



Proposed Garden Centre

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

Revised Transport Impact Statement

PREPARED FOR:
Community Greenwaste
Recycling P/L
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1 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 the original plan. The proposed amendments include:

- Downgrading the proposed crossover on Welshpool Road East to left in/ left out;
- Increasing the length of the proposed left turn slip lane on Welshpool Road East to 125m; and;
- Relocation of the existing bus stop further west within the proposed left turn slip lane.

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 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 49 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 relocated at the eastern corner of the subject site. This crossover is proposed to be located opposite the existing median break along Welshpool Road East and will include a li/lo median (brick paved) to restrict the right turn movements at the crossover. The crossover will be marked and signed as appropriate to communicate its respective operation clearly and effectively.

As part of this proposal, it is intended to extend the existing bus embayment on Welshpool Road East so that it will be used as a left turn lane for the proposed li/ lo crossover. The length of the left turn pocket would be 125m including taper and will include the existing bus stop. The existing bus stop will be shifted slightly towards the west within the left turn pocket.

Delivery and waste collection vehicles are proposed to access the site via the proposed li/ lo crossover on Welshpool Road East, circulate within the site and exit the site onto Welshpool Road East in forward gear. Based on the information provided to Transcore delivery vehicles will include trucks up to 19.0m semi-trailers.

Turn path analysis undertaken by Peritas Group confirms the suitability of the geometry of the proposed Welshpool Road East crossover. Detailed discussions about the delivery vehicles access and egress will be provided in section 10 of this report.

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 Parking

The proposed development will provide a total of 59 car parking bays of which 49 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 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 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 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 ($100 \times 2 + 35 \times 2 + 8 \times 2 \times 2 = 302$ vpd) daily vehicle trips, with approximately 30 trips during the peak hour period ($302 / 10 \sim 30$ 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.





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 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.

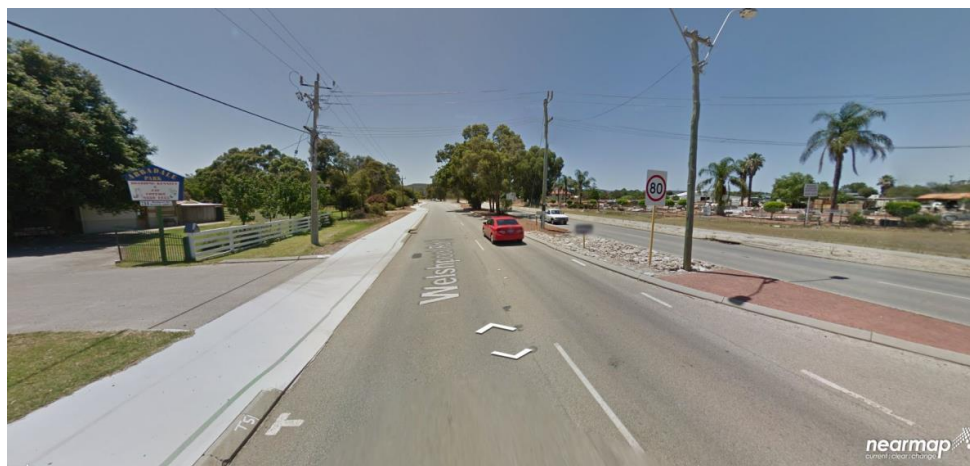


Figure 3: Eastbound view along Welshpool Road East²

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 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.

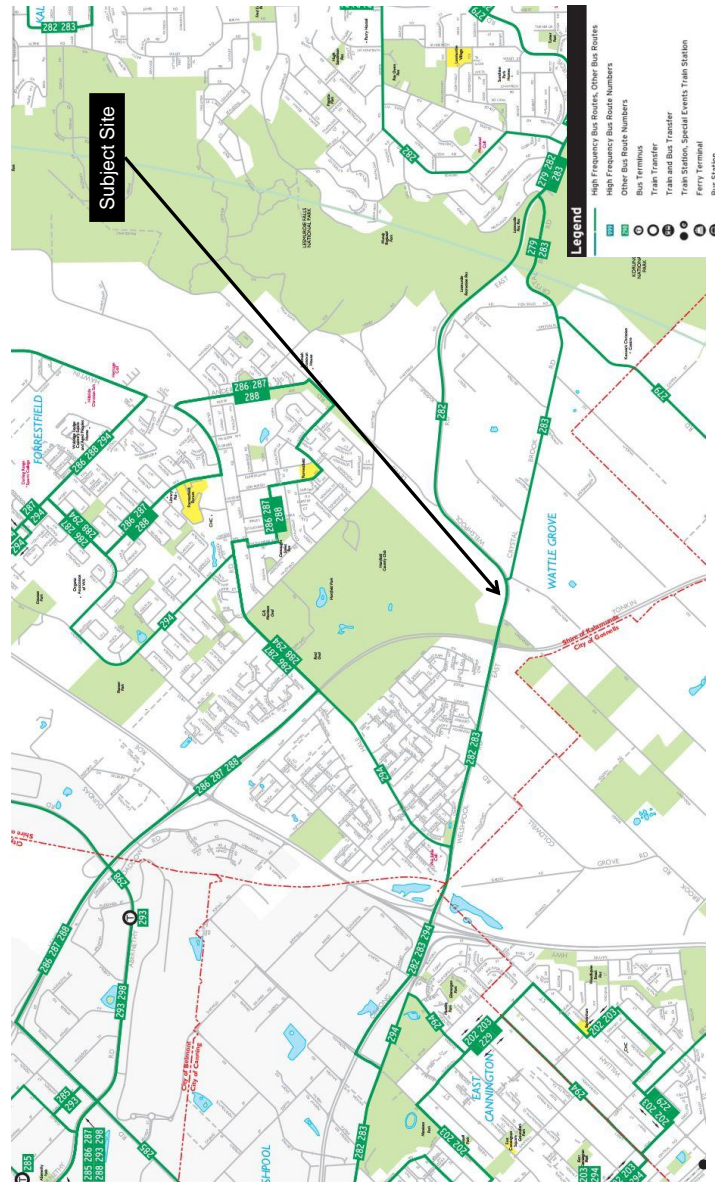


Figure 4: Public transport services (Transperth Maps)



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 Pedestrian Access

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



9 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.





10 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 li/ lo 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 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 on Welshpool Road East. The turn path analysis undertaken by Peritas Group indicates satisfactory traffic movements of the 19.0m trucks at the proposed li/ lo crossover.

The results of the turn path analysis are included in Error! Reference source not found..

11 Site Specific Issues

No particular site-specific issues were identified as part of the assessments.



12 Safety Issues

No particular safety issues were identified as part of the assessments.



13 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:

- Downgrading the proposed crossover on Welshpool Road East to left in/ left out (li/lo);
- Increasing the length of the proposed left turn slip lane on Welshpool Road East to 125m; and;
- Relocating the existing bus stop further west within the proposed left turn slip lane.

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.

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.

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 satisfactorily.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed development.



Appendix A

PROPOSED DEVELOPMENT PLAN



Appendix B

TURN PATH ANALYSIS



