

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

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 Michael Campbell Copeland (Economics) for the
NZ Transport Agency and Porirua City Council

Dated: 15 November 2011

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

**STATEMENT OF EVIDENCE OF MICHAEL CAMPBELL COPELAND
FOR THE NZ TRANSPORT AGENCY AND PORIRUA CITY
COUNCIL**

QUALIFICATIONS AND EXPERIENCE

- 1 My full name is Michael Campbell Copeland.
- 2 I hold a Bachelor of Science degree in mathematics and a Master of Commerce degree in economics. I have over 35 years experience in the application of economics to various areas of business including transport economics and resource management matters. A summary of my curriculum vitae is attached as **Appendix A**.
- 3 I am a consulting economist and managing director of Brown, Copeland and Company Limited, a firm of consulting economists which has undertaken a wide range of studies for public and private sector clients in New Zealand and overseas. During the period 1990 to 1994, I was also a member of the Commerce Commission and during the period 2002 to 2008 I was a lay member of the High Court under the Commerce Act. Prior to establishing Brown, Copeland and Company Limited in 1982, I spent six years at the New Zealand Institute of Economic Research and three years at the Confederation of British Industry.
- 4 I have been engaged in a number of areas of road transport economics and my curriculum vitae, in **Appendix A**, contains details of some of the assignments related to road transport I have undertaken. With respect to the Resource Management Act 1991 (*RMA*), I have prepared evidence for clients covering a number of projects and policies. A selection of these is listed at the end of my curriculum vitae in **Appendix A**.
- 5 My evidence is given in support of Notices of Requirement (*NoRs*) and applications for resource consent lodged with the Environmental Protection Agency (*EPA*) by the NZ Transport Agency (*NZTA*) and Porirua City Council (*PCC*) on 15 August 2011 in relation to the Transmission Gully Project (*Project*).
- 6 I understand that the Project comprises two individual projects, being:
 - 6.1 The 'NZTA Project', which refers to the construction, operation and maintenance of the Main Alignment and the Kenepuru Link Road by the NZTA; and

6.2 The 'PCC Project' which refers to the construction, operation and maintenance of the Porirua Link Roads by PCC.¹

- 7 I understand applications have also been lodged for the 'Transpower Project', which refers to the relocation of parts of the PKK-TKR A 110kV electricity transmission line between MacKays Crossing and Pauatahanui Substation by Transpower New Zealand Limited (*Transpower*). My evidence does not address the Transpower Project.
- 8 I am familiar with the area that the Project covers and the State highway and local roading network in the vicinity of the Project.
- 9 In March 2011, I was retained by the NZTA to provide assistance with respect to the assessment of economic effects of the Wellington road of national significance (*RoNS*), part of which is the Transmission Gully Project, given my experience with transport economics and road transport project evaluation procedures. I have not been involved in the traffic modelling or the calculation of the benefit cost ratio for the Project.
- 10 I have met with NZTA staff, who are members of the Project team and the NZTA's planning and transport consultants for the Project. I have reviewed various documents relating to the Project, including:
- 10.1 "Wellington Northern Corridor RoNS Economic Analysis", prepared by Opus International Consultants Limited for the NZTA, October, 2009;
- 10.2 "Wellington Northern Corridor RoNS Detailed Business Case", NZTA, 10 November 2009;
- 10.3 Social Impacts Assessment Technical Report 17; Beca Carter Hollings and Ferner Ltd and Incite; 28 July 2011; appended to The Assessment of Environmental Effects of the Transmission Gully Project.
- 11 I have read the draft evidence of **Mr Craig Nicholson, Mr Tim Kelly, Mr Peter McCombs** and **Ms Moira Lawler**. I have also read submissions lodged on the Project which raise economic issues (and these are addressed later in my evidence).
- 12 I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2011), and I agree to comply with it as if this Inquiry were before the Environment Court. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider

¹ The Porirua Link Roads are the Whitby Link Road and the Waitangirua Link Road.

material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

- 13 My evidence will address the following:
- 13.1 Economics and the RMA;
 - 13.2 Comments on Project economic assessment;
 - 13.3 Other economic effects (retail distribution, increased economic activity during construction);
 - 13.4 Response to submissions; and
 - 13.5 Conclusions.

SUMMARY OF EVIDENCE

- 14 The economic wellbeing of people and communities and the efficient use of resources are relevant considerations under the RMA.
- 15 The NZTA project evaluation procedures and database have been used to assess the efficiency of the Project. These procedures and database are based on international best practice and have been refined over many years on the basis of local and international research and investigation.
- 16 Using the NZTA project evaluation procedures and database, the Project achieves a benefit cost ratio (*BCR*) of 0.82; i.e. less than 1 and therefore the Project does not achieve the Government's target rate of return of 8%.
- 17 However, the Project is an integral part of the Wellington RoNS investment package which has a *BCR* of 1.2; the *BCR* calculated for the Project excludes some important benefits; and the *BCR* for the Project has been calculated using a national rather than Wellington regional viewpoint. Therefore the Project, despite its current *BCR* estimate of less than 1, is consistent with enabling "*people and communities to provide for their ... economic ... well being*", and having regard to "*the efficient use and development of natural and physical resources*". This is reflected in NZTA ascribing 'high' ratings to the Project for strategic fit and effectiveness.
- 18 The Project will potentially have significant negative business redistribution effects for a small number of businesses but the vast majority of businesses are not so dependent on the passing motorized trade that they will be significantly affected. Negative business redistribution effects will not be sufficiently significant to

affect the public amenity values of centres bypassed by the Project. Moreover, benefits for communities along existing State Highway 1 (SH1) from reduced traffic volumes will improve amenity values for existing town centres bypassed by the Project.

- 19 During the construction phase of the Project, there will be benefits for Wellington businesses and residents as a consequence of additional economic activity generated within the region.
- 20 I have reviewed the submissions raising economic issues and none of the issues raised in submissions alters my view that the Project will enable people and communities to provide for their economic wellbeing and represents an efficient use of resources.

ECONOMICS AND THE RMA

Community Economic Wellbeing

- 21 Economic considerations are intertwined with the concept of the sustainable management of natural and physical resources, which is embodied in the RMA. In particular, Part II section 5(2) refers to enabling "*people and communities to provide for their ... economic ... well being*" as part of the meaning of "*sustainable management*", the promotion of which is the purpose of the RMA.
- 22 As well as indicating the relevance of economic effects in considerations under the RMA, section 5 also refers to "*people and communities*" (emphasis added), which highlights that in assessing the impacts of a proposal it is the impacts on the community and not just the applicant or particular individuals or organisations, that must be taken into account. This is underpinned by the definition of "*environment*" which also extends to include people and communities.

Economic Efficiency

- 23 Part II section 7(b) of the RMA notes that in achieving the purpose of the Act, all persons "*shall have particular regard to ... the efficient use and development of natural and physical resources*" which includes the economic concept of efficiency.² Economic efficiency can be defined as:

the effectiveness of resource allocation in the economy as a whole such that outputs of goods and services fully reflect consumer preferences for these goods and services as well as individual goods

² See, for example, in *Marlborough Ridge Ltd v Marlborough District Council* [1998] NZRMA 73, the Court noted that all aspects of efficiency are "*economic*" by definition because economics is about the use of resources generally.

and services being produced at minimum cost through appropriate mixes of factor inputs.³

- 24 More generally, economic efficiency can be considered in terms of:
- 24.1 Maximising the value of outputs divided by the cost of inputs;
 - 24.2 Maximising the value of outputs for a given cost of inputs;
 - 24.3 Minimising the cost of inputs for a given value of outputs; and
 - 24.4 Minimising waste.

Viewpoint for economic assessment

- 25 An essential first step in carrying out an evaluation of the positive and negative economic effects of a project is to define the appropriate viewpoint that is to be adopted. This helps to define which economic effects are relevant to the analysis. Typically a district or wider regional viewpoint is adopted and sometimes a nationwide viewpoint might be considered appropriate.
- 26 For the Transmission Gully Project, the Wellington region is a relevant community of interest, because the economic effects of the Project will largely (but not solely) impact on the residents and businesses in the region. However because funding for the Project will be from NZTA, a central government agency, and because of the scale of the Project, the national economic effects of the Project are also relevant. This is underscored by the Project being part of the Wellington RoNS, which is included in the Government's portfolio of RoNS.
- 27 Generally with projects considered under the RMA with which I have been involved⁴, the financial or commercial 'business case' analysis undertaken from the viewpoint of the project proposer is considered to be irrelevant since this is an analysis of private costs and benefits rather than the cost and benefits for "*people and communities.*" Relevant in such cases are only the so called 'externalities' – i.e. those side effects of the project which affect third parties other than the buyer and seller.
- 28 In this respect the 'business case' analysis undertaken by NZTA in relation to the Transmission Gully Project (and other road improvement or alternatives to roading projects) is unusual in that the analysis is undertaken not from its own narrow NZTA perspective but from a broader national perspective with the costs

³ Pass, Christopher and Lowes, Bryan, 1993, *Collins Dictionary of Economics* (2nd edition), Harper Collins, page 148.

⁴ For example new supermarkets for Foodstuffs, a new cement plant for Holcim (NZ) Limited, renewal of gold mining resource consents for Oceana Gold (NZ) Ltd and a new power station for Meridian Energy Ltd.

of the project compared to road user and other benefits. However I would caution that the NZTA's quantified assessment of the Project's efficiency only in part addresses "... *the efficient use and development of natural and physical resources*" as required under the RMA in that:

28.1 Not all costs and benefits are included in NZTA's quantified assessment; and

28.2 The NZTA's quantified assessment is from the national viewpoint. It does not consider the efficiency of the Project from a Wellington or smaller (e.g. Porirua City) 'community' viewpoint.

29 I consider these factors later in my evidence.

With and Without Analysis

30 I note that in analysing the economic effects of the Project, it is necessary to compare two forward looking scenarios ('with Project' versus 'without Project'), rather than a 'before' and 'after' comparison. This means the proper baseline for evaluating future economic (and non-economic) effects of the Project are the future volumes of traffic on the network without the Project, not current traffic volumes.

Intangible or Non-monetarised Effects

31 In economics 'intangible' costs and benefits are defined as those which cannot be quantified in monetary terms. For any project such effects may include amenity effects, landscape effects, ecological effects and recreational effects. I would note that such effects may be positive or negative – i.e. a benefit or a cost for a particular community of interest.

32 Sometimes attempts can be made to estimate monetary values for so called 'intangibles' using techniques such as willingness to pay surveys or inferring values on the basis of differences in property values. However these techniques are frequently subject to uncertainty and criticism.

33 In my opinion it is generally better to not attempt to estimate monetary values for these effects but to leave them to be part of the overall judgement under s 5 of the RMA. This also avoids the danger of 'double-counting' – i.e. including them within a quantified measure of efficiency and treating them as a separate consideration in the overall judgement under s 5.

COMMENTS ON PROJECT ECONOMIC ASSESSMENT

Conventional Cost Benefit Analysis

- 34 Conventional cost benefit analysis of road improvement projects involves comparison of project benefits (including vehicle operating cost savings, travel time cost savings, accident cost savings and trip travel time reliability improvements) with project costs (including capital costs and changes in operation and maintenance costs).
- 35 The methods used to estimate the benefits and the costs together with the procedures to adopt for their evaluation are set out in the NZTA's Economic Evaluation Manual (*EEM*)⁵ and are based on considerable local and international research. The methods and data have been refined over a number of years. In the 1980s and 1990s I was personally involved in helping the predecessors to the NZTA⁶ establish the procedures and the database to be used. I understand that in the last 10 years these procedures and the database have continued to be refined. They are consistently applied over all road improvement project evaluations and alternatives⁷ to roading project evaluations seeking funding from the NZTA. This is done to assist with the ranking of alternative NZTA and certain⁸ local authority projects.⁹
- 36 In New Zealand (and overseas) a *discount rate* is used to cover the time value of money and the opportunity cost of funds (i.e. the returns available from alternative road improvement projects, other government projects or programmes and/or private sector use of funds). The discount rate used for many years for roading projects and other public sector investment projects was 10%¹⁰, but in recent years this has been reduced to 8%.
- 37 The benefits of a project are divided by the costs of the project (incorporating a cost of funds (the discount rate) of 8% in real terms – i.e. excluding the effects of inflation) to derive a benefit cost ratio (*BCR*). If the *BCR* is greater than 1, project benefits exceed project costs and generally this is interpreted as meaning that the use of funds for the project will be an efficient use of resources.

⁵ Previously this document was called the Project Evaluation Manual (PEM). When the procedures were first developed they were contained in a document referred to as Technical Recommendation No. 9 (TR9).

⁶ I.e. the National Roads Board, Transit New Zealand and Transfund New Zealand.

⁷ For example, public transport projects.

⁸ I.e. those seeking NZTA funding.

⁹ The EEM procedures and databases are not used to determine the overall size of the budget for investment in road improvement projects – in other words the analysis is not used to determine the relative priorities of transport and non-transport related projects.

¹⁰ Following a directive from Treasury in 1972.

38 However, as noted above in my evidence, not all the costs and benefits of a project can be quantified in monetary terms. 'Intangibles' will need to be considered outside the quantitative BCR calculation and decision makers will need to 'trade off' the BCR against any positive or negative 'intangible' effects.

39 Finally, in relation to conventional cost benefit analysis, NZTA's BCR is calculated from the national perspective. It is a measure of national economic efficiency. It does not provide information about the distribution of costs and benefits. However, with respect to the Transmission Gully Project and the Wellington RoNs, a BCR greater than 1 when calculated from a national perspective will be even larger from a Wellington regional perspective. This is because most of the benefits will accrue to Wellington businesses and residents, whereas the costs of the Project will be funded from a national pool of resources.

Wider Economic Benefits

40 Conventional cost benefit analysis of transport projects is now being extended to cover increases in productivity (or efficiency) at the regional and national levels that are in addition to the conventionally measured benefits (e.g. savings in vehicle operating costs, travel time and accidents). Conceptually the inclusion of a number of additional benefits can be justified. For example, there are so called 'agglomeration' benefits. These arise when the productivity and the supply of labour and other resources are enhanced when travel times between points within a district, city or region are reduced and this leads to an effective increase in the density or concentration of business activity. Another wider economic benefit may occur as a result of road improvement projects increasing the level of economic activity in an area and economies of scale leading to increased productivity and economic efficiency.

41 I am aware of work that has been done to extend conventional cost benefit analysis to include these wider economic benefits (although I have not carried out any such exercises myself). The NZTA's EEM now includes procedures and data for estimating agglomeration economies. I accept conceptually the possible existence of wider economic benefits but believe the quantification of such benefits in New Zealand (and probably overseas) is not as well developed as conventional cost benefit analysis. Therefore any estimates of wider economic benefits need to be treated with some caution.

BCR Calculation for the Project

42 I have been informed that the latest BCR based on conventional cost benefit analysis for the Transmission Gully Project is estimated at 0.82. Details about the calculation of this estimate are set out in the evidence of **Mr Craig Nicholson**, but I understand it involves including the latest cost estimate for the Project and applying the appropriate price escalation factors (taken from NZTA's EEM) to

each of the project benefit components. No agglomeration benefits or other wider economic benefits are included in the calculation of this estimated BCR.

- 43 Whereas in the past the BCR and a qualitative¹¹ assessment of any 'intangibles' were the only criteria on which New Zealand road improvement projects were assessed and ranked, I am informed that this assessment of a project's efficiency is now only one of the relevant assessment and ranking criteria, with other criteria relating to 'strategic fit' and 'effectiveness'.
- 44 I am informed that NZTA has scored the whole of the Wellington RoNS Project (of which the Transmission Gully Project is an integral part) 'high' (H) for strategic fit, 'high' (H) for effectiveness and 'low' (L) for efficiency; and that this 'HHL' combination gives the Project a 'priority 3' ranking out of 11 possible priority for funding rankings (see the evidence of **Mr Craig Nicholson**).
- 45 I am not personally familiar with the background to the development of the two additional criteria (strategic fit and effectiveness) or how they are measured. However, in part at least, I believe that these other criteria are an attempt to cover costs and benefits which have been excluded from the benefit cost ratio. Whereas from the perspective of economists, an efficiency measure for a project should be all encompassing (even if some costs and benefits of the project are not quantified in monetary terms) non-economists do not necessarily use the same framework and hence seek additional criteria to efficiency to describe other effects of a project.
- 46 Therefore, from the point of view of having regard to "... *the efficient use and development of natural and physical resources*", as set out in Part II, s 7(b) of the RMA, I consider it is necessary to look beyond just the benefit cost ratio estimated for the Transmission Gully Project. In this respect I would note the following:
- 46.1 The latest BCR including agglomeration benefits for the whole of the Wellington RoNS investment package is 1.2.¹² Since this BCR for the whole of the Wellington RoNS was estimated (late 2009), the BCR for the Transmission Gully component has increased and therefore I would expect the BCR for the whole of the Wellington RoNS, if re-estimated now, to be higher than 1.2. This means that the benefits of the whole of the Wellington RoNS investment package are sufficient to exceed the 8% real (i.e. net of inflation) opportunity cost of funds set by NZTA – i.e. the benefits exceed the costs, including an 8% real cost of capital. Another way of

¹¹ Or at least not quantified in money terms.

¹² See the evidence of **Mr Craig Nicholson**.

expressing this is that the Wellington RoNS investment package has an economic internal rate of return (*EIRR*) greater than the Government's hurdle rate of 8%.

- 46.2 Considering only the BCR for the Transmission Gully Project in isolation is artificial in that the Transmission Gully Project is an integral part of the Wellington RoNS investment package. Without the Transmission Gully Project, the benefits of the Wellington RoNS investment package will not be realized.
- 46.3 The Transmission Gully Project has lower costs and greater benefits than the alternative of upgrading the coastal route.¹³
- 46.4 There are benefits from the Project which have been excluded from the quantitative analysis estimating the BCR for the Project (and the Wellington RoNS investment package). In particular no account has been taken in the BCR's estimation of:
- (a) The amenity benefits for coastal urban settlements on the existing State Highway 1 (*SH1*) alignment from the removal of a substantial proportion of through traffic;¹⁴ and
 - (b) The residual value of the Project at the end of the analysis period. Whilst the Project does not have a residual value in the sense that it cannot be sold or redeployed in other uses, it has a residual value in that at the end of the analysis period it is likely to continue providing a stream of net traffic operating benefits out into the future before major reinvestment is required.
- 46.5 The economic benefits of having an alternative "life-line" route in and out of Wellington City in the event of an emergency such as an earthquake have been estimated and included in the BCR estimate by combining the estimated costs of not having the alternative route and multiplying this by the probability of such an event which would close the existing SH1. If a policy maker was significantly risk averse, it may be more appropriate to assume such an event would occur at least once during the life of the Project and this would significantly increase the BCR.
- 46.6 The BCR has been estimated using a national economic viewpoint. However adopting a narrower Wellington viewpoint, the BCR will be much higher since residents and businesses of Wellington will receive most of the Project's

¹³ See the evidence of **Mr Craig Nicholson**.

¹⁴ These are discussed later in my evidence.

benefits but pay only a proportionate share of its costs. In fact there is no certainty that, if the Project does not proceed, the funds earmarked for it will be available for road improvement (or other) projects in Wellington. The funds may instead be used for road improvement (or other) projects in Auckland or elsewhere in New Zealand. Therefore, from a Wellington regional perspective, the Project has a very high BCR since the benefits are significant but the opportunity cost of the funds for Wellington is very low; and

- 46.7 The BCR estimate for the Transmission Gully Project (and the whole of the Wellington RoNS) will be refined and reviewed in the future before funding is approved for the Project's construction. Construction funding approval will depend upon the results of the BCR refinement and the Government's other funding requirements. Therefore it is inappropriate to rely only on the current BCR estimate for the Project to assess the efficient use of resources under the RMA.
- 47 Having regard to the various factors listed in the previous paragraph, in my opinion the Project, despite its current BCR estimate of less than 1, is consistent with enabling "*people and communities to provide for their ... economic ... well being*", and having regard to "*the efficient use and development of natural and physical resources*". This is reflected in NZTA ascribing 'high' ratings to the Project for strategic fit and effectiveness.

OTHER ECONOMIC EFFECTS

Business Redistribution Effects

- 48 Generally under the RMA retail or business redistribution effects are not relevant insofar as they impact on individual competitors. Such impacts are only relevant under the RMA to the extent they are of such significance that they threaten the public amenity values (e.g. critical mass, sustainability, vibrancy and vitality, etc.) of city, town or suburban centres.¹⁵
- 49 The Transmission Gully Project is not an investment by a competitor in retail or other businesses within city, town or suburban centres, but may nonetheless have a negative impact on the economic wellbeing of some businesses heavily dependent on the passing motorized trade along the existing SH1 alignment. Such effects are considered in this section of my evidence.

¹⁵ See *Eldamos Investments Limited v Gisborne District Council* (EnvC W047/2005, 22 May 2005) at paras 217-235; *General Distributors Limited v Waipa District Council* (HC Auckland CIV-2008-404-4857, 19 December 2008) at para 93; and *Discount Brands Limited v Westfield (New Zealand) Limited* [2005] 2 NZLR 597 at paras 8-17.

- 50 Before considering particular centres that will be 'by-passed' by the new expressway along the Transmission Gully route I would like to make a number of general comments:
- 50.1 From a broad regional viewpoint, the Project will not reduce the overall level of business activity – indeed the improvements in efficiency brought about by the Project would be expected to increase the overall level of business activity within the region as a consequence of the region's increased competitiveness. Therefore any losses in trade for individual businesses will be offset by increases in trade for other businesses.
 - 50.2 For many businesses along the existing State Highway 1, the Project will provide improved trading conditions as a consequence of the reduction in traffic volumes on the route – e.g. from reduced traffic noise and air pollution, reduced severance, and an easier turning and parking environment.
 - 50.3 Business transactions involve transactions between suppliers and consumers. Where consumers change their destination purchasing patterns there are likely to be benefits to them as well as to the suppliers who gain trade and such benefits should not be ignored by focussing only on suppliers who lose trade.
 - 50.4 Lost sales revenue greatly overstates the "bottom line impact" on business suppliers. It is really only lost profits, which are likely to be considerably less than lost sales revenue, that are the cost impact on suppliers who lose business. Over time I would expect businesses to react to their new business environment to minimise such lost profits by downsizing, changing their offering or by relocating.
 - 50.5 Even without the Project businesses must address changing business conditions and their future viability is not assured.
 - 50.6 Mitigation measures such as appropriate signage may be put in place to minimize negative impacts on businesses reliant on the passing motorized trade along the existing SH1. Also in some instances property purchases by NZTA will include a component for lost future business profits, and these business owners will therefore be compensated.
 - 50.7 Over time growth in business sales (as a result of population and household growth and increases in real per capita and per household expenditure) will help to offset any reductions in sales as a consequence of the Project.

- 51 The suburban centres potentially affected by the Transmission Gully Project are Mana, Plimmerton, Pukerua Bay and Paekakariki. In addition, between Pukerua Bay and Paekakariki there are two businesses,¹⁶ and between Paekakariki and Mackays Crossing there are three businesses,¹⁷ potentially affected.
- 52 In Mana the most significantly affected businesses are likely to be the two service stations, McDonalds, Mana Motel and Silverwater Lodge. The other 42 businesses located in Mana will be affected to varying degrees but to a lesser extent because they are likely to be less reliant on the passing motorized trade. Also as mentioned previously a number will benefit from improved trading conditions with the reduction in traffic volumes on existing State Highway 1 allowing improved access and parking.
- 53 In Plimmerton the most significantly affected businesses are likely to be the Spinnaker Motel and possibly Big Macs Slabs furniture outlet. The other 21 businesses are expected to be affected only to a small or negligible extent.
- 54 In Pukerua Bay the four businesses are not expected to be significantly affected.
- 55 In Paekakariki the most significantly affected businesses are likely to be Finns Hotel, the Belvedere Motel (a property owned by NZTA) and coffee@ians. The other 13 businesses in Paekakariki near the existing SH1 are unlikely to be significantly affected.
- 56 Between Pukerua Bay and Paekakariki the Fisherman's Table restaurant and the Mana Pacific fish van¹⁸ could be significantly affected by the reduction in traffic on the existing SH1, as will the fruit and vegetable outlet between Paekakariki and Mackays Crossing.
- 57 In summary the Transmission Gully Project will potentially have significant negative business redistribution effects for up to 13 businesses but the vast majority of businesses are not so dependent on the passing motorized trade that they will be significantly affected. Therefore, and having regard to my general comments in paragraph 50 above, it is my opinion that business redistribution effects will not be sufficiently significant to affect the public amenity values of the centres 'by-passed' by the Project.
- 58 Furthermore the Social Impacts Assessment (Technical Report 17) appended to the Assessment of Economic Effects (*AEE*) for the Project identifies a number of benefits for communities along

¹⁶ The Fisherman's Table restaurant and the Mana Pacific fish van.

¹⁷ Continuous Spouting, Mr Chipper and a fruit and vegetables store.

¹⁸ Although this business has considerable flexibility in terms of being easily re-located.

existing SH1 from reduced traffic volumes including reductions in noise, pollution from fumes, vibrations and severance and improved access to retail and medical centres and enhancement of the urban environment. These benefits of the Project will improve amenity values for existing town centres bypassed by the proposed Project.

- 59 The evidence of **Ms Moira Lawler** for Porirua City Council outlines the Council's reasons for its support for the Project. These include improved amenity values for existing town centres along the existing SH1 and for Pauatahanui. In addition **Ms Lawler** states that the Project will offer positive opportunities for further economic development in, and the revitalisation of, the Waitangirua commercial centre. It is interesting to note that whereas some major infrastructure projects give rise to national and regional economic benefits, but localised (or "community") public amenity costs, the Transmission Gully Project is anticipated to bring national, regional and local economic benefits, as well as public amenity benefits.

Increased Economic Activity During Project Construction

- 60 During the Project's six year construction period there will be increased economic activity for the Wellington region as a consequence of the expenditure, employment and incomes directly generated by the Project and the indirect (or multiplier) expenditure, employment and incomes generated as a consequence of impacts on suppliers of goods and services to the Project and those employed on it.
- 61 NZTA takes no account of such impacts in its estimation of a project's BCR because in taking a national viewpoint the level of economic activity (i.e. expenditure, employment and incomes) are likely to be the same with or without a project – if funds are not utilized on one project they are likely to be utilized on an alternative NZTA project, even if in a different region in New Zealand. However taking a Wellington regional perspective (or even a narrower perspective such as that of Porirua City) there is likely to be increased levels of economic activity as a consequence of the Project, since without the Project, the funds earmarked for it are likely to be used elsewhere in New Zealand and not on an alternative road construction project in the region.
- 62 As indicators of levels of economic activity, economic impacts (in terms of expenditure, incomes and employment) are not in themselves measures of improvements in economic welfare or economic wellbeing. However, there are economic welfare enhancing benefits associated with increased levels of economic activity. These relate to one or more of:

62.1 Increased economies of scale: Businesses and public sector agencies are able to provide increased amounts of outputs

with lower unit costs, hence increasing profitability or lowering prices;

- 62.2 Increased competition: Increases in the demand for goods and services allows a greater number of providers of goods and services to enter markets and there are efficiency benefits from increased levels of competition;
- 62.3 Reduced unemployment and underemployment¹⁹ of resources: To the extent resources (including labour) would be otherwise unemployed or underemployed, increases in economic activity can bring efficiency benefits when there is a reduction in unemployment and underemployment. The extent of such gains is of course a function of the extent of underutilized resources within the local economy at the time, and the match of resource requirements of a project and those resources unemployed or underemployed within the local economy; and
- 62.4 Increased quality of central government provided services: Sometimes the quality of services provided by central government (such as education and health care) are a function of population levels and the quality of such services in a community can be increased if increased economic activity maintains or enhances population levels.
- 63 It is reasonable to assume that any increases in economic activity (i.e. expenditures, incomes and employment) as a consequence of increased road construction activity in Wellington from the Project will give rise to one or more of these four welfare enhancing economic benefits at the local regional or smaller community level.

¹⁹ Underemployment differs from unemployment in that resources are employed but not at their maximum worth; e.g. in the case of labour, it can be employed at a higher skill and/or productivity level, reflected in higher wage rates.

RESPONSE TO SUBMISSIONS

Supporting Submissions

- 64 I have read a number of submissions which contain economic reasons in support of the proposed Transmission Gully Project.²⁰ These reasons include the need for improved infrastructure for economic growth and efficiency; reduced vulnerability in the event of a natural disaster or major accident affecting the existing primary highway access route, the national freight task growing by over 70% in the next 20 years; the Project can be built with minimal interruption to traffic flows along the existing highways; the Transmission Gully route is shorter and more direct for trucks carrying freight; the Project will remove freight trucks passing through populated centres on the existing SH1 alignment; the Project via SH58 provides a more direct route to the Hutt Valley transport logistic centre at Seaview/Gracefield; Transmission Gully will bring Wellington and Hutt Valley closer to the Kapiti Coast; variability of travel times between these centres will be reduced; and the existing SH1 alignment splits Paremata/Mana and other suburban centres along the route in two and the adverse effects of this are increasing as traffic volumes increase.

Opposing Submissions

- 65 Economic reasons in submissions²¹ which I have read and that oppose the Transmission Gully Project include oil and petrol prices will continue to rise reducing the demand for motor vehicles and kilometres driven; the Project will destroy businesses and properties in the surrounding towns due to less vehicles passing through those towns; and the Project will not encourage forms of urban development that reflect the efficient use of resources.
- 66 With respect to the possible effects of future oil and petrol price increases, current expectations are that road traffic volumes will continue to increase from current levels, even allowing for oil and petrol price increases.²²
- 67 Whilst the Transmission Gully Project will negatively impact some businesses located on the existing SH1 alignment, my evidence above is that by far the majority of businesses will be better off as a

²⁰ These include submissions from Ballinger Industries Ltd (EPA Submission number 6), Mr Phillip Haywood (EPA Submission number 10), Hutt Valley Chamber of Commerce and Industry Incorporated (EPA Submission number 11), CentrePort Limited (EPA Submission number 13), Kapiti Coast Airport Limited (EPA Submission number 16) and Mr Roger Phillips, Mrs Jennifer Phillips and Miss Karen Phillips (EPA Submission number 22).

²¹ These include submissions from Mr Wayne Erb (EPA Submission number 4), Mr Paul & Mrs Paul and Ms Deborah Rosin (EPA Submission number 9) and Public Transport Voice (EPA Submission number 38).

²² See the evidence of **Mr Peter McCombs** and **Mr Tim Kelly** and the submission of CentrePort Limited which refers to the National Freight Study, which forecasts a 70% increase in the freight task in New Zealand over the next 20 years.

result of the Project removing through traffic from suburban centres on the existing route.

- 68 The Transmission Gully Project will result in significant savings in vehicle operating, travel time and accident costs and therefore is consistent with the efficient use of resources.

CONCLUSION

- 69 The Transmission Gully Project is consistent with enabling "*people and communities to provide for their ... economic ... well being*", and having regard to "*the efficient use and development of natural and physical resources*".



Michael Campbell Copeland
15 November 2011

**APPENDIX A:
CURRICULUM VITAE OF MICHAEL CAMPBELL COPELAND**

DATE OF BIRTH	3 October 1950
NATIONALITY	New Zealand
EDUCATIONAL	Bachelor of Science (Mathematics) 1971
QUALIFICATIONS	Master of Commerce (Economics) 1972
 PRESENT POSITIONS	
(Since 1982)	Economic Consultant, Brown, Copeland & Co Ltd
(Since 2010)	Director, Healthcare New Zealand
 PREVIOUS EXPERIENCE	
1978-82	NZ Institute of Economic Research Contracts Manager/Senior Economist
1975-78	Confederation of British Industry Industrial Economist
1972-75	NZ Institute of Economic Research Research Economist
1990-94	Member, Commerce Commission
2001-06	West Coast Regional Council Trustee, West Coast Development Trust
2002-08	Lay Member of the High Court under the Commerce Act 1986
2003-11	Director, Wellington Rugby Union

GEOGRAPHICAL EXPERIENCE

- New Zealand
- Australia
- Asia (Cambodia, India, Indonesia, Kazakhstan, Malaysia, Nepal, Pakistan, People's Republic of China, Philippines, Tajikistan, Sri Lanka, Uzbekistan, Viet Nam)
- South Pacific (Cook Islands, Fiji, Tokelau, Tonga, Vanuatu, Western Samoa)
- United Kingdom

AREAS OF PRIMARY EXPERTISE

- Agriculture and Resource Use Economics (including Resource Management Act)
- Commercial Law and Economics (including Commerce Act)
- Development Programme Management
- Energy Economics
- Industry Economics
- Transport Economics

ROAD TRANSPORT ASSIGNMENTS

- Providing evidence to the Board of Inquiry in relation to NZTA's Waterview project in Auckland;
- The economist in a team evaluating alternative arterial route upgrades between Nelson City and Richmond;
- The application of NZTA SP9 evaluation procedures for a funding application for public transport improvements in and around Queenstown;
- Engaged by Transit New Zealand to provide advice on procedures and data for evaluating additional economic benefits from safety improvements to the access roads to the Homer Tunnel;
- Three studies for the Ministry of Economic Development investigating the economic benefits associated with road improvement works to maximise further processing opportunities from forestry resources on the East Coast and in Northland. The third study considered the potential role of the existing and planned rail links in Northland and the implications of different locations for future processing options;
- Engaged by Transfund New Zealand to assist with work on Land Transport Pricing Study, review of road user charges and Transfund's project evaluation procedures;
- Examination of the economics from both national and operator viewpoints of replacing the existing Johnsonville-Wellington suburban rail service with an all bus service;
- Commentary for Transit New Zealand on the appropriateness of using property valuation data as a basis for estimating the environmental and severance benefits from the construction of the Stoke by-pass;

- A national and international review of procedures to adopt in transportation project appraisal. Conceptual issues relevant to all national viewpoint project evaluations were addressed as well as the data requirements for transportation project assessment;
- Providing assistance with the preparation of a manual for roading engineers to follow when preparing requests for roading improvement works funding from the National Roads Board for New Zealand (now New Zealand Transport Agency). The manual set out the economic principles to be followed, the worksheets to be completed and the available data on vehicle operating costs, travel time values, accident costs, traffic flow characteristics and cost indices;
- The examination of the economic issues underlying roading cost allocation procedures and provided guidance as to which costs ought to be recovered by means of road user charges and how roading costs should be spread over different road users. (Two studies in 1986 and 1993);
- The construction of a comprehensive and consistent road accident costs data base for New Zealand, suitable for the economic analysis of accident reduction projects.
- Retained (1982-92) as the economic consultant to the Road Research Unit of the National Roads Board/Transit New Zealand. Specific assignments related to:
 - The compilation of an updated road user travel cost database including vehicle operating costs, travel time values and accident costs.
 - A review of alternative procedures for valuing life and recommendations for the approach to be adopted in road accident cost analyses.
 - An analysis of the results of surveys conducted to identify the economic characteristics of traffic flow.
 - A case study (State Highway 73) of the use or risk analysis in the economic evaluation of roading improvements.
 - The preparation of background notes on a number of topics including risk analysis, cost benefit and project selection.
 - A review of the appropriate discount rate to use in Transit New Zealand project evaluations.

RESOURCE MANAGEMENT ACT SPECIFIC PROJECTS

- The proposed Clifford Bay ferry terminal;
- The proposed pipeline and related facilities to utilise water from the Waikato River for metropolitan Auckland;
- A container terminal expansion by the Ports of Auckland;
- The designation of the Transmission Gully motorway route;
- The proposed Variation No. 8 to the Wellington City District Plan covering height and other controls on development of the airspace above the Wellington railway yards;
- A proposed Town Centre Zone within the Kapiti Coast District;
- Wellington City Council's heritage preservation policy;
- Solid Energy's proposed West Coast Coal Terminal at Granity;
- The designation of land for a proposed motorway extension in the Hawke's Bay;
- New regional correctional facilities in Northland, South Auckland, Waikato and Otago;

- Proposed controls on wake generation by vessels travelling within the waterways of the Marlborough Sounds;
- Southern Capital's proposed new township at Pegasus Bay, north of Christchurch;
- The imposition of land use restrictions within noise contours surrounding Christchurch International Airport;
- The expansion of the Whangaripo Quarry in Rodney District;
- Holcim's proposed new cement plant near Weston in the Waitaki District;
- McCallum Bros and Sea Tow Limited's appeal before the Environment Court regarding extraction of sand from the Mangawhai-Pakiri embayment north of Auckland;
- The development of the Symonds Hill pit at Winstones' Hunua Quarry;
- A new residential and commercial development by Apple Fields at Belfast on the outskirts of Christchurch;
- The proposed Central Plains irrigation scheme in Canterbury;
- The staging of residential and business development at Silverdale North in the Rodney District;
- The redevelopment of the Johnsonville Shopping Centre;
- A Plan Change enabling the relocation of existing development rights for a residential and commercial development on Mount Cardrona Station in the Queenstown Lakes District;
- A new Pak'nSave supermarket at Rangiora;
- A new milk powder plant for Fonterra at Darfield;
- Renewal of consents for Oceana Gold (New Zealand) Limited's gold mining operations at Macraes Flat in Otago.