

# New Zealand Transport Agency

## Petone to Grenada Project

### Chronology of Reports and Decisions

9 June 2015




**Quality Information**

Date 9 June 2015

Prepared by Lindsay Daysh

Reviewed by Josephine Draper (NZTA)

**Revision History**

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
1	29 January 2015	Draft for client review	Lindsay Daysh Director	
	9 June 2015	Final	Lindsay Daysh Director	

**Copyright:**

This document and its contents remains the property of Incite and the New Zealand Transport Agency. Any unauthorised use or reproduction, in full or in part, is forbidden.

# Contents

<b>1. Introduction.....</b>	<b>1</b>
1.1 Background.....	1
1.2 Scope of Report .....	2
<b>2. Pre Hutt Corridor Plan 2003.....</b>	<b>3</b>
2.1 Wellington Region Land Use and Transport Study 1975 .....	3
2.2 GATS 1988 .....	4
2.3 Future SH1 Route Environmental Impact Report 1989 .....	4
2.4 SH1 Inland Route Review of Southern Section Report 2 1991 .....	6
2.5 Petone – Grenada Link Study 1995 (Beca) .....	8
2.6 Hutt Valley - Porirua Link Initial Appraisal of Possible Links 1996 (Works Consultancy Services) .....	11
2.7 Hutt Valley – Porirua Road Link Study Feasibility Investigation Report 1997 (Opus) .....	14
2.8 Northern Growth Management Framework (WCC) 2001-2009.....	15
<b>3. Hutt Corridor Plan 2003.....</b>	<b>16</b>
3.1 Background.....	16
3.2 Hutt Corridor Plan Hearings.....	17
3.3 Final Hutt Corridor Plan .....	19
3.4 Comment.....	21
<b>4. Western Corridor Plan 2006.....</b>	<b>23</b>
4.1 Consultation .....	23
4.2 Western Corridor Plan Hearings .....	24
4.3 Final Western Corridor Plan 2006.....	25
<b>5. Ngauranga Triangle Investigations .....</b>	<b>27</b>
5.1 Strategy Study – Detailed Technical Report 2009 (SKM) .....	27
5.2 Strategy Study – Petone to Grenada Link Road PFR 2010 (SKM) ....	28
<b>6. Hutt Corridor Plan Review 2011 .....</b>	<b>31</b>
<b>7. Western Corridor Plan 2012.....</b>	<b>33</b>
<b>8. Petone to Grenada Investigations 2013/2014 .....</b>	<b>34</b>
8.1 Scoping Report April 2014 .....	34
8.2 Engagement Report August 2014.....	37
<b>9. Conclusions .....</b>	<b>39</b>

# 1. Introduction

The New Zealand Transport Agency (hereinafter referred to as the Transport Agency) is in the process of developing a preferred option for a new transportation link road between Petone and Grenada (P2G). The aim of P2G is to address severe congestion and resilience issues on the State Highway (SH) network as well as improving connectivity between the Hutt Valley and Porirua.

This report compiles the key decision making processes that have led to the development of the current range of refined options being considered by the Transport Agency. As a related process the NZTA is though revisiting, through a high level strategic alternatives assessment, the options realistically considered before. A workshop report including the outcomes has been produced in parallel.<sup>1</sup>

## 1.1 Background

The concept of enhanced connectivity between the Porirua Basin and the lower Hutt Valley has been promoted in several documents in the last 40 years. The first reference to a need for a potential link road between the Lower Hutt Valley and Porirua/Tawa goes back as far as 1975 with the Wellington Region Land Use and Transport Study or (WRLUTS). Since that time there have been a number of reports and studies that have confirmed that in broad terms a link from the lower Hutt Valley to Porirua is both desirable and subject to funding and approvals under the Resource Management Act 1991, practicable to implement.

Many of these reports are detailed in the 2014 Petone to Grenada Transportation Link Scoping Report prepared by Opus International Consultants Ltd<sup>2</sup> that is the most recent detailed investigation carried out. The commentary on the technical reports within the scoping report is included in full although the report author has viewed each source document with the exception of GATS 1980 (although a summary has been considered) and some of the technical reports that informed the Hutt Corridor Plan from 2000 to 2003. Having reviewed the source documents, the author considers the synopses provided in the Opus Scoping Report and quoted in this report are accurate.

It should be stressed that there have also been considerable network wide changes and assessments and in 2015 some 40 years after the WRLUTS, many projects have either been constructed or have been confirmed as proceeding. This highlights the importance of revisiting the historical assessments and any conclusions reached.

In relation to the area bounded by SH1 from Ngauranga to Paremata, SH2 from Ngauranga to SH58 at Haywards and SH58 in its entirety from Paremata to Haywards the primary highway improvements have included:

- SH1 the Wellington Urban Motorway in 1978 and grade separation of the SH1/SH2 interchange at Ngauranga.
- SH1 the Ngauranga to Porirua Motorway improvements including Grade Separation at Mungavin interchange at Porirua, grade separation at Newlands and a new motorway interchange at Grenada in the early 1990's.
- SH1 Mana Esplanade completed in 2004.
- SH2 Manor Park to Silverstream completed in the mid 1990's.

---

<sup>1</sup> Petone to Grenada Project – Strategic Options Assessment - Incite June 2015

<sup>2</sup> <http://www.nzta.govt.nz/projects/petone-grenada-link-road/docs/p2g-scoping-report-final-2014-part1.pdf>

- SH2 Dowse to Petone – completed in 2009.
- SH58 safety improvements - the most of recent of which are due to commence in 2015.

Importantly as part of the Wellington Northern Roads of National Significance (RoNS) initiatives, Transmission Gully from Linden to MacKays Crossing is now under construction and is due for completion in 2020. These commitments have defined the context for the Project.

## **1.2 Scope of Report**

This report can be broken down to:

1. Introduction and Scope of Report;
2. Commentary on the studies and reports from before 2003;
3. Discussion on the development of the first Hutt Corridor Plan in 2003;
4. Further discussion on the Western Corridor Plan completed in 2006;
5. Further strategic development of options from 2003 to 2009 with the latter date being the production of the Ngauranga Triangle Study;
6. Reviews of both the Hutt and Western Corridor Plans;
7. Commentary on the Petone to Grenada Scoping Report 2014; and
8. Some conclusions.

## 2. Pre Hutt Corridor Plan 2003

A link between Petone and Grenada has been promoted in conceptual form for a number of years. Early investigations including the 1975 Wellington Region Land Use and Transport Study (WRLUTS) were at the strategic and/or regional level.

### 2.1 Wellington Region Land Use and Transport Study 1975

This link was first identified in the 1975 Wellington Region Land Use and Transport Study (WRLUTS). This document prepared by a Technical Advisory Committee for the Wellington Regional Planning Authority was at a high level but was a future focused and integrated strategic transport planning document. In relation to transport improvements many of the recommendations have been implemented.

In respect of link roads between the Hutt Valley and the Porirua to Ngauranga the relevant comments are as follows:

#### ***Newlands-Horokiwi-Korokoro-Petone Link***

6.24 *This link was inserted as a possible alternative to relieving the Petone-Ngauranga Expressway and the Ngauranga Gorge connection. The loadings in all instances are appreciable, and the advantages in linking the residential growth in Horokiwi and Newlands directly with the Hutt, as well as opening up further development opportunity south of the Belmont Park, are noted. It is thus considered to be a road link that has definite merit. The difficult topography would have to be overcome to achieve it will require further investigation. As modelled, this link comes directly into an extended Petone / Hutt Road interchange.*

- *The Horokiwi Link is considered a necessary link in the future regional road network.*

#### ***Belmont-Porirua Link***

6.25 *The large increase in cross-corridor trips noted from the screenline counts indicates that in all instance this route, modelled as a four-lane arterial, is heavily loaded. Because of the congestion at Ngauranga, no Design Year runs were carried out without this link. The link is also seen as being used as a significant cross-corridor public transport route. The existing cross-corridor route through Pauatahanui, S.H.58 to Haywards, does not show significant increases in volumes if there is no substantial Pauatahanui urban growth. This is a consequence of the travel times between Porirua and Lower Hutt being significantly longer by this route than by the Belmont-Porirua link.*

- *The Belmont-Porirua cross-corridor link is considered a necessary part of the regional network for all the future growth patterns tested in this study.<sup>3</sup>*

Further and in relation to public transport.

---

<sup>3</sup> WRLUTS p102.

### Hutt Valley

- 7.11 (1) *The Upper Hutt commuter rail service was extended to Maymorn. Rail times on some links were adjusted, assuming track and signal improvements.*
- (2) *Bus services connecting Hutt Valley suburban areas were extended and improved.*
- (3) *A direct bus service between Lower Hutt and Upper Hutt was provided.*
- (4) *Cross-corridor services (Porirua-Hutt Valley) were provided. Two bus routes were added along the Haywards road, one between Porirua and Upper Hutt via Pauatahanui, the other between Pauatahanui and Lower Hutt. A Porirua to Lower Hutt bus route was inserted along the proposed Porirua-Belmont link. The other two new cross-corridor routes were along the proposed Horokiwi-Newlands to Korokoro-Petone road. One of these routes connected Johnsonville to Lower Hutt while the other connected Tawa and Takapu Road to Lower Hutt.*

#### 2.1.1 Comment

The report clearly evaluate the possibilities for growth and development in the Wellington region and considered the transport requirements. What it doesn't show is the Transmission Gully Motorway alignment as we now know it. Further the document considers that a Belmont to Porirua link would be well utilised and a Petone to Grenada (known as Korokoro to Horokiwi) link has definite merit.

## 2.2 GATS 1988

As a consequence of the outcomes of the WRLUTS the Greater Wellington Land Use and Transport Strategic Review (GATS) identified this route as meriting further study in 1988.

This document had much more of a focus on SH1 including whether there should be further investigations into an inland route from MacKays Crossing in the north to either Tawa or Porirua. The concept at the time was that there would be a new road (Transmission Gully) from Takapu Road at Tawa then up the Takapu Valley, skirting behind Porirua east to SH58 then up the Horokiri and Te Puka Valleys to MacKays Crossing.

However in that document mention was made of the desirability of linking the two primary industrial areas of Porirua and the southern Hutt Valley particularly Seaview/Gracefield. This led to the first detailed study of this link in 1991.

#### 2.2.1 Comment

This was the formal review of the outcomes of the 1975 strategic study. The primary change is Transmission Gully from Takapu Road (Tawa) to MacKays Crossing was included. Again the progression of a Wellington Northern suburbs/Porirua Corridor with the lower Hutt Valley was recommended.

## 2.3 Future SH1 Route Environmental Impact Report 1989<sup>4</sup>

The purpose of this report was primarily considering route options for the southern connection of Transmission Gully at SH58 and State highway 1. As part of that inquiry there was consideration of a Belmont variant as an alternative location on SH2 therefore being a Hutt Valley Pauatahanui Link rather

---

<sup>4</sup> Future State Highway Number 1 Route Wellington Regional Council October 1989

than a Tawa/ Porirua Basin link before heading up Transmission Gully and the Wainui Saddle. South of Tawa i.e Grenada North was excluded. The Location and Study Area is shown in the graphic below

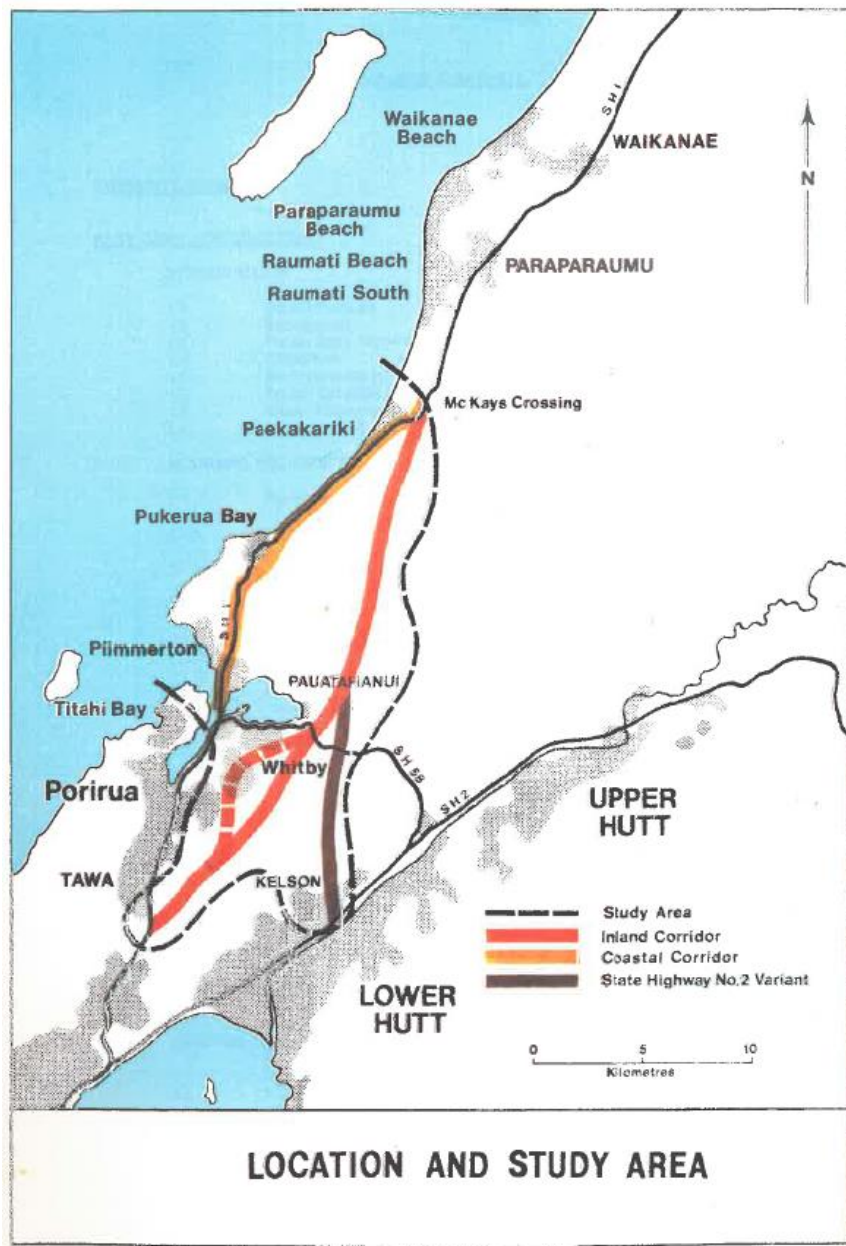


Figure 1: Future SH1 EIR 1989 2<sup>nd</sup> page.

### 2.3.1 Comment

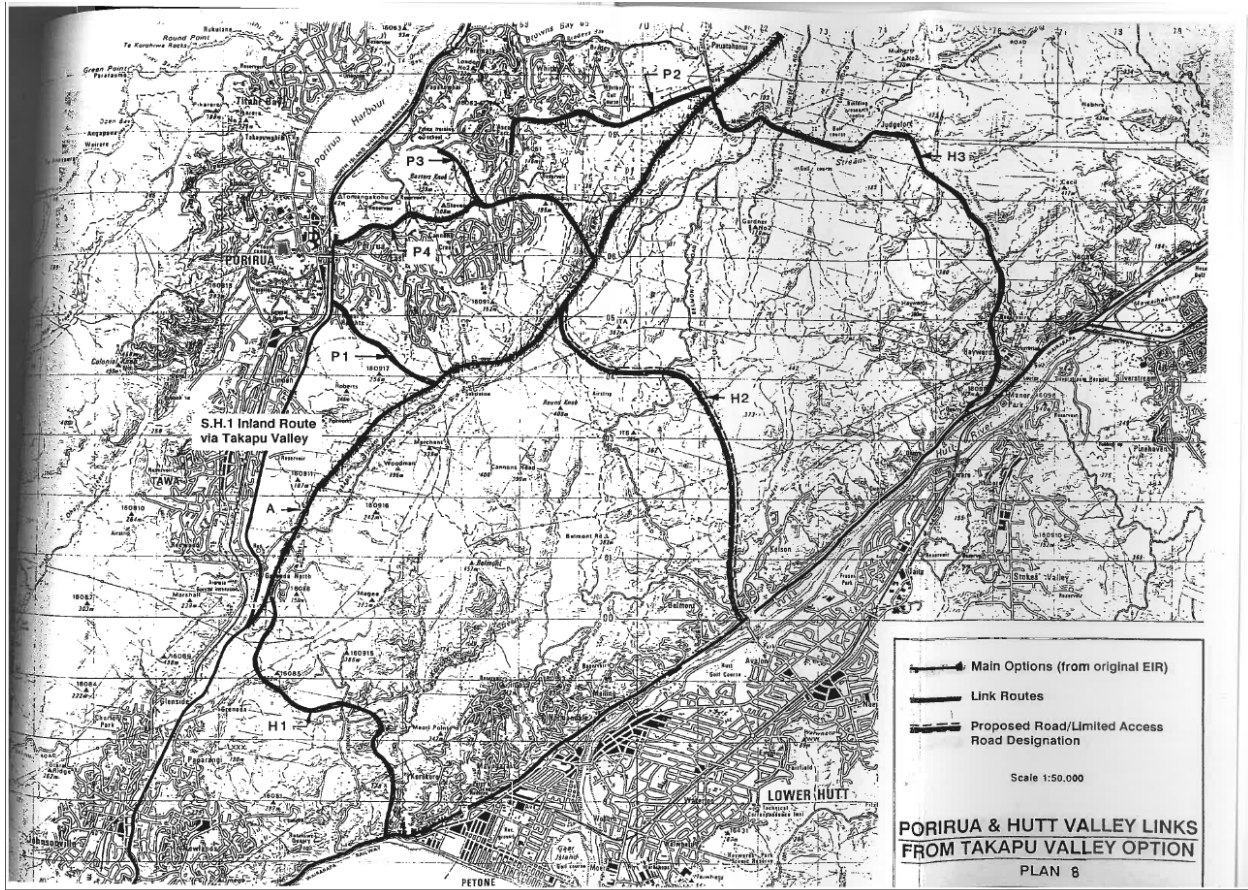
The focus of this report was on the location of an inland corridor i.e. what we now know as Transmission Gully with some consideration given to a SH2 Variant from Kelson directly to Pauatahanui. However Grenada and Petone were outside of the study area.



## 2.4 SH1 Inland Route Review of Southern Section Report 2 1991

There were several reports including those that related to the optimum location for Transmission Gully that were completed as part of the SH1 Inland Route Review. Of relevance was one that considered Takapu Road, Belmont Variant and Associated Porirua Links and Petone to Grenada North Link August 1991 and those included in the Draft Final Report in October 1991 (we have assumed that this was the final document as no final has been sourced).

The network options at that time are shown below<sup>5</sup>.



**Figure 2: SH1 Inland Route Review Draft Final Report Plan 8**

The earlier August report also identified an option called Petone to Takapu Road that appeared to run up the Korokoro Stream Valley to connect to an Inland Route in the vicinity of the Takapu Road Electricity Substation but this did not feature in the Draft Final Report.

On the series of reports the following is replicated from the 2014 Petone to Grenada Transportation Link Scoping Report prepared by Opus International Consultants Ltd. The source documents have been reviewed and the following is considered to be an accurate synopsis of the relevant parts of the report.

### **Background**

*Works Consultancy Services was commissioned by Wellington Regional Council (WRC) to review the merits and comment on the scope of issues associated with a link road between Petone and*

<sup>5</sup> Works Consultancy Services October 1991

*Grenada. The review of a link between Petone and Grenada was ancillary to the primary purpose of this study which focused on reviewing links between Porirua and the Hutt Valley. There were two main link options considered in this study. One option, identified as the Belmont Variant, proposed a new link between Belmont, commencing from SH2 at the Kennedy Good Bridge, to Porirua. The other option, identified as the Takapu Road Option, proposed a new link between SH2 at Petone to Transmission Gully at Cannons Creek in Porirua.*

### **Option Development**

*The proposed Petone to Grenada link was approximately 5.5km long with a maximum grade of 8%. The preliminary design was based on 70km/hr speed comprising two lanes plus crawling lanes. This report proposed connecting to SH2 via a new interchange at Petone including north facing ramps to SH2 north and indirect connections to SH2 south, via the Western Hutt Road and The Esplanade. An alternative connection to SH2, close to Horokiwi Road, was ruled out due to complex topography and the proximity of the harbour, rail and the coastal escarpment. The proposed link route traversed north from Petone through the Korokoro Valley then headed northwest to Grenada North while crossing Horokiwi Road near the summit. At Grenada, two connection options were considered. The first option was to connect directly to SH1 at a proposed mid-Grenada interchange. The second option was to connect to the southern section of the former Transmission Gully route (also known as the Takapu Valley Inland Route) at North Grenada. The first option was considered more feasible as it would not only provide direct access to SH1 but also direct connections to local links such as Middleton Road, Mark Avenue and Jamaica Drive. This link showing the two connection options considered at Grenada is shown in Figure 3-1.*

### **Traffic and Economics**

*The study estimated 13,000 vehicles per day (vpd) on this route in year 2011 and the removal of approximately 10,000 vpd from both SH1 and SH2. The estimated cost of this route was approximately \$30 million with a cost benefit ratio of 4.0 based on travel distance savings and vehicle operating costs.*

### **Issues and Constraints**

*The issues and constraints identified in this study included:*

- i. Potentially significant ecological impact on Korokoro Valley;*
- ii. Significant visual impact of route at southern end from cuts in steep terrain and intrusion into areas of regenerating bush;*
- iii. Noise impacts on rural residential properties;*
- iv. Recreational impact within Korokoro Valley;*
- v. Iwi impacts on walking track in Korokoro Valley; and*
- vi. Property impacts from severance of large farm holdings.*

### **Conclusions**

*The study concluded that this link road had potential to provide long term traffic relief to SH1 and SH2 and provide connectivity between Grenada and the Hutt Valley. The study indicated that the predicted future traffic volumes this link attracts may require a four lane highway (crawling lanes) rather than the two lanes (plus crawling lanes) proposed.*

### 2.4.1 Comment

This was the first report that considered in preliminary detail some of the practical and network related matters with a new Link Road that were first identified in previous higher level regional strategic reports. The report acknowledged that considerable further work would be required to assess the demand for the project, project economics and consider in much more detail the possible social and environmental effects that would be applicable. In addition this study's primary purpose was to identify a link to the Transmission Gully Route, which at the time had a preference for linking SH1 at Takapu Road and then heading up the Takapu Valley.

At that stage the Belmont Link was considered a good possibility for progress but in addition to rather than as an alternative to the Petone to Grenada Link acknowledging with both the technical challenges of rising from the valley floor to either Grenada or an elevated Transmission Gully interchange.

## 2.5 Petone – Grenada Link Study 1995 (Beca)

As with the 1991 study the following summary is replicated from the 2014 Scoping Report.

*This study was commissioned by Transit New Zealand in response to the study completed by Works Consultancy described in Section 3.1.1. Transit New Zealand defined the objectives of the link as follows:*

- i. To reduce severe congestion on SH1 south of Glenside and SH2 south of Petone;*
- ii. To provide a better linkage in the region and reduce travel times between the Hutt Valley and Porirua; and*
- iii. To provide an alternative route to Wellington from the Hutt Valley to mitigate the risk of an earthquake closing SH2 south of Petone.*

### **Option Development**

*This study considered six options between Petone and Grenada. All options adopted a 12.7m formation width comprising two 3.5m wide lanes, shoulders and 2m wide grass verges. Climbing lanes were provided within this formation at the Petone and Grenada sections by shoulder running. The speed environment for all options was typically 75km/hr at Petone and 90km/hr at Grenada.*

*At Petone, five of the six options traversed north through the Korokoro Valley while four of these crossed the southern section of the Korokoro Stream with a bridge or culvert. Only one of the six options avoided the Korokoro Valley. This option commenced at the intersection of Horokiwi Road and SH2 and generally followed the alignment of Horokiwi Road.*

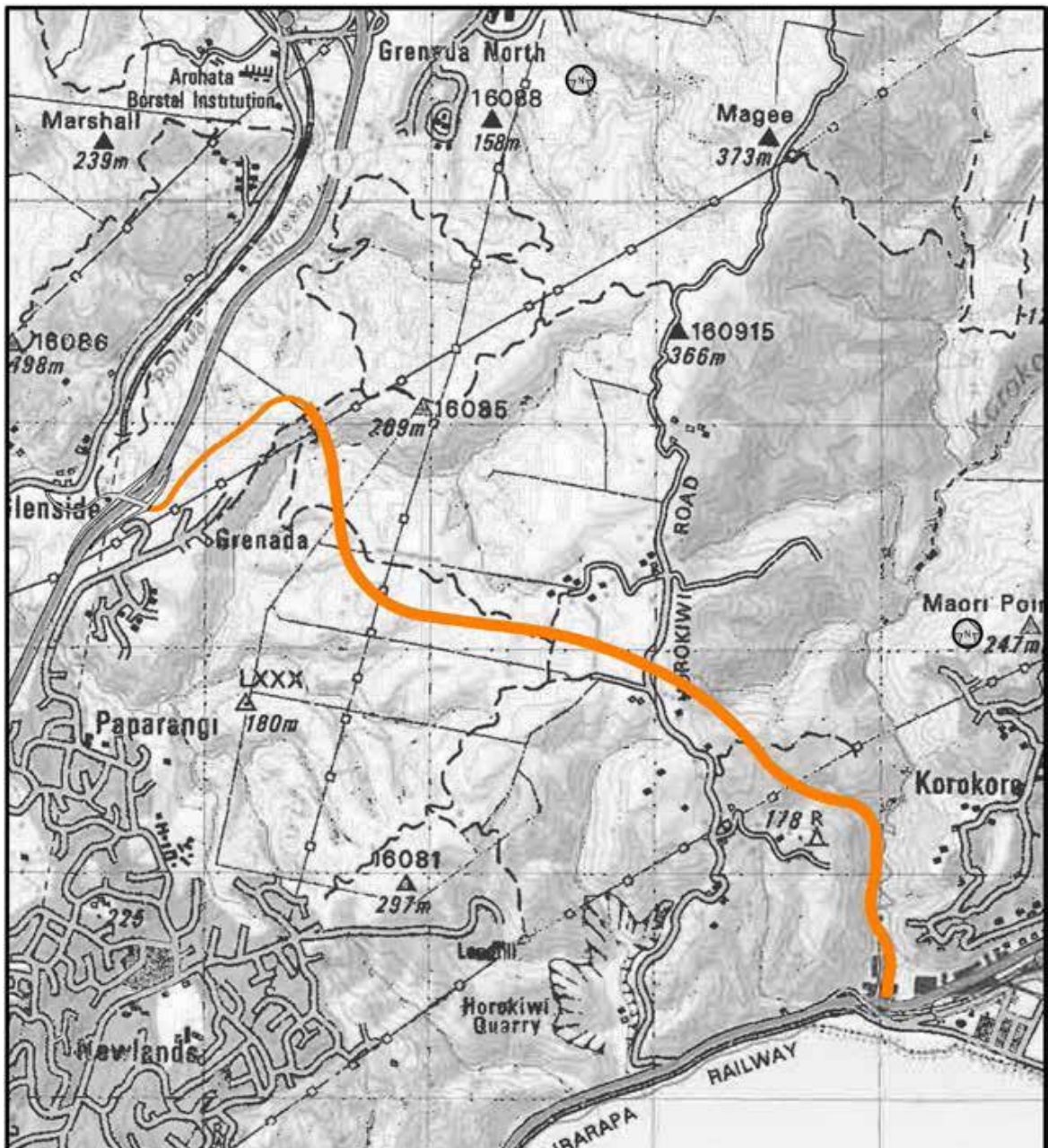
*All options shared the same alignment at the approach to SH1 at the Grenada Interchange. The major differences between the options were through the mid-section of each route at Horokiwi and the Lincolnshire Farm development.*

### **Preferred Option**

*The preferred option commenced at Petone on the western side of the Korokoro Stream. From this location it crossed the stream and traversed north through the Korokoro Valley on its eastern side. Through the mid-section this option followed an alignment shaped by consultation with the Horokiwi Residents Association and Lincolnshire Farms Ltd together with an assessment of landscape effects. As a result the route passed through the south of the Horokiwi settlement to minimise impacts to the*

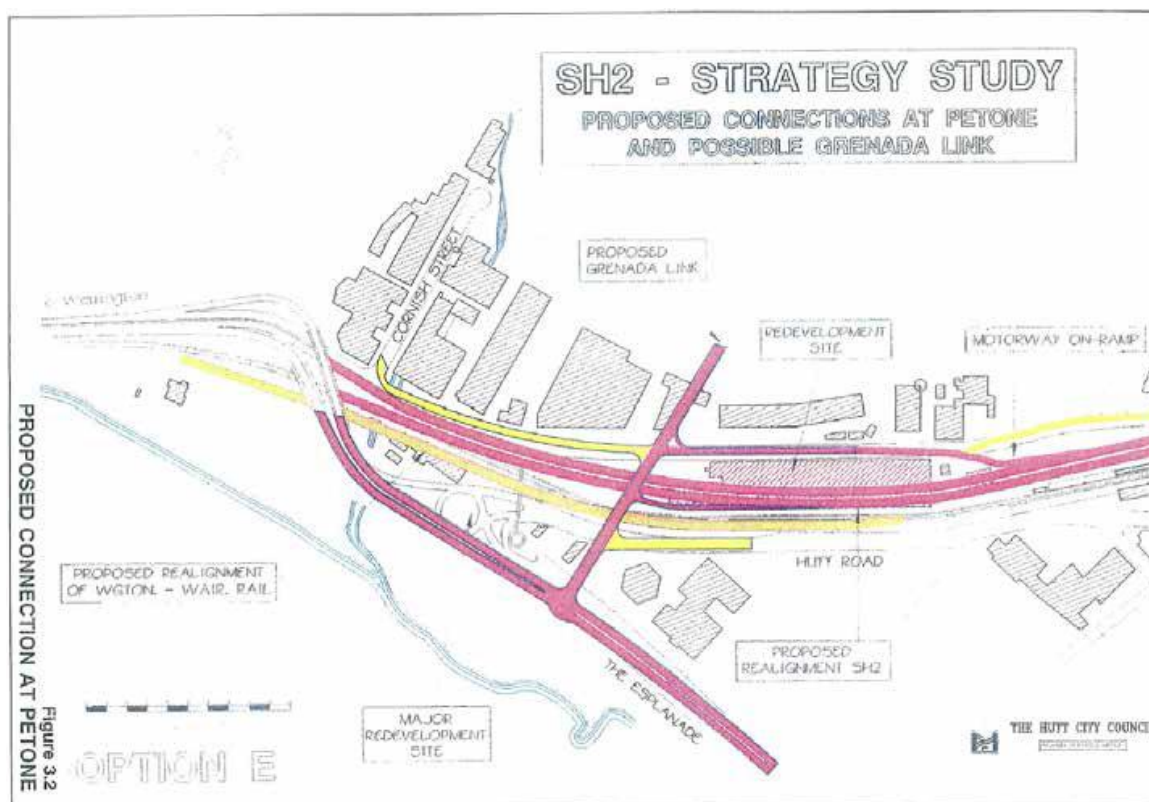


local communities in this area. The route also passed through the southern section of the Lincolnshire Farms development. The preferred option recommended in this study is shown in Figure 3-2.



**Figure 3: Proposed Petone to Grenada Link (1995) from 2014 Scoping Report (Opus)**

At Petone complex interchanges were ruled out in favour of less intrusive options. Like the previous study by Works Consultancy Services, this report proposed a connection to SH2 via a new interchange at Petone which comprised north facing ramps to SH2 north and indirect connections to SH2 south, the Western Hutt Road and The Esplanade. This is shown in Figure 3-3 (Figure 4 below).



**Figure 4: Interchange at Petone (1995)**

*The option which commenced at the intersection of Horokiwi Road and SH2 was ruled out due to costly and complex interchange requirements and because it does not provide a direct link between Petone and Grenada.*

#### **Traffic and Project Economics**

*The cost of the project was estimated at \$31 million with a benefit to cost ratio between 1.0 and 1.9.*

#### **Issues and Constraints**

*The issues and constraints identified in this study included:*

- i. Serious ecological impacts on the lower Korokoro Valley ecosystem;*
- ii. Visual impact of route through Korokoro Valley from Petone and houses on west side of Korokoro;*
- iii. Potential impacts on historic mill at the entrance to Belmont Regional Park and a Maori walking track both located in the lower Korokoro Valley;*
- iv. Moderate to serious noise impact on Horokiwi community residents and residents on Lincolnshire Road; and*
- v. GWRC policy unclear on how to accommodate this project within a regional park (Belmont Regional Park) given policy advocates a road linkage between the Hutt Valley and Porirua*

#### **Conclusions**

*This study concluded that a link from Petone to Grenada was technically feasible and could be designed to avoid or minimise adverse impacts. However this study also concluded that the*

*extremely challenging terrain at the Petone end of the alignment together with the interchange requirements at Petone incur significant costs which result in a benefit to cost ratio below the minimum level required for funding. As a result of the findings of this report no further actions were proposed by Transit at the time.*

### **2.5.1 Comment**

As with the 1991 Opus reports this study concluded that a link was technically feasible. However at that time there were also a considerable number of highway projects afforded higher regional priority including those on the Western Corridor and on the Hutt Corridor. However there was no reference to a Takapu Valley Link to Transmission Gully as at that time Transit New Zealand were preparing a Notice of Requirement to proceed with Transmission Gully based upon a southern interchange at Linden.

Further the report concludes<sup>6</sup>:

#### **7.1.1 STRATEGIC NETWORK**

*Earlier strategic studies of the road network have indicated that improvement to the capacity of State Highways 1 and 2 adjacent to Petone and Grenada would be difficult and costly. These two roads south of Petone and Glenside both suffer congestion in weekday peak periods. Approximately 20% of the traffic using these sections of highway are currently travelling between the Porirua Basin and the Hutt Valley.*

*A road linkage between Petone and Grenada would have a strategic role in providing better linkage within the region. At present SH2 is vulnerable to an earthquake and the linkage would then assume strategic importance*

*The removal of this traffic from congested section of the highway can produce appreciable traffic flow benefits. Preliminary work on the route investigated the feasibility and the cost of alternatives for increasing capacity in the vicinity. Although the environmental costs were expected to be high, they were not insurmountable. The routes would provide sufficient relief and travel cost savings.*

Therefore the key issues raised previously of congestion reduction on the existing network, better linkages and resilience all have been raised. The report also concluded that the route had challenges from an engineering and planning perspective that needed to be resolved.

## **2.6 Hutt Valley - Porirua Link Initial Appraisal of Possible Links 1996 (Works Consultancy Services)**

This was a Working Paper commissioned by the Regional Council to investigate the feasibility of a further link between the Hutt Valley and the Tawa-Porirua area and to define a corridor which is technically feasible. The following is reproduced from 2014 Opus Scoping Report.

### **Background**

*This study was commissioned by Wellington Regional Council as a working Paper for Steering Committee Consideration. The purpose of this study was to investigate the feasibility of a link route between the Hutt Valley and the Tawa-Porirua Basins that would meet travel demands and relieve congestion on SH1 and SH2. The study area was bounded by SH1, SH2 and SH58. The main*

---

<sup>6</sup> Page 93

*objective of this study was to present an evaluation of a range of options to the Steering Committee to get direction on which schemes to investigate in more detail.*

### **Option Development**

*Various options were considered with and without Transmission Gully. The main corridors examined were between:*

- i. SH2 Belmont (Kennedy Good Bridge) and Porirua/Whitby; [A Option on map below].*
- ii. SH2 Belmont (Kennedy Good Bridge) and SH58; [C Option on map below].*
- iii. SH2 Melling and Porirua/Whitby; [F Option on map below].*
- iv. SH2 Petone (Horokiwi Road) and Grenada. [G Option on map below].*

### **Preferred Option**

*The preferred route recommended in this working paper was between SH2 Belmont (Kennedy Good Bridge) and Porirua/Whitby and Transmission Gully if Transmission Gully was in place. Another option recommended was between SH2 Belmont (Kennedy Good Bridge) and James Cook Drive in Whitby with and without Transmission Gully.*

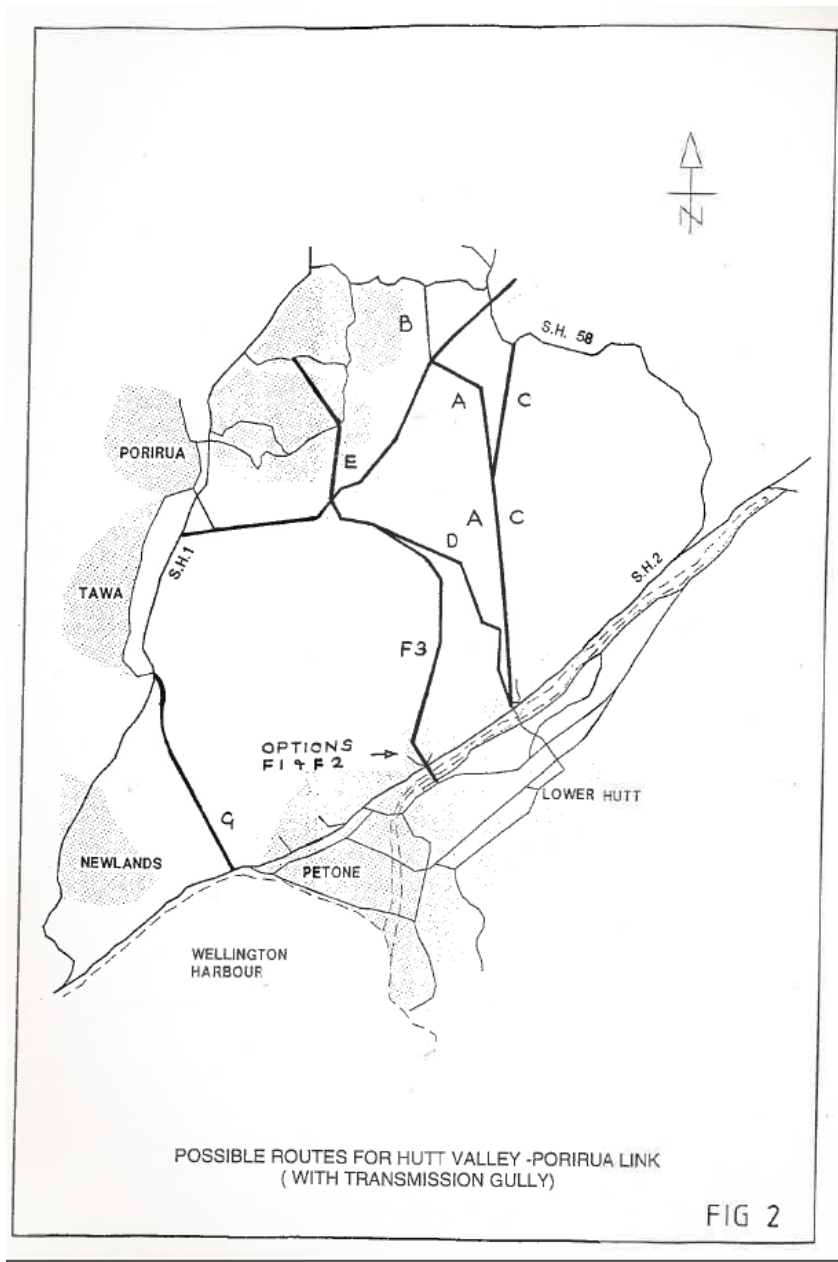
*The SH2 Petone (Horokiwi Road) to Grenada route was not recommended for further investigation in this working paper. Although this route provided the greatest traffic relief on SH1 and SH2 and lowest environmental impact compared to other options it was evaluated as offering low economic benefits and low ability to meet traffic objectives. This option was deemed to provide the least lateral displacement resulting in the least economic benefits compared to the other options. This working paper also noted that this option would likely require a major new interchange at Petone with intrusion into the harbour. The options considered with the preferred options highlighted are shown in Figure 3-4.*

### **Conclusions**

*This working paper concluded that the routes recommended above should be investigated in more detail.*

In respect of the options considered the following graphic shows the broad alignment options with Transmission Gully in place.





**Figure 5: Route Options Initial Appraisal of Possible Links 1996**

### 2.6.1 Comment

This working paper formalised the concept of an east west route commencing at Kennedy Good Bridge through the Belmont Regional Park and linking to the proposed Transmission Gully Route with either a further connection through Cannons Creek and Ascot Park to SH1 at Whitford Brown Avenue or to James Cook Drive in Whitby which connects to SH58 west of Pauatahanui.

Notably the Horokiwi Road to Grenada Option was discounted at the time for economic reasons although it should be recognised that this differed from the previous alignment in that the SH2 interchange was proposed for Horokiwi Road necessitating a significant harbour reclamation. In addition at that time a designation for Transmission Gully was in the process of being considered through an RMA process.



## 2.7 Hutt Valley – Porirua Road Link Study Feasibility Investigation Report 1997 (Opus)

This was the more detailed feasibility phase out of the 1996 Initial Appraisal and consisted of firstly assessing the relevant and preferred options for Belmont to Transmission Gully. The following is reproduced from 2014 Opus Scoping Report.

### **Background**

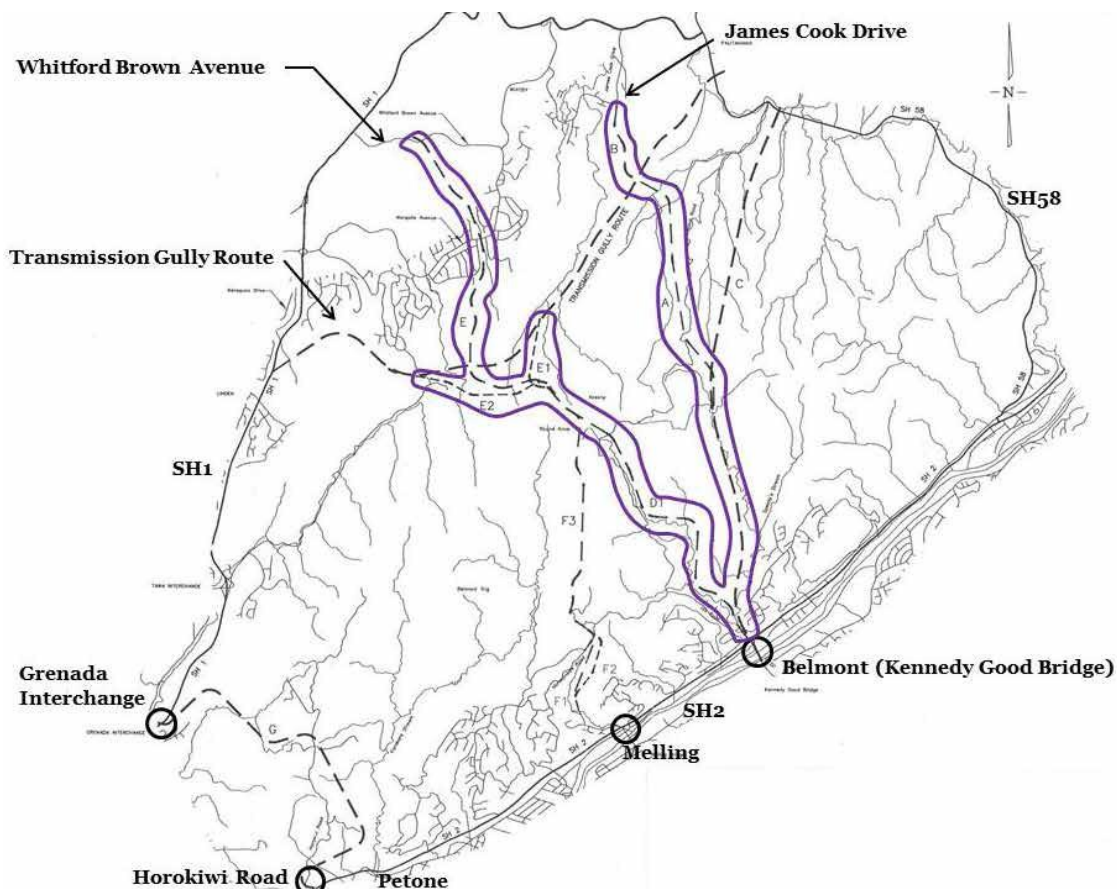
*This study was commissioned by Wellington Regional Council and investigated the options recommended in the previous study in more detail. The Petone to Grenada link route was ruled out for further investigation in the previous study and is not discussed in this document.*

### **Option Development**

*The preferred options, namely between SH2 Belmont (Kennedy Good Bridge) and Porirua and SH2 Belmont (Kennedy Good Bridge) and Whitby, were developed further and included calculating benefits based on traffic modelling and costs based on geometric design.*

### **Preferred Options**

*The benefit and cost calculations indicated that the route between SH2 Belmont (Kennedy Good Bridge) and Porirua, identified as routes D and E in Figure 3-4 (Figure 6 below) were technically feasible and potentially economically viable.*



**Figure 6: Options Considered in Hutt Valley Porirua Road Link Study**

### 2.7.1 Comment

The Petone to Grenada Route was not included in the study that concluded that a Belmont to Porirua route was technically feasible and economically viable. This was also done at the time when the initial designation for Transmission Gully was being sought.

No further work on Hutt Valley to Porirua Links were considered until work began on considering options for linking SH2 to SH1 through the Hutt Corridor Plan.

## 2.8 Northern Growth Management Framework (WCC) 2001-2009

The Opus 2014 Scoping Report refers to this final document which is dated 2009. Preparations for this were however well advanced by the time of the Hutt Corridor Plan in 2002 when it was known as the Northern Growth Management Plan (NGMP) while the Framework was formally published in 2003. Pre 2002 time there was already identification of the need for the NGMP to accommodate an arterial road that would also serve the purpose of being part of a Petone to Grenada Link should that be advanced.

The final Framework<sup>7</sup> dated 2003 includes the following in respect of the Petone to Grenada Link.

Firstly under the title Road Networks as part of the Context to the Framework it states at p13:

- *The proposed new highway through Transmission Gully would join the existing State Highway 1 at Linden. The location of the proposed new road has little physical impact on the immediate northern area, although it would change the traffic flows on the main arterial routes in the area.*
- *Motorway connections with the Hutt Valley are being investigated by the Greater Wellington Regional Council as part of its Hutt Corridor Plan. One option for this kind of link would run through the northern area between Grenada and Petone, via the Lincolnshire Farm area and Korokoro. This Plan is due for publication in mid 2003 and may lead to further investigation of this in the context of the Regional Land Transport Strategy.*

Then secondly as part of the strategy to achieve the vision: *Wellington's northern suburbs will continue to develop as an integrated, liveable, diverse, sustainable and prosperous community* there are seven growth management principles one of which is titled *Complete or develop cohesive and efficient transport modes or networks*.

In relation to P2G the framework has a specific measure being:

*Support further investigation of the Grenada Village – Petone road link, as appropriate, in the context of the Regional Land Transport Strategy (p31).*

### 2.8.1 Comment

While the Framework was well advanced at the time of developing the Hutt Corridor Plan there is specific recognition of WCC's acknowledgement of the need for further investigations of P2G. The ongoing actions including Plan Change 45 which introduced the Lincolnshire Farm Structure Plan were based on the investigations and the preferences contained within the final Hutt Corridor Plan.

---

<sup>7</sup> <http://wellington.govt.nz/~media/your-council/plans-policies-and-bylaws/plans-and-policies/a-to-z/northerngrowth/files/northerngrowth.pdf>

## 3. Hutt Corridor Plan 2003

### 3.1 Background

As a result of the previous studies the 1999 Regional Land Transport Strategy identified a strategic need for a new and direct road link between Lower Hutt central and Porirua central<sup>8</sup>, but did not identify a preferred route.

On this basis the next stage of the history of P2G concerned the development of the Hutt Corridor Plan. This was one of four Corridor Plans, (the others being the Western Corridor, the Ngauranga to Airport Corridor and the Wairarapa Corridor Plan), being developed as Implementation Plans to achieve the outcomes sought within the Regional Land Transport Strategy (RLTS) that was adopted at that time. The outcomes of these Corridor Plans were to be included in the ongoing review of the RLTS.

This process commenced in 2000 with the Regional Land Transport Committee through GW commissioning a range of Technical Reports for the Hutt Corridor which extended from Ngauranga to the Upper Hutt side of Rimutaka Hill Road.

At that time there were several matters that the RLTC was seeking strategic guidance on. These included:-

1. Safety and capacity issues on SH2 between Ngauranga and Petone. This also considered the practicality of a High Occupancy Travel (HOT) lane;
2. Linked to capacity improvements the provision of a safer walking and cycling facility between Ngauranga and Petone on the seaward side of the railway line;
3. The timing of the SH2 Dowse to Petone upgrade;
4. Safety improvements on SH58 as well as the priority for grade separation of the SH2/SH58 intersection at Haywards;
5. Various public transport initiatives;
6. A link road between Petone and Grenada and concurrently improved access across the lower Hutt Valley to Seaview/Gracefield; and
7. The necessity for a link from SH2 Kennedy Good Bridge to Transmission Gully as soon as is practicable after Transmission Gully is constructed.

#### 3.1.1 Technical documents considered

The technical documents considered through the Hutt Corridor Plan<sup>9</sup> process included:

- (i) Hutt Corridor Study Stage 1 by Beca Carter Hollings & Ferner Ltd, March 2002
- (ii) Hutt Corridor Study Stage 2 by Beca Carter Hollings & Ferner Ltd, July 2002
- (iii) Hutt Corridor Study Stage 3 by Beca Carter Hollings & Ferner Ltd, October 2002
- (iv) Hutt Corridor Transport Study Economic Review by Opus International Consultants, October 2002

---

<sup>8</sup> 1999 Regional Land Transport Strategy para 197

<sup>9</sup> From the Hutt Corridor Plan Hearing Committee Report to Regional Land Transport Committee 22 May 2003.

- (v) Hutt Corridor Transport Options – Economic Evaluation of Stage 1 by Opus International Consultants, April 2002
- (vi) Hutt Corridor Plan for the Transport Network – Sustainability of Road Link Options by Envirosolutions, June 2002
- (vii) Presentation to the RLTC – Key Issues by Transport Policy Department, WRC February 2002
- (viii) Presentation to the RLTC – Consideration of Options by Transport Policy Department, WRC, August 2002
- (ix) Terms of Reference (for the hearing subcommittee).

The Hutt Corridor Study analysed several options for new east-west connections. Of the several options considered, two were advanced as being worth further investigation: P2G or a Porirua to Melling link.<sup>10</sup> While the connection to Melling offered superior economic benefits to the Hutt Valley, the Study found that the P2G link option was preferred for advancement sooner as it had the following advantages:

- Less costly and higher BCR
- Less impact on Belmont Regional Park
- Improved accessibility and reduced congestion at the Ngauranga Merge.

### 3.2 Hutt Corridor Plan Hearings

After those assessments a consultation document entitled “Which route for the Hutt?”<sup>11</sup> on future proposals was produced for public input in 2002 while Hutt Corridor Plan hearings were held in early 2003.

In relation to east west connections (Petone to Grenada, and a Melling or Kennedy Good Bridge to Transmission Gully and SH58 connection) the following are relevant excerpts from the Hearings Committee report<sup>12</sup> dated 22 May 2003.

Firstly in the preamble:

*The significant financial impact on territorial authorities, particularly Hutt City, caused by the cost of funding east-west connector routes both through the hills and across the valley floor, which will be necessary before full benefit will be realised of developing the Transmission Gully motorway and improving the Petone-Ngauranga corridor. It should be recognised that the Petone-Grenada and valley floor road links are regional strategic links rather than local access roads. (6.9)*

#### Existing Road Projects 2003 to 2008

- *The need for safety improvements on SH58 is confirmed. The subcommittee envisaged that such safety improvements do not require the immediate construction of four lanes from SH2 to the Transmission Gully motorway alignment. This view recognises the current shortage of money for construction projects and the synergy of SH58 with the proposed Transmission Gully motorway. It is envisaged that the four laning of SH58 from SH2 to the Transmission Gully motorway will occur when Transmission Gully is built. (7.3)*

---

<sup>10</sup> (Report 03.270 to RLTC, Attachment 1, section A1.2).

<sup>11</sup> [http://www.gw.govt.nz/assets/council-reports/Report\\_PDFs/2002\\_674\\_2\\_Attach.pdf](http://www.gw.govt.nz/assets/council-reports/Report_PDFs/2002_674_2_Attach.pdf)

<sup>12</sup> [http://www.gw.govt.nz/assets/council-reports/Report\\_PDFs/2003\\_270\\_1\\_Report.pdf](http://www.gw.govt.nz/assets/council-reports/Report_PDFs/2003_270_1_Report.pdf)

- *The completion of consents to ensure that the required land is available for the construction of an interchange at SH58/SH2 when funding becomes available. The design should not prevent a possible future direct link by a new bridge across the Hutt River to Stokes Valley. (7.4)*

### **New Road Projects 2003 to 2008**

- *Investigate and implement in conjunction with the relevant territorial authorities and Transit, the best practicable package to take advantage of the SH2 Dowse to Petone improvements:*
  - (a) *commence construction of a link road between the Petone Esplanade/Hutt Road/SH2 connection and the Grenada/SH1 intersection currently providing access to a landfill; and*
  - (b) *concurrently the investigation and implementation of improved vehicle access across the lower Hutt Valley, either by means of the best practical link with the proposed Dowse/SH2 interchange (the favoured option), or by means of improvements to the Petone Esplanade. (7.9)*
- *Construct the preferred link road between Seaview-Gracefield and SH2 connecting either at Petone or Dowse-Korokoro. (7.11)*

### **Road Projects Beyond 2008**

- *Investigate and evaluate a Kennedy Good bridge link to Transmission Gully for construction at, or as soon as practicable after, construction of the Transmission Gully motorway. The construction of this project is a package with, and needs to be preceded by, the construction of the Kennedy Good bridge-SH2 interchange. Investigate this option recognising the need to protect the designated Speedy's Bush Reserve and retain as much as possible the amenity value of bush area not currently designated as reserve. (7.12)*

As an Appendix to the report of the Hearings Committee<sup>13</sup> there were four key consultation issues identified including the advantages and disadvantages of each. The following is relevant.

#### **A1.2 Key issue – improving access west**

*The existing routes west (SH58) can be upgraded but do not provide direct links to major population centres.*

##### *Options*

- *Do nothing/rely on existing connections*
- *New link Kennedy-Good Bridge – Porirua East – implied in RLTS 1999/2004*

##### *Recommended options*

##### *Investigate*

- *New link Melling – Porirua*

##### *Advantage*

- *Significant economic advantage for both Hutt Valley and Porirua*
- *Network flexibility*
- *Links Hutt City to Porirua City and provides access to the north via Transmission Gully*

---

<sup>13</sup> [http://www.gwrc.govt.nz/assets/council-reports/Report\\_PDFs/2003\\_270\\_2\\_Attach.pdf](http://www.gwrc.govt.nz/assets/council-reports/Report_PDFs/2003_270_2_Attach.pdf)

#### *Disadvantage*

- *More expensive (est. \$60m), but economic analysis suggest viability as a toll road*
- *Compromises Belmont Regional Park (but also provides access for enhanced use)*
- *Affects local communities and physical environments*

#### *Investigate*

- *New link Petone – Grenada*

#### *Advantage*

- *Will attract 20% of traffic currently using Ngauranga Gorge or SH2 Petone to or from Ngauranga*
- *Cheaper, more easily constructed than other options*
- *Will not compromise Belmont Regional Park*
- *Accessibility*
- *Supports regional economic development (connects to Wellington City's northern growth area)*
- *More efficient fuel use for existing traffic*
- *Existing SH1 interchange can be used*

#### *Disadvantage*

- *May contribute to deterioration of Petone Esplanade*
- *Does not serve Porirua as well as the Belmont or Melling options*
- *Affects local communities and physical environments*
- *Interchange at Petone will be complex*
- *Increases pressure on Petone-Dowse section of SH2.*

The Hutt Corridor Plan Subcommittee however finally decided in favour of the P2G link as the first priority with investigations of a Belmont to Transmission Gully Link to follow at a later time. The Subcommittee noted that P2G, and a link across the Hutt Valley floor, was a regional strategic link and necessary to realise the full benefits of the Transmission Gully Motorway.<sup>14</sup>

### **3.3 Final Hutt Corridor Plan**

The 2003 Hutt Corridor Plan was approved by the Regional Land Transport Committee in November 2003.<sup>15</sup> The plan included investigation of P2G to begin sometime between 2003 and 2008 with construction to start before 2013. In relation to East West Connections the following was the outcome.

Firstly in relation to Short to Medium Projects:-

---

<sup>14</sup> (Report 03.270 to RLTC, para 6.9).

<sup>15</sup> (Report 03.677 to RLTC).



Action	Responsibility	Timing	Indicative cost	Suggested funding	Target	Performance measures
Develop an implementation plan for Grenada to Gracefield links and the Petone – Ngauranga reversible HOT lane	Transit (lead) GWRC HCC WCC	As soon as possible	To be determined	C2 L (GWRC, HCC, WCC)	Complete implementation plan by 2007/08	Implementation plan completed
Construct SH2 Dowse – Petone interchange	Transit (lead) HCC	To commence 2007/08	\$73M	N	Open by 2008/09	Improvements completed
Design and construct SH2/SH58 grade separation	Transit (lead) HCC UHCC	To commence 2007/08	\$37M	C1	Open by 2011/12	Improvements completed
Investigate and construct a link road between Grenada and Petone (Stage 1 of Grenada – Gracefield)	Transit (lead) HCC WCC	Stage 1 investigation to continue from 2006/07	\$180M	C2 L (WCC)	Open by 2014/15	Road completed
SH2 intersection safety improvements (north of Melling and River Road)	Transit (lead) HCC UHCC	To commence 2007/08	\$10M	N	Improvements complete by 2011/12	Safety improvements completed

**Figure 7: Hutt Corridor Plan 2003 p5.**

Then in relation to longer term Projects:-

Action	Responsibility	Timing	Indicative cost	Suggested funding	Target	Performance measures
Construct a link road between Petone and Gracefield (Stage 2 of Grenada – Gracefield)	Transit (lead) HCC	Stage 2 to commence beyond 10 years	\$60M	To be determined	Road opened	Progress reported to RLTC
Upgrade SH58 between TGM and SH2	Transit (lead) PCC UHCC HCC	Beyond 10 years	To be determined	To be determined	Development underway	Progress reported to RLTC
Monitor and investigate the optimal connections of SH2 at SH58 and Silverstream intersections to the local road network including a possible direct connection to Stokes Valley by a new bridge across the Hutt Valley. Construct the preferred option as funds are available	HCC (lead) UHCC TNZ	Beyond 10 years	To be determined	To be determined	n/a	n/a
Design and construct an appropriate interchange at the Melling/SH2 intersection	Transit (lead) HCC	Beyond 10 years	\$68M	To be determined	Upgrade completed	Progress reported to RLTC
Construct the Kennedy Good Bridge – SH2 interchange	Transit (lead) HCC	Beyond 10 years	\$21M	To be determined	Upgrade completed	Progress reported to RLTC
Construct Akatarawa Road upgrade	UHCC KCDC	Beyond 10 years	\$20M	To be determined	Upgrade completed	Progress reported to RLTC

**Figure 8: Hutt Corridor Plan 2003 p6.**

### 3.4 Comment

The most notable difference from the Hearings Committee’s recommendation to the final Hutt Corridor Plan (reprinted in 2007 to align with the RLTS) is the removal of investigations into the Belmont to Transmission Gully Link Road.

GW<sup>16</sup> has provided the following explanation.

*There was a Belmont-Porirua link in the BECA study report (option X4) but as far as I can tell it never got past Stage 1 (out of the 3) of the study. The ‘Consideration of options’ report indicates that a composite Melling/Belmont – Porirua link road was created, but BECA study stages 2 and 3 only mention a Melling Link. Minutes from the TWG for the 2003 Hutt Corridor Plan state that, in general, the benefits of an east-west link diminish the farther north the link is located. BECA stage 3 looked at possible revenue from tolling.*

<sup>16</sup> E-mail correspondence 21 April 2015.



*The Kennedy Good link to TG in the Hearings Subcommittee recommendations report could be the descendant of the composite Melling/Belmont-Porirua link mentioned in the consultation document 'Which way for the Hutt?' and the 'Consideration of Options' document. As far as I can tell, the composite Melling/Belmont option in the consultation document was included only to provide an alternative to P2G (since only P2G was included in BECA stage 2) since it is listed in the 'Some Other Thoughts' -> 'Alternatives available' section (page 17 of Consideration of Options)*

*The investigation for the Kennedy Good to TG option was included in the 2003 Hutt Corridor Plan as an activity to occur between 2008 to 2013. Later, when the HCP was updated to fit with the 2007 Regional Land Transport Strategy, it was dropped. This can be seen in the HCP version published in 2007 (the designed version which is excerpted in the Incite Report) as the timing of projects has changed to reflect the timing of the RLTS (ie. between 2007-2016 and 'beyond 2016'). Details of these changes are not recorded in the minutes, nor the committee report that accompanied the approval of the corridor plans (report 2007.411).*

Based upon the above advice the reasoning behind not progressing a Kennedy Good to Transmission Gully Option either as an alternative or in addition to Petone to Grenada Link was that it did not align with the priorities in the RLTS at that time and it seems clear that it was a longer term and lower priority in any event.

However what is important about the overall process is:-

- Regional confirmation that a Petone to Grenada Link Road is desirable to progress. This had the support of Hutt and Wellington City Councils as well as the overall Regional Land Transport Committee.
- The process was subject to consultation and hearings. The subcommittee received 104 written submissions with comments from officials. Twenty seven submissions were presented in person at the hearing.
- The role and function of SH58 were also considered by the RLTC. This confirmed that “*The existing routes west (SH58) can be upgraded but do not provide direct links to major population centres*”<sup>17</sup>.
- In relation to SH58 the Hutt Corridor Plan also confirmed that an upgrade of the existing route was necessary.

---

<sup>17</sup> Appendix to Hutt Corridor Plan Hearings Committee report to the RLTC.

## 4. Western Corridor Plan 2006

The Western Corridor Plan, relating to the corridor from Ngauranga in the south to the Regional Council boundary north of Otaki, was controversial at the time. Indeed similar hearings were held to those for the Hutt Corridor Plan but instead of 104 submissions the consultation on the draft received an unprecedented community response, with 6017 written submitters, 905 of whom wished to be heard at the hearing.

There was a significant focus on the debate about whether or not there should be investment in the existing SH1 coastal route or should there be investment in Transmission Gully as the alternative.

While that was resolved in 2006 there was also some attention to the Grenada to Gracefield Project where there was alignment with the findings of the Hutt Corridor Plan.

### 4.1 Consultation

There were three stages of consultation being:-

1. **A Preliminary Discussion Document** – October 2004. The document advised that Greater Wellington Regional Council and Transit New Zealand had started a review of the transport strategy for the Western Corridor. It sought the communities' views on the issues and potential options.
2. **Phase 2 Consultation: Alternative Scenarios** – May 2005. The report presented five different transportation scenarios, and considered how they were evaluated, including the tools used such as the Wellington Transportation Strategic Model, risk assessment, planning balance sheet and affordability issues. The report provided an assessment of overall performance for each of the scenarios measured against safety, reliability, congestion and level of service, transport nodes and reduction in peak road travel volumes.
3. **Consultation Document: Western Corridor Plan** – October 2005. This document gives details of the Proposed Western Corridor Plan, what it will deliver, the basis for the plan, a summary of technical information and where additional information can be found, along with information on how to make a submission and a submission form.<sup>18</sup>

This report focuses on the final stage of consultation where the Petone to Grenada Link Road was consulted on. This project was described as

*Petone Grenada: This would provide a new four lane road which would start adjacent to the northern landfill at Grenada at the top of Westchester East Drive. The road would traverse the saddle between the two high points, and head towards Lincolnshire Road. It would cross over Horokiwi Road immediately north of the intersection with Lincolnshire Road. There would then be two alternative routes for linking into SH2 at the Petone interchange/Cornish Street. One would traverse the eastern face of the hill and the other the western face of the hill.*

---

<sup>18</sup> Source: <http://www.gwrc.govt.nz/consultation-reports/>

## 4.2 Western Corridor Plan Hearings<sup>19</sup>

A stated the draft Western Corridor Plan created an unprecedented level of community response. The majority of the responses were due to a favoured option of an upgraded SH1 coastal route as opposed to the construction of Transmission Gully. However there were also a number of concerns about the identification of the Petone to Grenada route and the synergies with the remainder of the corridor.

A hearing committee chaired by Sir Brian Elwood was established and produced a report for the RLTC. There was some significant criticisms of the process carried out and instead of summarising this report the following is the entire hearing committee's findings on the issue.

### *4.106 Overall the Sub-committee finds that:*

- The consulted options fail to integrate appropriately at the Hutt Corridor in a way that will optimise the Petone, Dowse and Gracefield connection, and avoid the risk of imposing significant additional traffic burdens on the already congested Petone Esplanade.*
- The grades associated with the options consulted on are extreme and raise questions about whether the road will be used as intended and also suggest that use will generate considerable vehicle noise affecting the health of nearby residents.*
- There was inadequate consultation with the public. These proposals had been part of stage 1 and stage 2 consultation under the proposed Hutt Corridor Plan. In our view, it could not be assumed that interested parties or residents affected would have realised the shift of this proposal from one corridor plan to another. Under those circumstances, it would have been desirable for the relevant residents associations and those who had submitted on the proposals in the context of the Hutt Corridor to be directly advised of the inclusion of a Petone-Grenada Link Road in the WCP.*
- The manner in which the Petone-Grenada Link Road has been introduced to the proposed WCP at a relatively late stage raises a number of potential procedural issues in terms of compliance with the LTA.*

*4.107 A number of submitters have suggested that the money currently allocated in the plan to the Petone-Grenada Link Road should be redeployed to the construction of TGM/ SH58. As explained elsewhere in this Report we disagree. Submitters and the Project Team tell us that the congestion problem at the bottom of Ngauranga Gorge a serious and urgent problem for the Region. It requires action not indefinite deferral.*

*4.108 Although many submitters expressed the view that a Petone-Grenada Link Road would be redundant if a TGM-SH58 connection was constructed, the Sub-committee found that there is a need for an east-west connection in the southern section of the Western Corridor that merits investigation. The Sub-committee requested and received further advice on this point. A February 2006 Booz Allen Hamilton report, "Impacts of Petone Grenada Link" observes that "30% of PG morning peak users would come from Porirua south of Mana, 25% from Tawa, and around 35% from Johnsonville/Newlands." This adds to material supplied earlier by the project team showing regional freight desire lines concentrated in the triangle Tawa-Gracefield-Port. For the considerable population and freight movement circulating in the southern area of the Western Corridor, SH58 is not a relevant option for east-west travel. However such a need does not justify the particular Petone-*

---

<sup>19</sup> [http://www.gw.govt.nz/assets/council-publications/2647\\_HearingSubcommit\\_s5055.pdf](http://www.gw.govt.nz/assets/council-publications/2647_HearingSubcommit_s5055.pdf)

*Grenada Link Road proposed. The LTA requires that a Petone-Grenada Link Road proposal be assessed against the range of criteria of S. 175(2) through a public consultation process.*

*4.109 The Sub-committee suggests that the funding currently allocated to a Petone-Grenada Link Road (\$180 million) be dedicated to the necessary investigation, consultation and construction of a solution for a Southern West-East Link from Grenada to Gracefield. That process needs to be collaborative between Transit, the HCC and WCC. It also needs to engage actively with local communities.*

*4.110 The Sub-committee notes that the connection from the Hutt Corridor to the Western Corridor needs to be sequenced to ensure that it builds onto an operational Cross Valley Connector to avoid negative traffic impacts on other roads. It is critical that the design options ensure that there are appropriate connections to SH1 including, assuming the decision to take forward TGM as suggested in this report, how to achieve integration with the southern interchange of TGM. Given that there are significant options to be developed and consultation is required, the project may need to be repositioned if it is unable to be completed within the eight year timeframe indicated in the proposed WCP consultation document.*

*4.111 The proposed study should include investigation of HOV lanes in Ngauranga Gorge, but we have been advised that the problem of lane merging and weaving in Ngauranga Gorge makes implementation of HOV lanes impracticable. The Sub-committee finds that the HOV project should be deferred and the \$5 million allocated to this in the proposed WCP be reallocated to increased rail capacity.*

### 4.3 Final Western Corridor Plan 2006<sup>20</sup>

After the hearings the RLTC considered the hearings report and its recommendations. The final Western Corridor Plan was endorsed in December 2006. The actual plan is very brief (7 pages of text maps and tables) and reflects the decisions made by the RLTC after a series of recommendations by the hearings committee. In relation to P2G the following are the key line items for implementing the Western Corridor Plan.

Action	Responsibility	Timing	Indicative cost	Suggested funding	Target	Performance measures
Install traffic signals at SH1/Paekakariki	Transit	2006/07	\$1M	R	Signals operating by June 2007	Signals operating
Investigate opportunities to incorporate Tawa Interchange upgrade in the scope of the Gracefield – Grenada project	Transit (lead) WCC	Project development to commence from 2006/07	To be determined	N	Study complete by June 2008	Reports considered by relevant Authorities and RLTC
Design, obtain consents and construct Grenada to Gracefield link stage 1	Transit (lead) WCC HCC	Project development to commence from 2006/07	\$180M	C2 L	Construction complete by 2014/15	Road completed

**Figure 9: Roading: short to medium term projects (2007 – 2016)**

<sup>20</sup> <http://www.gw.govt.nz/assets/council-publications/Western%20Corridor%20Plan.pdf>

#### 4.3.1 Comment

The Hearings Committee had some criticisms in respect of the way that the Petone to Grenada Link Road was inserted part way through the consultation process. It also recommended that there was considerable further work required to confirm the exact form, location and extent of an east west link.

Regardless the Hearings Committee found that:-

- *Submitters and the Project Team tell us that the congestion problem at the bottom of Ngauranga Gorge a serious and urgent problem for the Region. It requires action not indefinite deferral.*
- *Although many submitters expressed the view that a Petone-Grenada Link Road would be redundant if a TGM-SH58 connection was constructed, the Sub-committee found that there is a need for an east-west connection in the southern section of the Western Corridor that merits investigation.*
- *This adds to material supplied earlier by the project team showing regional freight desire lines concentrated in the triangle Tawa-Gracefield-Port. For the considerable population and freight movement circulating in the southern area of the Western Corridor, SH58 is not a relevant option for east-west travel.*

## 5. Ngauranga Triangle Investigations

Upon completion of the Hutt and Western Corridor Plans two specific pieces of work were carried out to implement the RLTS in relation to the Petone to Grenada Link. The first was the Ngauranga Triangle Study where it should be noted that the project area was smaller than previously studied with the northern part of the SH2 corridor being at Dowse Drive rather than consideration of northern options starting at either Melling or Kennedy Good Bridge linking to Transmission Gully

Once again the summary of these projects has been replicated from the April 2014 Scoping Report.

### 5.1 Strategy Study – Detailed Technical Report 2009 (SKM)

#### **Background**

*The purpose of this study, commissioned by NZTA, was to develop an integrated long-term transport strategy for the “triangle” between SH1 (Ngauranga Gorge to Tawa), SH2 (Ngauranga Gorge to Dowse) and a possible link between these two corridors.*

*The study was also extended to consider links from the SH2 corridor to Gracefield and the surrounding areas. The study was a direct result of specific actions identified in the Hutt Corridor Plan (2003) and the Western Corridor Plan (2006) for NZTA, HCC and WCC to investigate projects within this study area.*

#### **Option Development**

*The option development process involved preparing a long list of options which addressed the strategic drivers and objectives developed for this study. The long list of options was then assessed against key performance indicators and functional goals and reviewed by the Study Governance Group comprising members from NZTA, WCC, HCC and GWRC. Following this review a short list of options was produced and further refined following a short list option assessment.*

#### **Preferred Options**

*A Petone to Grenada link road was identified as a significant project and chosen as a component of the preferred Ngauranga Triangle strategy. Other projects identified as components of the preferred strategy included the Cross Valley Link option and a “Beach to Bush” option which connects Belmont Regional Park on the western side of SH2 to Petone and the foreshore on the eastern side SH2. An implementation plan for the preferred strategy was then determined by reviewing the economic benefits, operational issues and statutory requirements of these projects.*

#### **Conclusions**

*A Petone to Grenada link road together with the Cross Valley Link option and a “Beach to Bush” option were proposed as part of a package of projects to go forward for implementation. These projects were subject to further stakeholder discussions and consideration by Council and the NZTA Board.*

#### **5.1.1 Comment**

In 2008 GW, WCC, HCC and Transit New Zealand commenced strategic level investigations taking into account the specific actions and the implied criticisms of the process carried out through the Western Corridor Plan development. This was part of an integrated package of initiatives including the relationship



of an east west connector to the existing SH2 corridor north to Dowse, south to Ngauranga and east towards Seaview/Gracefield.

As a result of endorsement of the outcomes by the key stakeholders, SKM as Project consultants for the Triangle Study commenced a more detailed Project Feasibility Report.

## 5.2 Strategy Study – Petone to Grenada Link Road PFR 2010 (SKM)

### **Background**

*This PFR (Project Feasibility Report) proposed a 70km/hr four lane expressway linking SH1 just south of the Tawa Interchange to SH2 at Petone as part of a package of improvement projects identified in the Ngauranga Triangle Strategy Study. This link was proposed to assist in solving the following problems:*

- i. Poor regional connectivity;*
- ii. Congestion on SH1 and SH2 during peak times; and*
- iii. Travel times between Petone/Seaview and Grenada.*

*This PFR emphasised that the proposed link was part of a balanced strategy to solve these problems. Other projects and traffic demand management (TDM) proposals formed part of the balanced strategy including:*

- i. Cross Valley Link Road;*
- ii. Ramp metering at the southbound Petone on ramp to SH2;*
- iii. Ramp metering at the northbound Ngauranga on ramp to SH1;*
- iv. Middleton Road cycleway;*
- v. Ngauranga to Petone cycleway completion and upgrade; and*
- vi. Helston Road ramps.*

### **Options Development**

*A number of options were initially considered against an evaluation framework developed by the Ngauranga Triangle Governance Group which comprised representatives from NZTA, WCC, HCC, GWRC and SKM. Options were developed further by this group over a number of workshops including inputs from the Horokiwi community. Integrating with and providing access to the Lincolnshire Farm development and Horokiwi was a key consideration in arriving at the preferred option.*

### **Preferred Option**

*Figure 3-5 shows the preferred option links to SH1 south of Tawa Interchange with south facing ramps. From this location it travelled south for approximately 1.5km passing through the northern landfill before it traversed southeast through the Lincolnshire Farm development along the route proposed in the Lincolnshire Farm Structure Plan. At approximately 3km from its connection to SH1, a grade separated connection to the Lincolnshire Farm development is provided. The location of this connection aligned with one of the major intersections proposed in the Lincolnshire Farm Structure Plan (identified as Major Intersection 3 in this plan). Beyond this connection the preferred option travelled southeast traversing across the northern tip of the Horokiwi Quarry to SH2 at Petone. Between the Quarry and Petone the route avoids the Belmont Regional Park and Korokoro Stream*

*by cutting through the coastal escarpment as it descends to a new grade separated, full interchange at Petone. This interchange connects to SH2 with direct links to The Esplanade and Hutt Road.*

*Alternative options were considered but ruled out in favour of the preferred option. Alternative options included:*

- i. Traversing through the Korokoro Valley which links to the Dowse Interchange;*
- ii. Passing across the Maungaraki and Korokoro communities linking directly to the Dowse Interchange;*
- iii. Traversing through the Horokiwi Quarry linking to SH2; and*
- iv. Connecting to SH1 at the Grenada Interchange (Westchester Drive).*

#### **Traffic and Project Economics**

*Significant travel time and vehicle operating cost benefits were predicted south of Ngauranga Gorge on SH1, at MacKay's Crossing on SH1 and on SH2 north of SH58 based on a modelling and economic analysis. However, the analysis also predicted additional traffic into and out of Wellington in the AM and PM peaks induced by this new link resulting in dis-benefits. These traffic induced dis-benefits were also included in the economic analysis resulting in a predicted benefit to cost ratio of 1.1 for a project cost of approximately \$250 million.*

#### **5.2.1 Comment**

The Ngauranga Triangle Strategic Study was the most comprehensive study involving P2G produced at that time. It assumed (as a concept) a four-lane divided road, with adequate shoulder width to allow for cyclist use, designed to have a nominal operating speed of 70 km/h. The indicative cost for P2G identified by the study was \$250 million with an indicative BCR of 1.3. P2G was seen as having potential to address:

- Growing congestion on SH1 north of Ngauranga Interchange
- Growing congestion on SH2 between Petone and Ngauranga and in particular at Petone and Ngauranga on-ramps
- Poor east-west connectivity between the SH1 and SH2 corridors (both by road and public transport)
- Road safety issues at the Petone Interchange and Horokiwi Road.

P2G was also identified as having the following benefits:

- Reducing traffic volumes on SH58
- Potential for a new direct east-west bus service between Porirua/Johnsonville, Horokiwi, and Lower Hutt
- Supporting development at Lincolnshire Farm, Johnsonville Town Centre and Petone
- Improved freight connectivity and encourages development at the Seaview-Gracefield industrial area (the region's primary industrial hub and a regionally significant activity centre)
- Improved reliability and regional resilience by providing an alternate connection if an incident occurs on either SH1 or SH2.

The Triangle Study therefore confirmed the desirability of a SH1 to SH2 link from Petone to Grenada and Tawa but excluded consideration of any northern options for linking to the Transmission Gully alignment. The PFR then took the detailed options further and was able to discount some options. There was also the



need to align with the WCC's Northern Growth Management Framework particularly in the area of Lincolnshire Farm Structure Plan. On the basis of the outcomes of the Study and the PFR the Transport Agency let a contract for detailed investigations which have continued since 2013 (see section 7).

## 6. Hutt Corridor Plan Review 2011<sup>21</sup>

After the completion of the Ngauranga Triangle Study GW through the Regional Transport Committee commenced a review of the 2003 Hutt Corridor Plan.

The Hutt Corridor Plan review involved significant discussion and debate about improved east-west connections, including the needs and benefits associated with P2G and SH58. Consultation on the draft Hutt Corridor Plan indicated that fairly even support/opposition for the P2G project remained<sup>22</sup>. The Hearings Subcommittee, considered feedback from the community on these projects, before recommending a final Hutt Corridor Plan 2011 to the Regional Transport Committee in October 2011<sup>23</sup>.

As with the more recent studies and processes P2G was included in the 2011 Hutt Corridor Plan with an indicative construction start date in the 2015-18 period. In relation to SH58, the plan identified the short-medium term priority as improving safety through a package of safety improvement works. It also identified a future action to investigate the need and feasibility of increasing capacity and improving the alignment of SH58 between TG and SH2<sup>24</sup>.

In terms of East West Connections the following outlines the Issue the Plan is seeking to address.

### ***East – west links between SH2 and SH1***

*The region's topography has created a largely north south linear shape to our urban form, converging at Ngauranga (in Wellington City). While this has many benefits in terms of transport infrastructure efficiency, limited east-west connections between SH2 and SH1 has been identified as an issue for strategic regional planning and connections between key destinations for people, goods and services.*

*Existing east-west connections are SH58/Grays Road and Akatarawa Road, located to the northern end of the Hutt Corridor.*

*The problem is towards the southern end of the Hutt Corridor where there is no direct link between the key freight and employment centres of Lower Hutt/Petone/Seaview and Johnsonville/Porirua.*

*These trips are generally made using SH2 and SH1 via Ngauranga interchange – placing more pressure on the sections of the region's transport network that already suffer severe congestion and high levels of demand for north-south trips into and out of Wellington City. This leads to longer travel times and trip distances.*

*Limited east-west connections between SH2 and SH1 also create significant network resilience issues. An incident (such as a traffic accident or slip) on SH2 between Wellington City and Hutt Valley can cripple the entire state highway network for hours, even on a weekend, due to the lack of alternative routes and a necessary long diversion via SH58. In a major event such as an earthquake or tsunami, having an alternative east-west link at the southern end of the Hutt Corridor will be vital to re-instating access between the Hutt Valley, Wellington City and other centres.*

---

<sup>21</sup> <http://www.gw.govt.nz/assets/Transport/Regional-transport/Hutt-Corridor/HuttCorridorPlan2011.PDF>

<sup>22</sup> (Report 11.520 to RTC, section 4)

<sup>23</sup> (Report 11.520 to RTC)

<sup>24</sup> (Report 11.381 to Draft Hutt Corridor Plan Hearings Subcommittee, Attachment 1, section 4.4.7)

In terms of specific actions to address the issue the revised Corridor Plan includes what is known as a Petone Package.

### **Petone Package**

*A new road is proposed to connect SH2 at Petone and SH1 at Grenada North – known as the Petone to Grenada Link Road. This project has benefit across multiple objectives and issues including:*

- *A direct connection for freight, commuters and other trips between Lower Hutt and Porirua/ North Wellington providing for more efficient freight trips (expected to accommodate around 2,500 freight vehicles per day) and improved access between employment and markets (with trip length saving of about 7 km and travel time saving of around 8 minutes).*
- *Reduced congestion on SH2 south of Petone, and SH1 south of Tawa – by attracting around 25,000 vehicles per day to the new link road.*
- *Significantly improved transport network resilience through provision of a new alternative east-west connection that can be used in the event of a traffic accident or natural hazard/ earthquake event affecting SH2 between Ngauranga and Petone.*
- *Potential to create a new direct east-west bus service between Porirua/Johnsonville and Lower Hutt.*
- *Integrating land use and transport by supporting proposed development at Lincolnshire Farm, Petone west and Seaview/Gracefield.*

This also included specific outcomes for SH58.

### **State Highway 58 capacity**

*The short-medium term priority for SH58 is to improve the safety of this route by implementing a package of road safety improvement works as outlined in this plan. However, we also need to investigate the need and feasibility for increasing capacity on SH58, including consideration of four laning the current alignment between Transmission Gully and SH2. Any short-medium term safety improvements should not be contradictory to potential long term capacity upgrades.*

#### **6.1.1 Comment**

In line with the outcomes of the Ngauranga Triangle Study the revised WCP outlines the key actions for the region. Specifically it recognises the necessity for progressing in detail the Petone to Grenada Link Road as well as other assumed improvements such as for cycling and walking between Petone and Ngauranga. No further reference has been made to options for a Hutt Valley to Transmission Gully Link.

In relation to SH58 it also continues to recognise that SH58 is part of the entire network and that safety upgrades are necessary now and there should be investigations into capacity improvements between SH2 and Transmission Gully.

What is of note is that these strategic processes led by the Regional Land Transport Committee have been the subject of consultation and hearings in both 2003 and 2011 (HCP) and confirmed a regional desirability for continuing to progress P2G.

## 7. Western Corridor Plan 2012

As with the Hutt Corridor Plan the Petone to Grenada Link Road features in this Plan updated in 2012.

### ***Petone to Grenada Link Road***

*A new road is proposed to connect SH1 at Grenada North and SH2 at Petone – known as the Petone to Grenada Link Road. Another element of this project includes the creation of a ‘beach to bush’ walk and cycle link between Belmont Regional Park and the Petone foreshore. In the short term, some demand management measures such as ramp signalling may be undertaken.*

*This project will provide a direct connection between the northern Wellington suburbs, Porirua and Lower Hutt, improving access between these key freight and employment centres. It also reduces congestion on SH1 south of Tawa, significantly improves network resilience to accidents or natural hazards, provides for a potential new east-west bus route and integrates land use and transport by supporting proposed development at Lincolnshire Farm, Petone west and Seaview/ Gracefield.*

*The short-medium term priority for SH58 is to improve the safety of this route by implementing a set of road safety improvement works as outlined in this plan. Investigation of the need and feasibility for increasing capacity on SH58, including consideration of four-laning the current alignment between Transmission Gully and SH2 will occur within the Petone to Grenada scheme assessment. Any short-medium term safety improvements should not be contradictory to potential long term capacity upgrades.*

### **7.1.1 Comment**

In a similar manner to the Hutt Corridor Plan, the Western Corridor Plan makes complimentary statements in relation to P2G. There is no conflict or disparity between the two documents in this regard.

## 8. Petone to Grenada Investigations 2013/2014

In 2013 the Transport Agency tendered for the investigation phase of the Project in order to carry out the identified actions of the Regional Transport Committee through and the Hutt Corridor Plan.

### 8.1 Scoping Report April 2014

Opus International Consultants (Opus) were engaged by the NZTA to assist in the investigation of this link road by completing a Scoping Report<sup>25</sup>. This report builds on the Project Feasibility Report (PFR) previously completed for P2G by Sinclair Knight Merz (SKM) in January 2010.

The Executive Summary scoping report describes the purpose of the Project

*The New Zealand Transport Agency (NZTA) is investigating a transportation link between the Hutt Valley and Porirua, identified as the Petone to Grenada Link Road (P2G). P2G aims to address severe congestion and improve resilience on the State Highway (SH) network as well as improving connectivity between the Hutt Valley and Porirua.*

*This report will lead to a Scheme Assessment Report which will recommend and provide details of a preferred option. In addition to the Scoping Report, three Project Feasibility Reports (PFRs) have also been completed to inform future decisions made by NZTA.*

*The P2G link will be designed to provide a safe and efficient route between the Hutt Valley and SH1 to the north, as well as an alternate route between Porirua and the Ngauranga Gorge. As part of the planning and assessment for the project, an alternative link, providing an additional connection to Transmission Gully (TG), has been identified.*

*The study area comprises SH1 from Ngauranga to SH58, the length of SH58, SH2 from Ngauranga to SH58 and the land between these State Highways. The main focus for this project is toward Petone and Grenada. The future TG Route has also been included in the project area for assessment.*

*Within the Wellington Region, significant volumes of goods flow between Wellington City, Seaview / Gracefield, Petone and Porirua. Seaview is a major industrial hub in Wellington and as such is the origin and destination for many heavy commercial vehicles (HCVs). The CentrePort dock at Seaview is also a major distribution point in the Wellington Region and there is potential growth in this area for fuel distribution. Most sea freight becomes road freight at this point. Currently HCV trips from Seaview to Porirua generally travel south on SH2 to Ngauranga before turning north on SH1, extending their trip length. Road freight contributes to the traffic congestion and travel time delays on SH2 between Petone and Ngauranga.*

The report then defines Project Objectives after what was known as a “design surgery” process by the project team. These are as follows:

1. *Improve safety and efficiency of the transport network including efficiency of HCVs travelling between Seaview and SH1 to the north and maximise value for money;*
2. *Support the economic growth and development of the region by improving connectivity within the region;*

---

<sup>25</sup> <http://www.nzta.govt.nz/projects/petone-grenada-link-road/docs/p2g-scoping-report-final-2014-part1.pdf>

3. *Enhance resilience of the State Highway network within the region; and*
4. *Minimise adverse environmental impacts.*

Following the Project Objectives the report then defines the existing situation being:

- The traffic context within the study area;
- A description of the community within the extent of the Project Area;
- A commentary on what is known about the existing ecology; and
- A description of the landscape context.

It then outlines the Key considerations, constraints and opportunities that need to be taken account of. These are:

- *Creating options that are economically efficient to construct, operate and maintain;*
- *The objectives and requirements of the PFRs which form part of this project namely the Seaview Links, SH58 and SH2 Petone to Ngauranga and their relationship to this project;*
- *Recognising the relationship to other projects including TG and Petone to Ngauranga Cycling and Pedestrian Improvements;*
- *Recognising natural features in the surrounding environment e.g. the urban coastal edge, ridgelines and hilltops and the Petone foreshore;*
- *Recognising areas of ecological and cultural significance e.g. Korokoro Stream valley within Belmont Regional Park and the Honiana Te Puni Reserve;*
- *The impact of the Petone West Plan Change (Change 29) which provides for future land intensification in terms of additional residential and commercial occupants;*
- *Enabling the Lincolnshire Farm Development to connect to the P2G Link Road as required in the Lincolnshire Farm Structure Plan;*
- *Ensuring that urban design and landscaping is integrated into option development particularly at Petone and Lincolnshire Farm. For example, investigating a “Beach to Bush” link as part of the option development at Petone;*
- *Archaeological impacts;*
- *Geotechnical issues such as the proximity to the active Wellington Fault and liquefaction hazard at Petone, the stability of high cuttings in fractured Wellington greywacke and contaminated material from landfill sites;*
- *Resilience in the context of the Hutt Valley and the greater Wellington area given the limited number of routes and their poor resilience; and*
- *Selecting an appropriate design speed based on design criteria including: terrain, horizontal and vertical alignment, compatibility with adjacent routes, comparable roads, traffic volumes and crash risks.*

The report then moves on to the Option Development Process that the Project team carried out where four options were identified. These are:

1. Option A – Petone to Grenada;
2. Option B – Petone to Tawa (with north facing ramps to SH1);
3. Option C – Petone to Tawa (with a full interchange to SH1 and local road network); and
4. Option D – Petone to TG (with connections to Grenada and Tawa).

These are shown in the following graphic from the scoping report.





Figure 12-18: Options Selected for Development

**Figure 10: 2014 Scoping Report Options for Selected Development<sup>26</sup>**

The four options were then modelled through a transportation assessment utilising the Northern Wellington SATURN Model (NWSM) and compared for network performance, local intersection performance, travel time savings on key routes and traffic redistribution impacts.

<sup>26</sup> <http://www.nzta.govt.nz/projects/petone-grenada-link-road/docs/p2g-scoping-report-final-2014-part1.pdf> p107

An Option Evaluation process was then carried out to arrive at a preferred option to be taken forward for consultation. The Executive Summary states:-

*The options were evaluated following a structured process to arrive at a preferred option to be taken forward to the consultation phase. As part of the option evaluation process, a second workshop was held with all specialists that had undertaken the assessment of feasible options, the project team and key stakeholders from NZTA, HCC, WCC and GWRC. The aim of this workshop was to provide an opportunity to challenge and discuss the specialists' ideas in a group forum, following their limited investigations at this point. From this workshop a number of specialists could then make alterations to their evaluations which reflected a better understanding of the options or in this case.*

The Scoping Report then concludes:

*Our project team considered options at Petone and came to a view that Option P4 is the preferred option because it avoids the significant ecological effects associated with P2 and P3, whilst also avoiding the negative resilience effects of P1.*

*Having selected Option P4, the project team considered Options A, B, C and D, each incorporating Option P4 at Petone. This analysis showed that Options C or D are better than Options A or B. Therefore, Option C and D are our preferred options. Both Option C and D have similar costs and benefit to cost ratios. If more weight is given to resilience, then Option D is preferred to Option C. If more weight is given to ecology than resilience, then Option C is better than Option D. Ecological effects can be mitigated. At this stage in the process, both options are considered feasible and should be taken forward to the public engagement phase.*

## 8.2 Engagement Report August 2014

The results of the consultation process were contained in a document entitled Petone to Grenada Engagement Report<sup>27</sup>. In terms of process the beginning of the Executive Summary states:

*The consultation process started at the end of January with individual meetings for directly affected property owners. Information days were then held in Petone and Grenada and the consultation was open to public comments from the 22nd of February until the 17th of April 2014. A total of 1415 written submissions were received, with a number submitted after the closing date. Of these, 60 were signatories to group submissions. All submissions have been accepted and incorporated into this report.*

Again from the Executive Summary (page 2) the following Overarching Feedback is stated:

*There was clear support for the concept of the Petone to Grenada Link Road, but feedback was received requesting additional work to be done on a number of aspects of the proposals.*

*There is clear support for a new Petone Interchange, and numerous submitters commented that the replacement of the Petone Interchange should be the highest priority part of the project.*

*Option 4 is clearly supported as the preferred option for the section of the Link Road between Petone and the crest of the Wellington Escarpment. Submitters generally welcomed the development of this option which avoids direct impact on the Belmont Regional Park, although concerns were raised about the potential visual impact of the road on settlements in Petone and Korokoro.*

---

<sup>27</sup> <http://www.nzta.govt.nz/projects/petone-grenada-link-road/docs/p2g-engagement-report-201408.pdf>



*The proposals for alignments from the crest of the Wellington Escarpment west to the SH1 corridor were also generally supported, though a number of submitters raised concerns around the impact on the Hunter's Hill development area.*

*Feedback on the proposals for additional capacity north of Tawa is mixed. There was support and opposition for both Option C and Option D. On the whole there was strong feedback requesting that the need for additional capacity north of Tawa should be reviewed with a view to:*

- *Re-evaluate the need for and timing of additional capacity to be provided north of Tawa*
- *Review potential for public transport upgrades to alleviate the need for additional capacity north of Tawa.*
- *Review potential for widening of SH1 (Option C) to take place in the road reserve*
- *Review the potential for an upgraded SH58 to alleviate the need for additional capacity north of Tawa.*
- *Review the potential for a redesigned Option D to avoid the sports fields at Grenada North.*
- *Review the proposed design of the Tawa interchange to ensure sufficient capacity will be provided if/when the Petone to Grenada Link Road is constructed.*

*It can be concluded that there is clear support for Option 4. There is no clear preference for either Option C or D.*

### **8.2.1 Comment**

The Scoping report is an up to date and comprehensive assessment of the issues, options and opportunities for the Project and once a preferred option is identified will be taken forward to further consultation. This will inform the future Scheme Assessment Report.

The investigation phase has also built upon the previous studies particularly the Ngauranga Triangle Studies and the strategic and regional wide processes through both the Hutt and Western Corridor Plans that have both been subject to revisions in 2011 and 2012 respectively. What is apparent is that there is not universal support for some parts of the options being considered from sectors of the local community.

## 9. Conclusions

1. The concept of a link road from the Porirua Basin to the Hutt Valley has been proposed in some form or another since 1975. Since that time there have been numerous changes in the transport context of the project that highlight the importance of revisiting the historical assessments and any conclusions reached. This is particularly in relation to:
  - The advancement of Transmission Gully on the broad alignment from Linden to MacKays Crossing. Early studies considered a SH1 interchange at Takapu Road then moving north along the Takapu Valley. In addition the first designation for Transmission Gully in 1997 also had a link from the ridge above Cannons Creek to Warspite Avenue but .
  - The development of the now constructed SH2 Dowse to Petone improvements including grade separation at Dowse and at Korokoro.
  - The construction of a SH1 grade separated interchange at Grenada.
  - Confirmation through WCC's Northern Growth Management Plan of accommodation for a strategic arterial link road. This was further advanced through the Lincolnshire Farm Structure Plan and Plan Change 45 to the WCC District Plan.
2. The early studies considered conceptually a link from Grenada to either Petone or Dowse was worth further investigating. However prior to the Hutt Corridor Plan much greater effort was going into the planning and the construction of highway improvements on SH1. These included advancing Dowse to Petone as well as improvements on the Western Corridor and Transmission Gully.
3. The key strategic planning process since 2000 were both the Hutt Corridor Plan finalised in 2003 and the Western Corridor Plan in 2006. An outcome of both was that further detailed investigation of a Grenada to Gracefield link road serving traffic from Tawa/Porirua to the lower Hutt Valley was worthwhile investigating and progressing. What is important is that both these processes were the subject of public consultation, hearings and then final endorsement by the Regional Transport Committee for inclusion in the Regional Land Transport Strategy. However an up to date strategic assessment of historical options to consider the context and the strategic direction will confirm robustness or otherwise.
4. Both of these strategic processes also confirmed that upgrading SH58 in addition to a Grenada to Gracefield Link was desirable. Both stated that SH58 performed a different function particularly in relation to whether it would solve the key problem of additional traffic needing to use the Ngauranga Interchange for travel between Porirua and the southern Hutt Valley.
5. Early reports and investigations considered a Belmont to TG link as being worthwhile. However later decisions (particularly the review of the RLTS in 2007) were made that a Belmont Link from Kennedy Good Bridge to Transmission Gully was not preferred as an alternative to P2G primarily in relation to effects on the Regional Park including Speedy's Reserve, to the Kelson community as well as cost and practicalities. However P2G does not necessarily discount such an option being considered in the future if the challenges of the Belmont Link can be overcome.
6. Further studies including modelling and a PFR included in the Ngauranga Triangle Strategic Study also confirmed that a link road was both desirable from a traffic point of view and also was feasible to implement.

7. The outcomes of the Strategic Study were also reviewed through the most recent updates of the Hutt and Western Corridor Plans in 2011 and 2012. As with the previous Plans the updates were the subject of consultation, hearings and consideration by the RLTC. These were included in the most recent RLTS.
8. Further investigations in much more detail commenced in 2013 with the commencement of what is now known as the Petone to Grenada Project. This culminated in the 2014 Scoping Report and has also included a consultation process seeking views on practical options.
9. It should be noted that options for any capacity improvements by widening SH1 north of Tawa, a Takapu Valley link to Transmission Gully or options of do minimum or wait and see have not been considered in this report but are the subject of a more detailed Multi Criteria Analysis process.
  - The more recently commissioned reports, particularly the Triangle investigations then, the Scoping Report both tested whether P2G was the best broad corridor by looking again at a range of corridor options, between SH2 in the lower Hutt Valley and SH1 south of Porirua. These studies concluded that P2G was the best option, and then sought to develop more detailed route options for P2; or
10. Overall the Petone to Grenada project has developed over the years from a concept, through strategic processes to identification of options through to the point that the Transport Agency in conjunction with WCC, HCC and GW are at now the stage of selecting a preferred option.
11. There has also been very many studies that have considered the issue and a number of decision making points informed by both technical work and the views of both stakeholders and those with an interest greater than the public generally. In the view of the author the process has been the subject of considerable debate at the numerous decision making points.
12. It should be noted that a related and parallel report outlining the outcomes of a strategic assessment of previously considered options has been carried out so that the project team can in their own judgement consider the options against the Project Objectives.