



Proposed Garden Centre

**Lot 150 (No.720) Welshpool Road East,
Wattle Grove**

Revised Transport Impact Statement

**PREPARED FOR:
Community Greenwaste
Recycling P/L**

July 2021

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1.0 Introduction

This Revised Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Community Greenwaste Recycling P/L with regards to the proposed Garden Centre to be located at Lot 150 (No.720) Welshpool Road East, Wattle Grove in the City of Kalamunda.

Transcore prepared a TIS in July 2017 for the site based on the original (2017) development plan and a revised TIA in November 2020 to address the City's comments on the original plan. The original plans have recently been amended to address the City's comments on 2020 plans. The proposed amendments include minor modifications to the proposed crossover on Welshpool Road East including a short right turn pocket at the crossover. **Appendix A** shows the latest development plans prepared by Harley Dykstra.

The purpose of this revised TIS is to review the proposed revised plan and update the 2020 TIS to reflect the proposed amendments.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: *“A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic¹ and therefore would have a moderate overall impact on the surrounding land uses and transport networks.”* Section 6.0 of Transcore's report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

As shown in **Figure 1**, the subject site is currently occupied by a dwelling and horse stables and is bound by Welshpool Road East to the south, Abbadale Park (dog kennels) to the west and rural land uses to the immediate north and east. The subject site as shown in **Figure 1** is located approximately 230m to the east of the signalised intersection of Tonkin Highway and Welshpool Road East.

¹ *Between 10 and 100 vehicular trips*



Figure 1: Location of the subject site

Key issues that will be addressed in this TIS include the traffic generation and distribution of the proposed development and access and egress arrangement including service vehicle access strategies.

2.0 Proposed Development

As detailed in the amended site plan at **Appendix A** the development proposal is for a Garden Centre comprising of:

- ✚ Pots and water features display buildings;
- ✚ Limestone blocks and slabs sales and display area;
- ✚ Pots and nursery sales area;
- ✚ A storage shed;
- ✚ Product sales areas;
- ✚ A lunchroom/ sales office;
- ✚ A checkout office;
- ✚ Landscape supplies storage bins in multiple locations;
- ✚ Internal roadways;
- ✚ A car parking area including 50 car parking bays located along the Welshpool Road frontage of the site; and,
- ✚ An internal car parking area including 10 parking bays located adjacent to the sales office.

The subject site currently gains access via a left in/ left out crossover on Welshpool Road East which will be removed as a result of the proposed Garden Centre.

The proposed development seeks to relocate the existing crossover to create a full movement crossover at the eastern corner of the subject site. This crossover is proposed to be located opposite the existing median break along Welshpool Road East which enables a full movement access for the proposed development. A short right turn pocket on Welshpool Road East has also been provided (as requested by the City) at the crossover. The length of the proposed right turn pocket would be able accommodate a car and trailer and would not interfere with the existing trees in the median island.

As part of this proposal, it is intended to extend the existing bus embayment on Welshpool Road East to the proposed full movement crossover so that it will be used as a left turn lane for the proposed crossover and to improve the accessibility of the proposed development.

Delivery and waste collection vehicles are proposed to access the site via the proposed full movement crossover on Welshpool Road East, circulate within the site and exit the site onto Welshpool Road East. Based on the information provided to Transcore delivery vehicles will include trucks up to 19.0m semi-trailers. The 19.0m trucks would only access the site from eastbound traffic on Welshpool Road East.

Turn path analysis undertaken by Peritas Group confirms the suitability of the geometry of the proposed Welshpool Road East crossover and the existing median break. Detailed discussions about the delivery vehicles access and egress will be provided in section 10.0 of this report.

The proposed development will provide a total of 60 car parking bays of which 50 bays are proposed along the Welshpool Road East frontage of the site and 10 additional parking bays are proposed to be located between the sales office and the bag products area. A grassed overflow parking area is also proposed at the rear of the development.

According to the information provided to Transcore the proposed development is anticipated to employ a maximum of 8 staff members for the proposed Garden Centre.

For more details refer to the proposed development plan and turn path analysis included in Appendix A and B of this report respectively.

3.0 Parking

The proposed development will provide a total of 60 car parking bays with a grassed overflow parking area at the rear of the proposed development. According to the advice provided to Transcore this parking provision will satisfy the actual parking requirements of the proposed development.

Transcore concurs that this number of parking spaces is more than sufficient for the anticipated patronage of up to 100 customers per day and up to 8 staff members employed on site according to section 3.3.1 of the Planning Report of 2017 prepared for this Development Application.

4.0 Hours of Operation

According to the advice provided to Transcore the proposed Garden Centre will operate on the following basis:

- **Monday to Saturday 7.00AM to 5.00PM; and,**
- **Sundays and public holidays 8.00AM to 5.00PM.**

It is anticipated that the peak hour of the proposed Garden Centre would occur during Saturday and/ or Sunday around lunchtime.

5.0 Daily Traffic Volumes and Vehicle Types

5.1 Existing Development Trip Generation

For the purpose of a robust assessment the existing traffic generation of the site is considered to be negligible.

5.2 Proposed Development Trip Generation

The traffic volumes likely to be generated by the proposed development have been provided to Transcore by the Applicant based on the average sales data of similar developments.

According to section 3.3.1 of the 2017 Planning Report prepared for the Development Application it is expected that up to 100 customers would visit the site per day. Furthermore, it is anticipated that up to 35 trucks would attend the site per day. It is also advised that the proposed development would employ up to 8 staff members.

Therefore, the proposed development is estimated to generate about 302 $(100 \times 2 + 35 \times 2 + 8 \times 2 \times 2 = 302 \text{ vpd})$ daily vehicle trips, with approximately 30 trips during the peak hour period $(302 / 10 \sim 30 \text{ vph})$. This assessment makes allowance that the staff members may be working in 2 shifts each day.

These trips include both inbound and outbound vehicle movements.

All of these trips will be distributed onto Welshpool Road East through the proposed crossover. The traffic distribution detailed in Table 1 is based on 50%/50% inbound/outbound trip split assumption:

Table 1: Peak hour trips for the proposed development

Time period	Direction	Total Peak Hour Trips	
		Split	Total
Typical Peak	Inbound	15	30
	Outbound	15	

Figure 2 illustrates the peak hour traffic distribution of the proposed development on the surrounding road network. It should be noted that large trucks (19.0m long) would only access the site via eastbound traffic on Welshpool Road East.



Figure 2: Estimated peak hour traffic generation of the proposed development

5.3 Impact on the Surrounding Road Network

The WAPC *Transport Impact Assessment Guidelines* (2016) provides guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore 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.”

The proposed development will not increase traffic flows on Welshpool Road East anywhere near the quoted WAPC threshold to warrant further detailed analysis. Therefore the impact on the surrounding road network is considered to be insignificant.

6.0 Traffic Management on the Frontage Streets

Welshpool Road East in the vicinity of the subject site is a dual carriageway road with a kerbed and solid central median. Each two-lane carriageway is approximately 7.4m wide and the median varies in width from approximately 4.5m near the western property boundary to approximately 8.5m wide near the eastern property boundary. Median breaks and turn pockets are provided in multiple locations of this median in this vicinity. Pedestrian footpaths are provided along both sides of Welshpool Road East in the vicinity of the subject site.

Figure 3 shows a section of Welshpool Road East in the proximity of the subject site.



Figure 3: Eastbound view along Welshpool Road East²

According to the Main Roads WA *Metropolitan Functional Road Hierarchy* document, Welshpool Road East is classified as a *Distributor A* road and it operates under a sign posted speed limit of 80km/h in the vicinity of the subject site.

Based on the latest available traffic count data provided by Main Roads WA, Welshpool Road East (east of Tonkin Highway) carried approximately 17,650vpd on an average weekday (2020/2021).

² Source: Nearmap Street View

7.0 Public Transport

Nearby public transport services are shown in **Figure 4**. Bus routes 282 and 283 which travel along Welshpool Road East will serve the proposed development. These bus routes provide connectivity for the proposed development to the surrounding suburbs, Perth Airport and Perth CBD. The nearest bus stop is on Welshpool Road East immediately fronting the subject site.

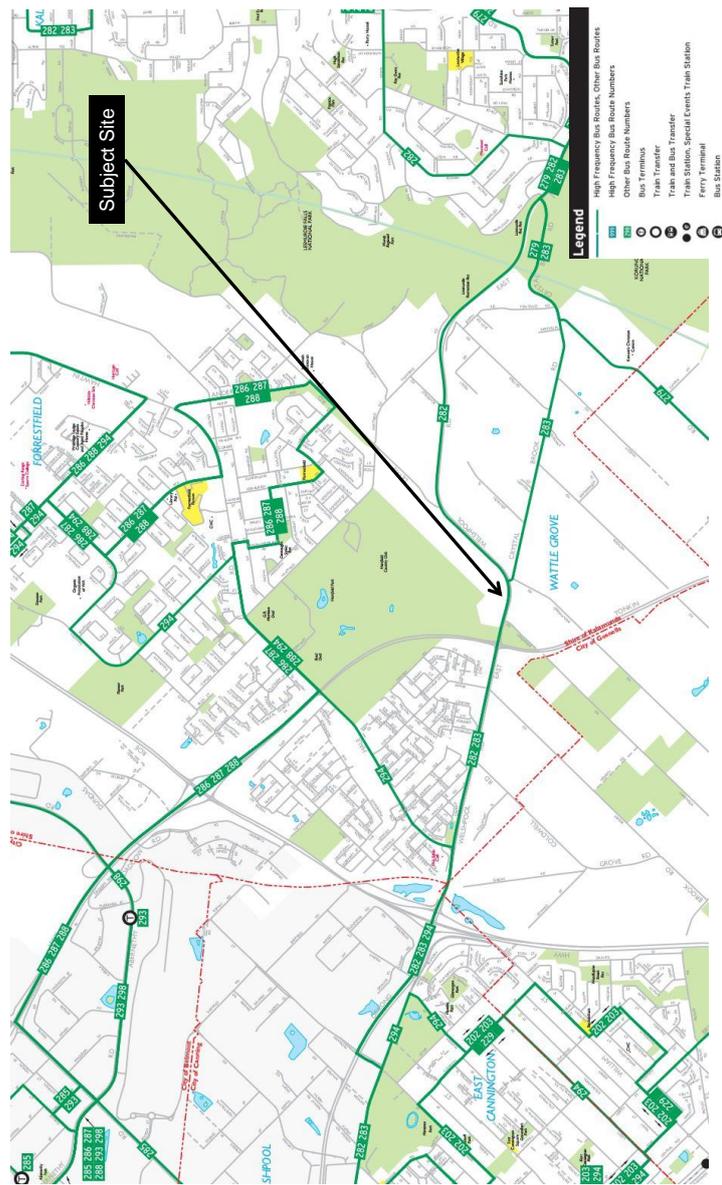


Figure 4: Public transport services (Transperth Maps)

Figure 5 shows the bus stop (Stop No: 13682) immediately fronting the subject site. As part of this proposal it is intended to extend the existing bus embayment so that it will also function as a left turn lane for the delivery vehicles accessing the proposed Garden Centre.



Figure 5: Existing Bus Stop on Welshpool Road East immediately fronting the subject site

Review of the time table for Stop No: 13682 indicates that in average one bus per hour would stop at this bus stop during the typical days. During the afternoon peak hours, the bus frequency will increase to two buses per hour. The bus frequency would be less than 1 bus per hour during the weekends.

8.0 Pedestrian Access

Pedestrians can access the proposed development from the existing external footpath provided along Welshpool Road East.

A separate pedestrian access gate from the main car park is shown on the proposed site plan at Appendix A to separate the pedestrian and vehicle entry routes into the site.

9.0 Cycle Access

The Perth Bicycle Network Map (see **Figure 6**) indicates good cyclist connectivity in the vicinity of the subject site. Tonkin Highway to the west of the subject site entails bicycle lanes on both sides and Welshpool Road East in this vicinity is classified as another shared path (shared by pedestrians and cyclists) route as shown in the Perth Bicycle Network Map.

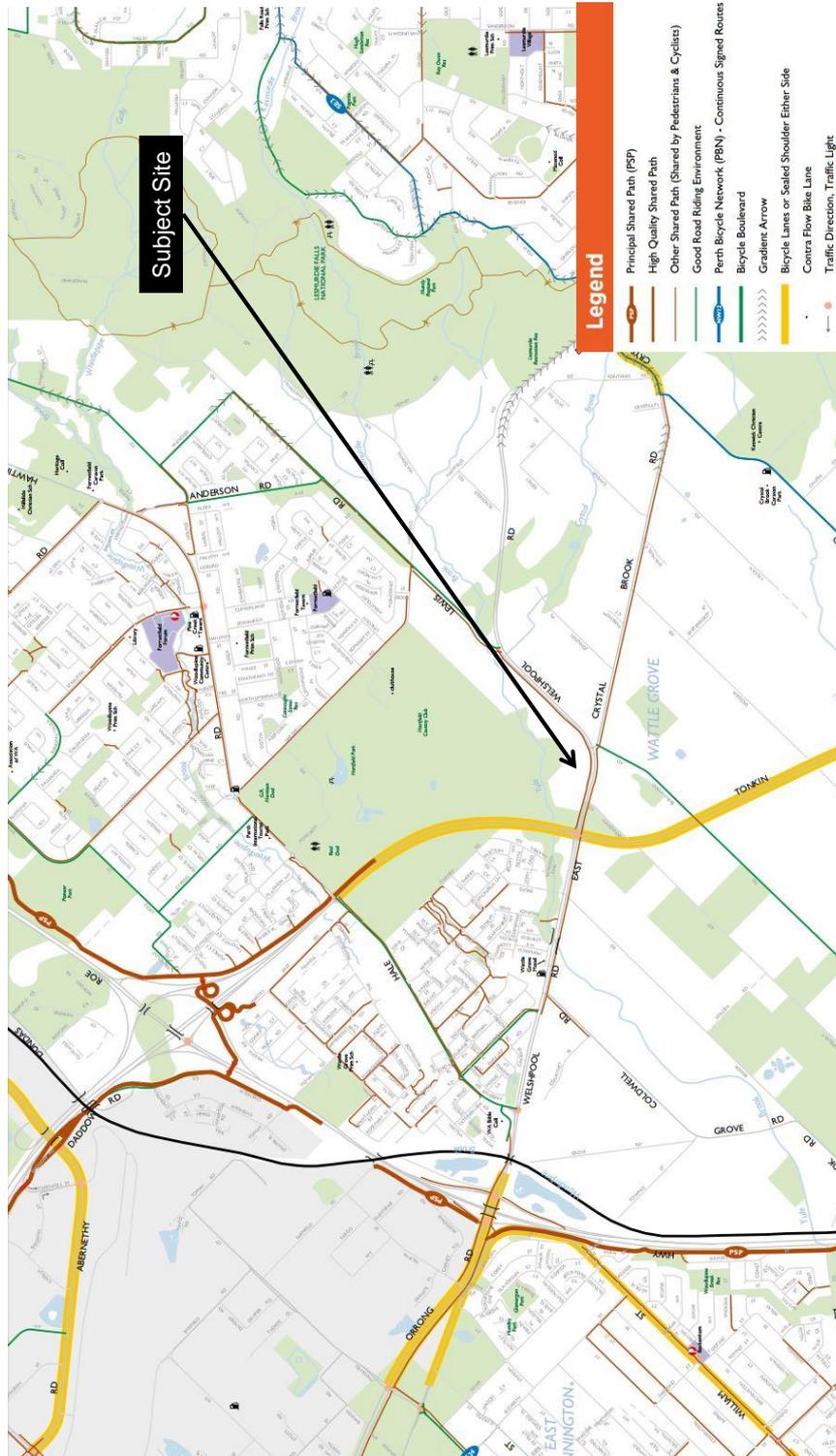


Figure 6: Extract from Perth Bicycle Network (Department of Transport)

10.0 Heavy Vehicle Access

Delivery and waste collection are proposed to occur within the site.

Deliveries and waste collection vehicles are proposed to access the site via the proposed full movement crossover on Welshpool Road East, circulate within the site and exit the site onto Welshpool Road East from the same crossover. Based on the information provided to Transcore delivery vehicles will be up to 19.0m in length.

The 19.0m trucks would only access the site from eastbound traffic on Welshpool Road East. It is proposed that 19.0m trucks circulate within the northernmost aisle and exit the site onto Welshpool Road East. The other service vehicles which would circulate within internal roadways are expected to be no larger than 12.5m trucks.

Turn path analysis has been undertaken to assess the Welshpool Road East crossover geometry and the median break along Welshpool Road East. According to the result of the turn path analysis undertaken by Peritas Group the western section of the existing median break should be trimmed and replaced with pavement marking to enable the 19.0m trucks to access the site. The proposed development plan shown in **Appendix B** acknowledges the required cut back from the existing solid median.

The results of the turn path analysis are included in **Appendix B**.

11.0 Site Specific Issues

The subject site abuts the Other Regional Roads Reservation for Welshpool Road East in the Metropolitan Region Scheme, as shown in Figure 7. The site is not affected by any land requirement for future road widening of Welshpool Road East.

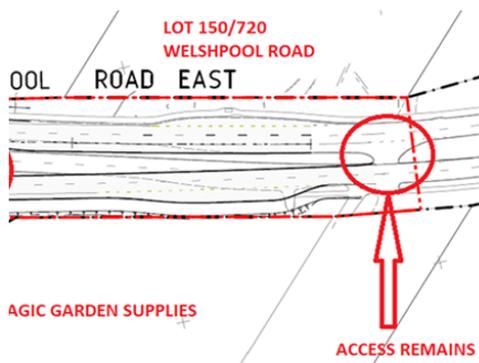


Figure 7: Welshpool Road Other Regional Roads Reservation

It is our understanding that Department of Planning, Land and Heritage (DPLH) requested that *“Comments to be sought from Main Roads WA as the site is located within close proximity to Tonkin Highway/Welshpool Road East intersection which will be upgraded in future”*.

Transcore has liaised with Main Roads WA in this regard (see below email correspondence) which confirms that the current median break in front of the site on Welshpool Road East would remain open after the proposed upgrades at Tonkin Highway/Welshpool Road East intersection.

From: EVANS Robert (Con) <robert.evans@mainroads.wa.gov.au>
Sent: Wednesday, 30 June 2021 5:13 PM
To: Mohammad Rasouli <mrasouli@transcore.net.au>
Cc: WALKER Carolyn (Con) <carolyn.walker@mainroads.wa.gov.au>; BROADHURST Lindsay (DRPD) <lindsay.broadhurst@mainroads.wa.gov.au>
Subject: 21114961 Tonkin Highway Grade Separations - Lot 150/720 Welshpool Road East (Transcore Query Response)
 Good afternoon Mohammad,
 Apologies for the delay in reply. In response to the below query, please be advised that the current project concept design ties in with the median prior to the current opening in front of the property highlighted within this query (Lot 150/720 Welshpool Road East):



Please note this commentary is provided by the project team and does not replace the Development Application assessment process (or comments by the Main Roads Statutory Planning team as part of this). Please let me know if you have any further questions.

Thank you.

12.0 Safety Issues

In order to address City's comments with respect to the possibility of installing provision of a short right turn pocket on Welshpool Road East Peritas Group has investigated provision of a right turning pocket on Welshpool Road East that would accommodate a car and trailer only so that it would not interfere with the existing trees in the median island. **Appendix C** shows the revised drawings.

Appendix C also shows the outcome of the sight line assessments which has undertaken for:

- Safe Intersection Stopping Distance (SISD);
- Minimum Gap Sight Distance (MGSD); and,
- Stopping Sight Distance (SSD).

Review of the sight line assessments indicates that the existing landscaping in the northern verge of Welshpool Roads East should be regularly pruned so to avoid any impacts on sightlines at the proposed crossover on Welshpool Road East.

The existing trees within the median on Welshpool Road East (to the west of the proposed crossovers) are predominantly tall gums with canopy and foliage well above the sightlines of vehicles who wish to turn right from the Welshpool Road East into the crossover. Therefore, these trees would not impact on sightlines.

Review of the time table for Stop No: 13682 which is located immediately west of the proposed development crossover on Welshpool Road East indicates that the frequency of the buses that stop at this crossover are less than 2 buses during the peak hours on typical days and less than 1 bus per peak hour over the weekends. These buses would stop for only a short period of time, if stopping at all, and considering the low trip generation of the proposed development the risk of impact on sight line by buses are very low.

13.0 Conclusions

This Revised Transport Impact Statement has been prepared by Transcore on behalf of Community Greenwaste Recycling P/L with regards to the proposed Garden Centre to be located at Lot 150 (No.720) Welshpool Road East, Wattle Grove in the Shire of Kalamunda.

The original plans for the site have been recently amended to address the City's comments. The proposed amendments include minor modifications to the proposed crossover on Welshpool Road East including a short right turn pocket at the crossover. **Appendix A** shows the latest development plans prepared by Harley Dykstra.

The proposed development includes deletion of the existing left in/ left out crossover on Welshpool Road East and creation of the new single full movement crossover on Welshpool Road East including a short right turn pocket on Welshpool Road East that would accommodate a car and trailer only so that it would not interfere with the existing trees in the median island.

The site features good connectivity to the surrounding areas through existing bus and cycle routes. Pedestrians can also access the site via the external footpath along Welshpool Road East. A separate pedestrian access gate from the carpark allows separation of vehicle and pedestrian access to the site.

Desktop traffic modelling and analysis undertaken in this report shows that the traffic generated as a result of the proposed development is relatively minimal and as such would have insignificant impact on the surrounding road network.

Revised turn path analysis undertaken by Peritas Group indicates that the largest size service vehicle (which is a 19.0m truck) can access the site from Welshpool Road East, circulate within the site and exit the site onto Welshpool Road East. Required widening of the existing median opening on Welshpool Road East has been identified and allowed for in this development proposal. It should be noted that the 19.0m trucks would only access the site from eastbound traffic on Welshpool Road East.

Review of the sight line assessments undertaken by Peritas Group indicates that the existing landscaping in the northern verge of Welshpool Roads East should be regularly pruned so to avoid any impacts on sightlines at the proposed crossover on Welshpool Road East.

The existing trees within the median on Welshpool Road East (to the west of the proposed crossovers) are predominantly tall gums with canopy and foliage well above the sightlines of vehicles who wish to turn right from the Welshpool Road East into the crossover. Therefore, these trees would not impact on sightlines.

Review of the time table for Stop No: 13682 which is located immediately west of the proposed development crossover on Welshpool Road East indicates that the frequency

of the buses that stop at this crossover are low. These buses would stop for only a short period of time, if stopping at all, and considering the low trip generation of the proposed development the risk of impact on sight lines of vehicles by the buses are very low.

According to the information received from Main Roads WA the current median break in front of the site on Welshpool Road East would remain open after the proposed upgrades at Tonkin Highway/Welshpool Road East intersection.

Appendix A

PROPOSED DEVELOPMENT PLAN



Appendix B

TURN PATH ANALYSIS

Appendix C

SIGHT LINE ASSESSMENTS

