

Appendix W Traffic Memo

Memorandum

Subject:	ARL Project - Transportation Memorandum	Reference No:	26142
Author:	Don McKenzie	Date:	31 July 2026

1 Introduction

Don McKenzie Consulting Ltd (“**DMC**”) has been engaged by WM New Zealand (“**WMNZ**”) to provide a technical memorandum outlining the transport effects associated with a proposal for a new solid waste management and disposal facility in the Wayby Valley, north of Auckland (“**ARL**” or “**Project**”).

The Project will involve constructing, operating, closing and providing aftercare for a new 24 Mm³ landfill facility and associated infrastructure at Wayby Valley, Wellsford. Ngāti Manuhiri are Project partners and will work with WMNZ on the proposed management and mitigation measures. Once landfilling ceases, the land will be returned to Ngāti Manuhiri as tāngata whenua.

The new landfill will be a Class 1 landfill, as defined in the Technical Guidelines for Disposal to Land (WasteMINZ Technical Guidelines), accepting municipal solid waste. This includes residential and commercial waste, construction and demolition waste, some industrial wastes that meet acceptance criteria, and contaminated soils. Following waste settlement, the landfill cap surface will have a maximum height of 205 m RL.

WMNZ landholdings in the Wayby Valley area comprise a total area of 1020 ha, with the landfill footprint being approximately 60 ha. The WMNZ landholdings have been divided into five general areas; the Eastern Block, the Western Block, the Southern Block, the Waiwhiu Tributary Block and the Waiteraire Tributary Block. The proposed works will involve the following:

- **Site access and operation:** Construction of site access roads, weighbridges, and a vehicle wheel wash.
- **Landfill development:** Major earthworks and the installation of environmental management systems, including a landfill lining system and collection networks for leachate, stormwater, and landfill gas (LFG).
- **Leachate and landfill gas management:** A dedicated leachate management system and a LFG treatment facility, including a LFG flare and a LFG waste-to-energy plant.
- **Support infrastructure:** Facilities for site staff, plant maintenance, and water supply.
- **Terrestrial, freshwater and wetland biodiversity measures:** This includes native revegetation, and a weed and animal pest management programme to offset or compensate for residual adverse effects on terrestrial, freshwater and wetland ecology.

This memorandum provides an outline summary of the key transport issues associated with the Project and has been prepared for inclusion in an application for Ministerial referral of the Project under the Fast-track Approvals Act 2024 (“**FTAA**”). Specifically, this memorandum responds to the requirements under section 3.4 of the Fast-track Approvals Referral Application Form and section 13(4)(h) of the FTAA. A full description of the draft proposal is included in the accompanying information attached to the application form for the referral.

2 Summary of findings

The initial phases of the Project will include site clearance and establishment, making use of a combination of existing and upgraded access points potentially including (but not limited to) Crowther Road connecting to SH1 and Wilson Road connecting to Wayby Valley Road. With the coincident activities of all initial site clearance, establishment and pre-construction activities, it is expected there could be approximately 100 heavy vehicle movement per day plus approximately 200 light vehicle movements per day.

All construction-related movements via the access connections to both SH1 and Wayby Valley Road will be investigated for upgrades as part of the Project to further provide for the safe and effective movement of construction-related traffic, while also ensuring the ongoing safety of all road users at and adjacent to the construction access points.

As is standard practise for major construction works of this scale, it is recommended that one or more Construction Traffic Management Plans (“**CTMPs**”) are prepared and implemented prior to the commencement of any constructed/site establishment works.

Based on the information provided to date by and the expectations of WMNZ in relation to the Project, it is conservatively estimated that the most likely trip generation of the Project when operational will involve a total of up to approximately 55 vehicle movements per hour (“**vph**”) (inclusive of inbound and outbound movements) during each of the weekday morning and afternoon peak hour periods, and up to approximately 740 vehicle movements per day (“**vpd**”) (inclusive of inbound and outbound movements) across the course of each day.

Such volumes would be catered for by a well-designed intersection between an access road into the landfill site and SH1. It is appreciated that the creation of a major intersection of the scale and design necessary to serve the Project will introduce a degree of traffic and speed management along the SH1 corridor. While there may be some modest delays and queues associated with an intersection at the landfill access road connection with SH1, it is considered these are acceptable (expected to be generally less than about 10-15 seconds per vehicle).

Overall, it is considered that the connection of a landfill access road with SH1 via a well-designed, rural intersection will appropriately accommodate the operational traffic generated by the Project over the short to medium-term future. The future form, location and detailed design will be confirmed in accordance with standard State Highway geometric design standards, and subject to appropriate safety audit processes consistent with NZTA’s expectations for the current SH1 corridor. Looking to the longer-term future (~2060), with the Warkworth to Te Hana project in place by this time (and corresponding reduction in traffic flow past the intersection to the landfill access road), the operation of a landfill access road intersection is expected to remain at a correspondingly better level than currently projected.

3 Assessment methodology

The methodology to inform the assessment to date has utilised a combination of on-site inspections undertaken over the past several years (most recently in March 2026), data collection using publicly available sources, and desk-top analysis of the potential transportation effects of the Project. This preliminary assessment has considered the following matters:

- The site’s existing transport context including current and projected traffic volumes and road safety records (including Pūhoi to Warkworth SH1 Northern Motorway extension, the Dome Valley safety-related upgrades works and road safety review of the NZTA's Crash Analysis System);
- The potential scale and effect of the Project traffic generation including its construction and operation;

- Likely future traffic growth in areas near to the Project, especially along SH1. This has included reviewing data from key NZTA continuous count site(s) (which shows an average growth of daily traffic volumes between about 2 and 3% per annum over the past six years), and
- An overall assessment of effects of the Project-related traffic on the supporting transport network (focussed on SH1).

The area considered for this assessment is generally that section of SH1 between the northern roundabout terminal of the Puhoi-Warkworth Northern Motorway, and Wayby Valley Road/SH1 intersection.

While it is expected that the next stage of the SH1 Northern Motorway extension from Warkworth to Te Hana could be operational by 2034, for conservative purposes it has not been included in the baseline or receiving transport environment against which the Project is assessed in this Memorandum. The impact of the Warkworth to Te Hana project will be revisited in the event ARL is referred and a substantive application is made.

4 Site and Project context

A general description of the site and surrounding locality is included in the accompanying information as part of the referral application. The following elements of the site and Project are key to the integrated transportation assessment:

- **Strategic Location and Transport Network:** The proposed site is situated within the Rural – Rural Production Zone in the Auckland Unitary Plan (“AUP”). SH1 and Wayby Valley Road are the key roads in the vicinity of the site and are both classified arterial routes in the AUP.
- **SH1:** This is the key national transport route passing through the North Auckland – Northland region passing close to the southern edge of the Project site. Its current form comprises:
 - primarily a two-lane, two-way road with extended sections of wire-rope, median barrier (delivered as part of NZTA’s recent Dome Valley Safety Improvements project);
 - two northbound and one southbound passing lane opportunities between Warkworth and Wellsford; and
 - an operational speed of 80km/h.
- **Proposed SH1 Access:** The primary vehicular access to the ARL facility will be via a new landfill access road connecting to SH1 through a well-designed intersection. Sufficient space is proposed to be available within the access road design in advance of any access control facilities to provide space for the queuing of Project-related vehicles. Consultation has occurred with NZTA and will continue if a substantive application is made.
- **Landfill Access Road:** A landfill access road will provide internal access between the landfill and the proposed SH1 intersection. It will cater for safe and effective two-way traffic movement and will be used by a combination of waste haulage trucks, landfill staff vehicles and other authorised vehicles.
- **Site Establishment and Construction Activities:** Key aspects of the construction phase would generally be expected to include construction access upgrade, bridging, stockpile and pond preparation, earthworking, forestry and land clearance, construction of an access road to the landfill and connection to SH1.
- **Operational traffic activity:** Associated with receiving of waste from the wider Auckland region to the site, together with the various staff and day-to-day operations associated with running the landfill.

5 Assessment of potential transportation effects

Based on the proposal and the information available and discussed above, a preliminary review of potential effects on the external transport network has been undertaken and is summarised below.

5.1 Construction effects and mitigation

Based on preliminary analysis, the early site preparation and construction activities could generate 100 vpd (heavy vehicles) and approximately 200 vpd (light vehicles) movements per day plus additional movements associated with the specific intersection constructions for a landfill access road / SH1 and other ancillary construction access upgrades.

As is typical for most construction related activities, the majority of light vehicle trips (normally associated with construction-related staffing) are likely to be inbound during the morning peak and outbound in the evening peak.

In the weekday evening peak (and with the higher Friday evening through-traffic flows carried by the SH1 corridor plus the consideration of upper worst-case estimate of generated traffic movements), traffic leaving the construction access point(s) may be subject to slightly higher delays and queuing than would be expected during the middle part of each weekday.

The currently identified construction access points at SH1 and Wayby Valley Road which are needed to facilitate the site establishment and construction activities associated with the Project are expected to need upgrades to cater for the expected volumes and durations of construction activity and be subject to standard CTMP approvals from the relevant roading authorities (NZTA and/or Auckland Transport).

Relevant CTMP measures for each of the construction access points are expected to involve measures to achieve:

- i Maintenance of existing sight distances;
- ii Advance construction-related warning signage;
- iii Requiring construction vehicles to operate safety beacons while turning into or out of construction accesses connecting to SH1 or Wayby Valley Road;
- iv Specific and/or additional traffic management during pre- and post-holiday/holiday weekend peak traffic situations;
- v "Blackout" periods on Project-related heavy vehicle movements along SH1 through the Dome Valley route to ensure the safety of school drop-off/pick-up movements.

5.2 Operational traffic effects and mitigation

Once operational, preliminary data estimates for the Project indicate there will be a peak of approximately 520 vpd waste truck movements (inclusive of inbound and outbound directions of travel) spread over any 24- hour period, and a peak intensity of approximately 110 vph waste truck movements during assessed four-hour peak hour periods.

Non-waste vehicles comprise Project staff, fuel and oil deliveries, servicing and maintenance vehicles, and visitors. Once the Project is operational it is estimated that there will be a peak of approximately 220 non-waste movements per day, and a peak intensity of approximately 25 non-waste vehicle movements per hour.

Cumulatively, this provides up to approximately 740 vpd (inclusive of inbound and outbound movements) across the course of each day. It is also estimated that the most likely trip generation

of Project will involve approximately 55 vph (inclusive of inbound and outbound movements) during each of the weekday morning and afternoon peak hour periods.

For the purposes of a robust analysis, the peak intensity of waste truck movements with the peak intensity of non-waste traffic associated with the Project activity (which in reality are not expected to coincide), have been adopted as a co-incident peak period of activity. The total two-way traffic generated by the site is expected to represent approximately 3% of the weekday two-way traffic on SH1 (between 8.00am and 9.00pm).

In order to cater for the projected future volume of waste and non-waste vehicles associated with the Project, a high standard intersection (such as a rural-arterial standard roundabout) will be needed. Such an intersection located and designed in accordance with current geometric design standards of NZTA for such an intersection is expected to be able to perform with generally free-flowing traffic and modest average delays for SH1 movements at the time when the Project would be expected to be open and able to receive waste.

The operation of a landfill access road intersection with SH1 at a future year horizon of 2060 would represent the extrapolation of traffic growth rates along SH1 that fall well beyond what is generally accepted as capable of robust projection. However, with the Warkworth to Te Hana project in place by this time (and corresponding reduction in traffic flow past the intersection to the landfill access road), the operation of a landfill access road intersection is expected to remain at a correspondingly better level than currently projected.

6 Assumptions

The above assessment has assumed some key Project-related parameters and the existence of external infrastructure projects that could influence the construction and operational effects of the Project outlined above. It is possible that there will be variability in the scale and nature of transportation effects depending on the following:

- **Operational Date:** It has been assumed that the Project will be operational and able to receive waste from 2035. Should this not be the case and that there is a delay to the Project opening, it is expected that there would be a minor change (increase in peak period delays and queuing) in the performance of a future landfill access road / SH1 intersection. The scale of such changes in operational effects is generally related to the rate of traffic growth along SH1. As indicated in this Memorandum, an annual rate of traffic growth between about 2 and 3% has been experienced over the past five years. The modest amount of background traffic growth would translate to an equally modest change in delays and queuing for each year of delay in opening.
- **Warkworth to Te Hana Project:** Should the SH1 upgrading project between Warkworth and Te Hana be delivered by the time the Project is operational, the passing traffic volumes along the SH1 route would be greatly reduced and hence the performance of the landfill access road junction with SH1 would be significantly enhanced. It is assumed that at least 50% of the current SH1 volumes (and that experienced at the time of the Warkworth to Te Hana project opening) would transfer to the new route. The impact of the Warkworth to Te Hana Project will be revisited in the event ARL is referred, and a substantive application is made.

7 Conclusions

This initial assessment of the transport aspects of the Project confirms that vehicle access to and from the site via a well-designed intersection between an access road to the landfill and SH1 is appropriate for the size, volume and intensity of vehicles expected to be generated by the Project. Once operational, total waste-related landfill traffic will represent a small proportion of the current and projected traffic volumes on SH1.

Overall, the transport effects associated with the proposed landfill on the safety and operational effectiveness of the SH1 route and surrounding transport activity along the route are expected to be modest.

8 Applicability

Don McKenzie Consulting Ltd understands and agrees that WMNZ will submit this report to the Environmental Protection Authority in support of a referral application under the Fast-track Approvals Act 2024 for the works described herein, and that the Environmental Protection Authority will rely on this report for the purpose of assessing that application.

Memorandum prepared and authorised by:



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Don McKenzie
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