Technical Memorandum – Fast-track Application

WIAL Southern Seawall Renewal Project

Transport effects

Date: 25/02/26
Author and position: Carlos Gaona (RMA Transport Engineer)
Discipline/expertise: Transport
Issued to: Susannah Goble, Senior Advisor Planning

Introduction

This memo responds to a request for comment from the expert panel assessing the Wellington International Airport Limited (WIAL) substantive application to replace and upgrade its southern seawall, and associated activities, under the Fast-track Approvals Act 2024 (the Act).

This memo provides comments on the transport demands and potential transportation effects arising from the proposed reconstruction of the seawall defences at the southern end of the airport runway.

The overall construction programme is expected to take 6 to 8 years to complete. From a transport component, it will involve:

- Construction of 3 yards near the airport area: Miramar Golf Course, George Bolt Yard and Moa Point Yard. This comprises approximately 125,000m^3 of earthworks to create site laydown/storage for site preparation and stockpile storage.
- Stockpiling of material and equipment in the yards: the seawall upgrade will require approximately 7,600 cubipod units and 35,000-50,000m^3 rock material, which will be transported by road to the yards.
- Transportation of materials and construction equipment from the yards to the seawall location.

Some activities such as yard construction and stockpiling may overlap for a period. In overall, the project will generate a high number of heavy vehicles (HV's) travelling to/from these sites. These HV's will use a combination of SH and local roads.

Pre-lodgement feedback on the draft application

WIAL provided a draft Transport Assessment Report (TAR) for the proposed reconstruction of the Seawall. This report was prepared by Stantec for WIAL and provided traffic engineering and transport planning, including existing road characteristics and traffic volumes, network road safety, construction traffic generated to/from the sites, over-dimension vehicles and construction traffic management. This report is intended to assess the transport demands and potential transportation effects arising from these works.

Soon Teck Kong (WCC Engineering & Operation Manager) and Duane Greyling (WCC TL Network Control) were engaged on 31 July 2025 to provide feedback on behalf of WCC to the draft TAR.

This memo relates to the expected traffic volumes impacts on the roading network (TAR Section 1-6, 8) and does not cover the construction traffic management and mitigation impacts (TAR Section 7). Stantec provided another draft report titled “Construction Traffic management Plan (CTMP)” for which Duane provided advise.

One of the key considerations for the expected HV’s movements is the sourcing of rock material. Rock coming from the North Island can be directly transported from the quarry to the Miramar Golf Yard, however, rock from the South Island would be barged to CentrePort, then unloaded and trucked to the Miramar Golf Yard. Limitations on wharf storage area, fees for wharf storage and berthing fees mean that WIAL expects the barge to be unloaded and cleared all rock from the wharf within a day. I refer to this sourcing option as “barging” throughout this memo.

The initial feedback to the draft TAR comprised several suggestions:

- Draft TAR initially proposed to use a barge with 3,000T capacity. This meant up to 600 HV’s movements on barging days between CentrePort and the airport would occur (a vehicle movement is considered a single trip). As rock would arrive in bulks, WIAL estimated there could be between 30-80 barging days across the project timeline.
- WCC expressed concerns as the 600 HV’s movements could have an impact on Wellington’s transport network. WIAL acknowledged this concern and proposed to not use the largest barge available (changed from 3,000 to 1,100T). Barging days increased from 30 to 110 days, however, the number of peak HV’s movements decreased considerably from 600 to 136.
- Further road safety assessment along HV’s routes was required, particularly on those roads near schools, commercial and recreational areas.
- Clarification on type of HV’s that will be used for this project, with the aim to ensure vehicle manoeuvring at local intersections was possible and acceptable.
- Consideration of communications with local communities regarding proposed HV’s routes.
- Further clarification on the expected number/frequency of over-dimension vehicles.
- Restriction of HV’s movements along Oriental Parade and Evans Bay Parade for this project.
- Further modelling at key specific intersections to understand the localised traffic impacts, more specifically on Onepu Road / Rongotai Road / Evans Bay Parade intersection.
- Suggested conditions regarding staff parking off roads, design of safe sites accesses, liaising with WCC for barging operational logistics, pre/post road condition surveys and more.

I was also engaged on behalf of WCC to provide transport feedback to the draft TAR. My comments were related to:

- High number of HV’s on barging days (as summarised above).
- Logistics for barging days given WIAL expects to clear rock from the wharf within a day. I was concerned about the potential impacts on local roads, more specifically outside the wharf and sites yards (e.g. queuing of HV’s while waiting their turn for loading or unloading rock material).
- Reasoning for considering two rock sourcing options each at opposite extreme of HV’s movements. North island sourcing estimates 8 to11 HV’s per day (spread across 900-1,200 days), while barging option estimates 136 HV’s per day (spread across 110 days).
- Clarification on over-dimensions routes on Wellington local roads and airport area.
- Vehicle manoeuvring tracking curves at intersections of interest, more specifically on local intersections used for outbound movements.
- Clarification on use of George Bolt Street to access George Bolt Yard. A section of this road is used for commercial retail parking, a location where pedestrians are expected to be present.

- Clarification on construction traffic volumes assumptions for 2033 WIAL Seawall scenario modelled.
- I provided additional comments to clarify the understanding of all seawall traffic volumes expected, showing potential traffic overlaps between project stages (e.g. yard construction, earthworks, stockpiling, yard constructions, staff, etc). The draft TAR contained a section and appendix with this information. This helped me understand how all transport related activities from the project fit in the 6 to 8 years lapse. WIAL removed this information in the final TAR, which I consider was not expected and not good. I consider this information of value to the Panel could have benefited from this information by having the whole picture of construction traffic over the project duration. However, the traffic demands are still provided in the final TAR and were assumed to all occur on the same peak day for a worst-case scenario model analysis (2033 WIAL Seawall traffic).
- I also identified other concerns that had already been noted by WCC at the initial feedback stage.

Review of application (and regulatory assessment)

The 2024 WCC District Plan transport chapter provides for activities that generate high HV's traffic demand. Permitted threshold movements are 8 HV's per week (averaged over a full 52-week year). The proposed Seawall works are expected to be much higher than this permitted threshold. Transport Rule TR-R2.3 specifies that an application over the threshold requires an Integrated Transport Assessment. The intention of such report is for the applicants to ensure they assess traffic effects generated from their proposals and provide mitigations if needed. The content requirements for such report are specified on "*NZTA research report 422: Integrated Transport Assessment guidelines"*. The TAR complies with this requirement.

The 2024 WCC District Plan Earthworks chapter EW-S4 also specifies for the transport of cut/fill material. The threshold is 2,000m3 in the City Centre, Centres, Mixed use and General industrial zones; or 200m3 in all other Zones. The proposed Seawall works is much higher than this permitted threshold. Earthworks Rule EW-R4.2 specifies that an application over the threshold requires assessment to which the transport to or from the site will adversely affect the safety of the roading network. The Rule provides a list of considerations to have regard to, the TAR and the draft CTMP comply with this requirement.

WIAL submitted the final version of the TAR as part of the Fast-track application. I have reviewed Stantec's response to our initial transport feedback. Most of our feedback and comments were addressed. I have read and reviewed the final TAR; here is a summary of my comments:

<u>2033 WIAL Seawall construction traffic modelling</u>

WIAL carried out traffic modelling using the Ngauranga to Airport Model (N2AM). A Wellington City model covering the CBD area, it extends from roughly the Ngauranga SH1/SH2 interchange in the north, to the airport and Miramar in the southeast. This model is managed, overseen, updated and applied by the Wellington Transport Analytics Units, a team within the Greater Wellington Regional Council.

The N2AM can provide outputs for a forecast 2033 year, which was set as a base model to compare seawall construction traffic impacts. WIAL carried out additional model refinements based on traffic surveys/counts on Stewart Duff Drive / Moa Point Road intersection and at the Onepu Road / Lyall Parade intersection. A demand profile was created in which it was assumed all peak construction traffic movements would occur in the same day (including barging operations). This is a conservative approach and represents a "worst case" scenario for which I will refer as "2033 WIAL Seawall".

Model outputs included travel time for five different routes in the 2033 WIAL Seawall scenario (described in TAR Figure 6-2). Two different options were tested based on expected ratio of HV deliver types.

- <u>Option A (all deliveries in articulated HV's) - Compared to 2033 base</u>
    - Increase in travel time for all five routes between 2 and 5 minutes for the evening peak (5-6pm).

- The morning peak only had an increase of 2 minutes for the "Airport to CentrePort" route.
- The other routes in the peak hours showed plus or minus 1 minute of increase/decrease in travel time.

- Option B (HV's deliveries - 2/3 by articulated HV and 1/3 by 6-wheel) - Compared to 2033 base
  - Increase in travel time for the "SH1 to Airport" route. Up to 4 minutes in the morning peak (8-9am), and up to 2 minutes in the evening peak (4-5pm).
  - The other four routes in Option B showed plus or minus 1 minute of increase/decrease in travel time

I note this is a very conservative approach and in reality, some construction traffic activities may be combined to ease traffic generation. In addition, I note that it is likely that other construction traffic activities may be paused during barging days. This worse-case scenario is expected to occur across 110 days spread along the 6 to 8 year project duration.

WIAL has stated that the conservative approach was modelled to show the worst delays Wellington roading network could have if rock sourcing from the north island is not possible at some instances. WIAL stated that their preference will be to source rock from the North Island. This means more days with seawall HV's (potentially 900 to 1,200 days), but at a much lower peak volume (8 to 11 HV's per day). I agree with this conservative approach, modelling shows it may lead to an increase of travel time of up to 5 minutes between the CBD and the airport during barging days.

I acknowledge that rock sourcing from the North Island is more likely for this project. This was not modelled as such low HV's movements are expected to have low impact on the roading network (8 to 11 HV's per day).

I agree SH1 roads have enough capacity to accommodate the additional seawall HV's movements. My initial concerns were regarding local roads, more specifically those shown in the outbound route in Figure 3-4 of the TAR, and outside CentrePort and Yard sites. Vehicle tracking was provided to show HV's manoeuvring through some of local intersections south of Mt Victoria tunnel was physically possible.

Modelling also provided intersection performance outputs for local intersections. The Evans Bay Parade/Onepu Road intersection presented low Level of Service for the 2033 WIAL Seawall forecast. However, the base 2033 model already presents a low level of service. This means poor intersection performance is attributed to general traffic growth over the years and not to HV's seawall traffic.

Road Safety and CTMP

WIAL provided road safety analysis of the key HV's routes to/from Cobham Drive (State Highway 1), this included the local roads and nearby schools. Crash history identified driver's distractions and lack of awareness of other road users (e.g. pedestrians and cyclists) as common crash factor related to HV's. WIAL has stated they will develop and implement local traffic control measures though the CTMP, including driver protocols to mitigate risks related to HV's crashes. Initial recommendations by WIAL are summarised in Section 7 of the TAR and provided in more detailed in the draft CTMP.

I also note that WIAL has stated all construction traffic and staff vehicles will park on the sites and not on local roads. Accesses to the yards will be clearly signposted and designed accordingly to inform road users.

There are several proposed conditions which will ensure CTMP requirements are met during the project duration (CT.1 to CT.5). This includes but not limited to:

- Certification of the CTMP from a WCC Manager prior works commencing

- Requirements of the CTMP content, which in my opinion seem appropriate for the scale of project. This will ensure appropriate measures are implemented to mitigate traffic disruption and ensure the safety of seawall construction staff and road users.
- Frequent review of the CTMP to update as project advances over time (6 months after work commended and once per year thereafter).

While I have not reviewed the content of the draft CTMP, I agree with the proposed conditions. I have proposed some wording amendments to CT.7 and CT.9 to ensure HV's routes match the four proposed routes south of Mount Victoria as shown in attachment E.

I was concerned there were no conditions regarding Site-Specific Traffic Management Plan (SSTMP's) and liaising with WCC/NZTA to manage barging operations. However, I note these are included in the draft CTMP and should be covered under CT.1.

I agree CTMP conditions will enable to develop appropriate construction traffic management during the project duration and provide for safety of road users on HV's routes as well as construction staff on the sites.

In summary, I agree and support WIAL approach taken to assess and manage transportation effects from the proposal. Increase on travel time for general traffic may be of up to 5 minutes at worst, which I consider is acceptable based on the number of barging days (110 days across 6 to 8 years). I consider this is acceptable to safeguard the long-term operation of Wellington Airport against coastal natural hazards (an important transport hub for NZ).

I agree that the safety concerns regarding to seawall construction traffic on local roads can be managed and mitigated via CTMP.

Post-lodgement work with the applicant

I met with WIAL and Stantec's transport engineer on 25th November 2025 to address some further technical clarifications and concerns I had. My concerns were regarding:

- The logistics around barging days and whether CentrePort could handle an additional 136 HV movements without impacting on public roads (e.g. HV's queuing outside the CentrePort and seawall sites to load/unload rock). WIAL stated that all loading operations would be within the port area, and that sufficient space was provided on site to handle the additional HV's movements. WIAL highlighted the project team will liaise with CentrePort to manage the operations on barging days. I note this is provided in the draft CTMP Section 7.3 and 8.8.
- Reasoning for providing two different rock sourcing options, especially when both options generate HV traffic at opposite extremes. WIAL stated that these was to keep their rock supply options available, and that it was more likely they would source rock from the North Island.
- Proposed condition CT.7 required the inclusion of the short section of Evans Bay Parade (between Bay Road and Onepu Road) to the Outbound route description. I have suggested this below.
- There was a contradiction between the TAR and proposed condition CT.9, I have suggested the re-wording below.
- Clarification of George Bolt Street use as a section of this private road is used for commercial retail parking, with pedestrians present in the area. WIAL confirmed that HV's accessing George Bolt Yard will not travelling via this section of road, but via the northern access as shown on attachment E. I agree with this and consider the proposed condition CT.9 ensures HV's remain on appropriate roads for movements.
- The tracking curves on Appendix B showed tracking curves for some roads not approved for HV movements such as Rongotai Road and Evans Bay Parade. WIAL stated these plans were probably from early stages of the TAR and that these should not be applicable and removed from record. I agree with this and as mentioned above the approved HV routes are described on CT.9.
- Whether the 2033 WIAL Seawall scenario covered any potential changes to the announced SH1 Wellington improvements by NZTA. My concern was regarding to any

potential future SH1 works, which could impact on SH1 traffic including the construction HV's for the Seawall works. WIAL stated this was not considered as such information was not available at the time, the project was still on early planning stage, and that any improvement to SH1 would if anything, improve travel time between the airport and Wellington. I agree with this and consider proposed condition CT.5 (annual review of the CTMP) should be able to address these matters if needed.

- I understand this is very early for this project (which may or may not occur) but considered good to acknowledge it with WIAL. In addition, I consider any SH1 traffic delays are expected to occur from the SH1 improvements itself and not the Seawall construction traffic.
- I also note this is covered under the draft CTMP Section 7.2 which mentions there will be coordination between WCC, WIAL and NZTA for any other construction, roading/maintenance works, or special events in the Wellington area that may overlap with the proposed HV's proposed routes.
- It is mentioned meetings between these parties may occur on a regular basis (e.g. every 3-4 months) to forecast these events and identify if any short-term changes to traffic operation are required (e.g. changing a barging day to avoid the Round the Bays run event).

Outstanding matters

Minor amendment to two conditions as described below

Proposed conditions

I suggest rewording to the following conditions

Proposed Condition	Suggested change	Reasoning
Condition CT.7 Heavy vehicles other than over dimension vehicles must not travel to or from the Project Area other than via the following routes shown in Attachment E to these conditions: **Inbound**: SH1- Stewart Duff Drive - Moa Point Road. **Outbound:** Moa Point Road - Lyall Bay Parade - Onepu Road, connecting with SH1 at Kilbirnie Crescent.	**Condition CT.7** Heavy vehicles other than over dimension vehicles must not travel to or from the Project Area other than via the following routes shown in Attachment E to these conditions: **Inbound**: SH1- Stewart Duff Drive - Moa Point Road. **Outbound:** Moa Point Road - Lyall Bay Parade - Onepu Road – Evans Bay Parade - SH1	Outbound route description matches attachment E, avoiding potential use of Rongotai Road, Bay Road and Kilbirnie Crescent with frontages for retail, recreational and sports facilities.
Condition CT.9 - *Heavy vehicles must not travel between the Construction Yards Moa Point Yard and:* *(a) The MGC Yard; or* *(b) The George Bolt Yard* *other than via the "MGC Yard to Moa" or "George Bolt Yard to Moa" routes shown in Attachment E to these conditions, or via an alternative route through the airside area of Wellington International Airport.*	**Condition CT.9** - *Heavy vehicles must not travel between the Construction Yards other than via routes shown in Attachment E to these conditions, or via an alternative route through the airside area of Wellington International Airport*	Attachment E and TAR specify the need for Heavy vehicle to travel between construction yards both ways.

Other matters

I consider there are no other transport specific matters relevant to the Panel's consideration and decision. All matters related to transport issues have been addressed in this memo, with the exemption of the draft CTMP content, for which Duane Greyling, Team Leader Network Control has provided commentary and advice on behalf of WCC.