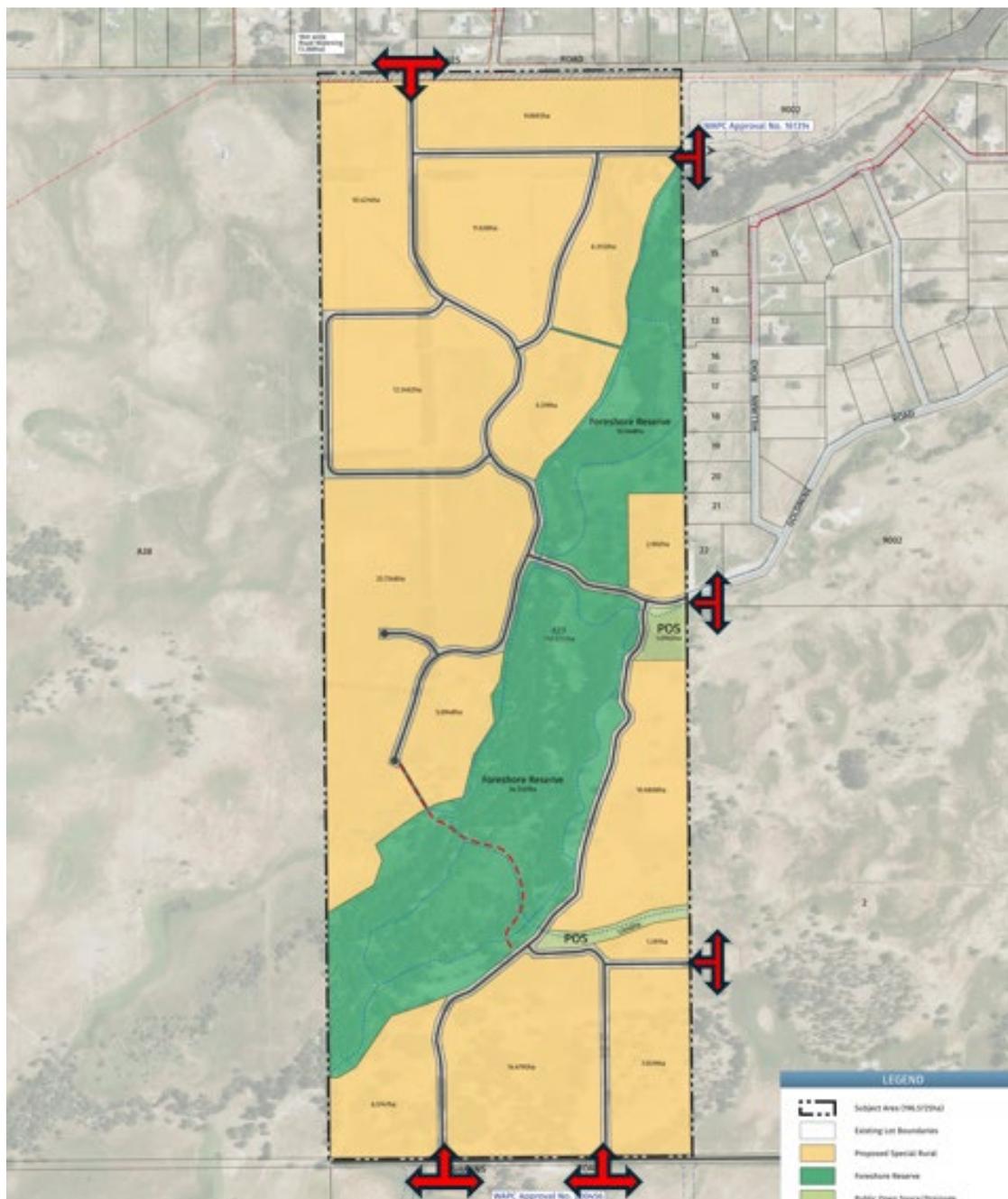
7.4 Existing Background and 'With Development' Traffic Flows

Currently there is no road network, therefore there is no background traffic. A future assessment has been conducted to account for the full future development build out.

7.5 Access Strategy

As shown in Figure 11, all future development traffic is anticipated to enter and exit the site via the primary access points at Lakes Road and Shanns Road, and the secondary accesses to the neighbouring lots.

Figure 11 Distribution Diagram



Source: Haley Dykstra

7.6 Impact on Surrounding Internal Roads and Intersections

Not applicable as the proposed scheme amendment area does not contain any existing roads or traffic.

8 ANALYSIS OF EXTERNAL TRANSPORT NETWORKS

8.1 Impact on Neighbouring Areas

The anticipated traffic volume generated by the scheme amendment area will be low and impact to the neighbouring areas is expected to be minimal.

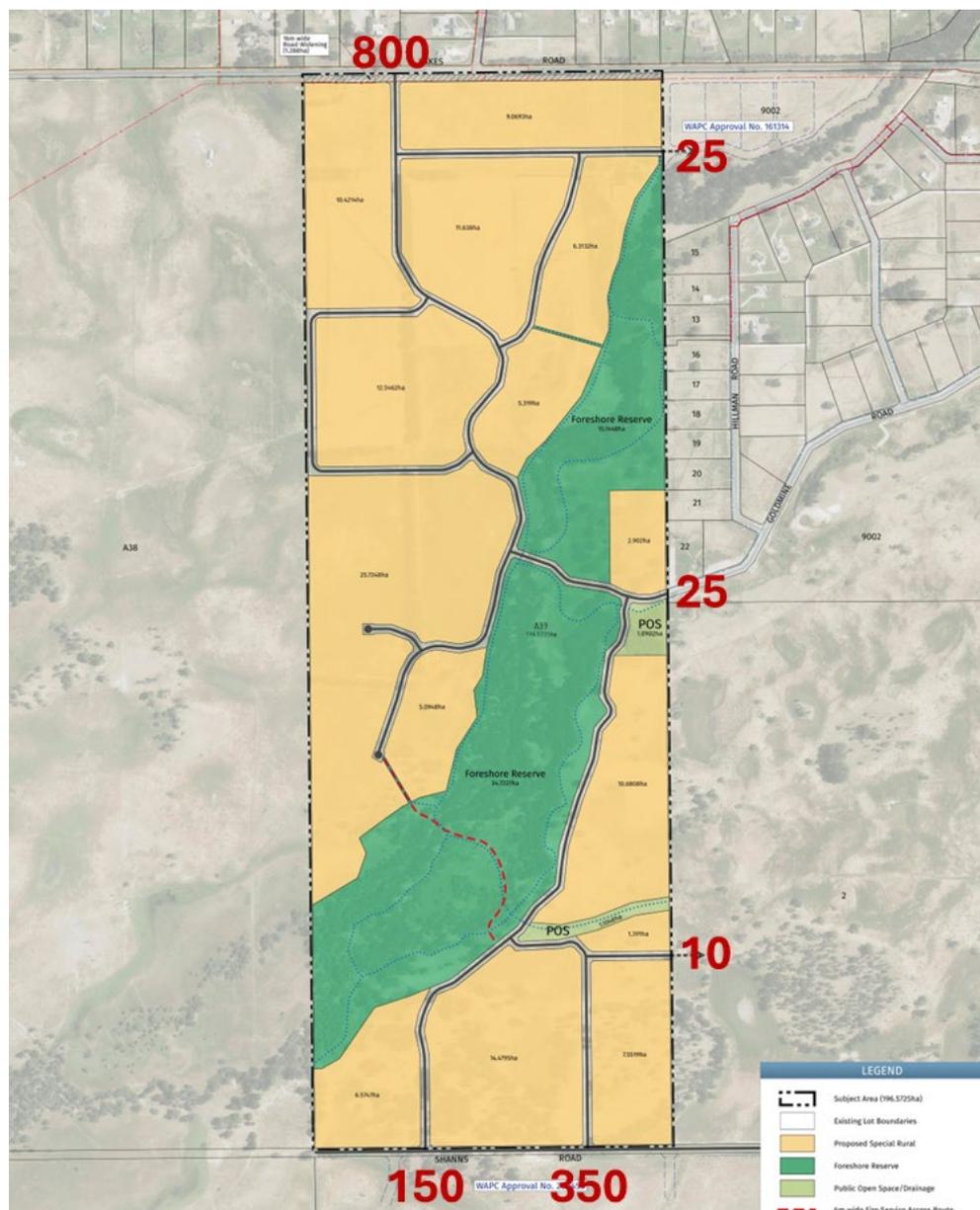
8.2 Future Background Traffic Flows

Not applicable as the proposed scheme amendment area does not contain any existing roads or traffic. All future background traffic would be a result of the proposed scheme amendment area.

8.3 Future Background and 'With Development' Traffic Flows

Figure 12 shows the daily trip distribution within the local network. This assumes that most of the traffic will enter and exit the site through Lakes Road and Shanns Road. The secondary access points to the adjacent lots are considered as local neighbourhood access link and anticipated volumes of traffic using these roads will be very low.

Figure 12 Daily Traffic Distribution within the Local Network



Source: Haley Dykstra

8.4 Impact on Surrounding External Roads and Intersections

Liveable Neighbourhoods 2009 specifies the indicative volumes for access roads is between 1000 – 3000 vehicles per day. As shown in **Figure 12** above, the anticipated volumes generated by the scheme amendment falls within the threshold for access roads. Additionally, the expected traffic distribution shows that the scheme amendment is likely to add noticeably less than 100 trips during the peak hour to any surrounding intersection. Therefore, the anticipated impacts to the surrounding networks will be low to moderate.

The *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 2- Planning Schemes, Structure Plans and Activity Centre Plans* (2016) states that any section of road where the structure plan traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.

Given that the proposed scheme amendment area generates traffic levels below this threshold, no additional assessment is required to be undertaken.

9 SUMMARY AND CONCLUSIONS

This report has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 2- Planning Schemes, Structure Plans and Activity Centre Plans* (2016); the checklist is included at **Appendix A**.

The following conclusions can be drawn from this TIA:

- » The predicted traffic increase from the development is expected to be low to moderate as per WAPC Transport Assessment Guidelines;
- » Public transportation is poor within the surrounding area, with only one train service located 4km from the Site
- » Pedestrian / bike network is adequate with shoulders located along each side of Lakes Road, there is a likelihood of improved pedestrian and bike network facilities once the Lakes Road upgrade is completed and adjacent development increases; and
- » Due to the nature of the development, it is envisaged that any impact on road safety would be negligible.



Appendix A

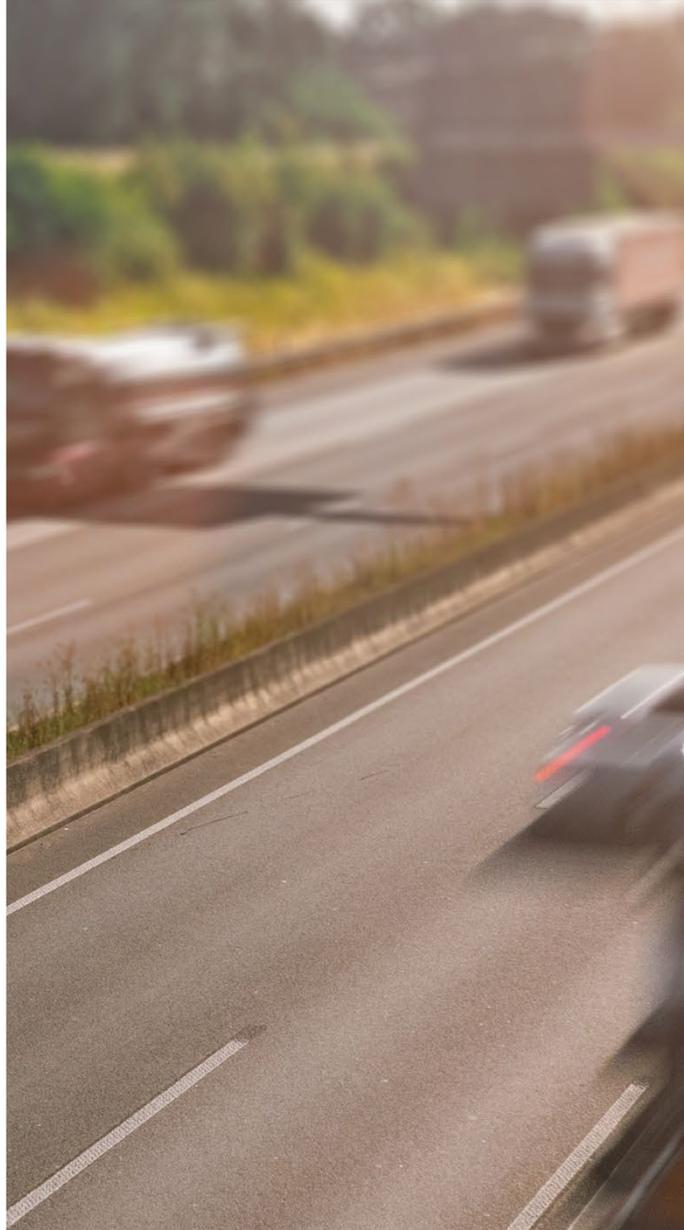
WAPC CHECKLIST PLANNING
SCHEMES, STRUCTURE PLANS AND
ACTIVITY CENTRE PLANS -
TRANSPORT IMPACT ASSESSMENT



APPENDIX A

Item	Status	Comments/Proposal
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Conclusions	Section 9	



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