Before a Board of Inquiry
Basin Bridge Proposal

Under
the Resource Management Act 1991 (the Act)

In the matter of
a Board of Inquiry appointed under section 149J of the Act to consider the New Zealand Transport Agency's notice of requirement and five resource consent applications for the Basin Bridge Proposal.

Statement of Evidence of Peter Terence McCombs for the New Zealand Transport Agency (Transportation)

Dated 25 October 2013
STATEMENT OF EVIDENCE OF PETER TERENCE MCCOMBS FOR
THE NEW ZEALAND TRANSPORT AGENCY

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1 Introduction

Qualifications and Experience

1.1 My full name is Peter Terence McCombs.

1.2 I am a Chartered Professional Engineer and hold a Bachelor of Civil Engineering degree from the University of Canterbury and a post-graduate qualification in traffic engineering and transportation planning awarded with Distinction by the University of New South Wales. I am a registered Chartered Professional Engineer.

1.3 I am a Fellow of the NZ Institution of Professional Engineers, and a Fellow of the Institute of Transportation Engineers.

1.4 My background of experience includes eleven years in traffic and transportation matters with local authorities in Christchurch and in Wellington. Since 1976 I have worked first as Principal and now as Director and Chairman in the firm of Traffic Design Group Limited practising as a traffic engineering specialist throughout all of New Zealand. In this role, I have led and worked with multidisciplinary teams in all aspects of traffic engineering and transport planning ranging across public agencies, retail and commercial developments, integrated transport studies, and regional and district centre planning. My role has particularly involved the development of strategic and policy transport measures directed at enabling both short and long term gains to be assessed and decided. I have provided expert testimony and advice on transportation related matters before many public and judicial hearings, and have been appointed to provide expert technical advice in particular major enquiries.

1.5 Through the six years to 2011, I have also held a number of senior consultant roles within the New Zealand Transport Agency, including that of Project Director where I was responsible for establishing Travel Demand Management strategies and programmes, and for all aspects of the agreed design, development, installation and commissioning of a full range of traffic management systems across all of the Auckland motorway network.

1.6 This has included leading the major ITS Auckland Comprehensive Motorway Management project involving ramp signalling, systems for real-time operational traffic management, together with all of the associated journey time and traveller information systems. In these projects I was responsible for the work of the in-house and consultant teams through all phases of delivery beginning with the
detailed investigation, planning, funding, and procurement leading to award of contracts through to the completed final system commissioning.

1.7 My evidence in this matter is given on behalf of the New Zealand Transport Agency (Transport Agency) in support of the Notice of Requirement (NoR) and the five associated applications for resource consent lodged with the Environmental Protection Authority on 17 June 2013 in relation to the construction, operation and maintenance of the Basin Bridge Project (Project).

1.8 I live nearby and am closely familiar with the area the Project relates to and have made many site visits.

Previous involvement

1.9 As set out in mine and other evidence, the matter of improving and providing for improved traffic flows around the Basin Reserve and across the southern edge of Te Aro has been the subject of consideration and scrutiny for many years.

1.10 My involvement with traffic changes in the inner city began as part of my role and responsibilities as Senior Traffic Engineer at Wellington City Council (WCC) with work on the local road connections and changes needed in association with opening of the first stages of the Wellington Urban Motorway from Ngauranga through to Aotea Quay in 1969.

1.11 I was involved with others in the original design and commissioning of the Basin Reserve conversion to one-way flow in 1971/72 together with the associated changes to all of the associated bus, cycling and pedestrian movements in the vicinity.

1.12 My involvement at Council then similarly extended to include the one-way street changes made in Thorndon and then through the inner city including Featherston Street and Lambton Quay as the motorway was then progressively completed through first to Hawkestone Street and then on to join the Terrace, Boulcott Street and Everton Terrace in 1974.

1.13 Subsequently, and then as principal consultant at Traffic Design Group Ltd, I was directly involved with commissioning of the street arrangements following the opening of the Terrace Tunnel in 1978 involving the then newly commissioned one-way arrangement of Vivian and Ghuznee Streets and their respective connections through to the Basin Reserve.
1.14 Subsequently, my firm was commissioned by Transit NZ (now the Transport Agency) to undertake the preliminary strategic studies in Te Aro that led to the staged traffic arrangements of the Inner City Bypass.

1.15 My firm has then in turn been consulted and given advice in assisting with implementation of each of the progressive series of changes made across Te Aro and in the vicinity of the Basin Reserve involving a range of investigations and upgrades extending through to the present day.

1.16 I undertook assessments, prepared reports and gave evidence to each of the series of Council and Environment Court hearings that considered and approved establishment of the Inner City Bypass through each of its various stages. Stage 1 was commissioned in 1996, and then Stage 2 in a progressive commissioning completed in March 2007.

**Code of Conduct**

1.17 I have read and am familiar with the Code of Conduct for Expert Witnesses in the current Environment Court Practice Note (2011), have complied with it, and will follow the Code when presenting evidence to the Board. I also confirm that the matters addressed in this Statement of Evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses.

1.18 I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

**Scope of Evidence**

1.19 This Statement of Evidence provides the following:

a. A summary of my evidence (**Executive Summary**);

b. My detailed review and appraisal of the project setting out the need and strategic purpose of what is proposed, the associated traffic patterns and ongoing growth, the manner in which the project is able to serve the wider community, and the region. (**Evidence**);

c. Comments on submissions lodged in relation to the Project (**Response to Submissions**); and

d. **Conclusions.**
2 Executive Summary

2.1 In this matter my evidence describes and comments on the strategic transport planning and traffic engineering issues relating to the construction, operation and maintenance of the Project.

2.2 The traffic evidence is in three parts. My evidence is focussed on the strategic need for and purpose of the project. That of my colleague, Mr Tim Kelly, is centred on assurance of the content and quality of the appraisals and assessments. The evidence of Mr David Dunlop sets out the detail and findings of the series of individual technical studies made under his direction in the course of planning and developing the project.

2.3 The Project involves the construction of a new two-lane one-way traffic bridge joining Paterson Street (downhill of the Mount Victoria Tunnel portal) through to the Buckle Street Underpass currently being built to serve westbound State Highway 1 (SH1) traffic on the northern side of the Basin Reserve. A separate pedestrian / cyclist facility is to be provided as part of the new bridge structure together with associated improvements to public transport provisions and new walking and cycling facilities.

2.4 Construction of this new bridge and its associated works will enable the major westbound SH1 traffic flows coming from the Mount Victoria Tunnel to be grade-separated from the local road network around the Basin Reserve. The proposed bridge includes a segregated walking and cycling pathway along its northern edge.

2.5 Associated traffic-related features include improvements to existing roads and intersections in the vicinity, the provision of priority bus lanes, and new walking and cycling links.

2.6 As I set out in my evidence which follows, the Transport Agency is seeking through this Project and its related works to improve the resilience, safety, efficiency and reliability of SH1 to support mobility and modes of transport choices within Wellington City, to improve operating safety to the benefit of all users, and to improve the efficiency of the road network in Wellington by separating westbound SH1 traffic from local traffic in the vicinity of the Basin Reserve roundabout.

2.7 The key gains brought by this project centre on separating east-west from north-south traffic at the Basin Reserve being a key bottleneck in the transport corridor. The need to relieve this bottleneck was particularly recognised in the course of
work to develop the Ngauranga to Airport Corridor Plan that was adopted in 2008. As is set out in the application documents, the Project enables more efficient movement and faster travel times for public transport and road traffic (including freight), improves traffic efficiency and safety, and supports what has been identified as a future WCC growth spine connecting through to Adelaide Road, Newtown and the associated suburban areas to the south.

2.8 In my view, the need served by this Project is both urgent and important. In this regard, the Project will not only remove the obvious bottleneck and deal with the traffic problems that adversely affect and disadvantage all those who pass through this area, whether in cars or on buses or by bicycle or on foot, but it will also provide for and stimulate the wider development of the adjoining areas of the city.

2.9 By contrast, any at-grade option is not capable of enabling the capacity increases and performance improvements sought for the east-west State highway movements while also enabling the considerable improvements sought for north-south public transport movements and the much better level of service for pedestrian and cycle movements as well as dealing with the adverse severance issues that currently characterise the area as a whole.

2.10 In my view, the NoR set out in these applications provides for and enables an important and much needed improvement in the transportation infrastructure serving the strategic needs of SH1 and its connection to and from the Mount Victoria Tunnel and Wellington Airport, while also delivering a significant gain for wider community needs.

3 History of the Project

Strategic Role

3.1 As will be evident, this portion of the city transportation network has long been recognised as serving strategically important needs. These arise from the combination of its position within the wider regional connection leading to and from the Mount Victoria Tunnel and the airport, its associated key connections at the southern edge of the inner city, and the need to equally provide for road and public transport routes joining the inner city through to Adelaide Road, the Regional Hospital, Newtown and beyond. All are important to the wider functioning of the regional network and the city.

3.2 Consequently, there has been a long history of studies and schemes for the improvement of traffic flows across the southern edge of Te Aro which are
usefully summarised in Volume 2 of the Assessment of Environmental Effects documentation lodged as part of the application.

Key Previous Studies

3.3 A Scoping Report produced by Opus International Consultants Ltd (Opus) in January 2010 provides a useful list of the key historical studies together with associated summaries.¹ These include:

a preparation of a Comprehensive Transportation Plan for Wellington undertaken by De Leuw Cather and Company, August 1963 and their subsequent Wellington Regional Transportation Study undertaken in 1965;

b the Wellington Urban Motorway Extension scheme prepared by the then-Ministry of Works, under consideration from the 1970’s to the mid-1990’s. This scheme provided for an extension of the motorway from the south portal of the Terrace Tunnel through to the west portal of the Mount Victoria Tunnel;

c a study by RW Burrell undertaken in 1980 commissioned by the National Roads Board and the WCC that proposed a traffic arterial from the Terrace Motorway Tunnel to Mount Victoria Tunnel;

d various studies undertaken during the early 1990’s then considered the creation of a trench from Willis Street through to the Basin Reserve (known as Tunnel Link) which was the subject of public consultation and consideration by an Independent Review panel;

e in 1994, Transit New Zealand (now Transport Agency) determined it was not able to fund such a scheme and commissioned studies of other medium term options. These considerations led to decisions establishing what is now known as the Inner City Bypass with the Transport Agency taking over responsibility for certain city streets and in so doing also extending the State highway network from the Terrace Tunnel to the Airport in 1995;

f the decisions at that time envisaged this Inner City Bypass being progressed within a series of principal stages in the manner shown in the following diagram:²

¹ NZTA, Transportation Improvements around the Basin Reserve, Scoping Report, Opus, January 2010
² Opus, Basin Bridge Project, Volume 2, Assessment of Environmental Effects Report, p31
as I mentioned earlier, Stage 1 of this Inner City Bypass was commissioned in 1996, and then Stage 2 in a progressive commissioning completed in March 2007. The Stage 3 Tunnel Link stage which involved a tunnel passing beneath Willis, Victoria, Cuba, Taranaki and Tory Streets was investigated and assessed but then not pursued further because of its cost. I note that this third stage was not supported by WCC;

as traffic volumes have continued to grow with increasing congestion and delays becoming increasingly evident, further studies have then centred on the Basin Reserve;

an Interim Scheme Assessment Report was prepared by Meritec in December 2000 that identified and evaluated a series of options for traffic arrangements in Te Aro and around the Basin Reserve;

this led to the preparation of a Scheme Assessment Report by Meritec dated March 2001 entitled SH1 Basin Reserve Long Term Transport Solutions; and

this was followed by the Ngauranga to Airport Study (2006 – 2008) undertaken by Opus leading to adoption by Greater Wellington Regional Council (GWRC) of the Ngauranga to Airport Corridor Plan in October 2008.

3.4 Studies relevant to the Basin Reserve area have variously considered a wide range of options. They include flyovers, underpasses, tunnelling, various forms of public transport (including buses and light rail) and the use of road space for other active modes of transport including pedestrians and cyclists.
3.5 While the specific solutions to improve transport links around the Basin Reserve have varied, a common theme emerging in the studies has been the need for east-west traffic travelling to and from the Mount Victoria Tunnel to be physically separated from the north-south traffic at the Basin Reserve in order for there to be an effective solution capable of serving the State Highway travel as well as local and arterial traffic needs.

**Associated Improvement to Public Transport at Basin Reserve**

3.6 Through the past ten years, and particularly through work done in progressive updates of the Wellington Regional Land Transport Plan as I set out shortly, other wider studies have confirmed that the public transport links across Wellington City also need to be improved.

3.7 A particular area where the need for improvement has been identified is in relation to the north-south public transport corridor at the Basin Reserve joining Kent and Cambridge Terraces through to Adelaide Road, and to Newtown and the southern suburbs beyond.

3.8 It is a key part of this Project that the overall scheme includes the provision of measures directed particularly at providing for and improving public transport connections and enabling faster and more reliable travel times in both directions around the Basin Reserve between Kent and Cambridge Terraces and Adelaide Road.

3.9 For southbound connections, these benefits include not only the gains from lessened traffic flows and associated reduced congestion and delays, but also from the bus priority lanes to be provided from Kent Terrace leading through the Paterson Street intersection and on to Adelaide Road.

3.10 Equivalent provisions are also made in the northbound direction with priority lanes enabling priority for buses from Adelaide Road travelling around and through Sussex Street and on to Cambridge Terrace.

4 **The Wellington Regional Land Transport Strategy 2010-40**

**Forward Vision and Purpose**

4.1 The Wellington Regional Land Transport Strategy 2010-40 (RLTS) adopted by the GWRC in September 2010 is a statutory document setting out the overall strategic framework for investment in Wellington’s land transport network and the basis for the identification, selection, and regional prioritisation of projects and
activities. It sets out a thirty year plan to meet and provide for the future transportation needs of the region.

4.2 The overall vision of the RLTS is stated as being,

To deliver an integrated land transport network that supports the region’s people and prosperity in a way that is economically, environmentally and socially sustainable. ³

4.3 In responding to what are described as the region’s key issues and pressures, the RLTS deals with:

- access to goods and services, employment and amenities;
- regional road safety, particularly for cyclists;
- severe traffic congestion, particularly at peak times;
- east-west connections between key transport corridors and regional centres;
- reliability of the transport network;
- transport related greenhouse gas emissions; and
- public transport capacity and mode share.⁴

4.4 As an integral part of its preparation and adoption, the RLTS responds to the region’s projected economic and population growth, and the need to manage anticipated increases in travel demand.

4.5 In this regard, the RLTS stands alongside the Wellington Regional Strategy and the Wellington Regional Policy Statement to ensure the provision of transport is appropriately integrated with land use outcomes.

4.6 The RLTS describes such integration as being fundamental to the economic and social functioning as well as future growth and development of the Wellington region.⁵

4.7 As to recognition of the range of available travel modes, the RLTS also emphasises the point that achievement and delivery of an affordable, integrated,

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³ GWRC, Wellington Regional Land Transport Strategy 2010-40, p2
⁴ Op.cit, Chapter 3, p3
⁵ GWRC, Wellington Regional Land Transport Strategy 2010-40, Executive Summary, p ii
safe, responsive and sustainable land transport system relies on all of the modes of travel that make up the regional transport network.\(^6\)

4.8 In this regard, through its service to the regional links together with its particular provisions serving arterial and local traffic, and its enhancements to public transport, cycling and pedestrians, the Project in all of its components can in my view be seen as both appropriate and consistent with the wider objective of delivering an appropriately integrated land transport network that properly meets regional needs.

**RLTS Objectives and Outcomes**

4.9 The RLTS has also been prepared and adopted with a series of particularly defined objectives and outcomes. These objectives and outcomes, along with the vision stated above, form the RLTS Strategic Framework that is intended to guide the development of Corridor and Implementation Plans. The objectives are listed in order as being to:

a. assist economic and regional development;

b. assist safety and personal security;

c. improve access, mobility and reliability;

d. protect and promote public health;

e. ensure environmental sustainability; and to

f. ensure that the Wellington Regional Land Transport Programme (**WRLTP**) 2012-15 is affordable for the regional community.\(^7\)

4.10 Again (and consistent with this and other traffic evidence), given the Basin Bridge Project’s key location in relation to the State Highway and Wellington City street networks, it will make a positive contribution to supporting on-going growth and development, enhancing safety, improving access and reliability while contributing to the delivery of the overall WRLTP.

4.11 The RLTS similarly identifies a number of key outcomes which the region seeks to achieve over the long term. These key outcomes listed for the RLTS are given in order of priority or importance for the region as being:

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\(^6\) Op cit and Section 9.8, p 51

\(^7\) Op cit, p27
a increased peak period public transport mode share;
b increased mode share for pedestrians and cyclists;
c reduced greenhouse gas emissions;
d reduced severe road congestion;
e improved regional road safety;
f improved land use and transport integration; and
g improved regional freight efficiency. 8

4.12 Given the strategic contribution of the Basin Bridge project and its key position and role across Te Aro between the Terrace and Mount Victoria Tunnels, successful delivery of these desired key outcomes leads in my view, to an emphasis on the functional form and detail of the works.

4.13 As will be apparent from the content of the technical evidence to be given by others, attention has been given to the manner in which the grade-separated arrangement of the bridge together with its associated ground-level layout and management works have been developed and designed to meet the particular traffic and transportation needs of the location. The intention in this regard is that the completed project as a whole is able to make a positive contribution to each of these listed key outcomes set by the requirements of the RLTS.

4.14 As to delivery of the identified projects and activities in the region along with the associated project timing and costs, the RLTS describes the manner in which the WRLTP prioritises the identified projects and activities in the region, along with the associated estimated timing and costs. The review process for the Programme occurs every three years taking into account the strategic framework provided by the RLTS. 9

4.15 As to priorities, the RLTS sets out what it terms the most significant matters to be progressed through the implementation documents as being: 10

a progress on the key routes of national and regional significance (including the SH1 Wellington, Road of National Significance);

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8 GWRC, Wellington Regional Land Transport Strategy 2010-40, p28
9 GWRC, Wellington Regional Land Transport Strategy 2010-40, Section 4.3.1, p24
10 Op cit, Executive Summary p iii and Appendix 4
b the improvement of the region’s rail network, including infrastructure and rolling stock upgrades; and

c a comprehensive programme of measures to manage the demand for travel.

4.16 It goes on to say:

The RLTS signals that the Implementation and Corridor Plans will need to reflect the strategic framework provided by the GPS and the Wellington Road of National Significance programme during the next review of those Plans. 11

4.17 As to the overall purpose and intended outcome from these initiatives, the RLTS also goes further by way of articulating its forward expectations for the inner city as being:

Access to and between key destinations such as Wellington City Central Business District and other regional centres, CentrePort, Wellington International Airport and Wellington Regional Hospital will be quick, easy, reliable and safe. Effective safety measures, behaviour change campaigns and other interventions will help to ensure that no one is killed or seriously injured when travelling within or through the region. 12

4.18 Completion of the Basin Bridge project is in my view, important to the successful delivery of these intended outcomes.

5 Implementing the RLTS

Corridor Studies

5.1 A multi-modal study was commissioned in 2006 involving the Transport Agency, WCC and GWRC Council that in the end led to a detailed consideration of the Ngauranga to Airport corridor, and assessment of options concerning how to best solve the increasingly obvious transport issues and provide for and support the future development of Wellington City. Its preparation included significant public consultation exercises as well as workshops with stakeholders. 13

5.2 Figure 1 14 shows the strategic context within which the corridor plan was developed.

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11 Op cit Executive Summary, p iii
12 Op cit, Chapter 2, p2
13 GWRC, Ngauranga to Wellington Airport Corridor Plan, October 2008
14 Op cit, p7
5.3 As is immediately apparent, the ‘crossroads’ location of the Basin Reserve occupies a key location astride the east-west Ngauranga to Airport route on the one hand and the north-south connection through to the urban growth area encompassing Adelaide Road and Newtown.

Giving Effect to the Ngauranga to Wellington Airport Corridor Plan

5.4 Following a period of public consultation and a hearing, the resulting completed Ngauranga to Wellington Airport Corridor Plan was adopted by the Wellington Regional Transport Committee in October 2008, and has subsequently been included within the statutory Wellington RLTS as approved in September 2010.

5.5 Under the heading ‘Implementing the RLTS’, the forward vision in giving effect to this Ngauranga to Wellington Airport Corridor is described in the RLTS in the following terms:

Along the Ngauranga to Wellington Airport Corridor, access to key destinations such as CentrePort, Wellington City CBD, Newtown Hospital and the International Airport will be efficient, reliable, quick and easy. Priority will be given to passenger transport through this
corridor, particularly during the peak period. Passenger transport will provide a very high quality, reliable and safe service along the Wellington City growth spine and other key commuter routes. The road network will provide well for those trips which cannot be made by alternative modes and will allow freight to move freely through the corridor. Traffic congestion through the corridor will be managed at levels that balance the need for access against the ability to fully provide for peak demands due to community impacts and cost constraints. Maximum use of the existing network will be achieved by removal of key bottlenecks on the road and rail networks.\textsuperscript{15}

5.6 It can be noted that the mention in this forward vision of maximum use of the existing network being achieved through removal of ‘key bottlenecks’ is consistent with the intentions of the Basin Bridge project in addressing such a bottleneck and its limiting effect within a key area of the ‘existing’ network.

5.7 The Corridor Plan itself aims to strengthen four key transport elements in the City being:

\begin{itemize}
  \item[a] a high quality and frequent passenger transport ‘spine’;
  \item[b] highly accessible and attractive ‘activity’ or shopping streets;
  \item[c] a reliable and accessible ‘ring’ or bypass route for vehicles; and
  \item[d] interconnected and convenient local street, walking, cycling and passenger transport networks.\textsuperscript{16}
\end{itemize}

5.8 In this regard, the RLTS lists the immediate priorities of the Ngauranga to Wellington Airport Corridor Plan as comprising:

\begin{itemize}
  \item[a] public transport improvements along the Golden Mile;
  \item[b] bus priority measures on arterial routes and key growth corridors;
  \item[c] walking and cycling improvements;
  \item[d] Basin Reserve improvements; and
  \item[e] Hutt Road bus lanes and SH1 tidal lanes.\textsuperscript{17}
\end{itemize}

\textsuperscript{15} GWRC, Wellington Regional Land Transport Strategy 2010-40, Appendix 4, p91
\textsuperscript{16} GWRC, Ngauranga to Wellington Airport Corridor Plan, October 2008, p2
\textsuperscript{17} GWRC, Wellington Regional Land Transport Strategy 2010-40, Appendix 4, p91
5.9 It is the ‘Basin Reserve improvements’ item in this schedule that is the focus of both the Buckle Street Underpass project currently under construction, and the proposed Basin Bridge Project, the latter being the subject of these present applications. It can be noted the Project similarly contributes to the bus priority measures and walking and cycling improvements listed in these priorities.

Project Timing

5.10 The WRLTP sets out a schedule of all the significant transport projects planned in the Wellington region over the coming three year period, their estimated costs, and the intended basis of funding. Other significant transport projects expected to start within the next ten years are also listed, together with a ten-year financial forecast. In this manner, the WRLTP sets out the framework for the region's application for funding of transport projects from the National Land Transport Fund.

5.11 The proposed Project is included in the immediate three year programme within the category of ‘high cost, large, new projects costing more than $5M’, and listed with an expected start date of 2013.

5.12 These projects are of ‘national, regional or inter-regional significance.’

5.13 The associated rankings for the ‘high cost, large new project’ works listed in the WRLTP are prepared from recommendations by the Committee’s transport technical working group recognising public feedback, and the contribution made to such matters as strategic fit, effectiveness, economic efficiency, and safety.

5.14 The Basin Bridge project is listed seventh in the 2012-15 ranking. The status of the six preceding projects can be briefly summarised as follows:

- Mt Victoria Tunnel – safety improvements: Completed
- Ngauranga to Petone cycleway/walkway: Investigations progressing
- Adelaide Road Improvements: Completed
- SH1 Widening of Ruahine Street/Wellington Road: Investigations progressing
- Electronic Integrated Ticketing System: Investigations progressing
- SH1 Inner City Bypass Intersection Optimisation: Under construction
- SH1 (RoNS) Basin Reserve Improvements: Applications lodged

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18 Op cit, p27
19 GWRC, Wellington Regional Land Transport Programme 2012, p5
20 Op cit, p27
With the appropriate approvals, work on the Basin Bridge project would commence next year.

6 Proposed Basin Bridge and Associated Improvements

Project Objectives

6.1 The objectives of the Basin Bridge Project are:
   a to improve the resilience, efficiency and reliability of the State highway network;
   b to support regional economic growth and productivity;
   c to support mobility and modal choices within Wellington City; and
   d to facilitate improvements to the local road transport network in Wellington City in the vicinity of the Basin Reserve.

6.2 The detail of the Project in terms of its location, extent, design, associated provisions and related works are all directed at ensuring delivery on each of these matters. In my view, and as will be apparent from my appraisal that follows, the Project delivers in all of the ways contemplated by those objectives (for example only, it supports regional economic growth and productivity by contributing to the enhanced movement of people and freight through Wellington City).

Scope of Works

6.3 A diagrammatic representation showing the proposed scope of the various works in the vicinity of the Basin Bridge and its associated road works is provided in Figure 2.  

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21 Opus, Basin Bridge, Technical Report 4, p3
6.4 The main components can be listed briefly as follows:

a the existing length of Buckle Street in front of the Carillon is currently being rebuilt as a three-lane underpass as a key part of the Memorial Park construction due for completion in November 2014 (the third lane will only become operational when the Basin Bridge is in place);

b west-bound traffic from the existing Mount Victoria Tunnel is to be carried on a new west-bound bridge beginning at the lower end of Paterson Street through to enter the new underpass on Buckle Street;

c east-bound traffic in Vivian Street will be provided with a third peak-period lane between Tory Street and Kent Terrace together with related improvements to the Vivian/Kent/Cambridge/Pirie intersection;

d traffic coming from the city centre and Kent Terrace towards Hataitai and Wellington Airport will follow an upgraded layout through Ellice Street and Dufferin Street to enter Paterson Street and the Mount Victoria Tunnel;

e traffic from the city centre and Kent Terrace towards Newtown will similarly be provided with a re-arranged layout through Dufferin Street to Rugby Street and Adelaide Road;
bus priority lanes are to be installed giving priority to southbound buses travelling from Kent Terrace through to Dufferin Street and on to Adelaide Road. Bus priority lanes are also to be installed for northbound bus movements between Adelaide Road and Cambridge Terrace;

g the existing intersection signals at the corner of Dufferin and Paterson Street will be removed and replaced with a new signalised crossing for use by pedestrians and cyclists. With the new bridge in place, the greatly reduced volume of left turning traffic coming from the Mount Victoria Tunnel enables the re-timed signals to give much increased green times for the southbound traffic and bus movements coming from Kent Terrace travelling through to Adelaide Road;

h the existing intersection signals are to be removed from the corner of Rugby Street and Adelaide Road and replaced with a new signalised crossing for use by pedestrians and cyclists, similarly re-timed to give considerably increased green times to northbound traffic and bus movements coming from Adelaide Road heading through to Kent Terrace, Courtenay Place and the inner city beyond; and

i other particular components similarly provide for local traffic circulation, and improved convenience for cyclist and pedestrian movements.

6.5 It is intended that with completion of the Project, the bypassed areas of Dufferin, Rugby and Sussex Streets will revert to be local road under the direct control and management of WCC.

6.6 A further plan showing more of the physical layout and traffic arrangements of the Project is provided in Figure 3.\(^ {22} \)

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\(^ {22} \) Opus, Basin Bridge Project, Volume 2, Assessment of Environmental Effects Report, p18
There is also a separate associated package of traffic improvements to be made commencing this October. The first of these to be undertaken involves a series of capacity improvements within the length of Karo Drive between Taranaki Street and Willis Street. This will be achieved with lane additions on Karo Drive and at the Willis Street and Victoria Street intersections, and related signal changes that will increase the green time and through-traffic capacity for State highway traffic on Karo Drive.

Other related works include an additional traffic lane within the Buckle Street underpass and changes at the Buckle Street/Taranaki Street intersection currently being built as part of the Memorial Park project. As noted earlier, further works involve an added peak-period eastbound traffic lane in Vivian Street between Tory Street and Kent Terrace, and changes at the Cambridge/Kent/Pirie intersection commencing early next year.

On a wider scale, this Basin Bridge project contributes a component part of a more extensive Tunnel to Tunnel suite of inner city transport improvements.

A more detailed description of the geometric layout and traffic operations improvements is provided in the evidence of Mr David Dunlop.

Wellington City District Plan

The principal transport related provisions of the Wellington City District Plan as they apply to this area near the Basin Reserve, set out the expectations for users
of the wider road network, together with the particular design and performance requirements for access and servicing of properties.

Road Network

7.2 Figure 4 is a copy of Map 33 from the Wellington City District Plan showing the principal road network defined for all of the city with five defined categories of road being:

a the ‘Golden Mile’ within the inner city itself covering Lambton Quay, Manners Street and Courtenay Place;
b Motorways/State Highway 1;
c Arterial Roads;
d Principal Roads; and
e Collector Roads.
7.3 Figure 5 is a copy of the accompanying Map 34 from the District Plan showing an enlarged detail of roads within the ‘Central Area’. As will be seen, the periphery of the Basin Reserve is defined as part of SH1 together with the adjoining length of Kent Terrace and Paterson Street. Cambridge Terrace is defined as an Arterial, and Adelaide Road to the south as a Principal Road.

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Figure 4: Wellington City Road Hierarchy

Enlargement added for clarity

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Wellington City District Plan, Volume 3, Map 33
7.4 In this regard it can be observed that the works provided for within the scope of this application remain wholly consistent with and usefully further strengthen the functional performance of the road network hierarchy intended by the District Plan for this area of the city.

7.5 It may also be noted that the dotted lines on this plan identify ‘frontages where vehicle access is restricted’. The corresponding provision of Central Area Standard 13.6.1.3.12 says:

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24 Wellington City District Plan, Volume 3, Map 34
No vehicle access is permitted to a site across any restricted road frontage identified on District Plan Map 34 provided that this shall not prevent the continuation or the undertaking of any Permitted Activity on a site involving the use of any lawfully established vehicle access.  

7.6 It will be seen that this provision encompasses all of the periphery of the Basin Reserve itself together with the adjoining lengths of Paterson Street, Kent Terrace and Buckle Street. It also applies to Vivian Street where this Project proposes clearways in peak hours.

Central Area

7.7 Removing bottlenecks and improving access in the Central Area of the city is also a particular objective of the District Plan.

7.8 The relevant provision in this regard is stated under Objective 12.2.15 of the District Plan reading:

Objective – Access

To enable efficient, convenient and safe access for people and goods within the Central Area.

7.9 The associated commentary explains:

The actions of many authorities or organisations, including the Wellington Regional Council, the New Zealand Transport Agency and companies involved in the movement of people and freight on land, sea or air, work to shape the City’s transportation system. Where there are opportunities for input Council will advocate for improved access. In particular Council will continue to work closely with the Wellington Regional Council on transportation matters and the District Plan will remain consistent with the Regional Policy Statement, the Regional Land Transport Strategy and relevant plans.

7.10 Similarly Objective 12.2.15.2 takes these matters further in setting out the Council’s objective as being to:

Manage the road network to avoid, remedy or mitigate the adverse effects of road traffic on the amenity of the Central Area and the surrounding Residential Areas.  

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25 Wellington City District Plan, Chapter 13, amended 12 September 2012, Rule 13.6.1.3.12, p31
26 Op cit, Chapter 12, Central Area, p58
27 Op cit, Chapter 12, Central Area, p59
7.11 In its associated commentary, the District Plan says:

Traffic on roads, whether active or stationary, can have major impacts on the amenities of the Central Area and surrounding Residential Areas. Council will continue to use traffic management techniques to control congestion and parking. Council is also aware of the impact that heavy trucks and similar vehicles can have on the Central Area and residential neighbourhoods in terms of noise and general disturbances and will seek to minimise through-traffic, particularly at night. Bylaws may be used to exclude heavy trucks on certain streets. The environmental result will be the minimisation of the adverse effects of road traffic in the Central Areas and surrounding Residential Areas.  

7.12 Within this commentary regarding traffic having 'major impacts', it can be noted that in its present long-established form having faced some 40 years of continuing traffic growth, the Basin Reserve is increasingly congested with inadequate capacity, queues and delays. In its key location in the wider network, the Basin has become an increasingly obvious bottleneck constraining travel between the Central Area and Wellington International Airport and all of the eastern suburbs.

7.13 Strengthening and improving the capacity and performance of the SH1 corridor route across Te Aro, combined with the significant resulting gains for north-south travel and public transport movements makes a major contribution to controlling and reducing congestion. It also lessens any tendency or preference for other through-traffic and trucks to seek alternative routes through adjoining neighbourhoods or through the Central Area itself. Improved performance of public transport also assists.

7.14 Objective 12.2.15.3 in this section of the District Plan intends that the Council will:

Manage the road system in accordance with a defined road hierarchy.  

7.15 As set out earlier in this section of my evidence, the District Plan defines the periphery of the Basin Reserve as part of SH1 together with the adjoining lengths of Kent Terrace and Paterson Street. Cambridge Terrace is shown as an Arterial, and Adelaide Road to the south defined as a Principal Road.

7.16 The accompanying commentary in the District Plan says:

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28 Wellington City District Plan, p59
29 Op cit., p59
A road hierarchy classifies roads according to their function. A road hierarchy is used in the administration of the Plan to ensure that land uses or activities are appropriately related to the network. The environmental result will be the development of land uses or activities in the Central Area which have better access because they are better related to the function of the roads on which they are sited.

7.17 Strengthening the performance of the SH1 corridor will contribute positively to the achievement of these goals.

8 **Adelaide Road and the Wellington Urban Development Strategy**

8.1 Alongside the Transport Agency’s objectives in developing the Ngauranga to Wellington Airport Corridor and strengthening its east-west connections across the northern edge of the Basin Reserve, the WCC has a separate set of objectives centred on urban development and much-improved public transport.

8.2 In this regard, the WCC’s Urban Development Strategy, approved as part of the Council’s Long-Term Council Community Plan (LTCCP) sets the overall framework for managing growth and change in the city. Its approach is to direct growth to where the resulting benefits are greatest.  

8.3 The WCC’s Urban Development Strategy explains that in Wellington, benefits will be maximised when most of the growth is directed to areas which are well-connected, offer high levels of amenity, and are provided with the required supporting infrastructure.

8.4 As part of this intended pattern of development, more intensive mixed-use development is to be encouraged in key growth areas along a ‘growth spine’ running from Johnsonville through the city centre to Newtown and Kilbirnie, to ensure that growth occurs where the benefits are greatest and the harm least. The adopted Strategy notes that the increased levels of more intensive development of the nature and scale envisaged will have to be supported by much improved public transport and roading.  

**Adelaide Road Precinct**

8.5 A key component of these initiatives is aimed at encouraging an intensified pattern of development through the Adelaide Road precinct to the south of the Basin Reserve, together with the creation of a much-improved public transport ‘spine’ connecting the central city through to Newtown and Wellington Hospital. It

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30 Long-Term Council Community Development Plan 2009-19, Wellington City Council, July 2009
31 Op cit, pp153-158
is designed to both provide for and serve community travel needs along its length.

8.6 It is of particular relevance to this application, that the northern Adelaide Road area through to the Basin Reserve is one of the key growth areas identified in this Urban Development Strategy to be undertaken by the WCC, together with similarly planned re-development of and increased densities in Johnsonville.

8.7 The Strategy notes the northern Adelaide Road location has particular advantages in being able to support such increased levels of residential and employment growth. It is within walking distance of the central business district, the hospital, the Newtown shops, has excellent access to public transport, and is located on the key arterial route to the southern suburbs.

8.8 The Strategy also identifies that a particular component of the plan centres on enhancing the effectiveness of Adelaide Road as a major transport connection including public transport, walking, and cycling.

8.9 In my opinion a further important aspect of this present application is that the Council’s ability to successfully deliver on these Community Plan intentions depends to a significant extent on the construction and completion of the Basin Bridge and its associated works delivering better capacity and much improved connections between Kent and Cambridge Terraces in the north and the Adelaide Road corridor through to Newtown in the south.

8.10 It is clear from the assessments and all of the many detailed investigations undertaken and set out in the technical reports and documents accompanying this application, that traffic volumes have reached and surpassed a point where there is now no suitable at-grade solution capable of dealing with or resolving the significant levels of traffic congestion, queues and delays which presently characterise this area.

8.11 Nor is there an at-grade scheme able to meet or provide for the other desired objectives of improving public transport, supporting the Council’s ‘growth spine’ for Adelaide Road and Newtown, delivering better levels of service for pedestrian and cycle movements, reducing the existing severance, or to deliver on the strategic fit required in the longer term plans.

8.12 It is particularly apparent in this regard that retaining the existing road and traffic arrangements or relying on some form of enlarged at-grade layout without a

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32 Long-Term Council Community Development Plan 2009-19, Wellington City Council, pp153-158
bridge, will not provide for the high quality public transport spine intended as a priority in forward planning for the city alongside the provision of improved levels of safety and convenience for pedestrians and cyclists, and neither could it support the increased levels of employment and residential development intended in Adelaide Road and Newtown.

8.13 Further in my opinion, unless the road improvements of the scale and nature set out in these present applications together with the associated works are undertaken and completed, the already-existing traffic congestion, queues and delays that currently affect all of this area around Kent Terrace, the Basin Reserve, Buckle Street and the northern end of Adelaide Road are such that these longer-term community intentions of the WCC will simply be unable to be accomplished.

8.14 By contrast, the grade-separated plan intended by the application enables improvements in both performance and levels of service to State Highway users in the main east-west corridor across Te Aro to and from the Mount Victoria Tunnel, while also serving increases in the north-south flows and public transport movements representing the city connections between the central area, Adelaide Road and Newtown. Convenience and safety for pedestrians and cyclists is enhanced. Wellington City’s ability to achieve its long-term community intentions is facilitated.

9 Traffic Patterns

9.1 A feature of the present levels of traffic flow through this area of the network centres on the manner in which the prospects for on-going growth and better levels of service have been increasingly constrained for many years by the now clearly evident inadequacies of the present street and intersection layout.

History of Traffic Growth

9.2 Figure 6 is a diagram showing the history of measured weekday traffic volumes passing through the Mount Victoria Tunnel over the course of the past 25 years.
9.3 The lack of continuing growth is because the Mount Victoria Tunnel has reached its practicable traffic-carrying capacity with any additional demand meaning longer peaks, so that the congested times have become longer.

9.4 The resulting practical effects are seen in longer, slower periods of peak flow and spreading delays on all of the associated approaches.

9.5 These increased levels of congestion affect all traffic in the vicinity meaning that drivers to and from the Mount Victoria Tunnel and the eastern suburbs are delayed with queues that then equally capture travellers using the north-south links to and from Adelaide Road and Newtown. It is this self-defeating mutual capture of traffic movements adversely affecting both the east-west and the north-south travel needs that points directly to the solution in the form of the bridge and associated road improvements sought in these present applications.

**Before and After Traffic Patterns**

9.6 The changes to traffic flow and the resulting benefits and gains in traffic movement that will be brought about by the Basin Bridge and its associated road works are illustrated in Figures 7 and 8:

9.7 Figure 7 shows the before and after volumes in the morning peak period while Figure 8 shows the corresponding patterns from the evening peak period. The
data is from the forecasts for 2021 with the second Mount Victoria Tunnel completed and carrying westbound traffic.

Figure 7: Before and After Traffic Flows 2012 (Morning Peak)

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33 Opus, Wellington City 2021 Traffic Model Outputs, WTN10174 and WTN10170
9.8 The principal points can be listed as follows:

For the morning peak:

a first and most noticeably, with the new bridge carrying some 1180 vehicles per hour westbound towards Taranaki Street, its construction has the immediate effect of removing significant volumes of circulating traffic from the eastern and western sides of the Basin Reserve. These reductions amount to a drop of some 33% in the combined volume of traffic passing the two schools and the Governor General's driveway, and
b a reduction of some 37% similarly being achieved on the western side of the Basin Reserve handling traffic coming in from Adelaide Road.

These reductions are of such a scale and significance as to enable near free-flowing entry from both Paterson Street (coming from the Mount Victoria Tunnel), and similarly for traffic entering from Adelaide Road. At both intersections, traffic flow would only be stopped for pedestrians.

And similarly for the evening peak:

c the new bridge is shown as carrying a similar 1140 westbound vehicles per hour, again enabling considerable benefits in removing these vehicles from circulation around the Basin Reserve;

d the resulting relief to the circulating lanes around the Basin Reserve delivers a 37% reduction on the eastern side beside the two schools and the Governor General’s driveway;

e a 37% reduction on the western side enabling much improved flow for vehicles from Adelaide Road.

Benefits arise both from the travel for westbound movements being shorter and more direct, and with such movements no longer needing to circulate around the Basin Reserve. There is then a much better performance and significantly less delay encountered by other traffic at both the Paterson Street and Adelaide Road intersections.

9.9 These benefits extend to all users within and around the Basin Reserve. Drivers gain from quicker entry and easier travel around the circulating lanes. As I set out shortly, public transport services similarly benefit from removal of the present long-established lengthy queues and delays. Cyclists benefit from significant reductions in the traffic volumes they currently experience at their northern and southern entries to the Basin Reserve. Similarly, pedestrians gain from less traffic and shortened wait times at their various crossing points.

9.10 Further, and as will be explained in more detail by other witnesses, pedestrians and cyclists also gain significantly with their use of the new paths and connections that are to be built as an integral part of the new bridge construction itself.
10 Provisions for public transport

10.1 The reduced volumes of circulating traffic passing around the Basin and more efficient intersection layouts with less delay allow the introduction of bus-only lanes enabling an accompanying gain for public transport services.

10.2 These include:

a  for north-south movements, the provision of priority lanes in both the north-eastern and south-eastern sectors of the Basin Reserve that will allow reductions in queues and delays and correspondingly more resilient, more reliable, and faster travel between Kent and Cambridge Terraces and Adelaide Road; and

b  in the east-west direction, measurements of in-bound bus travel times (via the Pirie Street bus tunnel) between Hataitai (Goa Street) and the inner city (Boulcott Street) show that with removal of the existing long near-stationary peak-hour queues that currently characterise the approaches on both sides of Mount Victoria, the Basin Bridge project will enable significant time savings to city-bound bus movements and passengers.

10.3 Looking forward, and taking advantage of the wider performance gains brought by the project, GWRC are separately considering the advantages of routing additional express bus services through the existing Mount Victoria Tunnel as well as enabling a means of providing services between the eastern suburbs and the areas of Mount Cook and Te Aro.

10.4 Such improvements give a notable multi-modal emphasis to the benefits from this Project. The resulting gains are consistent with delivery of the Transport Agency’s objectives for the project and similarly meet the objectives for this portion of the corridor as set out in the RLTS. In terms of the requirements of the Wellington City District Plan, these outcomes equally deliver on the wider access and amenity objectives set out earlier in Section 7 of my evidence.

11 Cyclists and pedestrians

11.1 Construction of the bridge and its associated road improvements equally pays attention to the detail of improving the levels of service, convenience and amenity for cyclists and pedestrians in this area of the network. As an overall measure, I note that the project adds 995m of cycling lane and 220m of pedestrian footpath.
11.2 The general arrangement is illustrated in Figure 9. 

**Figure 9: Cycle and pedestrian paths**

11.3 The resulting improvements include:

a in the north-south direction and as shown, the design continues the existing cycle and pedestrian connections through the Basin Reserve as occurs at present, together with the shared space and improved signals for pedestrians and cyclists across Ellice Street at the northern gate, and across Rugby Street at the southern gate. The new bridge means a very considerable reduction in the volumes of traffic circulating around the southern edge of the Basin Reserve thereby enabling a much improved level of service for cyclists and pedestrians;

b in the east-west direction, the scheme includes construction of a new cycle and pedestrian path along the northern side of the bridge giving a considerable gain to pedestrians and cyclists moving between Dufferin Street and the Memorial Park. This new connection in turn gives enhanced convenience and better connectivity for pedestrians and cyclists to Tory Street and to Taranaki Street so further improving access to the Central Area; and

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34 Opus, Basin Bridge Project, Volume 2, Assessment of Environmental Effects Report, p285
c. the existing intersection signals at the corner of Dufferin Street and Paterson Street are to be replaced with a set of signals for pedestrians and cyclists. Again, with the much reduced volume of west-bound movements carried by the new bridge, there is a resulting considerably improved level of service for pedestrians and cyclists.

11.4 All of these improvements are consistent with and give effect to both the intentions of the adopted Ngauranga to Wellington Airport Corridor Plan set out in the RLTS, and are similarly in accord with the transportation provisions and priorities for the Central Area of the Wellington City District Plan set out earlier in my evidence.

12 Response to Submissions

12.1 In this section, I address strategic traffic and transportation planning issues raised in the submissions.

These intentions are not consistent with the RLTS

12.2 A number of submissions\(^36\) say the Project is inconsistent with the intention of the RLTS.

12.3 I set out the vision and purpose of the RLTS as adopted by the GWRC in Section 4 of my evidence together with its objectives and outcomes, and the manner in which the WRLTP prioritises the identified projects and activities in the region, along with the associated timing and costs in delivering the overall outcomes being sought.

12.4 The RLTS particularly includes the Ngauranga to Airport Corridor Plan and lists the immediate priorities including the Basin Reserve improvements. As I note earlier in my evidence, the associated timing as set out in the WRLTP lists the Basin Reserve improvements project for delivery as a third priority ‘large new project’ within the immediate three-year programme period.\(^36\)

Contrary to Wellington City Council planning policies

12.5 Section 3 of the submission by Mr Laurence Parker (#103472) says ‘…the Proposal is primarily concerned with increasing amenity for vehicle traffic’, and that ‘…the tide of increasing costs associated with vehicle traffic will not be

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35 Bruce, Paul (103488), Pannett, Iona (103587), Mt Victoria Residents’ Assn (103588), Newtown Residents’ Assn (103515), OraTaiao New Zealand Climate and Health Council (103532), Rational Transport Society (103559), Generation Zero (103560), Springford, Liz (103560)
36 GWRC, Wellington Regional Land Transport Programme 2012-15, adopted 27 June 2012, p20
arrested.’ He observes further that the ‘…Wellington City planning documents address this issue by prioritising investment in transport infrastructure for Public Transport and Active Transport modes. At the same time they discourage investment that primarily increase amenity for vehicle traffic.’

12.6 Mr Parker asks that the applications be rejected ‘… because it is contrary to Wellington City planning priorities for investment in transport infrastructure.’

12.7 I address these aspects of the application in Sections 3, 4 and 7 of my evidence. In essence, the GWRC has carefully examined and considered each of these matters at length resulting in its preparation and adoption of the RLTS setting out the intended overall approach to the transport provisions of the region.

12.8 As described in my evidence, the role and detail required of the Project and the complementary outcomes required of each of the various modes are plainly set out and explained in the Ngauranga to Wellington Airport Corridor Plan adopted by the Wellington Regional Transport Committee in October 2008. Then in turn, the respective investment and timing priorities in giving effect to the plans are provided for in the WRLTP.

12.9 The detail and timing of the Project is supported by and in accordance with these adopted policies and programmes.

Whether the works are reasonably necessary

12.10 The submission by Generation Zero (#103565) expresses a view that where ‘…Section 171(1)(c) of the RMA states that when making a recommendation or decision a decision maker must consider whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought…’, they do not consider that there is adequate evidence that the Project will assist in achieving the stated objectives.

12.11 They note these objectives include supporting regional economic growth and productivity, supporting mobility and modal choices within Wellington City, and improving the efficiency of the local road transport network in Wellington City in the vicinity of the Basin Reserve.

12.12 Their submission seeks to make the point that the transportation assessments provided in the Assessment of Environmental Effects (AEE) Section 13 consider only a small part of the transport network between Taranaki Street and the Mount Victoria Tunnel, and Vivian Street and Adelaide Road, and only for the year 2021,
and say this is ‘… an inadequately limited assessment when the Project objectives relate to the wider Wellington City and region.’

12.13 In response, I observe that the appraisal set out in Section 13 of the AEE is directed at providing a comparison of the immediate effects without the Project and then repeated with the improvements included so as to obtain a measure of its before and after performance. An entire series of further more extensive assessments have also been made covering the wider transportation network confirming the gains from and value of the works.

12.14 A full account is provided in the evidence of Mr Dunlop.

No benefit to Wellington

12.15 The submission by Ms Addie Irion (#103376) includes her view that the flyover will be ‘of no benefit to the Wellington CBD’.

12.16 I disagree. Better functioning of the ‘inland’ State Highway route so attracting an increased proportion of through-traffic enables relief by removing otherwise unnecessary traffic and enabling higher standards of service for turning traffic at access points and intersections entering and departing the CBD along all of the length of the alternate waterfront route.

12.17 Equivalent gains are also made to the benefit of cyclists and pedestrians.

Why not favour public transport?

12.18 A submission from Ms Averill Taylor (#103412) says ‘Wellington used to be [a] city known in NZ for its good public transport. Why is public transport not at the forefront of this discussion?’

12.19 Regarding public transport, Mr Jae Warrander (#103419) makes a similar point in saying ‘…This money could be spent on bike paving and better public transport relieving any such congestion that occurs around the basin... The flyover will cut the city off from Newtown forcing the public to drive instead of walk or bike.’

12.20 As I have set out earlier in Sections 9 and 10 of my evidence, the gains enabled by grade separation itself together with the new bus lanes are seen as important elements of the Project to assist with the efficient movement, better resilience and reliability, faster overall travel times for public transport, improved traffic efficiency and safety, and to support what has been identified as a future WCC Council growth spine.
12.21 Other features of the Project benefit cyclists and walking movements. The significantly reduced volume of traffic circulating around the Basin Reserve enables less conflict and better levels of service to cyclists on entry and exit from the Basin, and usefully reduces the severance faced by pedestrians.

There will be a detrimental effect on public transport

12.22 Several submissions\(^{37}\) say the Project will have negative effects on public transport.

12.23 I disagree. In my opinion, the Project has a series of features that particularly provide for and assist public transport operations and priorities. My opinion is set out in Section 10 of my evidence.

New public transport initiatives and possibly light rail would be better

12.24 A number of submissions say that better public transport options and possibly including light rail should be preferred.

12.25 As will be appreciated from the matters set out earlier in my evidence, the Project and associated improvements is one part of a wider integrated programme of initiatives extending across all modes and all of the regional network. It is not a case of preferring one solution over another. Rather, it intends a considered approach to the transport needs of the region as a whole.

12.26 As a matter of detail and as explained in the evidence of Mr Dunlop, the particular planning and design of the Project is able to accommodate and provide for any of the public transport options envisaged within the Public Transport Spine Study (PTSS) being advanced by GWRC.

It will simply move the point of congestion

12.27 A series of submissions\(^{38}\) say the Project will simply move the point of congestion faced by westbound traffic, rather than dealing with it.

\(^{37}\) Bruce, Paul (103488), Newtown Residents' Assn (103515), Taylor, Averil (103412), Robinson, Hayley (103425), Springford, Liz (103560), Glass, Roy (103523)

\(^{38}\) Bruce, Paul (103488), Pannett, Iona (#103587), Mt Victoria Residents' Association (#103588), Wellington Civic Trust (#103588), Bruce, Paul (103488), Marriage, Guy (103521), Durant, Martin (103554), Newtown Residents' Assn , 103515, Action for the Environment (103573), Architectural Centre (103578), Barnett, Michael (103402), Harding, John (103452), Shelton, Lindsay (103453), Halakas, Irene (103457), Irton, Addy (103376), Robinson, Roger (103386), Tobin, Margaret (103381), Barnett, Michael (103402), Corrigan, Helen (103406), Taylor, Averil (103412), Robinson, Hayley (103425), Greenwood, Chris (103435), Peebles, Margaret (103427), Gunnaway, Noeline (103416), Kearney, Marie (103426), Harding, John (103452), Shelton, Lindsay (103453), Jones, Timothy (103444), Zwart, David (103481), Freegard, Janis (103476), Burgess, Julia (103474), Cottrell, Anna (103496), Green, James (103563), Christoforou, Demetrius (103526), Ryan, Anne (103567), Springford, Liz (103560), Szentivanyi, Jane
12.28 The key point in this respect as I have set out earlier at Sections 6.7 and 6.8 of my evidence, is that the Project is to be accompanied by other related changes and improvements to the network and nearby intersections that increase performance and capacity for west-bound travel including:

a. provision of a third lane along Buckle Street passing through the new underpass to Taranaki Street;

b. changes to the Buckle/Taranaki intersection with additional approach lanes to increase green times and improve its overall performance; and

c. an associated range of related performance and capacity improvements to be undertaken within Arthur Street and Karo Drive, and at its intersections with Victoria Street and Willis Street that will increase green times and the overall traffic-carrying capacity on this part of the network.

12.29 Later stages of the wider corridor improvements intend duplication of the Terrace and Mount Victoria Tunnels.

It does nothing to address eastbound travel

12.30 A number of submissions\(^³\) say that the Project does nothing to improve eastbound travel.

12.31 This aspect of the Project and the gains for eastbound travel are enabled by the related works being undertaken along Vivian Street, and at the Vivian/Kent/Cambridge/Pirie intersection as I set out at 6.8 of my evidence.

12.32 Particular details are provided at Section 7.2.3 of Technical Report No 4.

At-grade solutions should be used

12.33 The submission by Ms Annabel Newman (#103483) includes an observation that ‘…Evidence supports that there are at-grade solutions that will neither destroy the environment nor the heritage values of the Basin. I submit that these solutions should be followed, if indeed, any change is required at all.’ The Rational Transport Society (#103359) express a similar view.

\(^³\) Palmer, Craig (103571), Dunn, Peter (103443), Civic Trust (103448), Zwart, David (103481), Cottrell, Anna (103496), Ryan, Anne (103567), O’Regan, Paul (103518), Forrester, Craig (103552), Devenish, Charlie (103512), Munro, Jessie (103569)
12.34 The essential difficulty with such ‘at-grade’ solutions lies in them requiring additional travel lanes around the Basin to improve the through-traffic capacity and performance of the road, particularly at both the Paterson Street and Adelaide Road traffic signal controlled intersections. Further, any such solution cannot provide the priority improvements sought for public transport, or for that matter, enable other more ambitious public transport options in the future.

12.35 An additional downside with any at-grade solution is an associated inability to make any meaningful improvements for cycling, and the additional severance that will affect pedestrian movements through and around the area.

**Flawed problem definition and flawed forecasts**

12.36 A submission by Mr Patrick Morgan (#103373) speaks of what he considers to be a flawed problem definition and flawed traffic forecasts.

12.37 Mr Morgan says that having travelled through the Basin twice a day for a decade, he currently encounters little traffic congestion at the Basin. He points to Ngauranga as being the main site of congestion in Wellington. I disagree. Traffic conditions are able to be significantly improved with better levels of service for State highway traffic across Te Aro and to and from Wellington Airport, for movements to and from Adelaide Road, for public transport, and for pedestrians and cyclists.

12.38 The associated resulting reductions in travel times and shortening of queue lengths are set out at pages 276 and 277 of the AEE.

12.39 As to the traffic forecasts going forward, all of the details of the traffic models that have been used for this purpose have been subjected to and have satisfied an extensive series of expert peer reviews as well as the test of reasonableness. A full description of the models is provided in Section 13.2.4 at page 258 of the AEE that accompanied the application.

12.40 In my view, and noting also that there is a plainly evident existing traffic bottleneck already needing to be dealt with, these assessment models similarly confirm a growing need for improvement at the Basin Reserve.

**Total package approach**

12.41 The submission from Mr Michael Barnett (#103402) describes his background of involvement with earlier options for the route and says,
…I believe options for dealing with city and regional transport issues should be further investigated adopting a total package approach by:

- Moving from automobile oriented development to pedestrian, cycle and transit oriented development;
- Incorporating urban design, transport planning, housing, commercial and industrial planning as a total package;
- Design our city’s transport infrastructure around people movements not the private motor vehicle.

12.42 As I have set out in Section 10 of my evidence, while serving State highway traffic, this project brings other specific features which are designed particularly to reduce delays and benefit the movement and use of public transport in the corridor between the Central Area and Newtown and suburbs further to the south.

12.43 Such features are similarly included to benefit walking and cycling movements in the area.

**But there isn’t a problem here**

12.44 A number of submitters say that in their view, the levels of congestion in and around the Basin Reserve do not justify the proposal, and that in their opinion there isn’t a problem here.

12.45 Two key points can be made in response. The first is that following public consultation and a hearing, the question of whether or not improvements are needed in this area were considered and determined by the Wellington Regional Transport Committee in October 2008 in the Ngauranga to Wellington Airport Corridor Plan. Implementation of the Corridor Plan including the Basin Reserve improvements was then specifically considered and included within the statutory Wellington RLTS adopted in September 2010.

12.46 So far as the priority of this Project is concerned, (and as I explain in Section 5 of my evidence), the WRLTP for the period 2012-15 sets out a schedule of all the significant transport projects planned in the Wellington region over the coming three year period, their estimated costs and the intended basis of funding. The Project is included in the immediate three year programme period.
Work not needed until the second Mount Victoria tunnel is built

12.47 Part of the submission from Save the Basin Inc (#103493) says the Project is not required to serve the existing flows, and will not be needed until the second Mount Victoria Tunnel is built. They say this is not a stand-alone project.

12.48 I acknowledge that when the second Mount Victoria Tunnel is built, the level of benefits of this Project will markedly expand. However, and as set out and explained earlier, the intended earlier construction of the Basin Bridge delivers worthwhile gains for westbound traffic, and also enables the present levels of congestion and delays encountered by cars and buses heading through to Adelaide Road and Newtown to be immediately reduced. It will also reduce conflicting traffic volumes, lessen delays and significantly improve operations for traffic entering the Basin from Adelaide Road.

12.49 The Project also enables the introduction of priority lanes for southbound and northbound buses around the Basin. The reduced volumes of circulating traffic and enhanced connectivity deliver benefits for cyclists and pedestrians heading both north/south and east/west.

12.50 In my opinion, the immediate benefits are worthwhile while also usefully contributing toward the wider goals sought for the area as a whole.

Build second tunnel and better public transport first

12.51 The submission from Ms Stephanie Edmund (#103415) says she would ‘…prefer to see the second Mount Victoria Tunnel and road widening on the eastern side of the tunnel implemented first, and enhanced public transport options investigated and implemented to discourage private car traffic from the eastern suburbs.’

12.52 The submission by Ms Haley Robinson (#103425) expresses a concern that the Basin Bridge construction would in some way foreclose future options for better public transport.

12.53 As stated earlier at paragraphs 6.4 and 6.5 of my evidence, the Project is to be accompanied by other related changes and improvements to the network and nearby intersections including:

a provision of a third lane along Buckle Street passing through the new Memorial Park Tunnel to Taranaki Street;
b provision of additional approach lanes at the Buckle/Taranaki intersection with additional approach lanes to improve its overall performance; and

c an associated range of related performance and capacity improvements to be undertaken within Karo Drive and at its intersections with Victoria Street and Willis Street that will increase green times and the traffic-carrying capacity on this part of the network.

12.54 Later stages of the wider corridor improvements provide for duplication of the Terrace and Mount Victoria Tunnels. These improvements are discussed in greater detail in the evidence of Mr Selwyn Blackmore.

12.55 Investigation of public transport options going forward is currently being undertaken by GWRC with sufficient prior work having been undertaken within the Project to be satisfied that its design and the position of piers does not foreclose or prevent any of the bus and light rail options being considered going forward.

**Better facilities for cyclists and ‘on-demand’ traffic signals**

12.56 The submission from Ms Kara Lipski (#103377) includes a call for better facilities for cycling including less delay and wider gates, and ‘on demand’ access at the traffic signals.

12.57 As I have previously noted in Section 11 of my evidence, the Project includes particular features serving both cyclists and pedestrians. For travel to and from Adelaide Road, cyclists will have new, improved and relocated signals controlling crossing Ellice Street at the northern gate and across Rugby Street at the southern gate.

12.58 The construction of the new bridge will considerably reduce the volume of traffic circulating around the Basin Reserve thereby enabling a much improved level of service for both cyclists and pedestrians.

**But the bus lanes reduce capacity for other traffic**

12.59 The New Zealand Automobile Association Inc (#103434) submission expresses a concern that the intended provision of bus lanes in Dufferin and Sussex Streets serving south and northbound buses will reduce the capacity and performance available to other traffic accessing either Adelaide Road or Buckle Street.

12.60 This change enables the introduction of bus-only lanes around the periphery of the Basin Reserve. It is made practicable because the new bridge results in a
significant reduction in volumes of traffic circulating around the Basin. In turn, this allows for an increased area of road space to be made available for buses while also improving overall performance of the road, including a reduction of delays at intersections.

12.61 The result is an overall gain benefitting all road users.

Increased severance

12.62 Three submissions\(^{41}\) say the Project will increase severance through cutting the CBD off from Newtown. They add that by separating schools from the city and amenities, the Project will have the result of an increased number of people being forced to use cars.

12.63 They also say the project will make it harder for pedestrians and cyclists to cross traffic flows.

12.64 I disagree. The lessened volumes circulating around the Basin Reserve shown in Figures 7 and 8 and described at paragraphs 9.7 and 9.8 of my evidence will enable easier access to and from the kerbside areas serving the adjoining schools.

12.65 The reduced circulating flows will also enable better levels of service and increased convenience for cyclists and pedestrians crossing at the intersections or passing through and around the area.

Social inequality

12.66 A submission from the Newtown Residents’ Association (#103515) says the Project particularly favours car drivers over those without access to a car.

12.67 Certainly the Project is being pursued as part of an overall Ngauranga to Airport Corridor Plan to improve the traffic connection between the two tunnels across the southern edge of the central business district.

12.68 At the same time however, and while delivering on the objectives for this portion of the corridor set in the RLTS, the Project outcomes equally deliver on the wider access and amenity objectives sought for this vicinity by the provisions of the Wellington City District Plan as I describe in Section 7 of my evidence.

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\(^{41}\) Living Streets Aotearoa (103566), Cycle Aware Wellington (103490), Zena Court (103445)
13 Conclusion

13.1 The Basin Bridge and its associated works together enable a considerable improvement to the role and performance of the length of SH1 across the southern edge of Te Aro between the Terrace and Mount Victoria Tunnels. The resulting gains are important to the functioning of the principal road and transportation network serving the wider Wellington region and particularly the connections between the Central Area and Wellington Airport.

13.2 In this sense, the works intended from these applications are a logical and necessary component of the overall strategic development plan for this length of SH1 as now adopted for implementation by the Transport Agency.

13.3 The proposal is consistent with the objectives and policies of the RLTS adopted by the GWRC, and also with the strategies and provisions set by WCC within both the Wellington District Plan and by Council’s Long-Term Council Community Plan.

13.4 Within these community plans, the Basin Reserve occupies a key ‘crossroads’ location standing astride the east-west Ngauranga to Airport route and the north-south connection through to the urban growth area encompassing Adelaide Road and Newtown. The benefits from resolving its present inadequacies usefully serve the desired longer-term objectives for both the Transport Agency and the community.

13.5 The particular objectives of the Basin Bridge project are: directed at improving service to the community by way of improving the resilience, efficiency and reliability of the State Highway network, supporting regional economic growth and productivity, supporting mobility and modal choices, and facilitating improvements to the local road transport network in the vicinity. Having reviewed and considered the detail of its location, extent, design, associated provisions and related works, I consider the Project delivers on all of these counts in the ways contemplated by those objectives.

13.6 As I have set out in my evidence, a further advantage stems from providing for and encouraging an intensified pattern of development through the Adelaide Road precinct to the south of the Basin Reserve, together with the creation of a much-improved public transport ‘Spine’ connecting the central city through to Wellington Hospital and Newtown and the southern suburbs beyond which is designed to both provide for and serve community travel needs along its entire length. In this context, the Project contributes usefully to the levels of...
infrastructure support and service required to extend and strengthen the on-going development of the region.

13.7 Overall, and recognising the substantial period of investigation and consultation that has been undertaken in considering and developing the plans, it is my view that this proposal represents a significant milestone in completing the SH1 route across Te Aro in the manner intended by the RLTS. It also serves the forward-thinking plans for a north-south transport ‘Spine’ joining the Central Area through to the Adelaide Road development precinct, Wellington Hospital and Newtown as intended by Council. I recommend your approval of these applications.

Dated 25 October 2013

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Peter Terence McCombs