Before a Board of Inquiry
MacKays to Peka Peka Expressway Proposal

under: the Resource Management Act 1991

in the matter of: Notice of requirement for designation and resource consent applications by the NZ Transport Agency for the MacKays to Peka Peka Expressway Proposal

applicant: **NZ Transport Agency**
Requiring Authority

Statement of evidence of **Craig Nicholson** (Project Management Services Manager, Wellington) on behalf of the NZ Transport Agency

Dated: 7 September 2012

REFERENCE: John Hassan (john.hassan@chapmantripp.com)
Suzanne Janissen (suzanne.janissen@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

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STATEMENT OF EVIDENCE OF CRAIG NICHOLSON ON BEHALF OF THE NZ TRANSPORT AGENCY

QUALIFICATIONS AND EXPERIENCE

1 My full name is Craig Simon Nicholson.

2 I have a Bachelor of Engineering Degree with First Class Honours and a Master of Engineering Degree with Distinction (both in Civil Engineering) from the University of Canterbury. I am a member of, and have previously served on the national management committee of, the Transportation Group of the Institution of Professional Engineers of New Zealand (*IPENZ*).

3 I have twenty years professional experience in traffic engineering, road safety engineering, transportation planning and project management. I have spent the last six years working for the NZ Transport Agency (*NZTA*) and its forerunner Transit NZ (*Transit)*, most of that time as the Principal Project Manager for the Transmission Gully project. I have recently been appointed to the position of Project Management Services Manager, Wellington, in which role I am responsible for the project management and delivery of all projects in the NZTA Wellington region, including the MacKays to Peka Peka Expressway project. However, I note that **Mr Andrew Quinn**, who is a member of my team, undertakes day-to-day project management and internal reporting for the MacKays to Peka Peka project on behalf of the NZTA, while **Dr James Bentley** is the project manager for the MacKays to Peka Peka Alliance.

4 Before joining Transit, I worked for fourteen years in engineering consultancy, first for Opus International Consultants and then for MWH New Zealand, specialising in traffic engineering and transportation planning, including significant experience in economic evaluation for roading projects, transportation modelling, road safety engineering, traffic impact assessment and strategic transportation network planning.

5 My professional experience has been predominantly focussed on the planning and delivery of State highway projects in New Zealand, but has also included international experience in Jordan, Malaysia and Bhutan.

6 My evidence is given in support of the Notice of Requirement (*NoR)* and applications for resource consent lodged with the Environmental Protection Agency (*EPA)* by the NZ Transport Agency for the construction maintenance and operation of the MacKays to Peka Peka Expressway Project (*the Project)*.

7 I am very familiar with the area that the Project covers and the State highway and local roading network in the vicinity of the Project. I also confirm that I am authorised to give this evidence on behalf of the NZTA.

SCOPE OF EVIDENCE

8 My evidence will deal with the following:

8.1 Project Funding (including the Benefit to Cost Ratio); and

8.2 Response to related submissions.

EXECUTIVE SUMMARY

9 The NZTA's statutory functions include both managing the State highway system and managing funding of the land transport system. These 'provider' and 'funder' functions are managed by two completely separate groups within the NZTA.

10 The NZTA utilises three assessment criteria to determine if proposed activities (i.e. projects, or packages of projects) are eligible for funding and, if so, their priority. My evidence describes these three assessment criteria, which are 'strategic fit', 'effectiveness' and 'economic efficiency' and how they are evaluated as being either 'high', 'medium', or 'low' for each proposed activity. This leads me to explain that the benefit to cost ratio *(BCR)* is relevant to project funding, but is only one of three criteria used to determine the assessment profile, which in turn determines the priority for programming (and funding) for a proposed activity.

11 The BCR for the Wellington Northern Corridor Road of National Significance *(RoNS)* package (of which the Project is an integral part) was evaluated in late 2009 as part of a 'business case' for the package. At that time, the BCR for the package was calculated in accordance with the NZTA's "Economic Evaluation Manual" *(EEM)* procedures to be 1.0 excluding 'Agglomeration' benefits and 1.2 including 'Agglomeration' benefits. Additional 'wider economic benefits of employment' were also calculated, which would increase the BCR from 1.2 to 1.4. The Project BCR was calculated to be 1.04 in isolation, or 1.18 as part of the package, excluding 'Agglomeration' benefits.

12 The package was evaluated at that time as having 'high' (H) strategic fit, 'high' (H) effectiveness and 'low' (L) efficiency. This 'HHL' assessment profile gave the package a 'Priority 3' ranking for funding. This is the third highest out of 11 possible priority rankings.

13 Funding was subsequently approved by the NZTA Board for property purchase, investigation and design of the Wellington Northern Corridor RoNS package, but subsequent applications to the NZTA Board will be required for construction funding for the projects within the package. The BCR for the package will need to be re-evaluated, and the 'HHL' assessment profile reviewed, before construction funding can be approved.

14 Economic analyses have subsequently been undertaken for four different route options for the MacKays to Peka Peka Expressway, one of which was what is now the Project. The updated BCR for the Project is 0.93, while the updated BCRs for the other three options considered ranged from 0.57 to 0.67.

15 The economic analyses have demonstrated that the Project is less expensive and more economically efficient in BCR terms than any of the other options for providing an expressway between MacKays Crossing and Peka Peka.

16 The economic analysis procedures specified in the NZTA's EEM are primarily intended to prioritise projects for funding, not for an assessment of the economic efficiency of a project in relation to Resource Management Act 1991 *(RMA)* matters. The total undiscounted benefits of the Project are more than three times the total undiscounted costs, but the 8% discount rate specified in the EEM reduces the BCR to the calculated value of 0.93. It is important to understand the implications of the 8% discount rate, if the resulting BCRs are to be used in this wider RMA context.

17 I have read all of the submissions received and respond to those that pertain to my evidence where appropriate.

PROJECT FUNDING

18 I understand that the question of whether or not the Project should be funded is not a matter for the Board of Inquiry to consider. Rather, it is for the NZTA Board, in accordance with the NZTA's statutory functions as defined in section 95(1) of the Land Transport Management Act 2003 (*LTMA*).

19 However, I appreciate that economic efficiency is a relevant matter under the RMA, so I explain below how the NZTA assesses projects for funding and how the BCR relates to this.

Related statutory functions

20 The NZTA was established on 1 August 2008 from a merger of Transit and Land Transport NZ *(LTNZ)*. Two of the NZTA's statutory functions, as defined in section 95(1) of the LTMA are:

> *"(c) to manage the State highway system...",* and
>
> *"(e) to manage funding of the land transport system, including (but not limited to)—*
>
> (i) *administration of land transport revenue and regional fuel taxes..."*

21 These 'provider' and 'funder' functions are managed by two completely separate groups within the NZTA:

21.1 The 'Highways and Network Operations' *(HNO)* group is responsible for the management of the State highway network, which includes identification, investigation, design, construction, operation and maintenance of State highway improvement projects. This group includes **Mr Rod James**, **Mr Quinn** and me.

21.2 The 'Planning and Investment' *(P&I)* group is responsible for managing the national land transport fund *(NLTF)* and the national land transport programme *(NLTP)*. The P&I group provides advice to the NZTA Board during its decision making about project funding.

The NLTF forecasting and the Project

22 The NLTF is currently approximately $3 billion per annum, funded on a 'pay as you go' basis, almost entirely from fuel excise duty (on petrol, LPG and CNG powered vehicles), road user charges (on diesel powered vehicles) and vehicle relicensing fees.

23 The NZTA HNO group has a 10-year State highway forecast that provides a prioritised programme of State highway improvement projects which balances the expected project costs each year against the expected funding levels for State highway improvements projects from the NLTF. The NZTA currently expects that funding will be available from the NLTF for construction of the MacKays to Peka Peka Expressway to commence in the 2013/14 financial year, as shown in the recently released NLTP 2012-15.

Funding assessment criteria and profiles

24 The NZTA utilises three assessment criteria to determine if proposed activities (i.e. projects, or packages of projects) are eligible for funding and, if so, their priority. These criteria are:[1]

24.1 Strategic fit:

The NZTA considers whether proposals:

(i) fit with the organisation's strategic direction (as set out in the NZTA's Investment and Revenue Strategy); and

(ii) address significant national or regional issues.

[1] NZTA's Planning Policy and Funding Manual, Part G.

24.2 Effectiveness:

The NZTA considers how well proposals contribute to a particular strategic objective. Proposals achieving long-term, integrated and enduring solutions rate highest.

24.3 Economic efficiency:

The NZTA considers whether proposals:

(i) use resources efficiently; and

(ii) offer long-lasting benefits.

25 Each of the three assessment criteria is evaluated as being either 'high' (H), 'medium' (M), or 'low' (L) for each proposed activity and the three are combined to form an 'assessment profile' for the activity.

26 The assessment profile is then used to prioritise each activity for programming (and funding) in accordance with the NZTA's "Investment and Revenue Strategy".

Application of the economic efficiency criterion and BCR

27 For proposals that add new or improved infrastructure or services, such as the Proposal, the economic efficiency criterion is assessed according to the benefit to cost ratio (*BCR*).

28 In the case of packages of work, such as the Wellington Northern Corridor RoNS package, it is the overall package BCR (not the individual project BCRs) that is used to assess the 'Economic Efficiency' criterion.

29 The Board of Inquiry into the Transmission Gully proposal appeared to endorse this approach in its final decision and report,[2] which stated at paragraph [245] that:

> *"To the extent that it is relevant, we consider that the BCR for TGP ought be assessed on the basis that it is part of the wider Western Corridor upgrade, of which it is an integral part."*

30 The 'Economic Efficiency' criterion is assessed as 'high' (H) if the BCR is 4 or more, 'medium' (M) if the BCR is at least 2 but less than 4, and 'low' (L) if the BCR is at least 1 but less than 2. If the BCR is less than 1, then the 'Economic Efficiency' criterion cannot be assessed, an assessment profile cannot be determined, and the proposal cannot be funded under the current funding assessment process.

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[2] Paragraph [245], Final Report and Decision of the Board of Inquiry into the Transmission Gully Proposal, Volume 1, June 2012.

31 Therefore, the BCR is relevant to project funding, but is only one of three criteria used to determine the assessment profile, which in turn determines the priority for programming (and funding) for a proposed activity.

BCR and funding of the Wellington Northern Corridor RoNS

32 The BCR for the Wellington Northern Corridor RoNS package (of which the Project is an integral part) was evaluated in late 2009 as part of a 'business case' for the package. At that time, the BCR for the package was calculated in accordance with the NZTA's EEM procedures to be 1.0 excluding 'Agglomeration' benefits and 1.2 including 'Agglomeration' benefits.

33 An independent peer review confirmed that the methods and calculations used were consistent with the EEM procedures.

34 Additional 'wider economic benefits of employment' were also calculated, which would increase the overall BCR value for the Wellington Northern Corridor RoNS package from 1.2 to 1.4, although I note that these additional benefits are not included in the EEM procedures (and were not included in the peer review).

35 The Wellington Northern Corridor RoNS package was evaluated at that time as having 'high' (H) strategic fit, 'high' (H) effectiveness and 'low' (L) efficiency. This 'HHL' assessment profile gave the package a 'Priority 3' ranking for funding. This is the third highest priority ranking out of 11 possible priority rankings. ('HHH' is given a Priority 1 ranking; 'HHM', 'HMH' and 'MHH' are given a Priority 2 ranking; 'HHL' and 'HMM' are given a Priority 3 ranking, and so on.)

36 Funding was subsequently approved by the NZTA Board for property purchase, investigation and design of the Wellington Northern Corridor RoNS package, but <u>not</u> for construction.

37 Subsequent applications to the NZTA Board will be required for construction funding for the projects within the Wellington Northern Corridor RoNS package. The BCR for the package will need to be re-evaluated, and the 'HHL' assessment profile reviewed, before construction funding can be approved by the NZTA Board.

BCR and cost of the MacKays to Peka Peka Expressway

38 When the BCR for the Wellington Northern Corridor RoNS package was evaluated in late 2009, the BCR for the Project was calculated to be 1.04 in isolation, or 1.18 as part of the package (because the benefits are only fully realised when the other components of the package are also completed), excluding any 'Agglomeration' benefits, which were calculated for the package, not for the individual projects. At that time, the cost of the Project was estimated to be $550 million.

39 Subsequently, in 2010, a route option evaluation process was undertaken, which assessed four different route options for the MacKays to Peka Peka Expressway, one of which was what is now the Project, to determine the most appropriate route option. As part of that route option evaluation process, an economic analysis was undertaken in accordance with the EEM and BCRs were calculated for the four route options being considered. The option evaluation process, including the economic analysis, is described in a report entitled "MacKays Crossing to Peka Peka Expressway: Alternative Route Options Report", dated November 2011. The BCR that was calculated for the Project during that assessment was 0.95 (using an expected cost estimate of $575 million), while the BCRs for the other three options being considered ranged from 0.56 to 0.66 (using expected cost estimates ranging from $758 to $898 million). These BCRs excluded any 'Agglomeration' benefits or 'wider economic benefits of employment'. The economic analysis demonstrated that, in comparative terms, the Project was significantly more economically efficient in BCR terms than the three other route options that were being considered.

40 Since that analysis was undertaken, the expected cost for the Project has increased to $632.6 million. One contributor to the increase in the expected cost has been normal cost escalations due to inflation (which leads to a similar increase in the value of benefits, so has little effect on the BCR). The other contributors have been Project scope increases (for example extending the Project length to include rehabilitation of the Raumati Straight section of SH1)[3] and refinements to design, neither of which have corresponding effects on the benefits.

41 The BCRs from the 'Alternative Route Options' report have been updated to reflect the latest cost estimate for the Project and the expected effect of normal cost escalations due to inflation for the other three route options considered. The updated BCR for the Project is 0.93, while the updated BCRs for the other three options considered ranged from 0.57 to 0.67. Although the difference between the BCR for the Project and those for the three other route options has reduced slightly in the updated analysis, the Project is still significantly more economically efficient in BCR terms than all the other options.

42 The traffic models have also been updated since the 'Alternative Route Options' report to reflect a lower rate of traffic growth. I understand from **Mr Andrew Murray** that the lower rate of growth was to reflect both the changed national and international economic conditions and a desire to have the same land use in both the 'With

[3] As explained at Paragraph 48 of **Mr Noel Nancekivell's** Statement of Evidence in Chief, this work will be done as part of the Project, even though it sits outside the boundaries of the designation being sought.

Project' and 'Without Project' scenarios so that a 'like-with-like' comparison of the effects of the Project could be undertaken.[4]

43 The lower rate of traffic growth in the updated traffic models will very likely result in the base BCR for each of the options considered being lower than previously assessed. However, no comprehensive, peer reviewed update of the BCR (with 'Agglomeration' benefits and assessments of 'wider economic benefits' and of the land use benefits) has been completed using the updated traffic models.

44 Notwithstanding that, the Project has a significantly lower expected cost than the other three route options considered, so I consider it inconceivable that incorporating the lower rate of traffic growth into the BCR analysis would lead to one of the other options being more economically efficient in BCR terms than the Project.

45 Several other matters are also worth noting in relation to the BCR analyses for the Project described above:

45.1 The benefit calculations only captured regular, everyday transport benefits. No benefits were calculated for the improved route security and travel time reliability that would be provided by having a second bridge over the Waikanae River and a second viable 'through route' in the event of a crash or other disruption between Otaihanga and Waikanae.

45.2 The NZTA's EEM utilises an analysis period of 30 years, with no residual value recognised at the end of that period. In reality, the RoNS projects are expected, and in fact specifically intended, to continue providing benefits for a much longer period than that.

45.3 The benefit calculations do not recognise that the Project would facilitate the planned land use growth in Kāpiti, while such growth is likely to be constrained without it. This means that the benefits of having that growth occur are not captured.

46 Taking account of these factors would offset, at least to some extent, the likely reduction in benefits arising from the lower rate of traffic growth in the updated traffic models.

47 Overall, notwithstanding that a future update of the BCR will be required before construction funding can be approved by the NZTA Board as discussed in paragraph 37 above, I believe the economic analysis that has been undertaken to date clearly demonstrates that the Project is less expensive and more economically efficient in BCR terms than any of the other options for providing an expressway between MacKays Crossing and Peka Peka.

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[4] See **Mr Murray's** Statement of Evidence in Chief, paragraph 107.

Wider Context for BCRs calculated using the NZTA's Economic Evaluation Manual

48 The updated BCR of 0.93 for the Project that I discussed in paragraph 41 above was calculated using an 8% discount rate, as specified in the NZTA's EEM. It is worth noting however, that if an alternative discount rate of 6%, 4% or 0% (i.e. no discounting) was used, the corresponding BCR value would increase to 1.20, 1.59 or 3.02 respectively. The BCR of 3.02 with no discounting illustrates that the total undiscounted benefits of the Project are actually more than three times higher than the total undiscounted costs within the standard 30 year analysis period, but the EEM's 8% discount rate reduces the BCR to the calculated value of 0.93.

49 The economic analysis procedures specified in the NZTA's EEM are primarily intended for the NZTA to prioritise projects for funding, not for an assessment of the economic efficiency of a project in relation to RMA matters. In my opinion, it is important to understand the implications of the standard EEM procedures, particularly the use of an 8% discount rate, if the resulting BCR's are to be used in this wider context.

RESPONSE TO SUBMISSIONS

50 Whilst I have read all of the submissions received in relation to the Project, this section of my evidence responds only to those submissions that focus on the NZTA or the Project in general or on the funding and BCR issues that are covered in my evidence. The evidence of other NZTA witnesses discusses the parts of the same submissions which are relevant to their areas of expertise.

Readiness of Western Link Road for construction

51 A number of submissions[5] suggest that the construction of the Western Link Road *(WLR)* was close to starting when the Government announced in 2009 that an expressway would be built instead.

52 My understanding is that construction of the WLR was not nearly as imminent at that time as those submissions suggest. Aside from the fact that significant land remained to be purchased (or transferred from the Crown), no construction funding request had been made by the Kāpiti Coast District Council *(KCDC)* to the NZTA. It is uncertain when such a request would have been made, or how long it may have taken to obtain the necessary funding approval, particularly since I am aware that agreement had not been reached between the KCDC and the NZTA about whether Stage 1 of the WLR could be built in isolation, or whether it could only be built in combination with Stage 3 (the southern section of the route,

[5] For example, Davies (0184), Alliance for a Sustainable Kapiti (0572), Connal (0616) and Saint (0710).

between Raumati Road and Poplar Avenue / State Highway1). The NZTA had concerns that constructing Stage 1 in isolation would create adverse traffic effects at the intersection of Raumati Road with State Highway 1 *(SH1)*, so it may have been necessary to construct Stage 3 concurrently with Stage 1 in order to avoid those adverse effects.

Affordability of the Western Link Road

53 A number of submissions[6] suggest that the WLR is more affordable than the Project, generally from an overall cost perspective. Conversely, a number of other submitters[7] express concerns about the affordability of the WLR from a KCDC and ratepayers perspective.

54 The WLR would certainly have been less expensive than the Project, but I do not consider that it would have been more affordable.

55 **Mr Murray's** evidence[8] considers the WLR as an alternative to the Project and concludes that it would not achieve the Project objectives, even in conjunction with minor upgrades to the existing SH1 route. It follows that an expressway would be required in addition to the WLR to meet those objectives. As discussed in paragraphs 39 to 47 above, the other options for constructing an expressway are approximately $150 to $300 million more expensive than the Project. Combining the WLR with another expressway route would therefore be around $300 to $500 million more expensive than the Project.

56 Therefore, from a national perspective, I consider the WLR would be much less affordable than the Project, because it would require a separate expressway to also be constructed, at a substantially higher combined cost than constructing only the Project.

57 Leaving aside the Project objectives, I also consider that the WLR would be much less affordable than the Project from a local perspective (i.e. for KCDC and its ratepayers). That is because the WLR would be a local road, so would only be partially funded by the NZTA from the NLTF, with the remainder requiring 'local share' funding by the KCDC. Conversely, the Expressway would be a State highway, so would be fully funded by the NZTA from the NLTF, with no 'local share' funding required from KCDC.

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6 For example, Cairncross (0180), Tong (0228), Laing (0337), Lattey (0466), Paterson (0491), Cherry (0492).

7 For example, Dobbie (0208), Dowco Associates (0216) and Bardsley (0308).

8 See **Mr Murray's** Statement of Evidence in Chief, paragraphs 200 to 216.

58 When Transit transferred the old 'Sandhills Motorway' designation to KCDC in the mid 1990s, Transit agreed to pay half the cost of the investigation stage for the WLR, because it would provide traffic congestion relief to SH1. I understand that the WLR was envisaged at that time to be a 4-lane arterial road, with a 70 km/h speed limit. The funding agreement meant that the effective financial assistance rate *(FAR)* (i.e. the subsidy rate to KCDC) for the WLR would be 76.5% (since the KCDC would receive its normal FAR of 53% for their half share of the cost).

59 That funding agreement for the WLR endured until 2007, when LTNZ reconsidered the FAR. I understand that the KCDC was committed to the WLR at that time, but had stated in its Long Term Council Community Plan *(LTCCP)* that it was only able to contribute a maximum of 10% of the total cost (which was estimated at that time to be $168 million). Accordingly, the KCDC had only committed $16.8M for the WLR in its LTCCP.

60 In April 2007, the LTNZ Board received a report from LTNZ officers which recommended that the existing 76.5% FAR should continue to apply, a report by Pricewaterhouse Coopers that assessed the affordability of the WLR for the KCDC at differing FARs of 53%, 76.5% and 90%, and a submission and/or presentation from the KCDC. After considering these, the LTNZ Board approved a FAR of 90% for Stage 1 of the WLR but declined to assist the 'local share' of Stages 2 and 3 (which meant the KCDCs normal FAR of 53% would apply to those stages).

61 At that time, the estimated costs of Stages 1, 2 and 3 of the WLR were $107 million, $42 and $19 million respectively. Therefore, allowing for the FARs that had been set by the LTNZ Board, the KCDC would have been required to contribute a 'local share' of approximately $39 million to complete the entire WLR (comprising approximately $11 million for Stage 1, $20 million for Stage 2 and $9 million for Stage 3).

62 I understand the cost estimate for Stage 1 of the WLR subsequently increased to around $136 million, but the KCDC and LTNZ intervened to review the scope in order to keep the costs within acceptable levels. That scope review, which I understand was part of a wider urban design review, led to changes in the form and function of the WLR and a reduction in the cost of Stage 1 to around $120 million. I understand the changes included a greater emphasis on urban amenity and recreation and a lesser emphasis on the traffic carrying functionality of the route, such as a reduction from 4 to 2 lanes (although built on a 4 lane road formation so it could be upgraded later) and a reduction in the proposed speed limit from 70 to 50 km/h.

63 I understand the NZTA was concerned at that time that the changed emphasis may have included amenity and recreation elements that cannot be subsidised from the NLTF, while the reduced traffic functionality may have led to reduced traffic congestion relief to SH1, both of which may have led to the NZTA Board reconsidering the 90% FAR for Stage 1 of the WLR.

64 Although it is unclear how these various changes may have altered the FAR, or the KCDCs overall 'local share' of the costs, it is very clear that the cost to KCDC to complete the WLR would have been substantially higher than the $16.8 million that it had allocated in its LTCCP. This increase in the 'local share' appears likely to have made the WLR unaffordable for the KCDC.

65 In light of all the factors above, I believe that the WLR, when considered along with the other works that would need to accompany it, would be less affordable than the Project from both a national and local perspective.

Project Funding

66 A considerable number of submissions[9] argue that the Project is too expensive to fund, that New Zealand can't afford it, that we shouldn't add to the national debt, that it will take generations to repay the debt, or that the money would be better spent on other Government priorities such as reconstruction projects in Christchurch, health or education.

67 In my understanding, none of these arguments about funding are relevant for the Board of Inquiry to consider, as I discussed in paragraph 18 above.

68 Leaving aside the relevance or otherwise of questions about funding, I also consider that none of the arguments against funding the Project are valid. As I discussed in paragraph 22 above, the NLTF is funded entirely by road users and operates on a 'pay as you go' basis, so the Project will only be funded if it is affordable, with no debt incurred.

69 As defined in sections 6 and 10(2) of the LTMA, all money collected from road users becomes revenue for the NLTF (excluding GST, which goes into the Government's consolidated account, for general expenditure), so the money cannot be spent on other Government priorities such as reconstruction projects in Christchurch, health or education. The only exception to that is for road reconstruction projects in Christchurch, although these are already committed to be funded from the NLTF.

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[9] For example, Howard (0005), Hunter (0008), Maher (0014), McCandless (0040), Foulds (0052), Hager & Laird (0056), Wakefield (0067), Ford (0073), Schurmann (0091), Wallace (0121), Anderson (0217), Batterby (0223), Jury (0253), Anderton & Abigail)(0293), Laing (0337), Baker (0343) and Britton (0423).

Funding for public transport rather than roads

70 A number of submissions[10] suggest that funding for the Project would be better spent on public transport improvements.

71 As noted in **Mr James'** evidence, the LTMA requires the Minister of Transport to issue a Government Policy Statement on Land Transport Funding (GPS) every 3 financial years.[11] The GPS enables the Minister to guide the NZTA and the land transport sector on the outcomes and objectives and the short to medium term goals that the Crown wishes to achieve through the NLTP and from the allocation of the NLTF.[12]

72 The LTMA provides that the NZTA must give effect to the GPS when carrying out its planning functions, including in preparing a NLTP.[13]

73 Of note, the GPS sets out that funding in the NLTP:

> *"… is allocated to activity classes established in the GPS. The allocation of funding to these activity classes reflects the strategic direction the Government has set. For each activity class, a funding range is given which sets out how much can be spent."*[14]

74 The GPS also sets out that:

> *"The NZ Transport Agency is required to allocate funding to activity classes within the funding ranges set out in Table 2..."*[15]

75 Therefore, funding of the Project (which would come from the State highway improvements activity class) would not affect the amount of funding available for public transport improvements (which would come from the public transport activity class) and cannot be diverted to increase the amount of funding available for another activity class.

76 In essence, the Project does not compete for funding with public transport improvements; it only competes for funding with other State highway improvement projects.

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10 For example, McCandless (0040), Hager & Laird (0056), Zajaczkowski & Beaumont (0172), Tong (0228), Jury (0253), Smart Transport Network (0484) and Alliance for a Sustainable Kapiti (0572).

11 Sections 84 and 86, LTMA.

12 Section 84, LTMA.

13 In accordance with section 89(1) of the LTMA, the NZTA must give effect to the GPS when performing its functions under subpart 1 of Part 2 of the LTMA in respect of land transport planning and funding.

14 Paragraph 56, GPS.

15 Paragraph 60, GPS.

Low project BCR and the 'SAHA report'

77 A large number of submissions[16] argue that the Project is not economically viable, many citing the so-called 'SAHA report' from December 2009, which they claim calculated a BCR of 0.6 for the Project. Many submissions also suggest that the cost increases since that time mean that the BCR must now be even lower. Some submissions seem to suggest that the NZTA suppressed the SAHA report and/or manipulated it before a revised version of the report was published in July 2010.

78 All of these claims about the SAHA report are incorrect, as I will explain.

79 The NZTA commissioned Saha International Limited (SAHA) in August 2009 to undertake an economic assessment at portfolio level for the seven RoNS. The title of the report[17] may have suggested that it was a peer review or other detailed review of the economic assessments for the RoNS but the report itself made clear that this was not the case.

79.1 The report clearly stated in the first paragraph of the Disclaimer statement that:

"[SAHA] has prepared this report based on a broad economic assessment methodology developed in consultation with the [NZTA]. Much of the data sources, analysis and assessment has been undertaken by other external advisers engaged by NZTA. SAHA has relied on those assessments in the preparation of this report. Therefore, this report provides high level analysis only and does not purport to be advice on particular investment options or strategies."

79.2 The report also explained in both the Executive Summary and Introduction sections that:

"This report constitutes the findings of an economic assessment undertaken at the portfolio level for the [RoNS]..."

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16 For example, McCallum (0042), Hager & Laird (0056), Hawken (0072), Wallace (0121), Bunch (0124), Davies (0184), Batterbee (0223), Mansfield (0251), Dearden (0261), Pomare (0309), Mountier (0327), Sisarich (0328 & 0331), Kapiti Quakers (0330), McNay (0334), Laing (0337), Parsonage (0347), Sherley (0350), Simpson (0371), Aregger (0382), Cherrill (0411), Ruddelsden (0419), Baxter (0422), Inge (0429), Malone (0452), Madden (0459), Pomare (0465), Love (0470), Morgan (0478), Smart Transport Network (0484), Sijbrant (0487), Kieboom (0494), Edbrooke (0517), O'Brien (0518), Love (0606), Fisher (0610), Rational Transport Society (0611), Rational Transport Society (0611), Connal (0616), Easthope (0621), Lindsay (0622), Cherrill (0630, 0631 & 0632), Beechey (0663) and Begovich (0669).

17 Saha International Ltd, ***"Road of National Significance, Economic Assessments Review"***, December 2009.

> *"The purpose of undertaking the assessment [was] for NZTA to be able to answer two fundamental questions, namely:*
>
> *1 Are there quantifiable wider economic benefits associated with the portfolio of RoNS projects?*
>
> *2 If such benefits exist and are quantifiable, are they of sufficient scale to justify accelerating the implementation of the RoNS as a portfolio?"*

80 To my mind, it is very clear from the report that it was not, and never purported to be, an independent review of the BCR for the Project, as some submitters have claimed it to be. In fact, I have read the report several times, including while I have been preparing this section of my evidence and I can state that to the best of my knowledge it does not even mention the Project. It did refer to a BCR of 0.6, but that BCR was for the entire Wellington Northern Corridor RoNS, not only for the MacKays to Peka Peka Project and it related to a particular 'accelerated' programme determined by SAHA, not to the NZTA's base programme. Alternative BCRs of 0.8 and 0.9 were also quoted in the report for the Wellington Northern Corridor RoNS, for an 'alternative' programme and the 'base' programme respectively.

81 Notwithstanding any of that, the analysis in the December 2009 SAHA report is irrelevant because it does not relate to the Project as it is now proposed. The SAHA report was based on the data that was available in August 2009, before the NZTA had chosen a preferred alignment for the Project. The economic analysis data that was provided to SAHA for the MacKays to Peka Peka section of the Wellington Northern Corridor RoNS was for the so-called 'eastern' option which was favoured at that time, not for the Project as it is now proposed.

82 By the time the SAHA report was submitted to the NZTA in December 2009, a number of the data sets on which it was founded had become outdated and inaccurate (including its use of the analysis for the 'wrong' option for the Project) due to the subsequent development of business cases for each of the RoNS, which included updated information on capital costs, programme dates and BCRs.

83 As a result, the December 2009 SAHA report was never published by the NZTA, because it was known to be inaccurate. In light of that, I do not consider that the report was 'suppressed', as some submitters have claimed. The December 2009 SAHA report was subsequently released to a number of parties who requested it under the Official Information Act 1982*(OIA)*, including some of the submitters. I understand that, when it was released under the OIA, it had a covering letter that explained that it was based on obsolete or inaccurate information.

84 A revised version of the SAHA report, which had been updated to reflect the data in the business cases for the seven RoNS was provided to the NZTA in July 2010. That report is freely available on the NZTA's website.

85 I note that the July 2010 SAHA report does not provide details about the BCRs for the individual RoNS. My understanding is that this was because SAHA and/or the NZTA considered it unnecessary to include those details, partly because the report was only intended to answer questions at a portfolio level (not at the individual RoNS level) and partly because the same details were already available in the business cases and in the project summary statements that were available on the NZTA's website, not because the NZTA 'manipulated' the report to exclude those details as some submitters have suggested.

86 In my opinion, the BCRs discussed earlier in my evidence for the Wellington Northern Corridor RoNS and for the Project are the relevant ones on which to assess economic viability, not the BCRs described in the December 2009 SAHA report.

Omissions from the EEM

87 One submission[18] included an attachment that was authored by Ms Julie-Anne Genter MP, which was headed "Julie-Anne Genter – APSOC, Submission on the NZTA Application for Resource Consent for the Mackays to Peka Peka Expressway." That attachment makes various assertions about perceived flaws in the NZTA's EEM procedures that I wish to address.

88 In section 3 of her submission, Ms Genter lists a number of externalities that she asserts are either excluded or not accurately assessed in the EEM procedures "because an unrealistic business-as-usual scenario is compared with a future scenario with the proposed... project."

89 Several of the items that Ms Genter asserted are excluded or not accurately assessed are, in fact, core components of the NZTA EEM procedures. For example:

89.1 *Health costs associated with traffic crashes, particularly injuries to children* – The 'social costs' of different types and severities of road crashes, as specified in EEM Appendix A6, include components for loss of life and life quality, loss of output due to temporary incapacitation, medical costs, legal costs and property damage costs. These costs are described in the document "The Social Cost of Road Crashes and Injuries", which is updated annually by the Ministry of Transport. These 'social costs of road crashes' are specified

[18] Action to Protect and Sustain or Communities (0677).

in the EEM and have been used by **Mr Murray** in the crash analysis described in his evidence[19] which estimates crash cost savings of some $3 million per annum.

89.2 *Contribution to climate change* – Procedures for assessing the cost of carbon dioxide emissions are include in section A9.6 of the EEM, which states that:

"The Land Transport Pricing Study (1996) determined an average cost of carbon dioxide emissions of $30 per tonne, which is updated to $40 per tonne (2004 values)... This valuation is fixed at 2004 proces (sic) and does not require any update factors".

89.3 *Induced traffic and development* – Procedures for assessing such effects are provided in Appendix A11 of the EEM. **Mr Murray's** evidence[20] explains that induced traffic effects have been considered in the assessment of transport effects.

89.4 *Opportunity cost of land* – The cost of land is included in the project costs. These costs reflect the value of the land in its "highest and best" use permitted under the District Plan, which is the method used for valuing the land for purchase under the PWA.

90 Most of the other items that Ms Genter listed are more appropriately assessed in other, non-monetarised ways, for the reasons outlined in **Mr Michael Copeland's** evidence.[21] The items listed by Ms Genter that have been assessed in this way include:

90.1 *Respiratory and heart damage from traffic pollution* – The impacts the project on air quality has been specifically assessed and found to meet appropriate environmental health standards without mitigation, as outlined in the evidence of **Mrs Camilla Borger**.

90.2 *Noise effects* – The impacts of both construction and operational traffic noise have been specifically assessed and appropriately mitigated, as outlined in the evidence of **Ms Siiri Wilkening**.

90.3 *Stormwater flows* – The impacts of the Project on stormwater flows, both during construction and operation of the Project have been specifically assessed and appropriately mitigated, as outlined in the evidence of **Mr Graham Levy**.

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19 See **Mr Murray's** Statement of Evidence in Chief, paragraph 150.

20 See **Mr Murray's** Statement of Evidence in Chief, paragraphs 93 to 93.5.

21 See **Mr Copeland's** Statement of Evidence in Chief, paragraphs 33 and 34.

90.4 *Changes in land use and urban form* – I am unaware of any recognised methodology to assess the benefits of such effects, but I note that the effects of the Project on urban form have been specifically assessed and appropriately mitigated by the Project design, as outlined in the evidence of **Mr Marc Baily**.

90.5 *Reduction in property values associated with proximity to major roads* – **Mr Copeland's** evidence[22] explains that highway projects can have both positive and negative effects on individual property values, but such effects are a reflection of, not in addition to, other intangible effects and traffic benefits.

91 The only other item listed by Ms Genter in section 3 of her submission was "Car dependence (also with associated health costs)". I am unaware of any recognised methodology to assess "car dependence" effects.

92 In Section 4 of Ms Genter's submission she describes her perception of a "lack of multi-modal context" for the EEM economic evaluation, while in section 5 she asserts that the EEM "generally assumes traffic will continue to grow indefinitely, and is not price-sensitive."

93 In my understanding, those assertions are incorrect.

94 **Mr Murray** explains in his evidence[23] that a full multi-modal transport model has been used, including consideration of travel costs (including fuel) and recent and future public transport improvements, in which growth is predicted from land use growth rather than traffic growth assumptions. He also explains[24] that the Wellington Regional Land Transport Strategy and the Wellington Western Corridor Transportation Study were both full multi-modal studies which identified that a package of both public transport and road network improvements was required to achieve the desired transport outcomes.

95 In light of all the factors above, I do not consider that the EEM procedures are 'flawed' as Ms Genter asserts.

Public transport threatened by RoNS funding

96 Some submissions[25] suggested that public transport services, including the 'Capital Connection' commuter train service between Palmerston North and Wellington, are being threatened by the funding of the RoNS' instead.

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22 See **Mr Copeland's** Statement of Evidence in Chief, paragraphs 74 to 76.

23 See **Mr Murray's** Statement of Evidence in Chief, paragraphs 82 and 83.

24 See **Mr Murray's** Statement of Evidence in Chief, paragraph 219.

25 For example, Pomare (0310) and Cherry (0492).

97 I have already addressed this issue in a general sense, in paragraphs 70 to 76 above.

98 In regard to the specific concerns about the 'Capital Connection' commuter train service, I note that this service has, until recently, operated profitably as a commercial (i.e. unsubsidised) service. I understand that the 'Capital Connection' has never received any funding subsidy from the NZTA. I also understand that the reason it is no longer profitable is that the extension of the Kāpiti commuter rail services to Waikanae in 2011 has led to far fewer Waikanae residents now using the 'Capital Connection' than did previously, which has threatened its financial viability. Therefore, it is a reduction in the existing patronage and associated fare revenue, rather than any reduction in the subsidy from the NZTA, that has caused the 'Capital Connection' service to now be unprofitable.

Compensation for nearby properties

99 Some submissions[26] asserted that the Public Works Act 1981 *(PWA)* was changed in 2008 (or "recently") to exclude compensation where no land is taken. I believe those assertions are incorrect. As best I can tell, section 63 of the PWA, which is the section that makes provision for compensation for "injurious affection" where no land is taken, has not been altered in any significant way since the PWA was enacted in 1981.

Project cost increases

100 A number of submission[27] commented on the increases that have occurred in the Project cost estimate since 2009, suggested that the cost estimate is inaccurate and/or suggested that the cost will continue to rise. **Mr Nancekivell's** evidence[28] explains why the cost has risen since 2009. In my opinion, there is no reason to expect the cost estimate to continue to rise.

101 One submission[29] asserted that the cost has already risen to $681 million (citing Greater Wellington Regional Council's recent Western Corridor study) and stated that the cost of the adjacent Transmission Gully project rose "the day after that route was approved" suggesting that the cost of the Project may similarly rise once approved. These assertions are incorrect.

102 In essence, this is a simple misunderstanding that arose, and was reported in the media, during the recent processes to review the Western Corridor Plan and to develop and finalise the Wellington Regional Land Transport Programme.

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26 For example, Murrey (0013) and Alliance for a Sustainable Kapiti (0572).

27 For example, Pomare (0309), Lepioka (0416), Edbrooke (0517), Rational Transport Society (0611) and Engman (736).

28 See **Mr Nancekivell's** Statement of Evidence in Chief, paragraph 143.

29 Alliance for a Sustainable Kapiti (0572).

103 The NZTA's "Cost Estimation Manual" and EEM both require project costs to be estimated in 'current day dollar' terms. This is so the cost estimates are independent of whatever assumptions may have been made about when the project might be constructed and so a consistent approach is applied to costs and benefits in the economic evaluation. However, the NZTA recognises that project costs increase with inflation, along with all other costs in the economy, and makes allowance for this in its processes.

104 As discussed in paragraph 23 above, the NZTA has a 10-year State highway forecast that provides a prioritised programme of State highway improvement projects, which balances the expected project costs each year against the expected funding levels for State highway improvements projects from the NLTF. This programme allows for project costs to 'escalate' at 3% per annum (compounding) from the 'base date' of the cost estimate for each individual project.

105 The figures of "$681m" for the project and "over $1b" for the Transmission Gully project that were quoted in the submission were simply the 'escalated' versions of the project cost estimates, as specified in the NZTA's 10-year State highway forecast. These higher figures are only 'cost increases' in the sense that everything is expected to cost more in the future than it does now.

Craig Nicholson
7 September 2012