

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

Supplementary statement of evidence of Timothy [Tim] Martin Kelly
(Transportation) for the NZ Transport Agency and Porirua City Council.

Dated: 20 February 2012

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

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF TIMOTHY
[TIM] MARTIN KELLY FOR THE NZ TRANSPORT AGENCY AND
PORIRUA CITY COUNCIL**

INTRODUCTION

- 1 My full name is Timothy [Tim] Martin Kelly.
- 2 I have the qualifications and experience set out at paragraphs 2 and 3 of my statement of evidence in chief, dated 15 November 2011 (*EIC*).
- 3 I repeat the confirmation given in my *EIC* that I have read, and agree to comply with, the Code of Conduct for Expert Witnesses (Consolidated Practice Note 2011).
- 4 In this supplementary statement of evidence, I respond to the request from Judge Dwyer to provide information regarding forecast increases in the number of Heavy Commercial Vehicles (*HCVs*).
- 5 For assessment purposes, the term "HCV" includes all medium and heavy commercial vehicles having a weight of at least 3.5 tonnes.¹

FORECASTS PRESENTED

- 6 At paragraph 44 of my *EIC*, I indicated that HCV movements are forecast to grow over the period 2006 – 2026 by 84%.
- 7 Whilst this figure relates more specifically to the northern part of the State highway corridor (between MacKays Crossing and SH58), the forecast increase across the region as a whole for the same period is similar, at 87%.
- 8 These increases would occur with or without the Project.
- 9 The consequence of such growth is a significant increase in the number of HCV movements in the corridor by 2026. Figures 4.5 and 4.6 of the Assessment of Traffic and Transportation Effects (Technical Report 4) report provide these forecasts, but for convenience I also summarise these in **Table 1 (attached)**.
- 10 Differences between the forecast rate of growth on individual road sections and the 84% figure above arise because of the manner in which the daily totals are derived. These are not modelled directly, but instead factors are applied to modelled values for the constituent weekday AM, Inter and PM peak periods. In reality, such factors would be unique for each road section and vehicle type, but for assessment purposes the factors used are based upon locally

¹ Economic Evaluation Manual, Volume 1, Table A2.1. NZTA, January 2010.

observed average ratios of traffic volumes in these periods. Such a procedure is normal practice for a model of this type.

RECENT GROWTH

- 11 **Figure 1** shows the growth in observed HCV movements recorded at the SH1 telemetry site south of Paekakariki, for the period 2001 – 2010. Over this period, HCV numbers have grown by 114%.
- 12 The trend growth based upon these observations is also shown (which is 78% over the period 2001 – 2010). A continuation of this trend to 2026 would imply a growth rate of 121% between 2006 and 2026. Hence the growth rate used in the assessments, whilst still high, is lower than a simple extrapolation of recent trends.

BASIS FOR FORECASTS

- 13 Forecasts in HCV numbers are based upon projections of economic activity and land-use, both within the region and beyond. This forecasting is applied within the Wellington Transport Strategy Model, which is then used for the assessment of transportation projects throughout the region.
- 14 For economic activity, a national measure of Gross Domestic Product (*GDP*) growth per capita is used. This is 1.8% per annum, a figure applied across the country. An elasticity function is then applied to this GDP growth to determine the forecast number of HCVs in any given year.
- 15 Forecasts of the quantum and distribution of future land-uses are then applied to predict the spatial patterns of HCV movement generation within the region.
- 16 These relationships have been based upon empirical information over the period from 1970 and have been subject to independent peer review as part of the model development process.

RELATED INFORMATION

- 17 The National Freight Demands Study (*NFDS*)² suggests that, at a national level, the freight task could increase by over 70% over the next twenty years, a point referred to in the CentrePort submission.³
- 18 A more detailed analysis of expected rates of growth in freight demands by region in the *NFDS* indicates that the number of million-tonnes transported to and from the Wellington region is

² National Freight Demands Study. Ministry of Transport, September 2008.

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forecast to increase from 14.87 m-tonnes in 2006/7 to 28.72 m-tonnes in 2031, an increase of 93%.

- 19 The Regional Freight Plan⁴ indicates that '*we can expect freight volumes to increase by around 50% over the next 10 years*'.
- 20 These figures include all freight modes (road, rail, coastal shipping, air) and some changes are likely to occur over time towards the use of larger HCVs. Nonetheless, they provide a validation of the forecast increase in HCV movements reported in the model forecasts.

CONCLUSION

- 21 Forecasts of HCV numbers are based upon empirically tested formulations, and appear consistent with other forecasts at the national and regional levels.



Timothy [Tim] Martin Kelly
20 February 2012

⁴ Regional Freight Plan. Greater Wellington Regional Council, Adopted July 2007.

Road Section	HCVs / Day		Change	
	2006	2026	Number	%
SH1, MacKays Crossing	2,550	4,840	+2,290	+90%
SH1, South of Pukerua Bay	2,160	4,230	+2,070	+96%
SH1, Mana Esplanade	2,270	4,710	+2,440	+107%
SH1, Linden	3,520	7,550	+4,030	+115%
SH58, East of SH1	1,080	1,560	+480	+44%
SH58, East of Pauatahanui	1,700	2,270	+570	+34%

Table 1: Forecast Increases in HCVs (without Project)

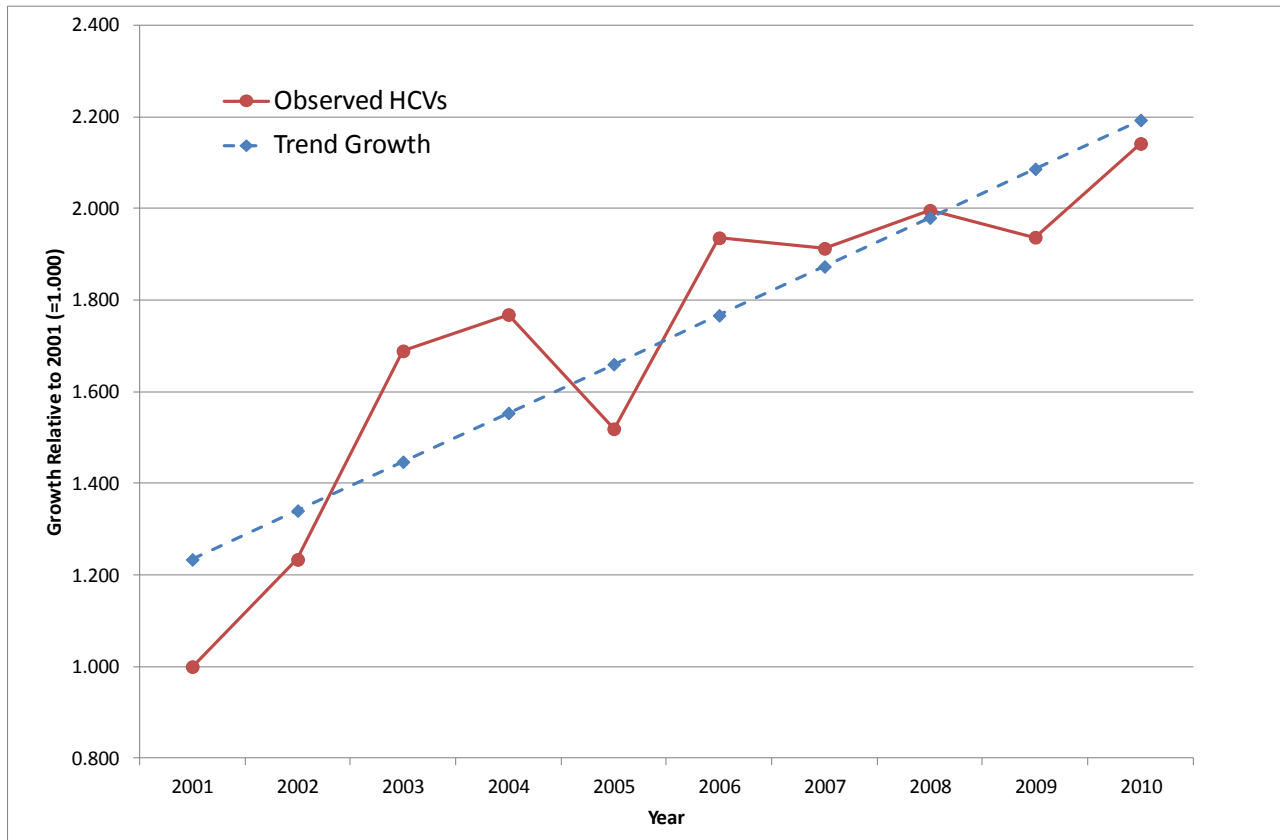


Figure 1: Observed and Trend HCV Growth, 2001 – 2010

Based upon observations at SH1, South of Paekakariki