Before a Board of Inquiry
Transmission Gully
Notices of Requirement and Consents

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*under:* the Resource Management Act 1991

*in the matter of:* Notices of requirement for designations and resource consent applications by the NZ Transport Agency, Porirua City Council and Transpower New Zealand Limited for the Transmission Gully Proposal

*between:* **NZ Transport Agency**
*Requiring Authority and Applicant*

*and:* **Porirua City Council**
*Local Authority and Applicant*

*and:* **Transpower New Zealand Limited**
*Applicant*

Statement of evidence of Peter Terence McCombs (Strategic transportation issues) for the NZ Transport Agency and Porirua City Council

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Dated: 13 November 2011

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REFERENCE: John Hassan (john.hassan@chapmantripp.com)
Nicky McIndoe (nicky.mcindoe@chapmantripp.com)

Chapman Tripp
T: +64 4 499 5999
F: +64 4 472 7111

10 Customhouse Quay
PO Box 993, Wellington 6140
New Zealand

www.chapmantripp.com
Auckland, Wellington,
Christchurch

**STATEMENT OF EVIDENCE OF PETER TERENCE MCCOMBS FOR THE NZ TRANSPORT AGENCY AND PORIRUA CITY COUNCIL**

**QUALIFICATIONS AND EXPERIENCE**

1 My full name is Peter Terence McCombs.

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.

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

4 My experience includes eleven years in traffic and transportation with local authorities in Christchurch and in Wellington. Since 1976 I have worked first as Principal and now as Director 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. I have provided expert evidence and advice on transportation related matters before many public and judicial hearings, and have been appointed to provide expert technical advice in major enquiries.

5 Since 2004, I have also filled a number of senior consultant roles within the NZ Transport Agency (*NZTA*), including responsibility as Project Director for developing and establishing Intelligent Transport Systems (*ITS*) within the Auckland motorway network, and establishing associated Travel Demand Management strategies and programmes. This has included leading the major ITS Auckland Comprehensive Motorway Management ramp signalling and traveller information projects with responsibility for the work of the in-house and consultant teams through all of the investigation, planning, funding, and procurement leading to award of contracts and then to the final system commissioning.

6 I have read the Code of Conduct for Expert Witnesses in the Environment Court Consolidated Practice Note (2011). I agree to comply with this Code of Conduct as if this Inquiry were before the Environment Court. This evidence is within my area of expertise, except where I state I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

**PREVIOUS INVOLVEMENT WITH THE PROJECT**

7 As is set out in the evidence of **Mr Craig Nicholson**, the Transmission Gully Project has been the subject of studies and enquiry over many years leading in turn to these notices of requirement (*NORs*) and resource consent applications now before the Board.

8 In 1995 investigations were commissioned by Transit NZ (as it was then) as a result of an audit undertaken by the Parliamentary Commissioner for the Environment. In the course of those investigations I prepared detailed assessments of the options and provided reports setting out and recommending the long term strategic advantages and economic feasibility of the inland route compared to the existing coastal highway.

9 I subsequently provided further assessments and advice to Transit NZ and Porirua City Council in the course of settling the subsequent appeals.

10 In 1997, I was engaged by Transit NZ as a technical adviser and provided evidence to the Commissioners appointed to hear the notices of requirement for the inland route, which resulted in the existing designations.

11 In 2000, and again in 2002 and 2005, I was appointed to assist the Wellington Coroner in his enquiries arising from concerns following the series of road fatalities that had occurred along the length of the existing coastal highway between Paekakariki and Pukerua Bay. These concerns led to installation of the central wire rope median barrier that is now in place within this section of the Centennial Highway.

12 My assessments for this statement of evidence in respect of these new applications now to be considered by the Board have been made independently and separately from the traffic and transportation assessments which have defined the necessary details of the NORs.

13 In the course of undertaking this work, I have fully and thoroughly reviewed the original and strategic background of the proposal for an inland route described in the Wellington Regional Land Transport Strategy (*WRLTS*) 2010-40.

14 I have also read and considered the variety of background reports which are relevant to the forward road planning for this portion of the region as a whole. I have examined the likely situations and activity and landuse distributions that could pertain in the Wellington region when the need for an inland shift of SH1 between Linden and MacKays Crossing would be necessary.

## SCOPE OF EVIDENCE

15 My evidence describes and comments on the strategic level transport planning and traffic engineering issues relating to the designations being sought for the future construction of a new inland route for State highway 1 (*SH1*) between MacKays Crossing and Linden.

16 The designations and resource consents are required in order to get the Transmission Gully Project (*TG Project* or *Project*) 'construction ready'. I understand the NZTA's current expectation of having the works completed by the end of 2021 remains subject to the availability of funding.

17 My evidence addresses the strategic transportation and operational performance aspects of the Project under the following headings:

17.1 The existing SH1 route between MacKays Crossing and Linden;

17.2 The Western Corridor Plan and WRLTS;

17.3 Consultation and 'what people want';

17.4 Strategic and functional outcomes of the TG Project;

17.5 Public transport, walking and cycling and the community;

17.6 Responses to relevant submissions; and

17.7 Conclusion.

18 My evidence focuses on traffic and transportation issues at the strategic level, and from my perspective as someone who has considered Wellington's transportation issues over many years, but has not been involved in the detailed traffic and transportation assessment carried out for the Project. **Mr Tim Kelly's** evidence provides a detailed assessment of the construction and operational traffic and transportation effects of the Project.

## SUMMARY OF EVIDENCE

19 In my opinion the proposed four-lane expressway standard route passing through Transmission Gully is necessary in giving effect to the integrated transportation strategy for the Western Corridor as endorsed by the NZTA Board and adopted by the Greater Wellington Regional Council in 2006.

20 The Project is a key requirement in achieving the objectives and policies of the WRLTS 2010-40 and is an important component in

extending and strengthening the ongoing development of the region as a whole.

21 The route is planned and designed to an appropriately high standard and will fit comfortably and consistently within the present and proposed structure of the local communities in the area it will pass through. The new route will properly and effectively relocate traffic demands away from the coastal section of SH1 between MacKays Crossing and Linden, and provide an effective distributor of growing traffic demands between the Kapiti Coast District, Porirua City and the Hutt Valley cities.

22 In my view, the designations sought by the NZTA and Porirua City Council (*PCC*) are well warranted as a desirable and logical forward planning provision for the future. In this sense my view remains consistent with that expressed in my evidence to the Commissioners regarding the existing designations in 1997.

## THE EXISTING SH1 ROUTE BETWEEN MACKAYS CROSSING AND LINDEN

### Wellington region

23 The Wellington region is divided in the north by a subsidiary ridge of the main North Island mountain range. The region has developed along the valleys on either side of the ridge to form a general "Y" shape with Wellington City as the major commercial district to the south.

24 **Figure 1** illustrates the location of currently zoned areas of intense urban development in the region, including the major commercial centres.

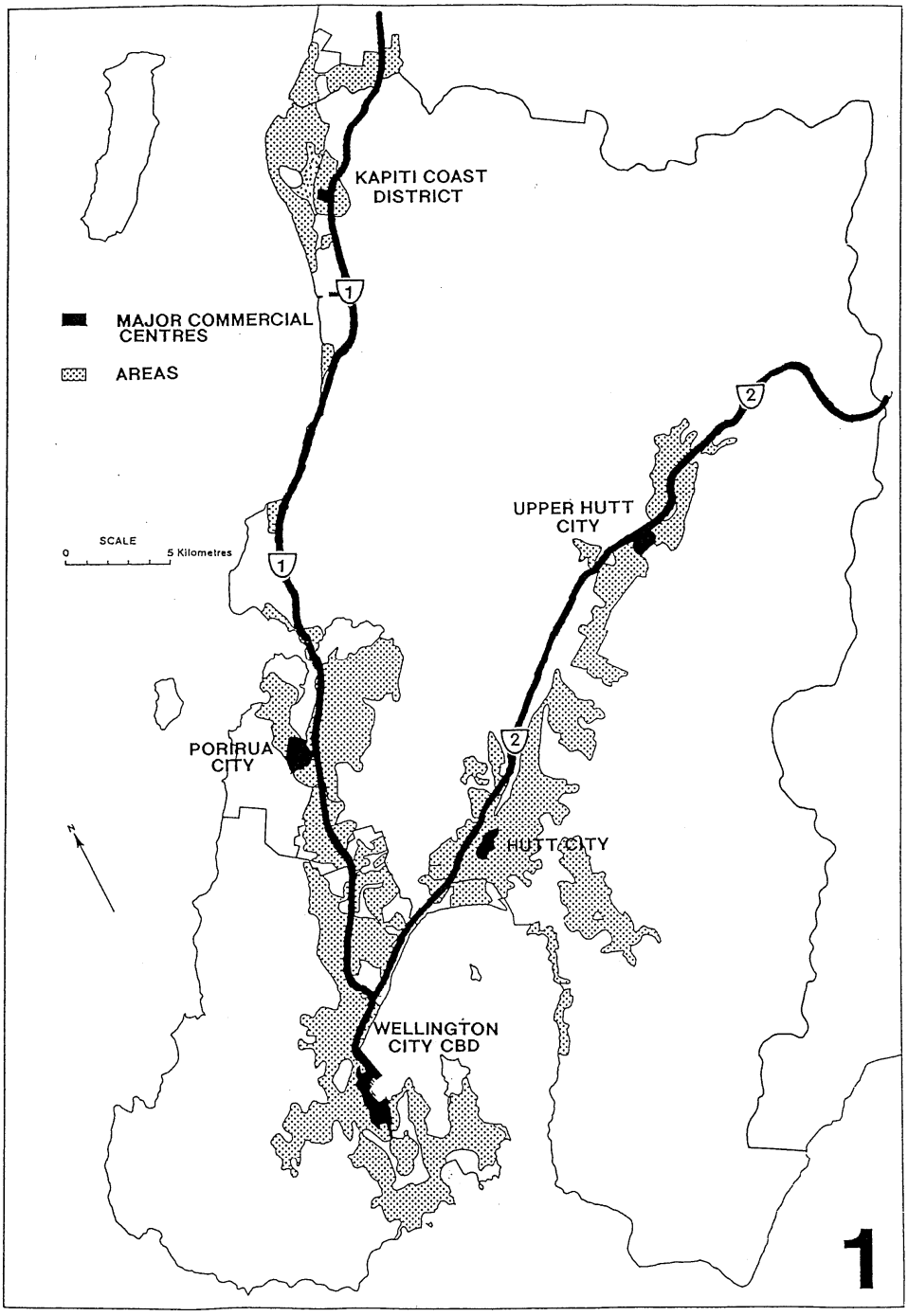


**Figure 1: Regional development**

25 The principal transport corridors containing the prime arterial roads of SH1 and SH2 together with the railway links follow the same valleys and so emphasise the same basic "Y" form of the region. It may also be noted that as a consequence of this geographic form, the Wellington regional centre (i.e. the Wellington City CBD) differs from the other major regional areas in New Zealand in that it is not

located at the centre of its associated urban development but generally at its southern end.

26 It is this particular feature of the Wellington region which results in the very high transport demands which then need to be provided for and managed on the northern approaches to the Wellington City CBD.

**Western Corridor**

27 The Western Corridor, which includes the TG Project, forms the left-most arm of the "Y" extending from Johnsonville to the northern limits of urban development in Waikanae and on to Levin. The corridor is bounded to the west by the coast, and to the east by the ridge line separating the Porirua Basin from the Hutt Valley, and supports the activity and needs of an area population of some 120,000 persons.

28 In addition, the route also provides the principal long distance strategic transport connections between the Wellington Region and the remainder of the North Island. In this regard, SH2 and the Wairarapa Line tend to serve the Wairarapa alone as the strong transport links through the Manawatu Gorge[1] are usually adopted for travel from Wellington to Hawkes Bay and the North Island east coast.

29 It will be readily apparent from these functional roles that the length of the Western Corridor as a whole, including the TG Project, represents the most strategically important inter-regional highway link within the Wellington region.

30 **Figure 2** provides a useful perspective view of the planned TG Project route and its topography together with the associated connections to Porirua and the Hutt Valley, and the line of the existing SH1.

[1] I note that the State Highway 3 link through the Manawatu Gorge is currently closed affecting traffic flows of around 7000 vpd. This closure occurred on 18 August 2011 following the first of several large-scale landslides in the area, and will take several further months of clearance and repair work before the road can reopen. Alternate routes via either Saddle Road or the Pahiatua Track are being used meanwhile, each involving an extra 20 to 30 minutes in travel time. The previous significant closure of some 70 days occurred in 2004.


**Figure 2: Project Area.**

31 This figure includes both the existing SH1 and the new TG Project route together with the associated SH58 link through from Pauatahanui to Haywards and SH2 in the Hutt Valley.

32 In a broad sense, the primary strategic importance of the route as a State highway is determined by the long distance movements. Equally, however, it needs to be recognised that the essential provision of adequate and convenient access to the region generally, the port, airport, and specialist facilities, can itself only be assured if adequate provision is also made for local movements.

33 Both requirements need to be met since any inadequacy on either part would result in congestion and interference to the economic disadvantage of the region as a whole. This Project and the designation requirements considered in this Inquiry represent the key elements needed in providing effectively for these needs.

34 Over the northern section of the Corridor extending from Waikanae to Paremata, present daily traffic demands are consistently high and, aside from the four lane section between Pukerua Bay and Plimmerton, already at a level which is relatively close to the available practical capacity of the existing highway.

35 The safety performance of the existing Corridor is poor. As set out in the Traffic and Transportation Assessment Report[2], there have been 974 recorded crashes during the five year period 2005 to 2009 within the relevant lengths of SH1, SH58 and Grays Road.

36 Of these, nearly a quarter (24%) involved injury with 10 involving fatalities. Over this period, there has been no discernable downward trend evident in the total number of incidents. This record is not acceptable.

37 All of these crashes have caused significant disruption and delays to this prime strategic route.

38 Again, and as described in the Traffic and Transportation Report[3], there were a total of 51 occasions through the 3.5 year period September 2004 to March 2008 on which the existing highway between the Mungavin Interchange at Porirua and MacKays Crossing required full or partial closure, corresponding to an average of 14 closures per year.

39 As is set out in the evidence of **Mr Pathmanathan Brabhaharan**, the existing SH1 between Pukerua Bay and Paekakariki is also at risk from significant geological events with the real prospect of an associated closure then taking many (three to six) months to be repaired following a significant event.

40 A combined total of six closures from smaller natural events including local rockfalls and flooding have been recorded either on SH1 between MacKays Crossing and Linden or along SH58 around the Pauatahanui Inlet over the course of the same 3.5 year period September 2004 to March 2008.

41 A major objective for the NZTA in this Project is to improve the degree to which the route is able to resist such events and, if needed, to be readily repaired so as to be available as a key strategic asset providing for and serving Wellington's transportation needs.

**Need for improvement**

42 There is real need for improvement:

42.1 The existing route is routinely subject to congestion during weekday peak periods, and more so during long weekends and holidays. Access between SH1 in the north and the Hutt Valley is poor with a significant reliance on the use of Grays

[2] Technical Report 4: Transmission Gully Project – Traffic and Transportation Effects, June 2011, Table 4.3 (page 46).

[3] Technical Report 4: Transmission Gully Project – Traffic and Transportation Effects, June 2011,Section 3.6.3 (page 43).

Road meandering around the north side of the Pauatahanui Inlet.

42.2 While some improvements have been made, such as the central wire rope median barrier along the Centennial Highway, the ability to achieve further reductions in crashes is limited by the basic geometry of the route.

42.3 The continuing traffic growth is steadily increasing the associated severance effects that particularly affect the communities in Mana and Pukerua Bay. The size of the traffic volumes using the route limit the amenity for pedestrians and cyclists, and the route itself is vulnerable to major natural events.

42.4 With the required investigations and designs now completed, the resulting associated designations now sought by the NZTA and PCC as considered at this Inquiry are in my view an integral and necessary next step in an overall commitment in delivering improved levels of service and better and safer outcomes for the community.

**THE WESTERN CORRIDOR PLAN AND THE WRLTS**

**Western Corridor Plan: Otaki to Ngauranga Merge (April 2006)**

43 I note that preparation of the Western Corridor Plan (*WCP*) followed a long period of consideration and debate as to the route to be followed in improving the northern access to Wellington.

44 One key element of the debate centred around the comparative merits of either rebuilding and widening the existing coastal route and particularly the length between Paekakariki and Pukerua Bay, or instead adopting the inland TG route. These and other considerations led in turn to studies and appraisals directed at preparing a comprehensive plan for the corridor as a whole.

45 The resulting WCP as adopted by Greater Wellington Regional Council in April 2006 addressed needs and issues listed[4] as:

45.1 Serious reliability, resilience and congestion problems for both rail and strategic roads;

45.2 Safety issues;

45.3 Growing population and transport demand;

[4] Western Corridor Plan, Otaki to Ngauranga Merge, (April 2006), Section 1.1 p1

45.4 The community's clear message that the current uncertainty of transport plans is unacceptable; and

45.5 The need for a long term strategic solution for this corridor.

46 The WCP[5] set four key outcomes for the corridor being:

46.1 Provides a safer, more reliable road and rail corridor;

46.2 Meets user expectations of a consistent regional corridor;

46.3 Reduces congestion in parts of the corridor; and

46.4 Provides a balanced investment in road and passenger transport along with travel demand management.

47 The WCP sets a series of 21 policies covering land use integration, travel demand management, passenger transport, roading, and walking and cycling. The WCP includes corresponding schedules of the associated short, medium and long-term actions and target timing to be undertaken by the NZTA and each of the respective local authorities.

48 The WCP involves a comprehensive set of actions including construction of the TG Project, upgraded bus and rail facilities, and a range of travel demand management measures. The WCP envisages the TG Project route being completed by 2015/16. Responsibility for delivery is assigned to Transit NZ, now the NZTA. The NZTA's current programme in fact envisages the TG Project being completed by the end of 2021.

**Wellington Regional Land Transport Strategy – approved September 2010**

49 The WRLTS as approved by Greater Wellington Regional Council in September 2010 has a vision to deliver an integrated land transport system that supports the region's people and prosperity in a way that is economically, environmentally and socially sustainable.[6]

50 The WRLTS intends that the regional transport network will be developed in a way which recognises the vital national role of Wellington as the capital city and the region's geographical position at the northern side of Cook Strait.

51 The Strategy identifies a range of key issues faced by the region including access, safety, severe traffic congestion, network reliability and public transport capacity / mode share.

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[5] Western Corridor Plan, Otaki to Ngauranga Merge, (April 2006) Section 1.2, p1

[6] WRLTS 2010-40 p 2.

52 The WRLTS responds to the identified issues with six objectives[7] as listed below:

52.1 Assist economic and regional development;

52.2 Assist safety and personal security;

52.3 Improve access, mobility and reliability;

52.4 Protect and promote public health;

52.5 Ensure environmental sustainability; and

52.6 Ensure that the Regional Land Transport Programme is affordable for the regional community.

53 In meeting these objectives, the WRLTS seeks[8] to increase the share of peak travel carried on public transport, increase walking and cycling, reduce greenhouse gas emissions, reduce severe road congestion, improve road safety, improve land use and transport integration, and improve freight efficiency.

54 At an inter-regional level, the WRLTS seeks to improve safety, efficiency and reliability of strategic road, public transport and freight links to the north of the region.

55 In my view, the TG Project will contribute positively towards delivery of each of these strategic objectives.

**Network management**

56 The WRLTS[9] recognises the "Wellington Road of National Significance" as one of the most significant implementation requirements in the forward development of the transportation network. Clearly stated network management policies[10] relevant to the TG Project are:

56.1 Ensure the critical role of the regional transport network in providing national and regional accessibility and economic growth is protected;

56.2 Ensure the regional transport network provides effective and efficient connections to the region's principal economic growth and productivity areas, such as the Wellington City CBD and regional centres, Wellington's port and international airport;

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7 WRLTS 2010-40, p27.

8 WRLTS 2010-40, p28.

9 WRLTS 2010-40 p iii.

10 WRLTS 2010-40 p37.

56.3 Ensure that the level of service of the regional transport network is continuously monitored and, where necessary, improved;

56.4 Ensure best use is made of network assets and network management techniques to optimise the performance of the existing transport network;

56.5 Ensure continuous identification and mitigation of network security risks including, where appropriate, the development of alternative routes for use in emergencies;

56.6 Ensure the proposed Transmission Gully Project is developed as the long term solution to address access reliability for State highway 1 between MacKays Crossing and Linden;

56.7 Ensure the existing State highway 1, between MacKays Crossing in the north and Mungavin Interchange in the south, is managed in a way that is consistent with its long term purpose of a scenic access route once the Transmission Gully Project is operational;

56.8 Support improved east-west transport links between the Western and Hutt Corridors;

56.9 Encourage the separation of arterial and local road traffic where practicable;

56.10 Ensure the transport network provides for freight and commercial needs; and

56.11 Ensure that key regional freight routes are developed in a way that facilitates efficient movement of freight, including provision for over-dimension and over-weight vehicles, where appropriate.

57 Again in my view, the TG Project in the form proposed is consistent with and gives practical effect to each of these management policies.

**Strategic transport network**

58 Appendix 1 of the WRLTS[11] provides a schedule of the strategic transport network serving the region.

59 Under the heading of "State highways", the schedule includes "State Highway 1" and "Transmission Gully (designated future route)" together with associated footnotes.

[11] WRLTS 2010-40, p70.

60 In respect of SH1, the footnote reads, *"It is noted that a number of major improvements are proposed to State Highway 1 as part of the Wellington Road of National Significance that the government expects to make substantial progress on over the next 10 years."*

61 Under the reference to the TG Project, the footnote reads, *"Part of the larger suite of projects that make up improvements on the Wellington Road of National Significance – signalled in the GPS 2009/10-2018/19."*

62 Essentially, the WRLTS includes the TG Project as part of the future traffic environment, and it is accounted for in all aspects of the deocument. The detailed investigations and preliminary design work have progressed to the stage of the designations now sought, which in my view can be seen as the key next step in giving practical effect to the WRLTS.

**Implementation and timing**

63 As to implementation and timing, the WRLTS recognises[12] that work on SH1 has been given high priority by government as the Wellington Road of National Significance. These improvements are expected to reduce congestion, improve safety and improve reliability along that route.

64 Subject to confirmation of funding, it is planned that the route will be opened to traffic in the end of 2021.

**Strategy targets**

65 The WRLTS contains a series of stated targets[13]. These are described as having been developed out to 2020 in a schedule which *"signals the magnitude of change the region seeks for each of the Strategy outcomes. These targets highlight each outcome's importance to the regional community. 2020 targets were set in order to balance the long term strategic importance of each outcome with accountability for actual progress over the short to medium term."*

66 Each of the eight targets is listed[14] together with its associated principle and actions. These eight targets involve:

1. Increased peak period public transport mode share;

2. Increased mode share for pedestrians and cyclists;

3. Reduced greenhouse gas emissions;

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12 WRLTS 2010-40 p 51.

13 WRLTS 2010-40 p 31.

14 WRLTS 2010-40 p 32.

4. Reduced severe road congestion;

5. Improved regional road safety;

6. Improved land use and transport integration (in line with the Wellington Regional Strategy and local authority urban development strategies);

7. Improved regional freight efficiency;

8. Improved safety, efficiency and reliability of strategic road, public transport and freight links to the north of the region.

All are listed together with their respective principles and key actions as representing the desired key outcome targets for the year 2020.

67 Four of these targets refer directly to the Wellington (Northern Corridor) Road of National Significance of which the TG Project is a part, as follows (highlighting added):

| **2020 strategic target** | **Principle of 2020 strategic target** | **Key actions** |
|---|---|---|
| **4.1** Reduced severe road congestion | | |
| Average congestion on selected roads will remain below year 2003 levels despite traffic growth (20 seconds delay/km in 2003; 23.4 seconds in 2010). | Hold the line despite projected traffic increases. | Hold the line despite projected traffic increases.<br><br>Advocate for mode shift.<br><br>Advocate for infrastructure improvements consistent with the Regional Land Transport Programme.<br><br>Implementation of the Wellington Road of National Significance.<br><br>Advocate for road pricing. |

| 2020 strategic target | Principle of 2020 strategic target | Key actions |
|---|---|---|
| **5.1** Improved regional road safety | | |
| There are no road crash fatalities attributable to roading network deficiencies. | Ensure the road network is engineered to be as safe as reasonably possible. | Implement activities in Regional Road Safety Plan, e.g:<br><br>• Undertake road safety education and promotion.<br><br>• Build safety improvements on roads (wire barriers).<br><br>• Reduce speed limits where appropriate.<br><br>• Improve walking and cyclist safety.<br><br>• Advocate for legislation change.<br><br>• Promote public transport use.<br><br>Advocate for inclusion of safety measures in the Wellington Road of National Significance and other projects. |
| Continuous reduction in the number of killed and seriously injured on the region's roads (372 killed and seriously injured in 2009; lowest was 316 in 2003). | Reverse current trends in road casualties 20% reduction in fatal and serious road casualties over 11 years - equates to around 300 by 2020. | |
| **7.1** Improved regional freight efficiency | | |
| Improved road journey times for freight traffic between key destinations. | Encourage and facilitate economic growth. | Advocate and provide for commuter mode shift.<br><br>Advocate for infrastructure improvements along regionally significant priorities.<br><br>Implementation of the Wellington Road of National Significance. |

| 2020 strategic target | Principle of 2020 strategic target | Key actions |
|---|---|---|
| **8.1** Improved safety, efficiency and reliability of strategic road, public transport and freight links to the north of the region | | |
| Progress measures using information collected for congestion (4.1), reliability (4.3), safety (5.1) and inter-regional freight (7.2). | Ensure vital links between Wellington and the rest of the North Island are maintained and improved. | Advancement of improvements to rail network.<br><br>Implementation of the Wellington Road of National Significance and improvements on SH 2.<br><br>NZTA and local council safety improvements where appropriate.<br><br>Advocate for improved road safety. |

68 In my view, the form and detail of the TG Project is seen in this context as a principal component of the Wellington Road of National Significance. Its design and form is directed particularly at delivering on these targeted actions.

**CONSULTATION AND WHAT PEOPLE WANT**

69 In the course of being engaged on various aspects of the TG Project over the past 15 years, I have become keenly aware of a public view that this is a project that is awaited with some impatience. This has become increasingly evident in consultation and hearings to do with the Pukerua Bay Bypass, with the reconstruction of the Paremata roundabout, with the Grays Road to Whenua Tapu upgrade and four-laning, in the widening and traffic management changes at Mana Esplanade, and in the Coroner hearings following the deaths along the coastal section between Paekakariki and Pukerua Bay.

70 I note that these same sentiments are recorded in the WRLTS itself under the heading of "Views of affected communities"[15]. There, the consultation processes are described as having reported several consistent themes including:

[15] WRLTS 2010-40, p26.

70.1 A growing sense of consultation fatigue amongst the public of the region, and

70.2 Calls to 'get on with [it]' implementation.

71 There is also support for public transport improvements, and for measures that reduce congestion and enable better road safety. The two other matters highlighted centre on being pro-active in preparing for climate change, and *'mixed support for large roading capital projects'*.

72 The preferred strategic option of 'Mixed Investment plus Road Pricing' is described as consistent with these themes. In this context, the mixed investment approach adopted by the WRLTS for infrastructure investments makes improvements to the public transport network and expands road capacity as necessary to meet travel demand.

73 As I have noted earlier in my evidence with respect to these NORs, the TG Project is included as a principal component of the adopted strategy and important to the future ongoing development of the region.

**STRATEGIC AND FUNCTIONAL OUTCOMES OF THE TG PROJECT**

**Function and form**

74 Close attention has been paid in the details of the design to achieving a properly high standard of service for all road users at a level consistent with the strategic importance of this route. Each of its components has been developed and reviewed in an overall team approach to ensure proper compliance with best design practice.

75 As will be set out and detailed by the relevant experts in other evidence, there has also been a considerable emphasis on ensuring a quality outcome in terms of fitting the road with the environment, with the landscape, and as far as practicable with the community.

76 The outcome in my view properly matches both the strategic and functional requirements set by the WRLTS as I have set out earlier in my evidence, and the expectations of the community for a route that can both serve and support the longer term needs and development of the region.

**Whitby, Waitangirua and Kenepuru Link Roads**

77 The purpose of the Whitby, Waitangirua and Kenepuru link roads is to connect the route with the local residential and business land use activities, and thereby contribute to serving their travel needs. Both are important elements in achieving the improved efficiency and levels of service aims of the WRLTS and District Plans.

78 The Porirua City District Plan[16] recognises the use and value that a structured roading hierarchy provides as a basis for the management of the effects of traffic on adjacent activities.

79 In this regard, the Whitby, Waitangirua and Kenepuru link roads have the desirable effect of appropriately connecting the route into the local urban fabric of the area as a whole, and thus allowing an added distributional role to be shared with the bypassed section of the existing highway.

80 The connection with Whitby will particularly assist in diverting flows from the western section of State Highway 58 and through Whitby itself. Furthermore, the associated connections in to James Cook Drive at Navigation Drive serving Whitby, and to Warspite Avenue near the Waitangirua Mall in turn lead on to join with the local arterial network in Porirua East.

81 Each of these elements add to the improved connectivity and service of the scheme enabled by these applications.

**The existing SH1 between MacKays Crossing and Linden**

82 I understand the forward intentions are that the existing SH1 between MacKays Crossing and Linden will become a local road under the control and management of the respective local authorities being PCC and the Kapiti Coast District Council.

83 For its part, the WRLTS says[17]

> Ensure the existing State Highway 1, between MacKays Crossing in the north and Mungavin Interchange in the south, is managed in a way that is consistent with its long term purpose of a scenic access route once the Transmission Gully project is operational.

84 The removal of through traffic from along the existing SH1 route and its associated change in character away from that of a major arterial will enable an increased emphasis on local service, easier access to and from adjoining properties, improved opportunities and levels of service for cyclists and pedestrians, and an associated reduction in traffic noise and the severance effects on local communities.

85 The intention is linked in the WRLTS[18] with the objectives of assisting safety and personal security, protecting and promoting public health, and ensuring environmental sustainability.

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[16] Porirua City District Plan, Section 7.1.5, page C7-5.

[17] WRLTS 2010-40, Section 8 Policies, p42.

[18] WRLTS 2010-40, Section 8 Policies, p42.

## PUBLIC TRANSPORT, WALKING AND CYCLING, AND THE COMMUNITY

86 It will be noted that the overall Western Corridor Plan provides for a programmed series of complementary improvements[19] to both the road and public transport services. This is important because the patterns of travel and the relative use of each of the available modes is strongly influenced by the comparative levels of service that are available to users.

### Public Transport

87 Improvements to both the road and public transport services are required to achieve the desired balanced solution to travel in this corridor.

88 For the road network and as I have set out in my evidence, the TG Project is a key element of the "Wellington Road of National Significance" intended within the WRLTS and its related policies and plans.

89 On the rail network, and again as intended by the WRLTS, electrification and double tracking have been extended to Waikanae, upgraded stations have been built, park and ride parking facilities have been upgraded and enlarged, and new rolling stock is being progressively delivered. Public transport patronage is continuing to grow.

90 The parallel actions of both "Advancement of improvements to rail network" and "Implementation of the Wellington Road of National Significance" are combined in together delivering on the listed WRLTS Target 8.1[20] of "*Improved safety, efficiency and reliability of strategic road, public transport and freight links to the north of the region".* Both are needed in delivering the intended outcomes with identifiable outcomes for all users.

### Walking and Cycling

91 As set out in my evidence, other key actions within the WRLTS centre on improving walking and cycling. A direct outcome of the TG Project with its resulting significant shift of traffic flows away from the existing SH route is the manner in which the existing SH route along the coast, through Pukerua Bay and Plimmerton, then becomes more amenable for use by pedestrians and cyclists alike.

92 Such outcomes are relevant to the objectives of the Wellington Regional Cycling Plan 2008[21] which is a subsidiary document

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19 Western Corridor Plan, Otaki to Ngauranga Merge, April 2006), Sections 1.6 and 1.7, p4.

20 WRLTS 2010-40 p 32.

21 "Regional Cycling Plan", Greater Wellington Regional Council, December 2008, p2.

supporting the WRLTS setting objectives and outcomes for the promotion and development of cycling. The aspiration for walking and cycling as set out in the WRLTS vision is: *"People will generally walk or cycle for short and medium length trips. Pedestrian and cycling networks will be convenient, safe and pleasant to use."*

**Community**

93 Other local users also benefit from these changes in terms of matters such as increased priority for side road traffic at intersections, increased ease for local access and egress to and from properties, and reduced waiting times, through to simply being easier for pedestrians to cross the road.

94 These and other related changes and are consistent with the goals sought in the WRLTS, and in my view contribute positively to an improved quality and sense of place available to the local community at large.

**SUBMISSIONS**

95 A number of public submissions have been received addressing matters associated with the strategic purpose of the Project, the majority of which I have already covered during the course of my evidence. There are however a number of particular submissions that I wish to note and respond to in more detail.

**Submission from Kapiti Coast District Council**

96 A submission from Kapiti Coast District Council (Submitter No. 23) raises a number of matters in respect of the applications, amongst which are two that I wish to respond to in respect of the strategic intentions of the Project.

***Local route for northbound traffic from Paekakariki***

97 Under the first listed item in Section 7 on page 5, the submission notes the manner in which the design provides for northbound traffic from Paekakariki to enter the new route using a new northbound on-ramp instead of being able to continue on an entirely local road through to the recently-built Emerald Glen Road providing an alternative route through to Paraparaumu.

98 A submission from the Kapiti Coast Grey Power Association (Submitter No. 28) similarly requests the design be arranged so that such movements can be undertaken without needing to join the new expressway route.

99 In my opinion, there is little practical gain from building an entirely separate connection enabling northbound drivers to travel from Paekakariki through to Emerald Glen Road in such a manner. As will be explained in evidence by the designer, **Mr Mark Edwards** the new alignment will be provided with an auxiliary lane in the 720m

length through to the next Mackays Crossing off-ramp and its associated underpass connecting with Emerald Glen Road. I would expect the arrangement to operate without difficulty.

100 I further note that separate provision is made for pedestrians and cyclists.

101 In the equivalent southbound direction, the new alignment provides for traffic from Paraparaumu to take the southbound off-ramp which curves and passes under the main alignment leading through to join the existing highway and on to Paekakariki.

**Submissions in Support**

***Improved connections to and from the Hutt Valley***

102 Included amongst statements of support for the Project is a submission from the Hutt Valley Chamber of Commerce and Industry Inc (Submitter No. 11) that refers particularly to the contribution this Project will make in improving and strengthening key connections to and from the Hutt Valley.

103 The submission also refers to the desirability of relieving traffic pressures that occur in and around the lower end of Ngauranga Gorge.

104 As mentioned earlier in my evidence, this is reflects the role of the TG Project in enabling much improved access to and from the residential, manufacturing and service activities of the Hutt Valley as a whole, so further enhancing the competitiveness and value of their contribution to the economic abilities of the Wellington region.

***Business reliance on improved accessibility***

105 I note other statements of support from CentrePort Limited (Submitter No. 13) and Kapiti Coast Airport Limited (Submitter No. 16) that make equivalent points reflecting in turn their particular reliance on improved accessibility to the principal roads of the region that will be served by the outcomes from this project.

106 Z Energy (Submitter No. 39) similarly expresses its support for the Project and emphasises its construction to *"an expressway design standard".* That is what is intended.

107 At a more personal level, Mr John Pfahlert (Submitter No. 1), Mr Philip Hayward (Submitter No. 10) and Ms Patricia Norton (Submitter No. 17) each make individual submissions of support that in my view reflect the 'get on with it' sentiments of the community recorded in the WRLTS and summarised earlier at paragraph 70 of my evidence.

**Submissions in Part Support**

***Shift southern terminal to Takapu Road***

108 A submission from Mr Malcolm Faulls (Submitter No. 7) urges relocation of the southern terminal of the route so that it joins the existing motorway via the Takapu Road connection to the Tawa Interchange instead of some 3.6 km further to the north at Linden as is intended by these applications.

109 Earlier schemes for the TG Project did originally envisage such a route leading from Pauatahanui via the Takapu Valley and through to the Tawa Interchange along the lines referred to by Mr Faulls.

110 As the investigative work advanced however, a more refined investigation of alignments resulted in relocation of the southern terminal at Linden as now planned, as this was found to be not only more cost effective in better serving the Porirua East and Whitby communities and relieving traffic pressures on the Champion Street interchange, but also better provided for the Kenepuru Link being incorporated as an integral component of the overall plan.

***Effects at Pukerua Bay***

111 A submission from the Pukerua Bay Residents Association (Submitter No. 46) notes a range of opinions within their community and refers to the focus of the Association being on mitigating the immediate effects of the heavy traffic flows on Pukerua Bay.

112 One of their initiatives undertaken together with Porirua City Council has been the preparation of a Neighbourhood Accessibility Plan entitled 'Uniting the Bay' undertaken in 2008 and aimed at identifying measures to reduce severance and improve safety in the Bay. The scope includes addressing both the existing conditions and the opportunities and actions that can be pursued once the TG Project is built.

113 At the time this report was prepared in 2008, the traffic predictions being provided to the authors from the then Greater Wellington Regional Traffic model were interpreted as indicating traffic volumes through Pukerua Bay after the TG Project is built would be in the order of 17,000 vehicles per day.

114 In this regard, the Neighbourhood Accessibility Plan 'Uniting the Bay' says particularly[22], *"Even with Transmission Gully; the daily numbers will remain at a daily level of 17000 vehicles per day."*

115 The submission itself repeats this same understanding saying, *"… Greater Wellington Regional Council Modelling carried out in 2005 predicts that without Transmission Gully the annual average daily*

[22] Porirua City Council, Pukerua Bay Neighbourhood Accessibility Plan 'Uniting the Bay', May 2008, page 7

*traffic (AADT) through Pukerua Bay in 2016 will be 26,000 vehicles and with Transmission Gully the AADT in 20211 will be 17,000. Even 17,000 vehicles is still enough to cause major disruption and danger to residents."*

116 In this regard however, these original forecasts have now been overtaken and replaced with the more recent and much improved traffic forecasting models now being used which show that with TG in place, the forecast volumes at the southern limit of Pukerua Bay [23] as at 2026 will be generally small at an expected 5,900 vehicles per day (vpd), and 3,100 vpd at the northern end and along the coast. Such volumes are in the range of what is typically encountered within ordinary local and neighbourhood streets.

117 These much smaller forecast volumes emphasise the significant changes that TG will bring to the Pukerua Bay community and the associated prospects of a very considerable transformation that is brought with the lessening of severance, reduced noise, and better convenience and safety.

118 In my view such changes will bring a very considerable improvement to all of the living environment of Pukerua Bay.

***Local intersections at Pukerua Bay***

119 A submission from Mrs Kylie Gamble (Submitter No. 64) of Pukerua Bay expresses support in part, and seeks some amendments to the manner in which the existing lengths of SH1 within Pukerua Bay are dealt with both now and after the TG Project is built.

120 The submission particularly mentions the future treatment of local intersections within Pukerua Bay, and provision to build what was originally envisaged as a future bypass of the Pukerua Bay settlement.

121 The position in this regard is that with the TG Project built and in use without tolls as currently anticipated, the remaining volumes of traffic using the old highway at Pukerua Bay will be small and in the range 3,100 to 5,900 vehicles per day[24]. At these levels, there are a range of options available as to how each of the local intersections could be managed. Simple Stop or Give Way signs may be appropriate at some, while at others and depending on the numbers of pedestrians wishing to cross the road, the local installation of a signalled pedestrian crossing or a set of intersection traffic signals may be preferred. At 3,100 to 5,900 vehicles day, the existing single lane approaches would be sufficient, and it would not be

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[23] Technical Report 4: Transmission Gully Project – Traffic and Transportation Effects, June 2011, Figure 4.13. page 60

[24] Technical Report 4: Transmission Gully Project – Traffic and Transportation Effects, June 2011, Figure 4.13. page 60

necessary to four-lane or widen the road as Mrs Gamble suggests could be required.

122 Again, at these volumes, there would be no remaining need or justification for the Pukerua Bypass to be built, and in due course, I would expect that the NZTA would be able to consider disposal of its remaining land holdings in the area.

123 With the TG Project in place, the detail of how the individual local intersections at Pukerua Bay should be managed is in my view entirely appropriate for the Porirua City Council to determine, and I anticipate this would in turn involve appropriate discussion and consultation with the local community.

***Alternative staging***

124 A submission from Mr Colin Niven (Submitter No. 28) includes a proposal that construction of the Project be divided into two stages being first from Linden to SH58 at Pauatahanui, and then in a second stage through to join the existing SH1 at Mackays Crossing. Mr Niven envisages the first stage could be further subdivided into each of the local lengths between interchanges.

125 Mr Nixon proposes that *"each sub-section be brought into use before serious work starts on the next section."*

126 As will be further explained in evidence by the project designer **Mr Mark Edwards** in terrain such as is encountered in this Project involving significant earthworks and careful management of run-off and environmental effects, such localised staging would be unnecessarily expensive and physically impractical. The work needs to be scheduled and undertaken on a project-wide and continuous basis.

127 A further key issue is that recognising its primary purpose as a road of national significance, giving effect to its intended purpose requires drivers be able to travel through all of its length between Linden and Mackays Crossing.

**Submissions in Opposition**

***Continued increases in the price of fuel***

128 A submission from Mr Wayne Erb (Submitter No. 4) expresses complete opposition to the proposal on the grounds that its construction does not represent prudent management of the country's resources with the view that continued increases in the price of fuel will flatten demand to the extent that the motorway will not be needed in the medium term.

129 As will be apparent from the application and its associated assessments, and alongside giving effect to the adopted strategic

targets and policies of the WRLTS[25], a principal purpose of this Project centres on enabling a more dependable and safer principal route serving the northern access to and from the Wellington region in place of the vulnerabilities and bottlenecks that are already plainly evident.

***Use public transport and railways***

130 A submission from Mr Paul and Ms Deborah Rosin (Submitter No. 9) urges termination of the TG Project and instead considering development of the regional public transport network with a view to redistributing road freight onto railways. The submission says that tramway systems/light railways need to be developed for the greater Wellington area.

In response, it can in my view properly be recognised that the WRLTS itself gives extensive and careful consideration to the role required of public transport and the balance that is sought in terms of the complementary role required of the road network, noting improvements are needed in both including endorsement of the TG Project. I note Chapter 9 of the WRLTS[26] further provides particular assessment of the complementary roles required from each of the respective transport modes including serving the needs for movement of freight.

***Alternative Solutions***

131 A submission on behalf of the Coastal Highway Group (Submitter No. 34) expresses the view that adequate consideration has never been given to alternatives to undertaking the TG Project. Under the heading of 'Matters to be Considered', the submission says

> "It is our contention that if adequate consideration were given to the elements of each alternative, the proposal to develop the coastal route from Pukerua Bay to Paekakariki and make some improvements at Mana would be shown to be the much better choice."

132 Earlier in my evidence, I have set out the manner in which these various options have been considered within the WRLTS and the priority given in its advocacy and support for the TG Project.

133 At a more technical level, the nature of the differences in making such a choice between the coastal and inland alternatives will also be apparent. With the coastal alternative, the plan requires lengthening the State Highway 58 connection through Grays Road around the northern side of the Pauatahanui Inlet with its associated environmental impacts, together with the need to handle both local and long-distance movements together on the same coastal road.

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[25] WRLTS, Chapter 8, p37

[26] WRLTS, Chapter 9, p47

134 With the inland alternative, the alignment gives the prospect of a strengthened regional structure complementing the existing arterials with increased separation of long-distance and local traffic, plus a shorter and more convenient link to and from the Hutt Valley. The plan equally allows an improved connection to the Porirua City Centre from the major network.

135 In my view, the key issues influencing this choice are:

135.1 The potential environmental effects that would be incurred along the coastal section of the route between Pukerua Bay and Paekakariki;

135.2 The degree of community severance and associated effects which would be incurred as volumes rise; and

135.3 The lessened benefits to the supporting arterial and sub-arterial networks.

136 It needs to be appreciated in this regard that the alternative of reconstructing the coastal route to the standards needed to achieve the capacity and levels of service projected as necessary in this western corridor would involve substantial works extending well beyond just a simple four-laning of the existing route.

137 Such a design would require a median-divided four-lane route with access control necessitating extensive property purchase and grade-separation of the required major intersections at Whitford Brown Drive and at Grays Road being the extension of SH 58, and property purchase and construction of a highway bypass at Pukerua Bay. The resulting route would be of an equivalent or similar general standard to the existing lengths of State Highway 1 between Johnsonville and Porirua.

138 All of these matters have been the subject of extensive public consultation and debate. The resulting reports and recommendations recommending the inland route were in turn accepted by the then Transit New Zealand Board and again more recently by the NZ Transport Agency and the Minister.

139 With progressive refinement of the designs, the designation requirements now sought are an integral and necessary step in that overall commitment.

***Giving Effect to the Regional Transport Strategy***

140 A submission from Public Transport Voice (Submitter No. 38) expresses opposition to the Project on a number of grounds including, *"…TGM will not have overall positive effects on the Wellington transport system."*

141 However, and as I set out earlier at paragraphs 65 to 67 in my evidence, the strategic approach adopted by the WRLTS sets out a whole range of actions to be taken in providing the transport system for Wellngton's future of which the TG Project is one element amongst others. These are directed at eight complementary targets, four of which refer directly to the northern corridor of which the TG Project is a part.

142 These eight listed targets and actions extend to include responding to a wide range of community needs and across all modes. As will be apparent from the actions and associated timing in giving effect to the adopted strategies, it is not a matter of just pursuing one project.

143 Similarly, a submission on behalf of the Rational Transport Society (Submitter No. 49) says the TG Project does not provide for the accessibility needs of those who cannot or do not wish to use a car. It also says the TG Project will encourage the use of cars which are difficult to convert to renewable energy, will reduce the proportions of travel by rail that would otherwise be expected in the western corridor, and is likely to encourage dispersed development.

144 I have already referred to a number of these matters and their policy context at paragraphs 65 to 67 earlier in my evidence. In my view, the key point to be made in responding to this submission is that the TG Project is just one component in a whole series of interconnected actions to be undertaken in providing for the wider transport needs of the region as a whole. Its planned construction is accompanied by other policies and actions extending across all modes as well as the matters of improving efficiency and reducing emissions. The actions particularly address the matter of ensuring improved land use and transport integration.

***Promotion of Walking Friendly Communities***

145 A submission made by Living Streets Wellington (Submitter No.58) says they are unable to support the Project because the benefits being claimed are unlikely to be delivered in practice, and the costs are too high in terms of negative effects on the transport systems, the high economic cost, and impacts on the environment. The submission is particularly concerned that, *"the changes the project will bring on the coastal route will not in themselves remove the community severance created by the current SH1, and at the southern end will be too low to deliver any noticeable benefits at all."*

146 Again, I have covered a number of these points earlier in my evidence. At Pukerua Bay which is currently exposed to traffic flows of some 23,500 vpd and very close to the maximum practicable capacity of the road, future volumes with TG in place will reduce so as to be around 5,900 vpd at the southern end of the settlement,

and 3,100 vpd at the northern end and along the coast. These are very significant reductions and will bring an associated transformation of the local roadside environment benefitting residents, walkers and cyclists alike.

147 The changes at Paremata are also significant where volumes otherwise projected to reach 35,100 vpd by 2026 will, with the TG Project in place, instead be some 20,400 vpd. While such flows will still require appropriate management with signals and controlled pedestrian crossings, the removal of most of the through traffic and longer-distance trips will allow better service and improved convenience for local and side-road movements, again to the benefit of the surrounding community.

148 As I have said earlier in my evidence, with the TG Project in place, the detail of how each of these local intersections should be managed is in my view entirely appropriate for the Porirua City Council to determine, and I anticipate this would in turn involve appropriate discussion and consultation with the local community.

**CONCLUSION**

149 In my opinion the designations as sought in this Proposal are both necessary and appropriate in properly providing for the ongoing future growth and development of the Wellington region and the associated travel needs to and from the north along State highway 1.

150 As described in my evidence, the provision for and planned construction of the TG Project is consistent with the objectives and policies of the WRLTS and provides the levels of support and service needed in extending and strengthening the ongoing development foreseen for the region as a whole.

151 Alongside these primary strategic outcomes, the Project separately opens opportunities from the removal of through traffic and the resulting lessened volumes on the coastal route with a resulting increased emphasis on serving local access and neighbourhood amenity. The nature and timing of such changes will be for the Council and the community to decide.

152 Overall, these designations as sought follow a substantial period of investigation and consultation and in my view represent a significant milestone in planning and providing for the ongoing growth and development of the Wellington region as a whole.

153 I recommend your confirmation and approval of these designations as sought.

Peter Terence McCombs
Traffic Design Group Limited
13 November 2011