

Oranga Tamariki Korowai Manaaki: Change to Designation

Transportation Assessment Report

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1 Introduction

Stantec has been commissioned by Boffa Miskell on behalf of Oranga Tamariki to prepare a Transportation Assessment report for a proposed alteration to the designation for the Youth Justice Centre 'Korowai Manaaki' located at 21-24 Kiwi Tamaki Road in Wiri, Auckland. The alteration to the Minister for Children's Designation 3802 seeks to increase the maximum number of children and young persons who may reside at Korowai Manaaki from 46 to 56.

This report addresses the transportation engineering matters related to the proposed alteration to designation, including:

- A description of the site and its surrounding transport environment;
- A description of the key transport-related aspects of the proposed designation change;
- A review of the existing transport operations at the site;
- An assessment of expected volumes of vehicular traffic likely to be generated by the proposed designation change and the effects of this on the surrounding road network; and
- Parking requirements and demand due to the designation change.

These and other matters are addressed in this report.

2 Existing Environment

2.1 Site Location

Korowai Manaaki is located at 21-24 Kiwi Tamaki Road in Wiri, Auckland, as indicated in **Figure 1**. The site is within the Business – Heavy Industry Zone as defined in the Auckland Unitary Plan (Operative in Part) (**AUP**). The surrounding area to the east is predominantly industrial in nature. Auckland South Corrections Facility and Auckland Region Women's Corrections Facility are located to the north of the site.



Figure 1 Site location of Korowai Manaaki

The main building with its visitor and staff parking is on the southern side of the road. On the northern side of the road is a secondary car park shared by staff of Korowai Manaaki and the Auckland South Corrections Facility.

2.2 Surrounding Road Network

Kiwi Tamaki Road is a cul-de-sac road of 580m in length; the site is located at the westernmost end. This road provides vehicle access to three other properties: a truck access for a vehicle storage site; delivery entry into VisyBoard packaging company; and the Auckland South Corrections Facility. Kiwi Tamaki Road is classified as a non-arterial road in the AUP. One lane in each direction is provided on Kiwi Tamaki Road, separated by a painted centreline and kerbside parking is allowed for on both sides of the road with no time restrictions.

Kiwi Tamaki Road intersects Roscommon Road at a signalised intersection with separate left and right turning lanes provided, while Roscommon Road has a separate right turning lane only. Kiwi Tamaki Road has a posted speed limit of 50 km/h and Roscommon Road has a posted speed limit of 60 km/h.

In the AUP, Roscommon Road is classified as an arterial road. It provides direct access to the State Highway 20 (SH20) motorway 2km north of the site, and to the Weymouth residential area to the south. Generally, two lanes are provided in each direction, separated by a solid traffic island of varying width. To the north of the Kiwi Tamaki Road intersection, three southbound lanes are provided on Roscommon Road.

2.3 Traffic Volume

The latest traffic volumes were obtained from Auckland Transport (AT) website. The latest counts on Roscommon Road, to the north and south of the site with its respective average daily traffic (ADT) and peak hour traffic volumes in vehicles per day (vpd) and vehicles per hour (vph) respectively are summarised in Table 1 below.

Table 1 AT Traffic Counts on Roscommon Road

Location	Date	Direction	ADT (vpd)		Peak Traffic Volume (vph)	
			5-day	7-day	AM	PM
South of Kiwi Tamaki Rd (between Bolderwood Pl & Browns Rd)	3 May 2018	Northbound	18,448	17,445	1,886	1,106
		Southbound	17,837	16,527	782	2,095
		Both	36,285	33,982	2,668	3,201
North of Kiwi Tamaki Rd (between Wiri Station Rd and Vogler Dr)	25 Oct 2017	Northbound	22,843	20,902	1,916	1,559
North of Kiwi Tamaki Rd (between Jerry Green St & Vogler Dr)	5 June 2018	Southbound	20,044	18,113	1,383	1,721

As can be seen from the table above, traffic volumes are higher north of Kiwi Tamaki Road with an estimated ADT of 43,000vpd in both directions. The majority of traffic travel northbound during the morning peak and southbound in the afternoon peak.

No traffic counts are available on Kiwi Tamaki Road from AT.

A traffic survey was commissioned by Stantec on Wednesday 15 August 2018 at the intersection of Kiwi Tamaki Road and Roscommon Road for Auckland Region Women's South Corrections Facility. With permission from the Ministry of Corrections, the survey results have been provided.

The survey was taken from 6am-9am, 10:30am to 1:30pm and 3pm-6pm, to capture morning, afternoon and interpeak times. Traffic counts for each approach during the surveyed morning and afternoon peak hours are summarised in **Figure 2** below.

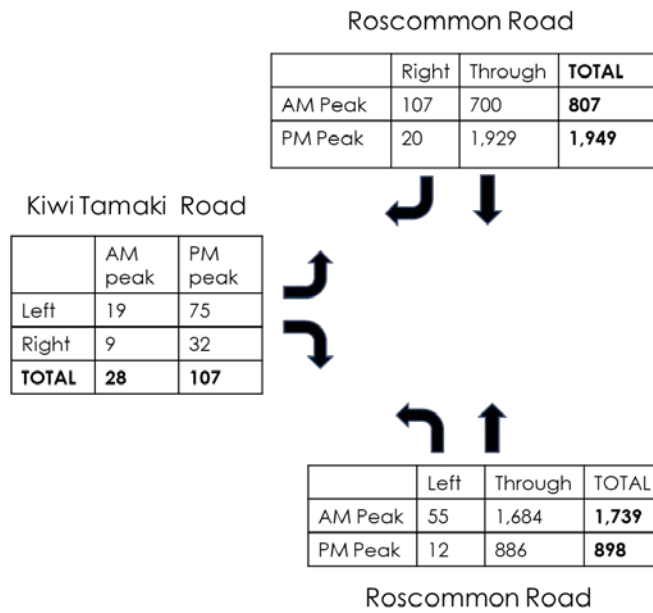


Figure 2 Surveyed Turning Vehicle Movements During Morning and Afternoon Peak

The data indicated a morning peak hour starting at 7:30am and afternoon peak at 4:00pm for the intersection. The respective morning and afternoon peak hour volumes for Kiwi Tamaki Road are 190vph and 139vph.

Peak hour volume is typically 10% of the average daily traffic (ADT). Therefore, the ADT can be approximated to be in order of 1,400-1,900vpd.

2.4 Public Transport

The closest pair of bus stops are located on Roscommon Road, approximately 700m away from the site or a 10-minute walking distance. These bus stops serve routes 368 and 369, which travel clockwise and anti-clockwise respectively to Homai Station and Manukau Interchange. These routes are 'Peak Period' services operating during the weekday peak only, at half hour frequencies.

Trains departing Homai Station travel along the Southern Line services to Britomart and Pukekohe. Manukau Interchange is the train terminus for the Eastern Line, and connects many bus services to the wider Auckland area.

Public transport connections to the site is very limited, with the bus stops located outside the typical 400m walking radius and servicing only peak hour connections linking with other public transport services.

2.5 Pedestrian and Cycling Provision

No dedicated cycle paths or lanes are located within the vicinity of the site, with only a cycle advanced stop box at the signalised intersection on Kiwi Tamaki Road.

A footpath is existing on the northern side of Kiwi Tamaki Road, but no footpath connection is provided to the site. The signalised intersection provides formalised crossing points on the Kiwi Tamaki Road leg and the northern leg of Roscommon Road. Footpaths are existing on both sides of Roscommon Road.

3 Proposed Designation Change

Korowai Manaaki is established pursuant to the Minister for Children’s Designation 3802. The current designation allows for the facility to provide residential care and control for up to a maximum of 46 children and young persons.

It is proposed to alter the designation to increase the maximum number of children and young persons under residential care to 56.

4 Existing Transport Site Operations

4.1 Access

The sole vehicle access to the residential building on-site is a gated entrance approximately 9m wide at the western end of Kiwi Tamaki Road. A traffic island separates the entry and exit movements. This entrance leads into a car park for visitors and a secure gated car park for staff and fleet vehicles.

A gate accessed through the staff car park is provided mainly for use by refuse collection trucks and fleet vehicles. These vehicles travel around the bi-directional ring road.

Vehicle access to a second car park for staff is located opposite the residential building on the north side of the road with separate vehicle crossings for entry and exit.

No pedestrian accesses are provided to either the residential site or the additional car park opposite.

4.2 Servicing

The site is serviced by catering, refuse collection and laundry services. The meal van has a frequency of twice a day and utilises the parking area next to the kitchen within the staff car park to do its loading. The refuse truck services the site twice a week and utilises the ring road around the site to collect bins, and an additional trip once a week to collect from the main skip bin in the staff car parking area. Laundry services are done three times a week.

4.3 Parking Provision

Two car parking areas are provided on site; one directly outside the main building for staff and visitors and one across the road for staff only. It is understood this second car park is also shared by staff of the Auckland South Corrections Facility. The number parking spaces by area and allocation are outlined in **Table 2** below.

Table 2 Existing Car Parking Provision at Korowai Manaaki

Area/Allocation	No. Parking Spaces
Staff	29
Staff (across the road from residential building)	30
Visitors	33
Fleet vehicles only	5
TOTAL	97

The total number of parking spaces allocated to staff is 59 and the total number of parking spaces available for visitors is 33 (including two mobility spaces).

Both sides of Kiwi Tamaki Road are also available to be used as on-street parking with no time restrictions or payment requirement.

5 Traffic Effects

5.1 Trip Generation

The traffic generated as a result of the designation change will mainly arise from the increased number of staff, which are expected to be proportional to the number of children under care at Korowai Manaaki. Staff traffic as well as traffic generated by visitors and other trips is assessed in the sections below.

5.1.1 Staff

5.1.1.1 Current Staff Numbers

The current number of staff members for each activity and respective working hours were provided by Oranga Tamariki. The majority of staff are on site during typical business hours, with the exception of floor staff who are split into three shifts during the day.

Shift times for floor staff are as follows:

- AM shift: 6:30am-3:00pm
- PM shift: 2:30pm-11:00pm
- Night: 10:30pm-7:00am

Some activities have varying numbers of staff and are understood to be as follows:

- Three medical staff Monday-Friday, with four every second day.
- Three school external facilitators Monday-Friday plus three additional three times a week.

For the purpose of conservative estimation, the maximum number of staff members are shown and summarised in **Table 3** below, according to their working hours.

Table 3 Current Staff Numbers during Weekdays

Working Hours	Staff Numbers						
	Clinical (including external facilitators)	Admin/ Support	Medical	School (including external facilitators)	Escort	Floor	TOTAL
Business hours	16	9	4	20	10	-	59
AM shift	-	-	-	-	-	20	20
PM shift	-	-	-	-	-	20	20
Night shift	-	-	-	-	-	17	17
Total	16	9	4	20	10	57	116

During the weekends, only floor staff and one administration/support staff member are working on site.

5.1.1.2 Expected Staff Numbers

The number of staff members are expected to increase generally in proportion to the number of children. Working hours are expected to remain the same as current operations. **Table 4** below indicates the forecast maximum staffing numbers provided by Oranga Tamariki, assuming full occupancy at Korowai Manaaki.

Table 4 Expected Number of Staff during Weekdays

Working Hours	Staff Numbers						
	Clinical (including external facilitators)	Admin/Support	Medical	School (including external facilitators)	Escort	Floor	TOTAL
Business hours	19	11	4	24	12		70
AM shift	-	-	-	-	-	24	24
PM shift	-	-	-	-	-	24	24
Night shift	-	-	-	-	-	20	20
Total	19	11	4	24	12	68	138

This sees an increase of 11 staff in total during weekday business hours and three to four additional floor staff per shift, a total increase of 22 staff. Assuming one staff member generates one vehicle trip at the start and end of their shift, this equates to 44 additional vehicle trips per weekday.

Weekend staff will be floor staff and one administration/support staff member only, so a total increase of 11.

5.1.2 Visitors

Two visitation rooms are currently provided with visiting hours as follows:

- 2:30-5:00pm on weekdays for family
- 10:00am-1:00pm on weekends for family
- 9:00am-5:00pm on weekdays for professionals

The maximum visitation period is 30 minutes for local visitors and one hour for people from out of town. Korowai Manaaki staff estimated that approximately 75% of visitors are local and 25% from out of town. A maximum of four visitors at a time are allowed per child.

For estimation purposes, it is assumed that both visitation rooms are utilised by family every weekday and each visitor group arrive in the same car (therefore generating two vehicle trips). The ratio of local and out of town visitors has not been applied, to provide a robust assessment with the maximum visitation slots used.

The estimated vehicle trips are broken down in **Table 5** below by the number of family visitation slots per day and the vehicle trips these generate. For the future estimate, one additional visitation room has been assumed with the same visitation hours.

Table 5 Estimated Vehicle Trips by Family Visitors

Time of week	Current Estimate		Future Estimate	
	Weekday	Weekend	Weekday	Weekend
Number of visitation slots	10	12	15	18
Number of vehicle trips during visitation hours	20	24	30	36
Number of vehicle trips per hour	8	8	12	12

With one additional room, this allows for five more visitation slots during the weekday and six during the weekend. In terms of vehicle trips, this is expected to be an additional 10 trips per day on weekdays and 12 trips per day on weekends.

Professional visitor numbers are additional to this estimate. It has been assumed up to five professional visits are made daily currently, and estimate to increase up to six in the future situation. This is an additional two trips per day on weekdays

5.1.3 Other Vehicle Trips

Other vehicle trips generated by Korowai Manaaki include servicing, school trips, court appearances and other appointments.

No increase in servicing frequency is expected as an outcome of the proposed designation change.

Trips associated with school activities occur three times a week which sees two vehicles to cater for each trip. Court appearances occur on average four times a day with a typical maximum of 10 per day. Both utilise the fleet vehicles owned by Korowai Manaaki. For the purposes of this assessment, it is assumed that fleet vehicles make up to five outings daily, equating to 10 trips per day.

For the five fleet vehicles currently operating, this equates to 50 trips per day on average during the weekday.

With the current ratio of 5 fleet vehicles to 46 children, an increase of 10 children can assume one additional fleet vehicle will be required; hence an additional 10 trips per day.

5.1.4 Summary of Additional Trip Generation

In summary, the estimated additional number of daily vehicular trips during the weekday are outlined in **Table 6** below.

Table 6 Additional Estimated Weekday Vehicle Trips Generated

Time Period	Additional number of daily vehicle trips			
	Staff	Visitors	Other trips	Total
Business hours (9:00am-5:00pm)	22	2	10	34
AM shift (6:30am-3:00pm)	8	-	-	8
PM shift (2:30pm-11:00pm)	8	-	-	8
Night shift (10:30pm-7:00am)	6	-	-	6
Weekday family visitation hours 2:30-5:00pm	-	10	-	10
Total	44	12	10	66

A total of 66 additional trips is forecasted during a weekday, and 28 during a weekend.

Approximately 12 and 14 additional trips (based on staff and some visitor trips only) will occur during the key morning and evening peak hours respectively, at the start and end of business hours.

5.2 Effect of Additional Trips Generated

Additional trips calculated in the Section 5.1 Traffic Effects above have been used to assess the traffic effects as a result of the change in designation which seeks to increase the number of children under care from 46 to 56.

Given the cul-de-sac nature of Kiwi Tamaki Road and the location of the access points, the current access is considered sufficient to cater for the additional traffic generated during peak hours at the beginning and end of business hours and throughout the day.

With a current ADT estimate of 1,400-,1900vpd on Kiwi Tamaki Road, the increase of 66 weekday trips will be minor and less than 3-5% of the current volume. These additional vehicles trips are significantly less than 1% of the current traffic weekday volumes on Roscommon Road. Such proportional increases are less than typical daily fluctuations, which are often in the order of 10%, thus they are likely to be unnoticeable.

As described in Section 2.3 Traffic Volume above, the morning peak hour at the intersection of Kiwi Tamaki Road and Roscommon Road occurs at 7:30am with the afternoon peak at 4:00pm. For a conservative estimate, it is assumed the on-road peak hours coincide with trips and the beginning and end of business hours and the end of some visitation hours. With an estimated 12-14 additional vehicle trips travelling during the peak hours, on top of the very low existing peak hour volumes on Kiwi Tamaki Road of 139-190vph, the traffic effects are unlikely to have a noticeable effect on the intersection operation.

It can be concluded that additional traffic volumes generated as a result of the change in designation can be accommodated for in the surrounding road network without adverse effects on safety or efficiency.

6 Parking

As the site is classified in the Business - Heavy Industry zone, the minimum parking requirement in AUP is provided in Table E27.6.2.4. The supported residential care (T50) activity is considered the closest to the activities on-site. This activity requires parking to be provided at a minimum rate of 0.3 parking spaces per bed with no maximum rate specified. This would mean 14 spaces are required for the current arrangement and 17 spaces for the proposed increase. As described in Section 4.3 Parking Provision, a total of 97 spaces are provided on site. The current provision is consistent with the AUP parking requirements.

7 Conclusions

It is proposed to change the designation condition of Korowai Manaaki to increase the maximum number of children and young persons who may reside at Korowai Manaaki from 46 to 56 children and young persons.

The traffic generated as a result of the increase of 10 children and young persons to be accommodated on-site will be in the order of 65 daily trips and up to 14 trips in the peak hour. Such low additional traffic generated by the site will be readily accommodated without adverse effects on the safety or efficiency of the road network.

The current parking provision is consistent with the AUP requirements for the existing situation and proposed change in designation.