

**BEFORE THE ENVIRONMENT COURT
AT WELLINGTON**

ENV-2015-WLG-024

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of applications for
resource consent by
Site 10 Redevelopment
Limited Partnership and
Wellington City Council
in respect of the area
known as Site 10

**STATEMENT OF EVIDENCE OF MARK GRANT GEORGESON
ON BEHALF OF
SITE 10 REDEVELOPMENT LIMITED PARTNERSHIP AND WELLINGTON CITY
COUNCIL
3 July 2015**



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INTRODUCTION

Qualifications

1. My full name is Mark Grant Georgeson. I am a Chartered Professional Engineer and hold a Bachelor of Civil Engineering degree from the University of Auckland. I am:
 - (a) a Member of the Institution of Professional Engineers NZ and its specialist Transportation Group;
 - (b) an International Professional Engineer;
 - (c) a Member of the Institute of Transportation Engineers USA;
 - (d) a Member of the Institute of Public Works Engineering Australia;
 - (e) a Member of the NZ Parking Association; and
 - (f) an Associate Member of the NZ Planning Institute.

Experience

2. For the last 23 years, I have worked as a traffic engineer with Traffic Design Group Ltd, practising as a traffic engineering specialist throughout New Zealand. I am a Director of the Company and Manager of the Wellington office.
3. I am very familiar with the location, having lived in the Wellington region for the same 23 years, and having been a routine visitor and user of the Wellington Waterfront. I have also been involved in the progressive development of the waterfront through the period of the last two decades, being part of my firm's team providing transportation advice and design.

Code of Conduct

4. I can confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

BACKGROUND

5. My firm was responsible for the September 2014 Transportation Assessment Report (included as Appendix 15 of the Assessment of Environmental Effects) and October 2014 Construction Traffic Management Plan submitted with the applications for resource consent. At that stage, I was the director responsible for the project.
6. I do not intend to draw from or summarise the Construction Traffic Management Plan. Construction traffic matters have not been raised in any material way by submitters, and Wellington City Council (WCC) accepts that the construction planning and methodology can be properly handled by management plans that will be subject to consent conditions and WCC approval. I agree.
7. Since the applications were lodged, I have been directly responsible for subsequent further assessments, analyses and reporting. I:
 - met with Body Corporate No 309984 representatives of Shed 21 on 26 November 2014;
 - met with representatives of the NZ Police (Maritime Unit) on 9 February 2015;
 - met with WCC on 10 February 2015, regarding the section 92 request dated 5 February 2015;
 - assisted with further development of the designs;
 - presented a full response to WCC's section 92 request on 27 February 2015;
 - prepared a response dated 12 March 2015 to WCC's further section 92 request of 10 March 2015;
 - provided a further response on 13 March 2015 to additional traffic matters raised by WCC on 4 March 2015; and
 - provided a supplementary response dated 24 March 2015 to further traffic clarifications sought by WCC.
8. As such, I have had full involvement since the applications were lodged.
9. I have read in full all the submissions received in response to the public notification of the applications, and also WCC's section 87F report, both of which I address later in my evidence.

SCOPE OF EVIDENCE

- 10.** I have been asked by the Applicants to present my views and findings in respect of the transportation-related features and outcomes of the proposed redevelopment of Sites 8, 9 and 10.
- 11.** I have structured my evidence as follows, to:
- summarise the key assessment areas and findings of the September 2014 Transportation Assessment Report;
 - describe the design changes made to the development since the applications were lodged;
 - draw from the Wellington Waterfront Framework;
 - detail the existing level and patterns of vehicle, pedestrian and cycle activity;
 - comment on the WCC section 87F report;
 - provide sensitivity testing of the new intersection of Whitmore Plaza with the waterfront arterial, in the manner sought by WCC; and
 - respond to the submissions received.
- 12.** I then present my final conclusions. By way of summary, I confirm there are no further matters raised by WCC or the submitters that cause me to revisit the transportation findings and conclusions. Moreover, the design changes that have been made through the intervening months since the applications were lodged and which now present the updated position, have provided improved mitigation of the issues identified.

THE APPLICATION REPORT

- 13.** In order to provide context for the further design development and assessment undertaken since the applications were lodged, and for my response to submissions set out later in my evidence, it is helpful to summarise the key areas and findings of the September 2014 Transportation Assessment Report. I do so as follows.

Existing Transport Environment (Chapters 2 and 3)

- 14.** The application sites adjoin the waterfront arterial of Waterloo Quay and Customhouse Quay, from which vehicle access to and from the waterfront is provided predominantly via the Whitmore Street intersection, and also the Bunny Street intersection to the north and the Brandon Street intersection to the south. These existing accesses, related easements and other restrictions on direct property access mean that vehicle traffic cannot be excluded from the waterfront.
- 15.** Other additional pedestrian only connections to and from the waterfront are also available.
- 16.** The application sites (8, 9 and 10) are currently used for surface parking and a motorhome park.
- 17.** The sites are in close proximity to the Wellington Railway Station and the Lambton bus interchange, and therefore very well located with respect to local and regional public transport connections, which provide an attractive alternative to travel by car.
- 18.** The waterfront is an area that is well frequented by pedestrians and cyclists on both weekdays and weekends. Some areas are shared with vehicles; others like the harbourside promenade are for the exclusive use of non-motorised users.

The Proposed Development (Chapter 4)

- 19.** Particular traffic-related features of the development include:
 - formalising the laneway between Bunny Street and Whitmore Street, and southwards to tie-in with the existing Kumutoto laneway adjacent to the Meridian Building;
 - improvements to the Whitmore Street gates, through the removal of surplus exit lanes, an improved alignment and better pedestrian facilities;
 - removal of all surface level parking from Site 8; and
 - conversion of Site 9 to predominantly open space, with some parking retained temporarily until the site is fully developed in the future.

- 20.** The design approach is to achieve a 'shared space' environment that replicates the qualities of Kumutoto South.
- 21.** The laneway is designed to support two-way traffic movement, acknowledging that a portion of laneway extends across adjacent CentrePort land. Should CentrePort require the land in the future, the lane will convert to one-way (southbound) in the length between the north end of Shed 21 and the Whitmore Plaza, in the manner described in the applications. The logic for this direction stems from the existing access arrangements, where the Bunny Street intersection is configured to provide for all vehicle turns but whereas right turns into Whitmore Plaza are banned. While the Bunny Street and Whitmore Street intersections will remain open for two-way traffic in this scenario, conversion of the laneway from two-way to one-way will result in the following changes:
- Site 10 and Shed 21 origin traffic will exit via Whitmore Street;
 - Site 10 and Shed 21 destination traffic will enter via Bunny Street; and
 - northbound through-movement will not be permitted.
- 22.** A basement carpark is proposed, beneath the new building on Site 10, for authorised use by the building tenants, with access via Woolstore Plaza. The carpark will not provide for casual public users.

Parking (Chapter 5)

- 23.** The basement carpark was previously designed to provide 66 spaces, with six surface spaces on the laneway adjacent the new building. The latest design updates provide for a 62 space basement carpark and three surface spaces.
- 24.** The proposal meets the District Plan provisions for parking, with less than one space per 100m² gross floor area. Less than 70 spaces are provided overall.
- 25.** The reduced carpark design for Site 9 provides 18 spaces.
- 26.** The existing level of surface parking within the North Kumutoto Precinct will reduce in response to the development, presenting a reduction in vehicle traffic demands for the area.

27. While beyond the current applications, it is relevant that the existing motorhome park is proposed to shift into the area of commuter parking on CentrePort land opposite Shed 21, and will itself lead to further parking reductions and reduced vehicle demands.
28. The basement carpark will incorporate a secure room for cycle parking.

Access (Chapter 6)

29. Vehicle (and non-vehicle) access will continue to be provided via the Whitmore Street and Bunny Street intersections. No new accesses or intersections are proposed.
30. There is no proposal to alter the Bunny Street intersection, in the context of either a two-way or a one-way laneway scenario.
31. The existing scale of the Whitmore Street intersection is significant, and was initially designed and constructed in 1994 to support the expansive scale of carparking, and related significant traffic demands, that previously characterised this part of the waterfront. These previous needs no longer exist, and a reduced intersection is proposed, commensurate with the outcomes sought by the Waterfront Framework.
32. Analysis of the reduced intersection design for Whitmore Street shows it can be expected to perform with satisfactory levels of service and queuing for the new two-lane exit, under both the two-way and one-way laneway scenarios. In the latter instance, in the event CentrePort required its portion of land in the future, the resulting traffic changes would be modest as I have described at paragraph 21.
33. Access to the basement carpark is proposed via Woolstore Plaza, with inbound and outbound movements on the carpark ramp controlled by traffic signals and a security roller shutter.

Servicing (Chapter 7)

34. One loading bay is proposed within the new building, accessed from the laneway.

35. The loading bay design is not able to meet the full (4.6m) minimum height clearance set out by the District Plan. Supporting external loading provisions within the laneway have been added since the applications were lodged.
36. The internal loading bay and kerbside loading will provide shared servicing for all building tenants.
37. A Servicing Management Plan, to be prepared prior to building occupation, will detail the servicing arrangements.
38. The Transportation Assessment Report concludes that the proposed development will enable the poorly-defined spaces to be updated in a way that has less parking and less traffic, to provide a clearer and safer 'shared space' environment for all modes, with priority afforded to pedestrians and cyclists, and including a better Whitmore Street intersection.
39. The changes accord well with the guidelines and outcomes sought by the Waterfront Framework, which I discuss from a transportation perspective at paragraphs 42 to 45 of my evidence.

POST-APPLICATION DESIGN CHANGES

40. In the period to the end of March 2015 and through the reporting I summarised earlier in my evidence at paragraph 7, significant design revisions have emerged that I believe have contributed well to achieving better overall traffic outcomes. These include:
 - laneway design revisions, as more fully described by Mr Males;
 - improvements to the Whitmore Street intersection, including a realigned and widened pedestrian crossing across Waterloo Quay, and now a pedestrian crossing across the access (in response to an accepted draft condition of consent);
 - updated traffic analysis of the Whitmore Street intersection, confirming the proposed form and reduced arrangements of the entry and exit lanes, and as further confirmed later in my evidence;
 - intersection design revisions that confirm safe and convenient tracking for service vehicles and fire appliances;

- a fully developed design of the ramp exit from the basement carpark, presenting a safer interface with Woolstore Plaza;
 - changes to the design of the internal loading bay that provide for improved access and egress to and from the laneway; and
 - addition of kerbside loading provisions within the laneway.
41. I do not intend to repeat the full detail of these improvements, but rather rely on the material, plans and drawings presented in response to the further information sought by WCC.

THE WATERFRONT FRAMEWORK

42. The Wellington Waterfront Framework (2001) is the guiding policy for waterfront development.
43. It is framed by a series of themes and principles which, from a transportation perspective, provide for surface parking to be progressively removed and for priority to be afforded to non-motorised users.
44. Within the North Queens Wharf area that encompasses Sites 8, 9 and 10, the Framework encourages:
- buildings to be developed to include a sheltered pedestrian route;
 - underground parking;
 - a pedestrians-first outcome;
 - vehicle access for the purpose of accessing parking areas and for servicing; and
 - enhancement of pedestrian crossing points across the Quays.
45. All of these preferred outcomes are achieved by the proposed building and open space designs.

VEHICLE, PEDESTRIAN and CYCLE ACTIVITY

46. Further to the data that informed the September 2014 Transportation Assessment Report, and to assist in providing an updated understanding the current vehicle, cyclist and pedestrian use of the existing lane on the harbourside of the site, and its connections to the waterfront arterial, I arranged

for a series of counts to be undertaken on a fine summer Saturday and a fine summer Wednesday, as follows:

- Saturday 21 February 2015
10.00am to 2.00pm (**SAT**)
- Wednesday 25 February 2015
7.00am to 9.00am (**AM**)
11.00am to 2.00pm (**IP**)
4.00pm to 6.00pm (**PM**).

47. The counts were undertaken at seven locations along Kumutoto Lane, extending between Bunny Street in the north and the TSB Bank Arena in the south.
48. **Figures 1, 2, 3 and 4** attached to my evidence provide a mapped summary of the recorded count information for the respective peak hours within each period surveyed, with the thickness of the lines scale to represent the volume of vehicles (coloured blue) and the combined volume of pedestrians and cyclists (coloured green).
49. As a further summary, I include a table below that reports the volumes at three of the seven locations surveyed, to provide a simplified numerical comparison of volumes in the northern and southern sections of the laneway.

Location	Vehicles per hour				Pedestrians and Cyclist per hour			
	SAT	AM	IP	PM	SAT	AM	IP	PM
Adjacent to Site	23	44	27	77	185	665	550	733
South of Whitmore	65	134	68	150	87	167	110	204
Adjacent to Meridian	33	92	40	102	164	507	323	489

50. From these details, and the figures, it will be clear that there is a dominant level of pedestrian and cycle activity throughout, with vehicle flows adjacent to the site (between Bunny Street and Whitmore Street) being smaller than elsewhere.
51. This is not surprising, given the use of Kumutoto Lane (south) to access the underground carpark beneath the TSB Bank Arena, but does suggest that greater vehicle volumes do not detract from the function and safety of the shared space south of the Whitmore Plaza.

52. The count also shows more intense use of the lane and adjacent paths by pedestrians and cyclists on weekdays, compared to weekends. This is more so in the north and south rather than in the central length of the lane, where the shared path immediately adjacent the harbour edge is more popular.
53. As I explain later in my evidence, the existing vehicle volumes using the waterfront lane north of Whitmore Plaza will reduce following the removal of carparking that will occur as part of the proposed development, even allowing for the new 62 space basement carpark. This will afford an even greater balance towards non-motorised users through the area, supported by a purposeful design that gives further weight to ensuring pedestrian priority.
54. Nothing new has emerged from this further detailed mapping and assessment of vehicle, pedestrian and cyclist flows and patterns that raises issues for me that are not already addressed by the proposed designs.

SECTION 87F REPORT

55. I have read the section 87F report prepared by WCC. Paragraphs 84 through 102 document the transportation and parking effects, and draw from Annexure 4 (traffic) prepared by Mr Soon Teck Kong, Council's Transport Network Manager, and Annexure 5 (vehicle access and manoeuvring) prepared by Council's Vehicle Access Engineer, Ms Patricia Wood.
56. The summary of transportation and parking effects presented at paragraph 102 of the report is relevant. It reads as follows:

102. Based on the information provided by TDG, and the assessment of Mr Teck Kong and Ms Wood, I consider that the effects of the proposal in terms of transportation and parking effects will be minor. The proposal will reduce the overall number of carparks provided within the project area; and will provide a number of safe and efficient routes for pedestrian and cyclists. I am satisfied that the shared spaces will not compromise the safety of users through the implementation of appropriate consent conditions.

57. Informing this summary, I next refer to the conclusions drawn by Mr Soon Teck Kong through paragraphs 58 to 76 of my evidence, which themselves present a useful summary of the transportation aspects of the proposal.

Revised Access onto Customhouse Quay

(refer paragraphs 10 to 14 of Mr Soon Teck Kong's Report)

58. The revised exit lanes (reduced from four lanes to two) will accommodate the turning space requirements for medium rigid service vehicles and emergency vehicles.
59. A new signalised pedestrian crossing should be provided across the revised entry and exit.
60. The detailed design of the whole intersection will be subject to Council's approval.

Trip Generation

(refer paragraphs 15 to 28 of Mr Soon Teck Kong's Report)

61. The number of vehicle trips generated from the proposal will change the existing situation due to the reduction of surface parking and from the activities of the commercial building resulting from workers arriving and departing their workplace.
62. Based on modelling using existing traffic volumes during peak periods, the revised entry and exit will not affect the function of the arterial and principal roads.
63. A sensitivity analysis should be undertaken of the performance of the revised entry and exit to determine the requirement for an additional exit lane at Whitmore Street, which could be acceptable in the final detailed design.

Safety

(refer paragraphs 29 to 34 of Mr Soon Teck Kong's Report)

64. The proposal includes several new pedestrian facilities which will benefit pedestrian safety.

- 65. Kumutoto Laneway is designed as an extension of the internal route adjacent to Shed 11 and Shed 13.
- 66. Detailed design drawings and specifications of the proposed raised platforms and traffic calming measures are required for Council approval.

Basement Parking – Access and Layout

(refer paragraphs 35 to 37 of Mr Soon Teck Kong’s Report)

- 67. The design of the access and egress from the basement will ensure pedestrian safety is not compromised.
- 68. Safety measures include pedestrian visibility splays, a flat (1:20) grade at the top of the ramp with a judder bar, an external ‘car coming’ sign, traffic signal operation, and a roller door that acts as a control point.
- 69. The basement parking layout meets the District Plan requirements of compliance with AS/NZS2890.1:2004.

At-Grade Parking – Access and Layout

(refer paragraphs 38 and 39 of Mr Soon Teck Kong’s Report)

- 70. The parking arrangement on Site 9 meets the District Plan requirements.
- 71. The three parallel spaces along the laneway adjacent Site 10 also comply with District Plan requirements.

Servicing

(refer paragraphs 40 to 43 of Mr Soon Teck Kong’s Report)

- 72. The internal service dock will accommodate vans and small rigid vehicles.
- 73. Larger service vehicles will be accommodated in a kerbside loading zone along the laneway.
- 74. A Servicing Management Plan is to be required.

**Construction Traffic Management Plan
(refer paragraph 44 of Mr Soon Teck Kong's Report)**

- 75. The proposed CTMP is acceptable in principle.
- 76. A final CTMP is to be submitted to the Council for approval prior to construction.

RECOMMENDED CONDITIONS OF CONSENT

- 77. Mr Soon Teck Kong then recommends a series of suggested consent conditions at paragraph 47 of this report.
- 78. All conditions of consent suggested by Mr Soon Teck Kong have been carried forward to Annexure 13 of WCC's section 87F report. I report each in the table below, together with reference to Mr Soon Teck Kong's suggestions, and my comment.

[continued next page]

Recommended Condition	Reference to Mr Soon Teck Kong's report	Comment
Application One		
(5) A detailed Construction Traffic Management Plan (CTMP) must be prepared, submitted to and approved by the CMO prior to the commencement of all work on site. The CTMP must establish acceptable performance standards regarding public safety including methods to avoid, remedy or mitigate adverse construction traffic effects during the development of the site. The CTMP must include....	Paragraph 47.4	Agreed
(28) The consent holder must submit to, and have approved by the CMO a pre-construction 'detailed design safety audit' prior to construction commencing. This safety audit must outline how vehicles entering and exiting the basement carpark will be controlled (including any judder bar(s) or control gate(s) or any other physical means of preventing vehicles from entering or exiting the basement carpark). Details of vehicle waiting areas (internally and externally) must also be supplied. This audit must specify specific consideration for the access from the basement parking access ramp, cycle access to, from and within the basement carpark , pedestrian safety within Woolstore Plaza and pedestrian safety for service vehicles entering and exiting the internal loading bay.	Paragraph 47.5	Agreed, with the addition I have included in bold
(29) The consent holder must undertake a post-construction 'safety audit' and submit the results of this audit to the CMO within 4 months of the operation of the building's basement carpark. This safety audit must assess vehicular, cyclists and pedestrian safety in relation to access to and from the basement area; the operation of the safe operation of the vehicle access ramp; vehicular and pedestrian safety within Woolstore Plaza; and, pedestrian safety for service vehicles entering and exiting the internal loading bay.	Paragraph 47.6	Agreed
(30) Prior to any deliveries occurring a 'Servicing Management Plan' (SMP) must be submitted to the CMO. The SMP must appropriately outline how servicing and deliveries (including rubbish removal) will be managed to minimise disruption on the local roading network (including the local pedestrian environment). The SMP must include....	Paragraph 47.7	Agreed
(35) Publicly accessible routes at ground level must be provided at all times along and through the building. Specifically, this includes the 'Waterloo Colonnade', the 'Harbour Wharf Link' and all external areas underneath any of the building overhangs.	Paragraph 47.8	Agreed

Application Three		
(4) A detailed Construction Management Plan (CMP) must be prepared, submitted to and approved by the CMO prior to the commencement of all work on site. The CMP must establish acceptable performance standards regarding public safety and amenity including methods to avoid, remedy or mitigate adverse construction effects. The CMP must include.....	Paragraph 47.4	Agreed
(14) Prior to construction commencing, the consent holder must submit to, and have approved by, the CMO final design details for Kumutoto Lane. This must provide final details and specifications (including dimensions, heights and locations) of the raised platforms, the proposed finish, and other traffic calming measures within the laneway and any other associated measures to minimise confusion between pedestrians and vehicular traffic. Specific consideration must be given to manoeuvring for medium rigid vehicles in and out of the internal loading dock of the building on Site 10 (including and mountable kerbs).	Paragraphs 47.1 and 47.9	Agreed
(16) The consent holder must submit to the CMO a post construction safety audit within 4 months after completion of Kumutoto Lane. This audit must assess the safe operation of vehicular access within the new section(s) of Kumutoto Lane and must consider vehicular and pedestrian access to all properties with access to this portion of Kumutoto Lane; and, must have specific regard to pedestrian safety of shared spaces within Kumutoto Lane. The audit must consider the location of street furniture or other structures in relation to the safe operation of Kumutoto Lane.	Paragraph 47.6	Agreed
(17) A new signalised pedestrian facility must be installed on the eastern side of Customhouse Quay to control the safe movement of pedestrians across the revised entry and exit. Prior to its installation, the consent holder must submit to the CMO detailed designs of the locations of pedestrians call buttons, signal displays and the traffic signal arrangement; and, details of the lane widths (including dimensions).	Paragraph 47.2	Agreed
(18) Prior to construction commencing, the consent holder must submit to, and have approved by, the CMO detailed traffic signal designs for the revised entry and exit at the intersection of Customhouse Quay/Whitmore Street. Consideration must also be given to potential impacts of the pedestrian shelter (near Site 9) on the visibility of any existing traffic signals/signs.	Paragraph 47.3	Agreed

79. Each of the above traffic-related conditions suggested by Mr Soon Teck Kong and brought forward as recommended conditions of consent in the section 87F

report are acceptable to the Applicants, in a way that I believe properly confirms the intended outcomes.

80. As also included above, I have suggested an addition to Condition (28) of Application One with respect to including cycle access as part of the detailed design safety, which I believe is an important safety consideration of the detailed design, and since assessment of cycle safety is included in the post-construction safety audit required by Condition (29).

81. At paragraphs 48 and 49, Mr Soon Teck Kong then seeks further information, in respect of the Whitmore Street intersection, as follows:

48. The applicant must conduct a sensitivity analysis on the performance of the revised entry and exit to ensure that the range of trips generated (based on the applicant and NZTA research report 453) can be satisfactorily handled without impacting on the existing intersection and the requirement for an additional exit lane, increasing from 2 to 3 exit lanes to be allowed in the final detailed design if necessary.

49. Confirmation is needed that the tracking path design as shown in TDG 8 DWG No: 12834W1A dated 25/02/2015 is acceptable to the NZ Fire Service to ensure the Fire Service future requirements are catered for.

82. I address the matter of sensitivity testing in the next section of my evidence.

83. Regarding the second matter of access for fire appliances, I addressed this in my response which formed part of the response to WCC of 27 February 2015, in which I noted particularly that the traffic designs have been informed by vehicle tracking paths of an 8m truck, which itself is suitably representative of:

- a standard 7.7m Type 2 Medium Pumper fire appliance; and
- a 8.0m Type 3 Heavy Pumper fire appliance.

84. I also noted that with the proposed laneway designed with the same form and scale as the existing Kumutoto South laneway, fire appliances will be able to use the new northern laneway in the same manner.

SENSITIVITY TESTING

- 85.** As explained variously in the application, the section 92 responses and the section 87F report, the overall development will lead to further reductions in parking on this part of the waterfront, in line with the outcomes sought by the Wellington Waterfront Framework, even allowing for the new basement carpark with 62 spaces.
- 86.** Relocation of the motorhome park to CentrePort land on the opposite side of the laneway to Shed 21, as currently planned and subject to separate resource consent approvals, will lead to even more carparking reductions.
- 87.** Each of the changes will give rise to fewer vehicles using the waterfront and a predominant priority afforded to pedestrians and cyclists, again as intended by the Wellington Waterfront Framework.
- 88.** Despite these reduced parking and traffic numbers, the traffic analysis undertaken of the proposed new intersection with the Whitmore Plaza (with exit lanes from the waterfront reduced from four to two) has been based on existing flows in order to provide a like-for-like comparison of the performance anticipated with the reduced lanes. The most recent analysis was presented in the further response to WCC dated 13 March 2015.
- 89.** I acknowledge that it is difficult to be precise in determining the likely volumes of vehicles that will use this part of the waterfront in the future. I also acknowledge the comments made by Mr Soon Teck Kong in the section 87F report to the effect that other drop-offs and pick-ups may occur in association with the new building, indeed as occurs in a modest way in conjunction with the nearby Meridian Building.
- 90.** There will be overall losses and gains that, in my view, will lead to fewer vehicle movements than existing. That said, and following WCC's suggestion, I have carried out further analysis of the intersection to determine the extent of performance changes which might occur from a 30% uplift in entering and exiting volumes. For this purpose, I have used the same intersection models and parameters that informed my 13 March 2015 response, with modified volumes.

- 91.** I have chosen 30% because it translates to the addition of approximately 60 vehicle movements an hour at the intersection (or two movements each signal cycle), and could represent a theoretical upper bound to the kind of drop-off activity referred to by Mr Soon Teck Kong.
- 92.** I note that Mr Soon Teck Kong refers to an extreme situation at paragraph 18 of his report where he draws from the industry-recognised Research Report 453 and applies generic rates in their entirety to the floor area of the new building to estimate traffic generation, but then accepts at paragraph 19 that the close proximity of public transport will influence trip making.
- 93.** More importantly in my view, what he does not say is that there will be no parking provided (except the 62 space basement carpark) to support the parking demands that would otherwise exist for this kind of development in the likes of a suburban location.
- 94.** This has a much greater influence on trip making to the immediate area, much in the same way as occurs with the nearby Meridian Building, other developments on the waterfront, and indeed most buildings throughout the central city, where staff and customers rely on other modes of transport (walking, cycling and public transport), and public parking provided throughout and adjacent to the central city.
- 95.** For these reasons, it is not in my view appropriate to consider trip making in the manner suggested by Mr Soon Teck Kong. Rather, the assessment I have presented gives a more realistic expectation of the likely future situation that will occur in practice, much as it has for the Meridian Building which, as I have described, is a good example of what will occur in practice.
- 96.** Based on the 30% added traffic scenario, I present the following summary of results for each of three identified traffic peaks, for the two-way laneway option.

Time Period	Whitmore Plaza Queue (vehicles)					
	Existing Configuration		Future Configuration		Future Configuration with 30% Added Traffic	
	Avg	95%ile*	Avg	95%ile*	Avg	95%ile
AM Peak	0.4	0.7	0.8	1.4	1.1	1.8
PM Peak	1.6	2.5	2.6	4.2	3.5	5.7
Sat Peak	0.7	1.1	1.4	2.2	1.7	2.8

*as presented in 13 March 2015 response.

97. I have identified average (avg) and 95th percentile (95%ile) queues in the above table as the measures of comparison, with average queues representing those that will generally be observed and 95th percentile queues being those that will occur at the busiest time in the selected peaks. Shorter queues will be present at other non-peak times when traffic flows are smaller.
98. As recorded, the queues will remain short, even with 30% added traffic. Only at the busiest time in the PM peak, which itself is the busiest traffic period of the week, are queues shown to extend to five to six vehicles. Even then, they remain able to be accommodated by two lanes, as proposed.
99. I remain satisfied that the reconfigured intersection, as proposed, will perform well, with sensitivity testing demonstrating its resilience to respond to increased traffic volumes. I do not believe it is necessary for a third exit lane to be added to the intersection, as suggested by WCC.

SUBMISSIONS

100. I have read the submissions received and, as noted earlier at paragraph 7 of my evidence, had the prior opportunity of meeting with Body Corporate No 309984 representatives of Shed 21 and with the NZ Police (Maritime Unit).
101. A number of submissions raise transportation matters that can be broadly grouped as relating to:
- vehicle access;
 - shared space; and
 - parking.
102. I address these matters in turn next, but before doing so, respond to comments made in relation to the motorhome park by Submitter # 10 (Waterfront Watch).

103. While acknowledging that the new motorhome park is beyond the scope of these applications, the submitter suggests that its access / egress points should form part of the current applications.

104. I have been involved in some early planning and design for the proposed new motorhome park on CentrePort land opposite Shed 21 and can confirm an intention that all access and egress will be provided in the same manner as for the existing commuter carpark, at the northern end of the laneway. The designs do not propose any supplementary access or egress points along the laneway. This is, in my view, both prudent and practical, and will enable the laneway to function without interference from traffic turning to and from this adjacent area of CentrePort land.

Vehicle Access

105. I summarise the comments made by submitters in respect of vehicle access as follows:

Submitter	Comment
#2 (<i>Rosamund Averton</i>)	Oppose provision of any additional vehicle access including associated parking and servicing vehicles due to the detrimental effects to pedestrians.
#9 (<i>Alexander Gough</i>)	If access is essential for deliveries (e.g. to the police boat operation) consideration should be given to disallowing vehicle access during busy pedestrian times.
#10 (<i>Waterfront Watch</i>)	Access to the basement carpark and the position of the truck loading bay raise serious traffic issues. Two-way vehicle route on the seaward side of the Site 10 building is 'an accident waiting to happen'. Significant pinch point at the historic Ferry Building. No provision for maintenance (including height access equipment e.g. cherry picker) or emergency vehicles.
#20 (<i>Body Corporate</i>) plus #19, 21, 22, 23, 24, 43 (<i>individual apartment owners</i>)	Objection to the entry/exit to underground carpark due to the breach of the registered right of way easement and the negative effect it would have on the primary entrance to Shed 21.
#35 (<i>New Zealand Police</i>)	The Old Ferry Building provides secure vehicle access through gates to the service jetty which is primarily used to berth two vessels. Access needs to remain to the Old Ferry Building to ensure a fuel tanker can access the vessels for refuelling, this occurs immediately to the south of the building. Vehicle access for heavy trucks is needed to load and unload gear onto the service jetty. It is also noted the turning circle into the vehicle gates on service jetty will be tight.

Submitter	Comment
#36 (Wellington Civic Trust)	The Trust is concerned at the continued proposal to allow traffic to traverse the seaward side of the proposed building on Site 10. The Trust strongly advocates for the truck-bay to be relocated to the basement, and for traffic to stop at the northern boundary of the site – i.e. enabling access to and from the basement car park only. There appears to be little need and no justification for traffic along the 'front' of the building. Traffic entering through the Whitmore Street gates should only be able to turn right, as the bulk of it does at present.
#41 (Living Streets Aotearoa)	Vehicle access to waterfront buildings should be from the roadway in as direct manner as possible and not by travelling along land on the waterfront. Living Streets would not want to see the waterfront used as a new vehicle route along the waterfront as it is tending towards now.

- 106.** Several submitters make mention of vehicle activity on the waterfront and the mixing of vehicles with other non-motorised users.
- 107.** As assessed, and as I have explained, the development will not result in additional traffic on the waterfront and indeed the vehicles that will be present will be managed within a defined space and design that extends the existing qualities of the Kumutoto South laneway and presents a shared space environment that is well established throughout the Wellington Waterfront.
- 108.** There are numerous locations where vehicles and non-motorised users co-exist and share the same space, without presenting safety concerns.
- 109.** For the most part, and as explained more fully by Mr Males, the locations use variations in paving and street furniture, rather than traditional traffic signs and markings, to provide sufficient cues to pedestrians and drivers, while maintaining a predominantly pedestrian environment. Vehicle volumes will be low, and vehicle speeds will be slow, enabling priority to be shared and users to make way for one another.
- 110.** There is not in my view a need to further restrict or prohibit vehicles on this part of the waterfront.
- 111.** As occurs elsewhere on the waterfront, access is required for deliveries and servicing, which will be the subject of a separate Servicing Management Plan to be prepared as an accepted condition of consent and to be approved by WCC. Other such Plans already inform operations elsewhere on the waterfront and present an appropriate tool for managing such essential

vehicles. As an example, I am aware that rubbish is collected from other waterfront buildings in the early morning hours.

- 112.** As I explained earlier at paragraph 40 of my evidence, and as also discussed by Mr Males, access in the area of Woolstore Plaza, to and from the basement carpark, has been the subject of significant design attention since the applications were lodged. The design as now proposed achieves better intervisibility and sightlines between drivers and other users, and introduces physical controls, while still affording priority to non-vehicle users.
- 113.** It is not correct to assume that there will be a constant stream of vehicle comings and goings at the basement carpark. As I set out and described in the supplementary traffic response to WCC of 24 March 2015, movements will be very tidal, with majority inbound movements on weekday mornings and majority outbound movements at the end of the day.
- 114.** I estimated that there would, on average, be one vehicle movement every two to three minutes at the busiest arrival and departure times at the start and end of a working day, with much less frequency at other times and on weekends. The carpark will not be a high turnover public carpark, and the level of vehicle versus pedestrian exposure will in my view not be of a level that would present safety concerns.
- 115.** It is relevant for me to also describe the traffic-related considerations that have been given to access for the basement carpark from the east side. At the north end of the building, where the basement ramp is proposed, vehicle access will be achieved to and from the shared space area of Woolstore Plaza. By comparison, access on the east side would be achieved directly across the footpath frontage of the building where pedestrians will be afforded a greater level of uninterrupted priority. In my view, this distinction is very relevant to the choice of access at the north end of the building, where it is separated from the heavier public interface on the east side.
- 116.** The submission from the NZ Police refers to matters of vessel refuelling, truck access and police vehicle parking. Each of these matters were discussed at a meeting with the NZ Police on 9 February 2015 that I attended, with design resolution reached in the manner confirmed in writing by a Willis Bond & Co letter of 22 June 2015 presented with the evidence of Mr McGuinness.

Shared Space

117. My summary of the shared space matters raised by submitters is as follows:

Submitter	Comment
#9 (<i>Alexander Gough</i>)	Mix of vehicles and pedestrians on waterfront side of development should not be permitted. Application could be approved once pedestrian provisions are improved and no longer on the water facing side of the development. Impose a condition of limited-hours for vehicle access to the site for essential deliveries and maintenance.
#10 (<i>Waterfront Watch</i>)	Principle that pedestrians come first. Whitmore Plaza is “a muddle of people and vehicles”.
#12 (<i>Philippa Boardman</i>)	More traffic is therefore a hazard to pedestrians, especially children.
#15 (<i>Rachel Underwood</i>)	The increased traffic of cars, service and commercial vehicles does not support the established principle of ‘pedestrians first’.
#20 (<i>Body Corporate</i>) plus #19, 21, 22, 23, 24, 43 (<i>individual apartment owners</i>)	Contrary to good traffic management practice to have a number of interactions between trucks, cars, cyclists and pedestrians.
#27 (<i>Architectural Centre</i>)	Whitmore Plaza is a large barren circulation space, scaled to the vehicular needs of the car.
#33 (<i>David Stevens</i>)	The mixture of vehicular traffic, pedestrians and cyclists appears to be a recipe for confusion and worse. If the site 10 building is given the go-ahead, the Whitmore Street entrance to the waterfront should be restricted to pedestrians and cyclists only.
#41 (<i>Living Streets Aotearoa</i>)	Disappointed that no pedestrian assessment has been undertaken as this is a key pedestrian route and walking space.

118. Some of these matters raised overlap with the comments I have provided above in respect of vehicle access.

119. Turning specifically to the matter of shared space, and in addition to the initial discussion I presented above at paragraphs 106 through 110, it is relevant for me to set out and highlight the transportation principles relating to shared space design, relevant for this waterfront location, and which should be taken together with the fuller design descriptions presented by Mr Males.

120. Again, the concept of different users sharing the same space is not new. It is well developed internationally, and indeed has been progressively introduced and extended across the Wellington Waterfront, to good effect in my opinion.

121. The typical operational characteristics of shared spaces include:

- pedestrians have priority;

- drivers are presented with physical and visual cues to drive slow;
- standard traffic signage and road marking is minimised;
- vehicular through-traffic is discouraged; and
- access points are clearly defined.

122. Consistency of design and outcomes is important in ensuring shared spaces are legible and safe for all users. It is for this reason that the design of the proposed laneway repeats the form, style and function of the existing Kumutoto Laneway (south). The aim is an overall common design that users interpret as a shared space and understand what is expected of them.

123. In the way planned, I am of the view that the designs will remove the existing vehicular dominance, volumes and speeds and present a self-explaining and self-regulating environment. Surface treatments, traffic calming measures, street furniture and the narrowed gateway treatment at the Whitmore Street gates all point to a new and superior environment where drivers will not have the impression they have priority.

124. While acknowledging that the designs do recognise the need to provide some vehicle access, including to the basement carpark, for delivering purposes and for the NZ Police (Maritime Unit), I note again that there will not be more traffic. I also observe that the success of the area will in part arise from reduced interactions with fewer vehicle movements and from the spaces being better defined, functionally and operationally.

125. In concluding this section of my evidence relating to shared spaces, I note that Submitter #41 (Living Streets Aotearoa) indicates that no pedestrian assessment had been reported. While a specific pedestrian assessment was not submitted with the applications, pedestrians (and cyclists) have been assessed throughout, and I point to the earlier sections of my evidence at paragraphs 46 through 54 in which I describe the volumes and interactions between vehicles, cyclists and pedestrians, which inform the shared space design.

Parking

126. The matter of carparking is afforded specific mention by three submitters, as follows:

Submitter	Comment
#9 (Alexander Gough)	Parking should not be permitted on the waterfront side of the development.
#27 (Architectural Centre)	Carparking in the area may not be necessary given the building's close proximity to public transport (train and bus) terminals.
#35 (New Zealand Police)	Parking for heavy trucks is needed to load and unload gear onto the service jetty. There is also a requirement for two 'Police only' carparks to be provided.

127. I along with other witnesses have already addressed the NZ Police requirements.

128. The two other submitters point to suggestions of no parking. As is well understood, the proposal delivers reduced surface parking and a new underground carpark, in the manner sought by the Wellington Waterfront Framework. There is not in my view a need to eliminate all parking. It has its purpose, and the key is to ensure that the associated access and movements of vehicles are at a level that does not detract from the principles and delivery of the shared space.

129. I remain of the view that that will be the case.

CONCLUSIONS

130. As I have set out and described, significant design clarity and changes have been made since the application was lodged, which in my view, achieve and confirm a practical and safe traffic environment for all non-vehicle and vehicle users.

131. The changes address some of the concerns expressed by submitters, and I have responded to the further information requested by WCC.

132. There is nothing in the submissions or the section 87F report which suggests to me that there are fundamental issues that still need to be addressed or require me to reconsider or amend the traffic advice provided, designs developed and conclusions reached.

- 133.** I am satisfied that the transportation-related conclusions drawn by WCC and conditions suggested (and accepted by the Applicants) will ensure the outcomes intended.



Mark Grant Georgeson

3 July 2015

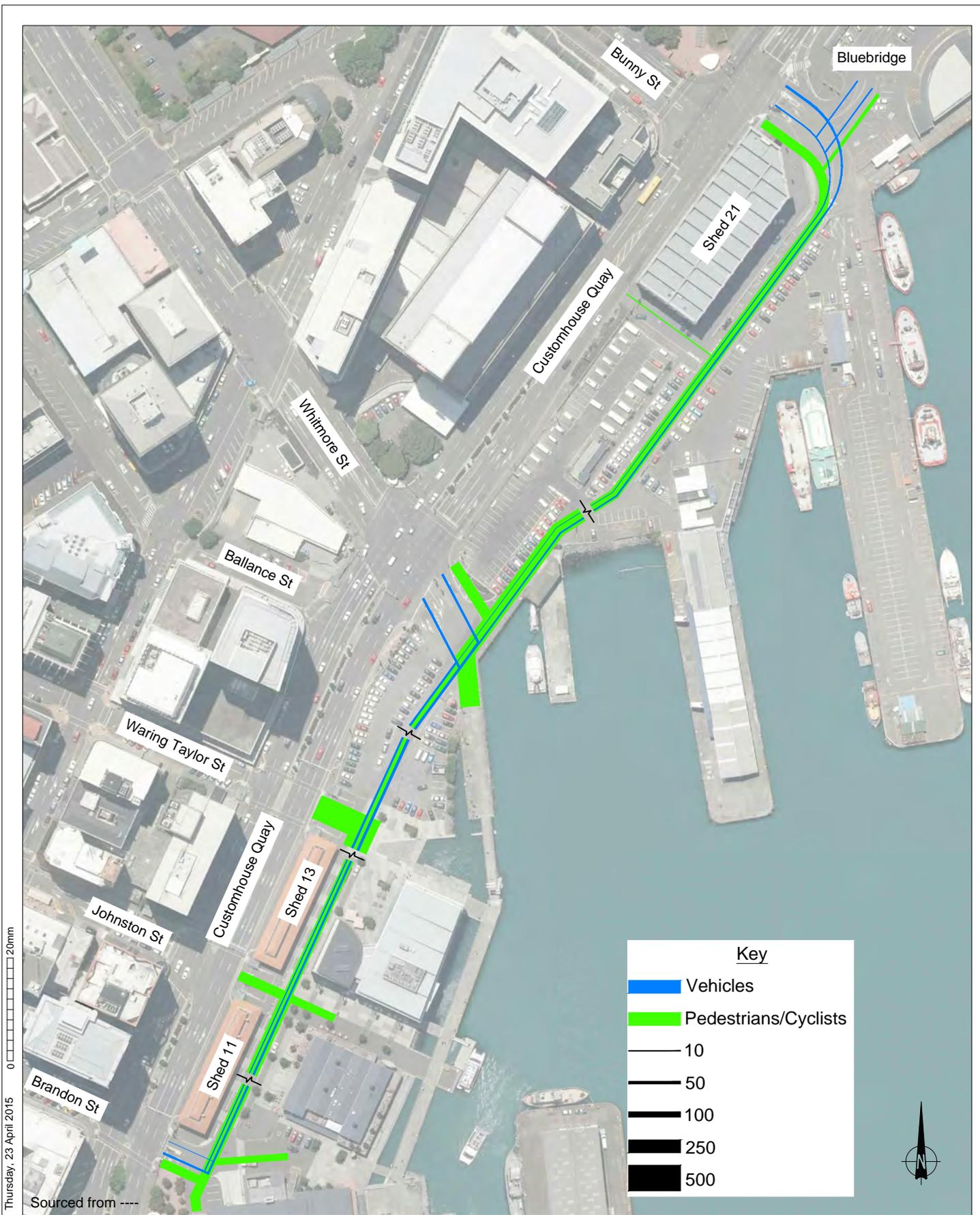
Attached

Figure 1: Vehicle, Cyclists and Pedestrian Flows – Saturday Peak Hour

Figure 2: Vehicle, Cyclists and Pedestrian Flows – Weekday AM Peak Hour

Figure 3: Vehicle, Cyclists and Pedestrian Flows – Weekday MD Peak Hour

Figure 4: Vehicle, Cyclists and Pedestrian Flows – Weekday PM Peak Hour



Wellington Waterfront
 Vehicle, Cyclists & Pedestrian Flows - Saturday Peak Hour





