



Report

Social Impact Assessment Technical Report 17

Prepared for NZ Transport Agency and Porirua City Council (PCC) (Clients)

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28 July 2011

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Revision History

Revision N°	Prepared By	Description	Date
A	Gary Rae (Incite) & Charlotte Crack (Beca)	Draft for Review	19 May 2010
B	Gary Rae (Incite) & Charlotte Crack (Beca)	Revised Draft for Review	11 April 2011
C	Gary Rae (Incite) & Charlotte Crack (Beca)	Final Draft for Review	03 June 2011
D	Gary Rae (Incite) & Charlotte Crack (Beca)	Final	28 July 2011

Document Acceptance




Action	Name	Signed	Date
Prepared by	Gary Rae (Incite) & Charlotte Crack (Beca)		29 July 2011
Reviewed by	Andrea Rickard (Beca)		29 July 2011
Approved by	Andrea Rickard (Beca)		29 July 2011
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1 Executive Summary

Overview

This report provides an assessment of the social impacts during the planning, construction and operational phases of the proposed Transmission Gully Project, an alternative State Highway 1 (SH1) route north of Wellington between Linden and MacKays Crossing.

The Project is of a large scale and has been topical for many years. It has involved extensive discussion, debate and contention on route options since its planning phases over 20 years ago. Whilst the route has been confirmed by designations, more recent changes in the alignment, the introduction of the proposed Link Roads and the need for resource consents, has necessitated the assessment of a new proposal.

Accordingly, this SIA has investigated the social impacts arising from the Project on a regional and local scale. Assessment was carried out in relation to the key social themes of attitudes, expectations and aspirations; wellbeing and way of life; and culture and community. Assessment was carried out for the planning, construction and operation phases of the Project.

As an overall finding, it is fair to say there is now an overall level of support for the Project by the affected communities, stakeholders and interest groups. This can be attributed to several factors, including:

- The significant improvements to the original designated route and attention to matters of design to minimise impacts and to provide opportunities for enhancement;
- A feeling of 'get on and build it' after many years of uncertainty in the affected communities;
- A desire to implement planning policy and development directions that have been incumbent (or at least have recognised) the designated transportation corridor; and
- A level of recognition and acceptance of the economic and social benefits that the completed Project will bring to the region and its constituent communities.

Whilst there is this overall support, there are several aspects of the Project where attention to detail and engagement with the community is required, as the Project proceeds.

Summary of Regional Impacts

At the regional level, the Project has the following social and community impacts:

Transportation, Accessibility and Connectivity

Overall, there will be benefits and these will be as a result of the following main factors:

- Improved network security;
- Reduced travel distances and times, and improved traffic safety across the region; and
- Reduced community severance and opportunities for improved connectivity for communities along the existing SH1 route.

Economic Growth and Development

- The Project is a major construction effort, involving approximately 250 dedicated workers and additional subcontractors, resulting in regional social benefits in terms of temporary employment opportunities in construction and engineering, and generating additional expenditure on goods and services from local businesses;
- The Project has since its early planning days been recognised as providing significant economic benefits to the greater Wellington Region. Economic interests in the Wellington Region support the completion of the route, citing economic/efficiency benefits through travel time savings and productivity improvements;
- The designated route has been included, or acknowledged, in several planning documents in the Region (e.g. the RLTS, and the Economic Development Strategy). District Plan zoning, plan changes and resource consent applications for development have recognised the existence of the designation. The Porirua Development Framework acknowledged Transmission Gully for its role in facilitating regional growth and development. The Project is therefore considered an integral part of planning for the future development of the Wellington Region.

Healthy and Sustainable Communities

Overall, it is considered the Project will affect the health of communities in terms of:

- Access – people’s access throughout the area to places of employment, shops, social support, and health services and other community and recreational facilities will be maintained and enhanced;
- Recreation - vital community linkages will be maintained including pedestrian and cycleways, and linkages through regional reserves and forest parks, so as to maintain and encourage further physical activity and recreation;
- Traffic safety – there will be considerable traffic safety improvements, with substantial reductions in traffic along the SH1 coastal route and on some other local roads. The link roads will change traffic flows in the adjacent communities, requiring careful attention to design to maintain safety;
- Air quality and noise– there will be improvements in air quality in some communities arising from freer movement of vehicles and reduction in flows on the existing SH1; and appropriate noise standards will generally be met, with noise barriers required in some locations; and

- Community severance – the Main Alignment forms an edge at the periphery of the affected communities, and the Link Roads are designed to local road standards. There will be reduced severance in the Coastal Communities from reduction in traffic along the existing SH1 route.

Summary of Local Impacts

At the local level, and in terms of the key themes for assessment, the Project has the following social and community impacts:

Attitudes, Expectations and Aspirations

The key findings are:

- After years of uncertainty, there is now a strong desire for the Project to be built.
- The proposed Link Roads have met with a measure of support from the affected communities;
- The Project will assist outcomes for growth and development in local areas;
- There will likely be temporary disruptions during construction and these need to be managed by appropriate plans and communication processes;
- Once operational, the local communities will have adapted to the new network and will benefit from the improved accessibility; and
- The Link Roads, in particular, may assist with the rejuvenation of community centres, for example at Waitangirua Village shopping centre.

Wellbeing and Way of Life

The main impacts on wellbeing are considered to be:

- Construction activities will give rise to effects such as noise and vibration, air quality, traffic, and landscape and visual impacts, and these all need to be appropriately managed through construction management plans and communication with affected people in the community. A large proportion of the construction work will be undertaken in rural areas, where there are few residents;
- Significant traffic safety improvements will accrue to communities, especially from the modern design of new roads. Reduced traffic on the existing SH1 route means that there is opportunity to make significant safety improvements to the existing road. Careful attention to design of the Link Road intersections, pedestrian crossing and cycleway connections, and pedestrian underpasses will maintain and enhance community safety standards;
- Vehicle emissions and road traffic noise are not expected to affect the wellbeing of communities along the route, as the main alignment is at the edge of settled areas, traffic flows on the existing

SH1 route will reduce, and other traffic on local roads will generally flow more freely. Appropriate noise standards will be met, and noise barriers will be erected in more sensitive locations for example near the Linden School;

- The Project will introduce substantial new infrastructure and will change the local character of communities. Planting measures and careful roading design will assist to soften the visual impacts and assist with overall community wellbeing;
- Leisure and recreation opportunities, and existing linkages, will be maintained and opportunities exist for these to be enhanced, particularly between Regional Parks; and
- Route security provided by the new transportation route will provide local communities with increased confidence of continued accessibility across the study area;

Culture and Community

Main impacts on culture and community are expected to be:

- The Project will not represent any great change to the overall culture of the affected communities, and the potentially most intrusive Link Roads, in particular, have been generally very well accepted;
- There has been steady population growth in all community areas, and rapid growth in the Whitby community which has occurred with the developers' full knowledge of the Project, indicating no expected adverse impacts on community cohesion or stability;
- There is limited directly affected property with this Project, and the program of property acquisition and compensation is well advanced. As such, this will not result in any significant change in community composition in the Project area;
- Construction impacts will need to be addressed as outlined above, and construction activity will also bring benefits to the community, such as increased spending at local businesses;
- The Project will enhance community values by improving connectivity and access throughout the Wellington region, including to the regional parks and reserves, the Pauatahanui Inlet and Lanes Flat area, areas of ecological value, and by maintaining community/pedestrian linkages and accessways; and
- Effects on educational facilities, in particular Linden School, and other community facilities will be managed through noise attenuation and mitigation.

2 Introduction

In April 2010 the NZ Transport Agency (NZTA) confirmed its intention that the resource management applications for Transmission Gully Project would be lodged with the Environment Protection Authority (EPA) as a Proposal of National Significance.

The Transmission Gully Project (“the Project”) consists of three components:

- The Transmission Gully Main Alignment (“the Main Alignment”): the construction and operation of a State highway formed to expressway standard from Linden to the MacKays Crossing. The NZ Transport Agency (NZTA) is responsible for the Main Alignment.
- The Kenepuru Link Road involves the construction and operation of a road connecting the Main Alignment to existing western Porirua road network. The NZTA is responsible for the Kenepuru Link Road.
- The Porirua Link Roads involves the construction and operation of two local roads connecting the Main Alignment to the existing eastern Porirua road network. Porirua City Council (PCC) is responsible for the Porirua Link Roads.

A designation for an alignment for a Transmission Gully route was confirmed by the NZTA (then Transit), following an extensive history of consultation and design. Since that time further refinement to the route has taken place, including the location of the Porirua Link Roads, and detailed design and technical assessments have now been completed. Accordingly, new Notices of Requirement, and resource consent applications, will be lodged.

This report provides an assessment of the social impacts during the planning, construction and operational phases. Whilst resource consents and designations are not required for the planning phase, an assessment of social impacts during this phase is considered relevant. This Project has a long history, and over time has had considerable refinements to design. Any anxieties and concerns as a result of these refinements are pertinent social effects of the Project, and have therefore been addressed in this report

3 Purpose of Report

3.1 Purpose and Objectives

The purpose of this Assessment of Social Effects/Social Impact Assessment (SIA) is to provide an assessment of social impacts to inform the Notices of Requirement (NoR), and Assessment of Environmental Effects (AEE) for the Transmission Gully Project. This SIA assessment has been prepared by:

- Developing a study area profile and assessment framework to identify the social consequences and impacts (benefits and disbenefits) of the Project on a regional and local scale;
- Using the SIA framework to assess the social impacts of the Project on a regional and local scale. Impacts will be assessed for the planning, construction and operation phases of the Project; and
- Identifying appropriate measures to avoid, remedy or mitigate the social impacts identified in the planning, construction and operation phases of the Project

This SIA forms one part of the overall environmental assessment which contributes to the wider decision making process. The findings of this report will be included in documentation submitted in support of the Notices of Requirement application. Documentation needs to be prepared with regard to section 5(2) of the RMA, which requires the effects on people and communities to be considered when preparing an assessment of environmental effects. Other relevant sections of the RMA are set out in Appendix 17A – Statutory and Strategic Context.

3.2 Assumptions and Exclusions

The following assumptions and exclusions have been applied to this SIA:

- All assessments are based on the details of the Project as available at the time of writing this report (3 June 2011);
- This SIA has been informed by a number of relevant technical assessments. Assessment of effects in these specialist areas has been reported in this SIA where relevant to potential social impacts (for example, noise or air quality impacts on local residents). In this regard, this SIA provides a 'social lens' on many of these other technical elements;
- This SIA focuses on the Transmission Gully Main Alignment and the proposed Link Roads (Kenepuru Link Road and Porirua Link Roads). This SIA does not assess the social impacts of previously considered, but discarded, route options;
- This SIA does not include a specific regional economic analysis. Broad statements are made at the regional level and in terms of economic impacts on local communities; however, an assessment of the economic impact on local businesses is beyond the scope of this SIA. The land use and transport integration aspects of the project have been considered in the Assessment of Traffic and Transportation Effects (Technical Report 4) as well as within the Assessment of Environmental Effects. Technical Report 4 addresses the land use planning responses to the designated route, and the effects on development and development potential arising from the route;
- This SIA does not include a strategic level Health Impact Assessment (HIA). The assessment of potential health impact issues and consequences of the Project have been taken into account

and incorporated under 'wellbeing impacts' in this SIA. This includes consideration of a range of factors such as way of life, culture, housing, and broad environmental, social and economic conditions. These sections incorporate information that was provided within the HIA undertaken as part of the development of the Greater Wellington Regional Land Transport Strategy.

4 Description of Project

4.1 The Transmission Gully Project

The Transmission Gully Project consists of three components: the Main Alignment, the Kenepuru Link Road and the Porirua Link Roads.

The Main Alignment will provide an inland State highway between Wellington City (Linden) and the Kapiti Coast (MacKays Crossing). Once completed, the Main Alignment will likely become part of State Highway 1 (SH1). The Main Alignment is part of the Wellington Northern Corridor (Wellington to Levin) road of national significance (RoNS) programme. The Kenepuru Link Road will provide an interchange at Kenepuru Drive, and the Porirua Link Roads will provide for two local roads to connect the Main Alignment to the existing eastern Porirua road network.

The proposed route is approximately 27 kilometres in length and involves land under the administrative jurisdiction of four separate territorial authorities: Wellington City Council (WCC), Porirua City Council (PCC), Upper Hutt City Council (UHCC) and Kapiti Coast District Council (KCDC). A construction period of six-seven years is anticipated.

4.2 Project 'Community Areas'

For the purposes of this SIA the route has been divided into six community areas, as shown in Figure 17.1, which represent broadly identifiable communities along the route.

The SIA community areas differ from the route sections used in the original Scheme Assessment Report (SAR), and they also differ from the route sections used in the Assessment of Environmental Effects ("the AEE") and in various technical reports which support the NoR and AEE. For the purpose of preparing this SIA it is considered appropriate to nominate separate 'Community Areas' that are more representative of the communities along the route, in terms of the location and concentrations of dwellings and local facilities common to specific communities.

The SIA Community Areas 1-5 are for communities that are along and/or directly adjoin the Main Alignment and the Porirua Link Roads. Community Area 6 includes the wider communities which are located further away from the Alignment:

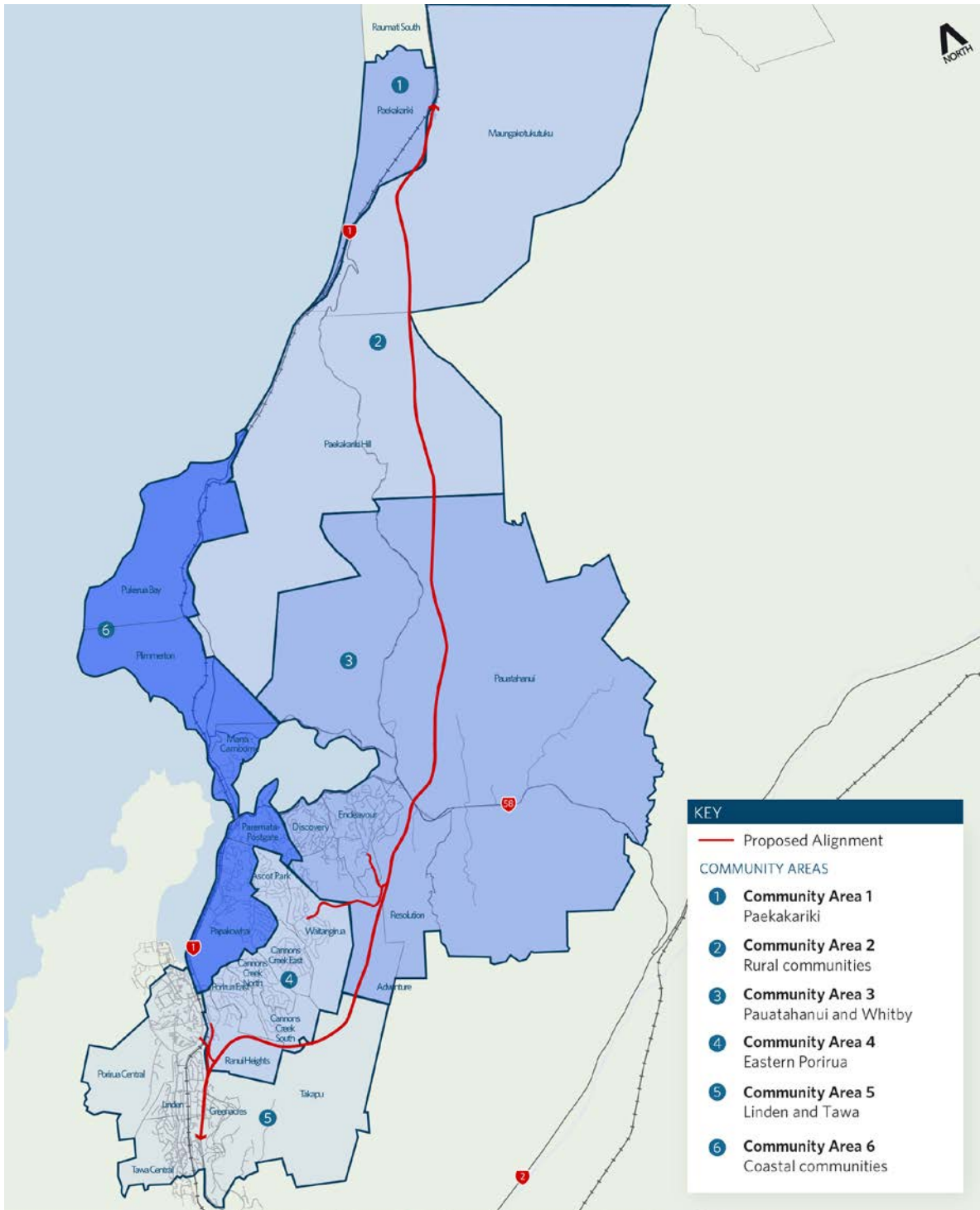
- Community Area 1 – Paekakariki: Includes MacKays Crossing on SH1 and the coastal community of Paekakariki. The surrounding areas are predominantly horticultural and pastoral and contain a number of rural residential properties. This is within the Kapiti Coast District;
- Community Area 2 – 'Rural Communities' between MacKays Crossing and Pauatahanui (Maungakotukutuku and Paekakariki Hill): Contains predominantly rural land, comprised of forests and areas of steep pasture land. There are several rural residential dwellings within this community area; however, there is limited community infrastructure and resources. This is within Porirua City;
- Community Area 3 - Pauatahanui and Whitby: Extends through rolling residential land north of SH58, crosses SH58 and a low-lying estuarine plain associated with the Pauatahanui Inlet, then climbs the moderately-steep terrain to the south. The wider area includes the communities of Pauatahanui and Whitby, and is within Porirua City;

- Community Area 4 – Eastern Porirua: Includes the communities of Ascot Park, Waitangirua, Cannons Creek and Ranui Heights, with residential being the predominant land use;
- Community Area 5 – Linden and Tawa: This area traverses a number of steep gullies, and ends in the gentle slopes of the Porirua Stream Valley at Linden. It includes the communities of Linden, Tawa and Greenacres, which are within Wellington City; and Porirua Central, within Porirua City. Residential activity is the predominant land use; and
- Community Area 6 – The ‘coastal communities’ (Pukerua Bay, Plimmerton, Mana-Camborne, Paremata and Papakowhai): The coastal communities that fall within the wider study area, but are not directly adjacent to the Project route. These communities may be indirectly affected as a result of the Project. Residential activity is the predominant land use, and SH1 goes through a number of these coastal communities.

The existing environment of each of these Community Areas is outlined more fully in Section 6.

These six Community Areas will be used in the local social impact assessment to identify specific local issues associated with each Community Area of the Project. The method for addressing the impacts of construction and operational activities is through a series of management plans and specific technical assessments, and these are addressed further in Sections 7 and 8 of this SIA.

Figure 17.1: Transmission Gully Main Alignment and Location of Community Areas



5 Methodology

5.1 SIA Process and Framework

The International Association for Impact Assessment (IAIA)¹ states that Social Impact Assessment (SIA) is:

'Analysing, monitoring and managing the social consequences of development. Social impact assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions'.

The IAIA notes that SIA can be undertaken in different contexts and for different purposes, but that the following principle is important across all SIA:

The improvement of social wellbeing of the wider community should be explicitly recognised as an objective of planned interventions, and as such should be an indicator considered by any form of assessment. However, awareness of the differential distribution of impacts among different groups in society, and particularly the impact burden experienced by vulnerable groups in the community should always be of prime concern.

In the context of this SIA, it is important to note that an existing designation for a Transmission Gully route has been established, which was informed by extensive community consultation, including assessment of social impacts. Accordingly, the existing Transmission Gully transportation corridor has been well known for many years. This SIA has been informed by that previous work to the extent it is relevant. It is acknowledged that there are differences between the current proposal and the existing designation, so any previous work undertaken is used as a reference point, but never solely relied upon as the current assessment of social effects.

The current SIA is therefore part of an integrated project development and assessment process and it has relied on stakeholder and community consultation, with SIA conclusions contributing towards the development of mitigation measures to minimise concerns identified in consultation. This SIA is also informed by the makeup of the affected communities and community facilities along the route, by projected changes to those communities, and by planning documents which reflect further anticipated changes.

Figure 17.2 sets out the framework used to identify and assess the social impacts associated with the project.

¹ International Association for Impact Assessment 2003: Social Impact Assessment International Principles, page 2.

Figure 17.2: SIA Evaluation Framework



5.2 International Themes for Social Impact Assessment

The IAIA outlines the key potential areas to consider when undertaking a SIA. In summary, these areas include:

People's Way of Life: How people live, work, play and interact;

Culture: People's shared beliefs, customs, values and language or dialect;

Community: The cohesion, stability, character, services and facilities;

Political Systems: The extent to which people are able to participate in decisions that affect their lives, the level of 'democratisation' that is taking place, and the resources provided for this purpose;

The Environment: The quality of the environment that people live, work and socialise in (e.g. air and water that people use, the availability and quality of the food they eat, the level of hazardous risk, dust and noise they are exposed to the adequacy of sanitation, their physical safety, and their access to and control over resources);

People's Health and Wellbeing: The state of physical, mental, social and spiritual wellbeing;

People's Personal and Property Rights: Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties; and

People's Fears and Aspirations: This relates to perceptions about people's safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

In addition to the above matters, people's attitudes are also considered relevant in undertaking this SIA.

5.3 Information Sources and Methods

A range of information sources and methods have been used to prepare this SIA. These are detailed below.

5.3.1 Site Visits

Site visits were undertaken by the authors in 2009, 2010 and 2011. These site visits included:

- An initial drive around the surrounding communities to familiarize with the areas, view locations of community facilities in relation to the proposed new alignment and to assist with confirming the approach going forward for developing the consultation strategy;
- Review of the whole site proposed for the Main Alignment and link roads – carried out as part of a full site visit with consultant teams, PCC, DOC and NZTA – by unimog and 4 wheel drive vehicle;
- Visits to local areas in MacKays Crossing, Whitby, Waitangirua and Kenepuru Drive where the route and link roads feed into local communities;
- Observation of the surrounding communities by walking around and viewing local community facilities, roads, schools and so forth; and
- Other visits to attend community and resident meetings.

A key focus of these site visits was to compile a study area profile for this SIA, to gain an understanding of the existing social environment and how residents may be affected by the Project, and to confirm a way forward for community consultation.

5.3.2 Community and Stakeholder Consultation

A separate Consultation Report has been prepared for the Transmission Gully Project (Technical Report 27), and this report is an important input into this SIA. The Report summarises all the consultation undertaken for the Project in the current phase, including the consultation separately undertaken by the SIA team to specifically inform this SIA report. The Consultation Report lists all the individuals, groups and communities involved in consultation.

Community and stakeholder consultation that was undertaken for the existing designations and Scheme Assessment Report has also formed a key information source for this SIA. A common theme from previous consultation was “consultation fatigue”. In other words, the SIA team was aware from reviewing previous responses from people in the community, that many people were tired of being consulted about a Transmission Gully route. The Consultation Report also summarizes that previous work and the findings of the consultation which has in turn assisted with informing the more recent consultation.

The methods that have been used are:

- One-on-one meetings with directly affected (i.e. landowners and residents those whose land will be purchased or otherwise encumbered);
- One-on-one and group meetings with rural communities;
- One-on-one meetings with residents adjacent to the Project route;
- Open days and Project “Expo”;
- Meetings with local community boards, schools, marae, churches; and
- Presentations to Councils, Department of Conservation, Historic Places Trust, New Zealand Police (Porirua Region) and Regional Public Health.

Open Days/Project Expo

As part of the preferred route consultation in 2008, NZTA operated information stands at several shopping malls in the Greater Wellington area.

There have been three community open days/information days, and a Project ‘expo’ held throughout October 2010, to present information to the community on the background to the Project, preferred construction options and mitigation methods for the Project, and to invite community feedback.

Members of the SIA team attended these open days and ‘expo’, to hear and better understand the community views and to build an understanding of the existing social environment.

The Project ‘expo’ included presentations on key topics of community interest, including roading design, noise, stormwater, erosion and sediment control, ecology, landscape and visual effects,

construction effects, and the RMA consenting and approvals process of the new Environmental Protection Authority (EPA).

Newsletters/Feedback Forms

Results from three forms of consultation using newsletters and feedback forms have been used to inform this SIA. These are from NZTA's consultation on the Preferred Alignment in 2008, PCC's consultation on the proposed Link Roads in April 2010, and the more recent consultation on the Project (2010).

- Preferred Alignment 2008: An information brochure was widely distributed to all residents in the Greater Wellington area by NZTA in 2008, as part of a comprehensive consultation exercise, to seek feedback and community comment on the preferred alignment.
- PCC Consultation on Link Roads 2010: PCC carried out consultation via a newsletter/feedback form in April 2010 on the proposed Link Roads at Whitby and Waitangirua. This was distributed to property owners and occupiers on or close to the proposed roads, as well as local and national organisations expected to be affected or to have an interest in the Project. The document was also hand-delivered to businesses near the Waitangirua Link Intersection with Warspite Avenue and posted on the Council's website with an online form for responses.
- NZTA Newsletter 2010: A newsletter was sent to key stakeholders and to property owners and occupiers in or close to the Main Alignment, in July 2010. This was to advise them of the Project and its progression, and it invited comments and/or queries from the community.

Stakeholder Feedback

Stakeholder feedback has been a key information source for the SIA, used for scoping main issues and concerns to undertake the regional and local social impact assessment. The SIA team has been involved with consultation as part of the wider consultation team, as well as consultation that has been undertaken separately by the team to specifically inform this SIA report. This consultation has included presentations and meetings with:

- Community Boards;
- Road user groups;
- Housing New Zealand;
- Council committees;
- Individual landowners and residents;
- Regional Public Health (SIA specific consultation); and
- New Zealand Police - Porirua Region (SIA specific consultation).

This report has been further informed by consultation conducted by PCC in relation to the Porirua Link Roads.

5.3.3 Review of Relevant Transmission Gully Project Technical Reports

The SIA provides an assessment of the Project in relation to social impacts. An assessment of social impacts focuses on the experiences (actual or anticipated, direct or indirect) of individuals, families/ households, or communities in response to changes induced by the Project.

By their very nature, social impacts are often the ‘human’ experiences of other effects. For example, people may be concerned about the effects of dust on their property, but effects of the Project on air quality and appropriate mitigation for these effects are discussed within the Air Quality assessment. As such, it is important to draw on these assessments whilst avoiding the ‘double counting’ of effects, where there are such overlaps. All the effects of relevance have been acknowledged within this SIA, but it is important to note that many of these are also addressed in other reports.

As such, the SIA has drawn on a number of Project technical reports (that have been prepared as part of the suite of documents for the resource consent applications and NoRs) where these assessments are relevant to potential social impacts and concerns expressed in consultation. These reports have been reviewed and referenced, in order to provide a ‘social lens’ in regard to these technical matters.

Key reports reviewed are as follows:

Report	Key Findings
Assessment of Traffic and Transportation Effects (Technical Report 4)	The Project is a vital component of the improvements to the transportation network in the corridor. It will generate demonstrable benefits to its users (longer distance and local travellers, businesses) in terms of reduced and more certain travel times and improved safety. At a regional and national level, benefits will arise as a result of facilitating economic activity and the provision of much more resilient and secure route accessibility to and from Wellington in the event of a natural disaster. It is for all of these reasons that the Project is strongly aligned with the intent and direction of transportation policies at the local, regional and national levels. There will be construction related effects in the surrounding area, but these will be able to be managed.
Assessment of Landscape and Visual Effects (Technical Report 5)	<p>The location of the proposed route and the significant engineering required to construct the Project means there are potential adverse visual and landscape effects on the natural character of wetlands and rivers and their margins; outstanding natural features and landscape; amenity values; and the biophysical aspects of the landscape. The scale of these effects varies depending on the landscape and amenity values the route traverses through. There is also potential for positive effects for future road users as a result of travelling through the natural landscapes.</p> <p>A number of general and specific mitigation measures are proposed which would avoid, remedy or mitigate the adverse visual and landscape effects resulting from the construction and operation of the route. In particular, a Landscape Plan is proposed to be prepared as a condition of consent with best practice methods to address any identified adverse effects. In summary, it can be concluded the visual and landscape effects of the Project ranges from low to high. However, by implementing the Landscape Plan and other mitigation measures identified, any adverse effects on the landscape and visual amenity will be able to be managed to acceptable levels.</p>
Assessment of Acoustic Effects (Technical Report 12)	The rural and sparsely populated nature of the majority of the Project area means that specific noise and vibration attenuation is not required for most of the Project. Construction noise will generally be within the limits of NZS 6803:1999 and where construction works are proposed in close proximity to sensitive receivers, the construction noise and vibration management plan

Report	Key Findings
	<p>outlines protocols for engaging with affected parties and minimising noise and disruption. With this process in place, any potential adverse noise effects from construction will be appropriately managed. In some areas, noise attenuation benefits will be delivered by OGPA pavement (low noise) surfaces and proposed safety barriers. Based on an acoustic assessment of this scenario, a small number of areas potentially requiring specific noise mitigation were identified and assessed using the process set out in NZS 6806:2010.</p> <p>Proposed mitigation consists of noise walls of varying heights along the route and the modification of one residential building. With this mitigation in place, the effects of noise will be mitigated to an acceptable level.</p>
Assessment of Air Quality Effects (Technical Report 13)	<p>Construction of the Project (particularly the large scale earthworks and concrete batching) has the potential to generate dust which could have an adverse effect on air quality. This potential effect can be minimized to an acceptable level through dust suppression measures. Operation of the Project will result in emissions from vehicles using the roads. Largely these emissions will be transferred from existing SH1. The relatively low emission rates and the low number of sensitive receptors means that it is not considered that there will be any adverse effects on air quality from the operation of the Project;</p>
Assessment of Built Heritage Effects (Technical Report 19), and Assessment of Archaeological Effects (Technical Report 20):	<p>There are no archaeological sites that have been identified within the Main Alignment. However, there are two sites in close proximity to the Main Alignment, which have potential to be adversely affected by aspects of construction and by the operation of the Project. At St Joseph's Church, on SH58, appropriate mitigation and monitoring measures will be implemented to ensure that the adverse effects of dust, vibration and noise on the Church building and its amenity are appropriately managed. At the brick fuel tank, located at the bottom of Te Puka valley on private land, adequate separation distances and monitoring during construction will ensure that the effects of vibration on the stability of the tank are mitigated to an acceptable level. In addition, measures must be in place to ensure correct protocol is followed, in the event of accidental discovery of potential archaeological material.</p>

The following reports have also been reviewed, to inform this SIA:

- Consultation summary report (Technical Report 22);
- Construction Environmental Management Plan (CEMP), and the associated Site Specific Environmental Management Plans (SSEMPs) (Within Volume 5); and
- Urban design and landscape framework (Technical Report 23).

5.3.4 Literature Review

The following information was reviewed as part of the SIA:

- Draft Scheme Assessment Report for Transmission Gully (NZTA, 2009)
- Social/environmental impact assessments prepared for other roading projects in New Zealand and overseas;

- Council policies, strategies and plans (identified in Appendix 17.A of this SIA);
- 2006 Census of Population and Dwellings (Statistics New Zealand) (identified in Appendix B of this SIA); and
- Print media coverage of the Project

5.4 Regional Social Impact Assessment Framework

5.4.1 Scoping Relevant Regional Issues

The Transmission Gully Project, part of a road of national significance (RoNS) under the Government Policy Statement and will form a part of SH1. It has a very important regional role, providing transportation linkages for and into the wider Wellington Region.

Scoping of the relevant regional issues associated with the Transmission Gully Project has been undertaken through the review of the following:

1. The IAIA's SIA principles (set out in section 5.1 above);
2. NZTA requirements for consideration of social impacts;
3. Council LTCCP community outcomes and relevant resource management themes in statutory and strategic documents;
4. Submissions lodged on the NoRs for the current designation of a Transmission Gully route;
5. NZTA consultation on the preferred route in 2008;
6. Open days and Project expo 2010;
7. Recent stakeholder feedback on regional issues; and
8. PCC's consultation on the Porirua Link Roads 2010.

Items 2-8 are outlined below.

NZTA Requirements for Consideration of Social Impacts

The NZTA identifies a number of potential social impacts associated with the planning, construction and operation of state highway projects². These include impacts associated with:

- Environmental externalities, including noise and vibration and air quality;

² NZTA Minimum Standard Z/19: Social and Environmental Management

- Impacts on culture and heritage, e.g. archaeological sites and people's culture and customs;
- Visual quality and urban design – the aesthetics of the built environment;
- Community cohesion, in particular those impacts from accessibility and severance;
- Public health; and
- Access and mobility – the ability of State highway projects to connect users to community, recreational, health and educational facilities.

Long Term Council Community Plans (LTCCP) and statutory and strategic documents

Understanding Council LTCCP community outcomes and relevant resource management themes from statutory and strategic documents is important in considering the Project's likely social impacts on a regional scale. Themes of relevance, based on the consideration of IAIA SIA 'themes', from the regional and district level plans and strategies³ are:

Transport, Accessibility and Connectivity

- Transport and accessibility is a key community outcome in the Wellington region's planning documents. Improving transport, accessibility and connectivity has the potential for significant social benefits, enabling people and communities to better connect and provide for their social and economic wellbeing;
- This is a key outcome in the New Zealand Transport Strategy (NZTS), Wellington Regional Policy Statement (WRPS), Proposed Wellington Regional Policy Statement (PWRPS), Wellington Regional Strategy (WRS), Wellington Regional Land Transport Strategy (WRLTS), Regional Cycling Plan, LTCCPs for Greater Wellington Regional Council, Kapiti Coast District Council, Upper Hutt City Council, Porirua City Council and Wellington City Council, the relevant district plans from the territorial local authorities, the National State Highway Strategy (NSHS), and the NZTA Environmental Plan. Porirua City Council also has a 'Porirua Transportation Strategy' of which the Transmission Gully Project forms an integral part.

Economic Growth and Development

- Promoting economic growth and development is a priority of a number of strategic Wellington regional documents, most notably in the WRPS, WRS, and the LTCCPs. Achieving economic development has social benefits particularly in terms of people's economic wellbeing and quality of life;
- This is a key outcome of the NZTS, WRPS, WRS, WRLTS, and in all the relevant LTCCPs.

Healthy and Sustainable Communities

- Planning for sustainable, healthy and strong communities is a key social consideration, and a particularly prominent theme in transportation planning policy guidance, and in the regional policy documents and district plans. These documents reflect four key health and wellbeing issues for transport developments: safety; access and mobility; participation in 'active' modes of transport; and emissions and noise. Equity in wellbeing is also an important outcome identified in these documents;
- This is a key outcome of the NZTS, WRPS, WRLTS, WRS, GWRC LTCCP, in particular as well as regional policy documents such as the Regional Cycling Plan, Cultural and Wellbeing

³ The regional and district level plans are located in Appendix 17A of this SIA.

Strategy, Leisure and Recreation Plan, Social and Recreation Strategy, and Walking Policy. In addition there are several relevant Village Plans such as for Whitby, Waitangirua, Pauatahanui, and Pukerua Bay.

Submissions leading to the existing designation

Generally speaking the existing designated route had a fairly even split between those who supported it, and those people and groups who had concerns about the Project as a whole (e.g. when evaluated with other options), and there were many submissions related to specific concerns with aspects of the Project and localised effects. The main points raised in submissions are summarised here because it forms a useful reference point from which to assess the current proposal.

In support:

- The route will relieve traffic congestion on SH1, provide an alternative transport route into and out of Wellington, and have civil defence advantages;
- The route will improve interconnectivity between suburbs, and provide a safer entry to communities (e.g. at Paekakariki and Linden); and
- The route will reduce traffic volumes on the existing coastal route, improve safety and property access effects, and avoid the need for extensive upgrades on that route.

In opposition:

- General opposition to building a major arterial, i.e. the need for the project questioned, public transport should be prioritised over new roads, and it does not contribute to New Zealand's obligations on climate change;
- Concern over impacts on local communities and community connectivity (e.g. at Linden and Tawa including potential severance of communities, effects on schools (e.g. Linden School) and community facilities;
- Impacts on rural land uses, farms and forestry, and future residential development;
- Impacts on access through regional reserves and forest parks, and effects on recreation;
- Particular impacts from Kenepuru Link Road, and from Takapu to Collins Avenue link (Note: this route has since been abandoned);
- Effects on air quality, noise, visual effects and effects on rural character (e.g. hills east of Tawa), and lighting effects;
- Environmental and ecological impacts, including potential impacts on the Pauatahanui Stream and Inlet, water quality, impacts on local forest remnants, other flora and fauna, and conservation values;
- Impacts on individual properties, property access (e.g. residential access at Flightys Road, access for logging trucks at Battle Hill Park area) and property severance, and effects on property values;
- Construction impacts, including noise, vibration, air quality and traffic impacts; and
- Impacts on network infrastructure such as high voltage transmission pylons and lines, and gas pipelines.

Consultation in 2008 on the Preferred Alignment

NZTA's consultation in 2008 on the preferred alignment concluded that 88.6% of the 2411 respondents supported the preferred alignment, 4.3% didn't mind, and only 7.1% opposed it⁴. These statistics must be treated with some caution when assessing social impacts, as only 17.4% of respondents identified themselves as living in the Project area or whose properties were affected by the route, and so it is considered the majority of respondents may not have been directly affected by the route, but could be future users of the alignment.

Open Days/Project Expo

The open days and a Project 'expo' were held in October 2010. The purpose of the open days was to present information to the public, and to invite feedback, as well as to gain a better understanding of the existing social environment. Technical presentations were provided at the project expo. Members of the SIA team were present during open days, to hear and better understand the community views and scope of issues/queries raised during these sessions.

The majority of attendees at these open days and the expo were in support of the Project, providing strong and clear feedback to the effect that the region has been waiting a long time for this Project, especially as a way to relieve traffic congestion on the existing SH1 route and for future route security. The feedback from the open days indicated that of the people who expressed an overall position on the Project, 86% were in support of the Project, and 14% were in opposition (half of the respondents (50%) did not state whether they supported or opposed the Project). In overall terms, this reinforces the findings of the earlier 2008 consultation.

Community and Stakeholder Feedback

Generally, there is strong recognition of the strategic importance of the Project among stakeholders in relation to relieving traffic congestion on the existing SH1 coastal route, and providing for much improved transportation linkages the Wellington Region. Key regional issues raised by the community at the open days and the expo on the provided feedback forms and by stakeholders at organised meetings (as outlined in section 5.3.2 of this SIA) were:

- Transport benefits: That there is an urgent need to provide a new transportation linkage through the region, to provide more reliable travel times and improve access to destinations north of Wellington City, whilst reducing traffic volumes along the SH1 coastal route. Some stakeholders identified a need to balance the Project with investment in public transport and other sustainable transport projects;
- Economic benefits: That completion of the Transmission Gully route is key to providing economic and productivity benefits to businesses in the Wellington region;
- Environmental and ecological impacts: That the Project has the potential to avoid or defer significant upgrades to the SH1 coastal route, thereby avoiding the adverse effects arising from such upgrades. Some stakeholders also were concerned that the Project may impact negatively

⁴ Consultation Report on Preferred Route, NZTA, 2008

on regionally significant environments (for example potential impacts on the Pauatahanui Stream and Inlet), water quality, local forest remnants, other flora and fauna, and conservation values;

- Parks/open space: That there will be impacts on access through regional reserves and forest parks, across the region (for example Belmont Regional Park);
- Public health: That the health of urban communities is affected by the impacts of land use, transport and the perceived/actual safety of an area. Regional Public Health representatives identified that traffic is a significant source of both noise and air pollution, and an increased incidence in road traffic injury is one of the most significant effects of transport on health. There is also a concern that transport can become a barrier to physical activity, particularly for children and the elderly and that roads can bring about community severance and affect social cohesion. Population groups within the region who are most affected by the impacts of transportation include people living in more socioeconomically deprived neighbourhoods; Waitangirua was identified as vulnerable group in the Project area. There are potential health promoting impacts of transport including enabling access to employment, shops and support services and the promotion of economic development; and
- Safety: That there is an urgent need to provide a new transportation linkage through the region for safety reasons, as there has been a number of road traffic fatalities that have occurred on the existing SH1 network (particularly in the coastal section between Pukerua Bay and Paekakariki).

PCC Link Roads

The PCC's consultation on the proposed Link Roads was undertaken in February 2010, inviting comment from the public, landowners, community groups and special interest organisations to guide a decision on its plans for two new roads linking Whitby and Waitangirua to the Main Alignment.

The consultation with the public, in 2008, was on the basis that the roads linking from the Main Alignment to James Cook Drive/ Navigation Drive in Whitby, and to Warspite Avenue/Niagara Street in Waitangirua, were to be straight links designed for highway operating speeds. Subsequently, a safety audit recommended that the links should instead be designed with curves to restrict speed on the steep grades and to be more similar to other local roads. The Council accepted this view and has proposed that the proposed Link Roads be designed for a 50km/h operating speed, with no section steeper than a grade of 1:10.

Various different road routing options were developed and after discussion with landowners the Council selected a preferred option or route for each Link Road, which was provided for public comment. A total of 34 submissions were received. From a regional perspective, the feedback was in support, outlining that the Link Roads will provide easier, faster access to Wellington, the Hutt Valley and the Kapiti Coast, than is currently provided for.

The outcomes from the consultation conducted by PCC are contained in a Report to the Strategy, Finance and Regulatory Committee, 9 April 2010. The report concludes that:

"Despite the relatively high level of interest shown ... there were only a modest (34) submissions received and these were mostly supportive or neutral towards the project. There were few expressions of total opposition with several of those in opposition being only concerned about detailed design matters. It is, therefore, not proposed that the alignments of the Link Roads be altered from those shown in the Consultation Document and it is recommended that Council confirm them.

Following the Council decision, project staff will investigate traffic, noise, community and other effects for these alignments. The responses to the consultation have been most valuable in alerting project staff to the matters that need their attention. There will be opportunities before the Applications are lodged for further exchange of information and discussion with submitters where appropriate. Council staff will also maintain contact with affected local landowners as part of an on-going process of liaison with them. It is noted that few of these landowners or occupiers submitted as part of the public process although they were invited to do so; this is taken as a level of satisfaction with existing processes for their involvement with the Project.”

Summary – Relevant Regional Issues

In general, the main region-wide issues are not dissimilar to those which were raised in relation to the existing designations. These relate to transportation, accessibility and connectivity; economic growth and development, and sustainable and healthy communities. Therefore, these issues that have been raised need to be investigated from a social effects point of view.

The Project as now proposed, including changes to the Main Alignment and the new Link Roads, will have similar region wide implications to that of the existing designated route, which are assessed in this section. The more localised effects on communities along the route are assessed in the Local SIA Framework (section 5.6).

5.5 Regional SIA Framework

From the scoping exercise carried out in section 5.3 above, a regional SIA framework has been compiled. This reflects the range of regional issues and potential impacts considered relevant to the Project, as:

- Transport, Accessibility and Connectivity;
- Economic Growth and Development; and
- Sustainable and Healthy Communities.

This framework has been used to identify regional social impacts, which is contained in Section 7 of this report.

5.6 Local Social Impact Assessment Framework

5.6.1 Scoping Relevant Local Issues

As a substantial physical infrastructure development, the Project also has potential for significant social impacts at the local level. It is important to recognise and assess both the positive and potentially adverse social impacts of the Project, on different local communities and areas.

Scoping of the relevant local issues/concerns has been undertaken through the following key processes:

1. Review of IAIA SIA principles (as set out in section 5.1 above)

2. Review of NZTA requirements for consideration of social impacts (as set out in section 5.4.1 above); and
3. Review of community and stakeholder consultation feedback on local issues.

Process 3 is outlined below.

Review of Community and Stakeholder Consultation Feedback

As noted above (section 5.3), community responses to the concept of a Transmission Gully route have varied over the last 15-20 years, but recent consultation has indicated that a large number of people have a general acceptance of the Project and the desire to 'get on with it' after many years of planning and consultation, while recognising that specific issues will need to be carefully addressed.

From a local perspective, recent community consultation (from 2010) has highlighted the following community attitudes, both positive and negative, associated with the Project:

- Benefits from improvements to traffic flow and existing congestion issues as well as a 'safer' route to help reduce road fatalities;
- Benefits arising from the Link Road into Waitangirua in terms of crime prevention, as increased traffic movements and lighting in the area may reduce the incidence of crime within the community especially at night;
- Visual and noise impacts of the Project – particularly the impacts on surrounding residents;
- Impact on the Pauatahanui Golf Course (including how long the Course would be closed for, how the course could be adjusted to remedy the loss of the 6th hole, and ensure that its water supply, which is sourced from opposite side of the Main Alignment, is maintained);
- Construction impacts, including noise, and the length of the construction period;
- Concern around the potential impacts of an earthquake on the Main Alignment, particularly as a fault line crosses a section of the route;
- Concern around the resources required, particularly where the roading materials will be sourced from;
- Impacts on local schools, especially Linden School;
- Need to maintain vehicle, pedestrian and cycle connections, and support for enhancing and developing new connections;
- Concern over impact on the existing road network, including:
 - Impacts of additional traffic on SH58 and its adjoining local roads, including the safety and accessibility of vehicles exiting or entering these roads, and the impact of additional traffic into the Hutt Valley;
 - Concerns over who will manage the existing SH1 coastal route, once the Project is operational;
 - Concerns over whether the entry to Paekakariki off SH1 will still be prioritised for a safety upgrade if the Project goes ahead;
 - Concerns around what safety measures will be implemented on the existing SH1 coastal route, particularly in Pukerua Bay, in the period before the Project is operational;

- Concern over impact on local communities, including:
 - Potential health impacts of the Link Road into Waitangirua (including air and noise pollution, increased road safety concerns for cyclists and pedestrians, and the potential for issues around community severance, and reduced physical activity as a result of the Road). Regional Public Health identified Waitangirua as a particularly vulnerable group in the Project area; and
 - Potential changes to the character of surrounding communities.

Further information relating to Project consultation is provided in the consultation summary report (Technical Report 22).

5.7 Local SIA Framework

From the range of issues identified in the scoping exercise carried out in section 5.6.1 above, a local SIA framework has been compiled which reflects the range of local issues and potential impacts considered to be relevant to the Project.

This framework has been used to identify local social impacts discussed in Section 8 of this report.

The local assessment framework is as follows:

Attitudes, Expectations and Aspirations

Impact on the future plans, expectations and aspirations of individuals and communities, including people's expectations of neighbourhood character and safety and the quality of the environment that people live, work and socialise in;

Wellbeing⁵ and Way of Life

- Changes to wellbeing (including stress/anxiety);
- Perceived health impacts;
- Impacts on quality of life;
- Impacts on patterns of day to day living, including at-home activities and accessibility/connectivity;
- Impacts on people's property rights; and

⁵ Factors considered to influence individual and community wellbeing include: Social/cultural factors: Including people's way of life, social cohesion/participation, cultural values/practices, fear of crime, perceptions of safety, community reputation/character; Economic factors: Including income level/generation opportunities; Environmental factors: Including air quality, noise, environmental health, urban design and land use, cultural sites; Population-based services: Including access to community facilities such as employment and education opportunities, housing, public transport, health/social services, leisure opportunities; and Individual/behavioural factors: Including physical activity opportunities, personal safety, feelings of anxiety, fear and sense of control over one's life.

- Impacts on leisure and recreation opportunities, including impacts on regional reserves and parks.

Culture and Community

- Changes to shared beliefs, values or practices;
- Impacts on culture and heritage;
- Impacts and disruption to community infrastructure, commercial areas and employment sites/structures;
- Changes to community cohesion, stability and character; and
- Changes to the demographic composition of neighbourhoods.

5.8 Stages for Impact Assessment

There are four potential stages where social impacts can occur during a project:

1. Pre-application and planning;
2. Construction;
3. Operation; and
4. Closure/decommission (if relevant).

This assessment will consider social impacts during the pre-application/planning, construction and operation phases of the Project. It is not considered necessary or relevant to consider the potential impacts associated with closure of the Project, as this is a substantial RoNS project which is not anticipated to be closed. It is also noted that most effects associated with the planning phase have already occurred.

6 Existing Environment

6.1 Overview

This SIA has established a local study area for the purposes of profiling the existing environment and for assessing local social impacts associated with the Project. Figure 17.3 shows the local SIA study area and relevant Census Area Units (CAUs) of interest. Maungakotukutuku (within Community Area 2) is a very large CAU, in which a sizeable portion is far removed from the Project area, and therefore not of relevance. As such, Maungakotukutuku has been divided into meshblocks⁶ units, to better analyse the relevant demographic information of the community who resides in close proximity to the Project area.

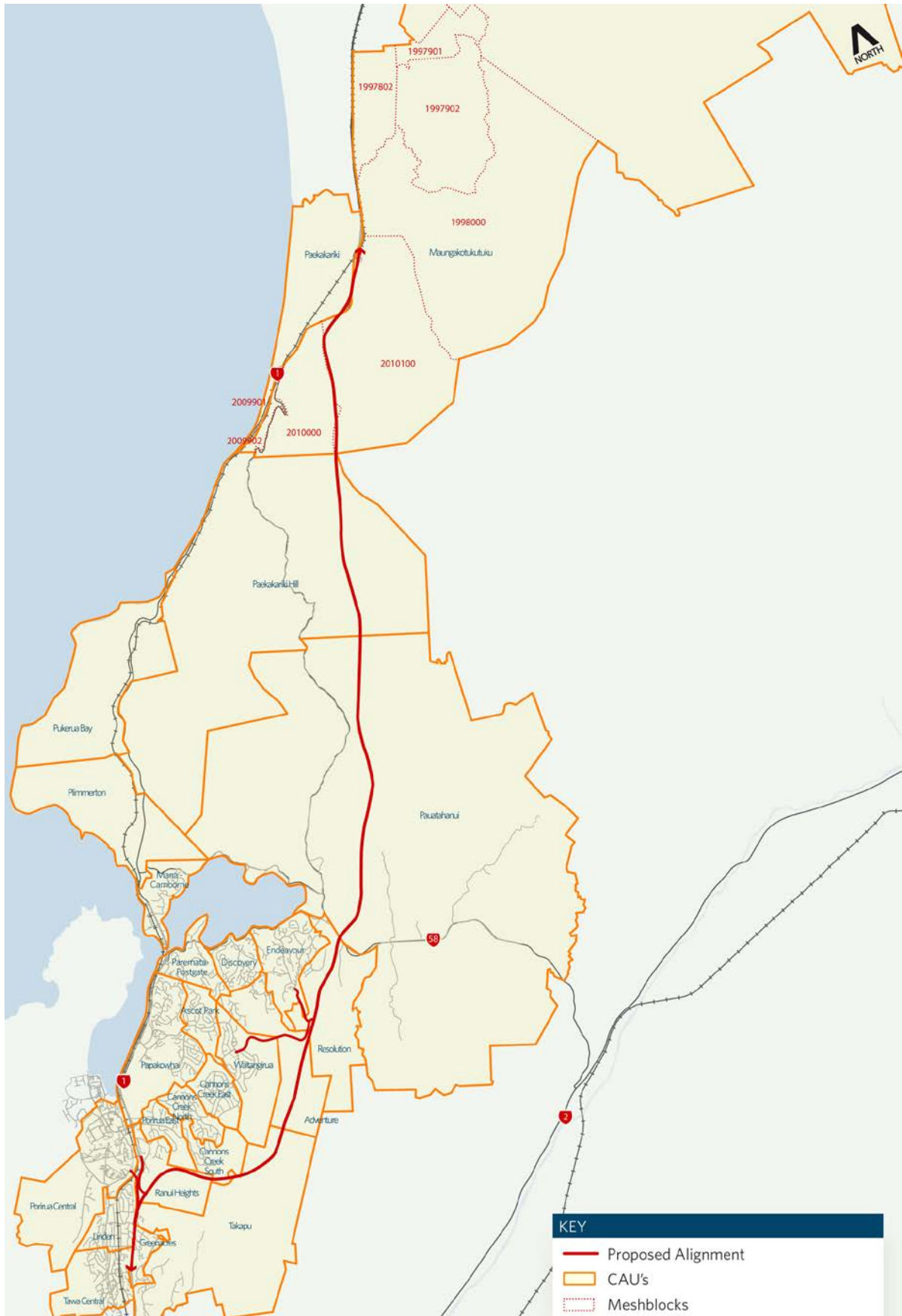
The study area is located within the Wellington region, represented by the Greater Wellington Regional Council (GWRC), and the route traverses the statutory jurisdictions of WCC, KCDC, UHCC and PCC. The predominant land use within the study area is farm land.

A full demographic profile⁷ for the local study area CAUs is provided in Appendix 17B and specific demographic information relating to communities within the study area is included within the following existing environment section.

⁶ A meshblock is the smallest geographic unit for which statistical data is collected by Statistics New Zealand. Meshblocks vary in size from part of a city block to large areas of rural land. Each meshblock abuts another to cover all of New Zealand. Meshblocks aggregate to build larger geographic areas, e.g. CAUs.

⁷ The demographic composition is represented statistically by data from the 2006 Census, and more specifically, from the Census Area Units (CAUs) directly surrounding the local study area, as shown on Figure 1. The Census data is now 6 years out of date; however remains the most comprehensive dataset available to develop a community demographic profile.

Figure 17.3: Study Area – Census Area Unit's and Maungakotukutuku Meshblocks



The variables used to provide insight into the existing environment in the local study area:

- Insight into **people's attitudes, expectations and aspirations** is particularly provided through the inclusion of consultation feedback (reported in this section and in more detail in the Consultation Report – Technical Report 27), information on Council strategies and community infrastructure/facilities of particular importance to local people;
- Insight into **people's wellbeing** and way of life is particularly provided through the inclusion of consultation feedback, common locations for accessing social services and attending school, travel patterns, reserves and recreation areas;
- Insight into **people's culture and their local communities** is particularly provided through the inclusion of community values articulated in consultation, archaeological/heritage sites, and places of religious assembly/affiliation; and through the inclusion of information about local town centres, community infrastructure and resources, community meeting spaces, and the demographic composition of communities (for example, population growth, ethnic composition, and socio-economic status).

Specific attention is given to the location and use of community infrastructure and resources in the local study area, which are important for social wellbeing and which also provide insight into how people live, work, play and interact; community identity and character; how people access services and facilities; and their aspirations for the future of these communities.

The existing environment section provides a comprehensive outline of community infrastructure and resources. Specific mention has been made of the facilities that will be affected by the Project, or in relation to concerns that have been raised during consultation over any aspect of the Project. The remaining facilities listed within the existing environment section will benefit from improved accessibility from, and will not be directly affected by, the Project.

6.2 Community Area 1- Paekakariki

6.2.1 Overview

Community Area 1 includes the MacKays Crossing interchange on SH1, the surrounding area of which is predominantly horticultural and pastoral, including a market garden on SH1, where produce grown on site is available for purchase. This property is directly affected by the Project (as land is required). There are also several rural residential properties in this area. The wider study area for this Community Area also includes the community of Paekakariki, a small coastal town within the Kapiti Coast District. Paekakariki Village is to the south of the Project area and is separated from it by the NIMT railway line. Paekakariki is accessed directly off SH1, although SH1 does not travel through the Village proper. The majority of people in the Community Area 1 catchment reside in Paekakariki.

Within Paekakariki Village there are a number of small retail shops, including cafés, village grocery, organic fruit and vegetable store, a hair studio, and the railway station heritage museum and cafe. The community also provides a number of accommodation facilities, with a small hotel, a backpacker accommodation facility, and the Holiday Park campground. St Peters Anglican Church provides a place for religious assembly within Paekakariki Village. The Paekakariki Volunteer Fire

Brigade is located on Tilley Road, near the Village Centre. The Fire Brigade has 18 volunteers, and one fire vehicle.

The Paekakariki Memorial Hall is an important community facility, regularly hired out for community groups and meetings, concerts and musical events, including Tai Chi classes and the meetings for the Paekakariki Community Board. The Paekakariki Surf Club is an important community facility, and is used by a wide variety of groups. Paekakariki Beach is a popular summer destination for the local community and for visitors alike, and Queen Elizabeth II Park is also a well-used community facility.

The KCDC Long Term Council Community Plan (LTCCP) discusses development of the District, but does not consider that there will be distinctive growth or development within the Paekakariki community over the next 20 years. This is reflected in the 2006 Census data, as outlined below.

Community

Community Area 1 is comprised of one CAU, namely Paekakariki. 2006 Census data indicates that the usually resident population of Community Area 1 is approximately 1,600 people. Within Community Area 1, population growth for Paekakariki increased between 1996 and 2001 (3.6%) but then decreased between 2001 and 2006 (7.6%). As outlined in the KCDC LTCCP, the population projections to 2031 for Paekakariki are relatively stable.

Ethnic composition is very similar across the area, with the predominant ethnic group in Community Area 1 European, followed by Maori. English is the most commonly spoken language in Community Area 1. The Maori immersion early-childhood centre (Kohanga Reo) may account for the number of Maori speakers in Community Area 1 (6.4%).

In terms of household composition, single-family households were most predominant, followed by single-person households. Paekakariki has a relatively high proportion of residents (compared with the rest of the study area) having resided in their usual residence for 30 years or more (6%), indicating a not very 'mobile' resident population. However, the majority of residents in Paekakariki have resided in their usual residence for one to four years. The majority of dwellings are owned or partly owned by the resident. Where the dwelling is being rented, the majority of dwellings have a private landlord, with only 3.3% of dwellings in Paekakariki owned by Housing New Zealand Corporation (HNZC).

Paekakariki has a deprivation rating of 6 on the Deprivation Index⁸. The median income is \$49,900 (compared to a median income of \$70,400 for the study area as a whole), and the majority of the usually resident population is in full time employment. The Paekakariki CAU had the highest level of education attainment for the study areas as a whole, with 11.8% having a post graduate qualification.

⁸ The Deprivation Index is explained more fully in Appendix B. It is a composite of nice Census variables that provide an 'indicator' of relative material and social deprivation, using a scale from 1-10 (with 10 representing the most deprived 10% of areas in New Zealand).

The Paekakariki Community Board and the Paekakariki Informed Community are active community organisations, with the Community Board submitting in support of the existing designations. This submission was also in relation to increasing the safety of the entrance into the Paekakariki Township, which is currently accessed via SH1.

Educational Facilities

Paekakariki School is a state primary school with a roll of 168 students in 2009. The school decile rating is 7⁹, which indicates that its students sit around the middle-upper range with respect to the proportion of students from low socio-economic communities. There is no zone/enrolment scheme in place at the school, but it predominantly draws its students from the Paekakariki community. The School has important connections to the community, with the School Hall being used for community events and community groups, including fitness and yoga classes. The Education Review Office (ERO) Reports for Paekakariki School indicate the roll has declined in recent years (from 180 students in 2006 to 168 students in 2010), which reflects the Census projections that there will be little future increase in the Paekakariki population.

There are two early childhood centres in Paekakariki; the Paekakariki Playcentre, with a roll of 24 at the last ERO report in 2007, and the Te Kohanga Reo o Paekakariki, a total immersion Maori language programme for young children from zero to six years of age.

Reserves and Recreation Areas

Campbell Park is located in Paekakariki, and contains a children's playground and a newly installed skate park facility (installed in April 2010). The lower fields of Campbell Park provide space for football matches at all levels. The ground also serves as a cricket venue during summer.

Queen Elizabeth II Park (QE Park) is a Wellington Regional Park of 650ha, which contains the last area of natural dunes on the Kapiti Coast. The park is steeped in history including pa sites at Whareroa Beach and Wainui Beach. During World War II, the park was the location of two United States Army and Marines bases. Many recreation facilities were developed in the 1950s-1960s, including the campground and Wellington Tramway Museum, picnic areas and large areas of open space. These areas continue to be well utilised today, along with fishing, cycling, and horse riding. Camping is provided for at the Southern end of QE Park, at the Paekakariki Holiday Park. QE Park can be accessed from Paekakariki at its Southern end, or off SH1 at MacKays Crossing.

Mackays Crossing Wildlife Reserve and Wetlands (west of SH1 and south of the rail crossing) is considered regionally significant, due to the presence of a high diversity of indigenous flora and habitat for rare or threatened fauna species. The Reserve is connected to QE Park and valued by locals as an important local recreation area.

⁹ School decile ratings are explained more fully in Appendix B. These ratings are recalculated following each Census, which occurs every five years. As such, the decile ratings outlined in this report are the most recently calculated and therefore the most appropriate dataset available.

Whareroa Farm is a recreation reserve managed by DoC, located on the east of the existing SH1, opposite the entrance to QE Park (approximately 3km north of Paekakariki). The Farm comprises 440-ha of retired pasture, regenerating native forest and a working sheep and cattle farm. It is a popular place for horse riding and mountain biking.

Travel Patterns and Community Linkages/Connections

The 2006 Census indicates that the majority of residents are in full-time employment, and that the majority of residents in Community Area 1 travel to work by private vehicle, either as a driver or as a passenger. Paekakariki CAU has a high proportion of residents who used public transport to travel to work (20%), which is higher than the results for the study area as a whole (13.9% using public transport to travel to work).

Most of the high public transport use from Paekakariki will be residents travelling into Wellington City, predominantly by rail. Using Census data, KCDC (Towards a Sustainable Transport System 2008) has established that the majority of residents on the Kapiti Coast work on the Kapiti Coast, but that a significant proportion of residents work in Wellington City (21.8% of residents in 2001 and 22.9% of residents in 2006). Given the number of residents in Paekakariki who travel to work using public transport and that there is no bus service from Paekakariki, it is likely that the majority of residents in this CAU travel by train into Wellington City for work.

Data from Metlink (Greater Wellington's Public Transport Network) shows that rail patronage for the Region (which includes the Paraparaumu Line, on which Paekakariki residents would travel) reached a peak in 2008 (with an average monthly usage of 995,867 passengers), which to June 2010 had reduced 7.9% to an average monthly patronage of 922,694 passengers. This reduction may reflect the limitations in the current rail capacity and residents frustrations with service levels. The train station at Paekakariki has half hourly train services on the Paraparaumu Line during the working week, with fewer services on weekends. Community Area 1 is not serviced by bus.

There are a number of pedestrian links that provide community linkages and connections within Community Area 1, and to surrounding areas. The entrance to QE Park connects the QE Park inland walkway to the coast, running the length of the Park, from Raumati South to Paekakariki. This track is also suitable for cyclists. The entrance to the MacKays Crossing Wildlife Reserve and Wetlands is also within Community Area 1, which includes a loop walkway through the wetland area and bush remnant.

Figure 17.4: Community Area 1 - Facilities



EDUCATIONAL FACILITIES

- E1** Te Kohanga Reo o Paekakariki
- E2** Paekakariki School
- E3** Paekakariki Playcentre

CHURCHES/ PLACES OF ASSEMBLY

- C1** St Peters Anglican Church, Beach Road

OPEN SPACE

- G1** Whareroa Farm
- G2** Mackays Crossing Wildlife Reserve & Wetlands
- G3** Queen Elizabeth II Park
- G4** Campbell Park Wellington Road

RETAIL CLUSTERS

- R1** Paekakariki Village shops

TRANSPORTATION LINKAGES

- Proposed alignment**
- SH1**
- NIMT Railway Line**
- Walkways, cycleways & bridleways within Queen Elizabeth II Park**

OTHER

- O1** Paekakariki Holiday Park
- O2** Paekakariki Surf Club, end of The Parade
- O3** The Paekakariki Memorial Hall

6.3 Community Area 2 – Rural Communities (Maungakotukutuku and Paekakariki Hill)

6.3.1 Overview

Community Area 2 contains predominantly rural land, comprised of forest and areas of steep pastoral land. There are several rural residential dwellings within this Community Area, in the vicinity of Paekakariki Hill Road; however, there is limited community infrastructure and resources. There are no educational facilities, nor places of religious assembly. Residents travel to the surrounding areas (north to the Kapiti Coast or south to Pauatahanui, Whitby, and Paremata, or into Porirua Central) for retail areas, places of religious assembly, and schools.

Community

Community Area 2 includes the CAUs of Paekakariki Hill and Maungakotukutuku. As previously noted, Maungakotukutuku is a very large CAU and so it has been divided into meshblock units, to better analyse the relevant demographic information of the community who resides in close proximity to the Project area.

The 2006 Census data indicates that the predominant ethnic group is European, followed by 'Other', and Maori. The most commonly spoken language in this Community Area is English. Population projections indicate that the usually resident population of this Community Area may increase by 2031. This increase would be predominantly due to new rural residential subdivision in the Maungakotukutuku CAU, as rural subdivision is provided for under the KCDP, within the majority of the Maungakotukutuku CAU. In 2006, single-family households were most predominant, followed by single-person households. This was the same pattern as for the study area as a whole.

There are very low levels of deprivation in Community Area 2, with Maungakotukutuku and Paekakariki Hill both with deprivation rates of 1. The median income for the Paekakariki Hill CAU is \$100,000¹⁰, and the majority of residents in Community Area 2 are in full time employment. There are relatively low levels of unemployment in this Community Area (2.9% in Paekakariki Hill and 0% in Maungakotukutuku) and a notable number of residents not in the labour force (11.4% in Paekakariki Hill and 13% in Maungakotukutuku), who may be engaged in activities such as full-time parenting, study or retirement, or who may be unable to work due to sickness or other reasons. The majority of dwellings in Community Area 2 are owned, or partly owned, by the resident. The Census data does not disclose whether there are any HNZN properties in Community Area 2 (this information is marked as 'Confidential').

Reserves and Recreation Areas

The 500 hectare Battle Hill Forest Farm Park (BHFFP) is used for walking, horse riding, mountain biking, camping and picnicking. The Park is very popular with community and sports clubs and it is an important recreational facility for the Wellington Region. School groups frequently visit, especially to the Ken Gray Education Centre, which is an educational centre within a large working wool shed, within the Park. The Park is also culturally significant to tangata whenua, as it was the site of the

¹⁰ The median income for the Maungakotukutuku meshblocks is listed as 'Confidential' within the Census data.

last battle in the Region between Ngati Toa Rangatira and the Crown in 1846, and the grave sites and site of the battle itself on the ridge leading up to the summit are regarded as waahi tapu by Ngati Toa Rangatira. BHFFP will be affected by the Project, as part of the Main Alignment will enter the Park.

Pauatahanui Golf Course, located on Paekakariki Hill Road is also a well-used feature of Community Area 2. The Club has more than 200 fee-paying members who predominantly travel from Johnsonville, Tawa, the Hutt Valley, and the Porirua Basin. The Golf Course facilities are available for hire and for functions. The Club is affected by the Project (by property acquisition) but submitted in support of the existing designations. During recent (2010) consultation the Club has sought assurances that the course's water supply be protected and that any lost land be reinstated/compensated.

Recent consultation (2010) has also indicated that Paekakariki Hill Road is a popular route for horse riders.

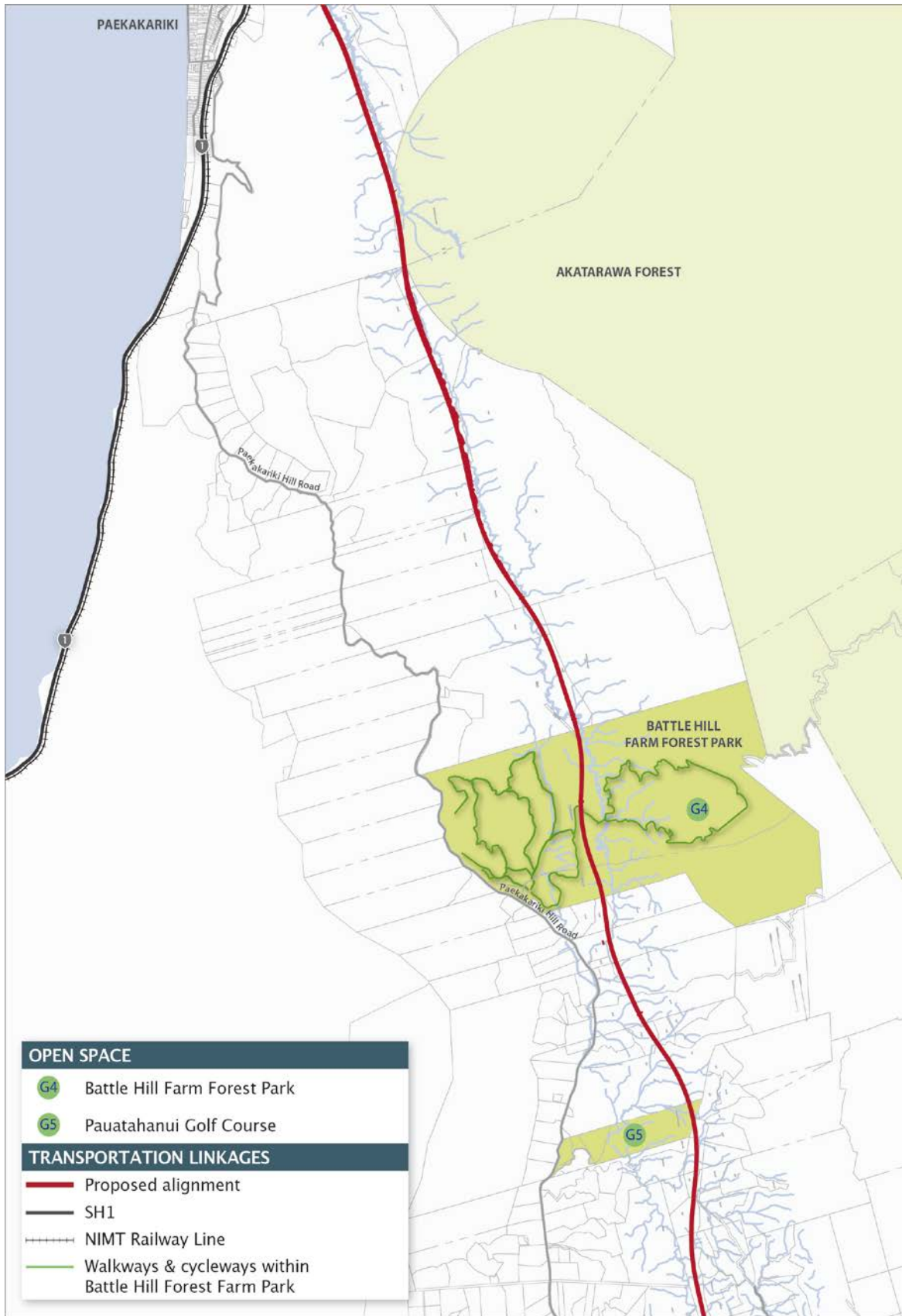
Travel Patterns and Community Linkages/Connections

The 2006 Census indicates that the majority of residents in Community Area 2 were in full-time employment, followed by a high percentage of people not in the labour force (11.4% in the Paekakariki Hill CAU and 13% in the Maungakotukutuku CAUs respectively). The Census data shows that the majority of residents drove to work (the majority of residents having access to two or more vehicles), with a number of residents taking public transport (6.9% in Paekakariki Hill and 15.2% in Maungakotukutuku).

There are a significant number of residents who commute into Wellington City for work (3,786 residents in 2006). As there are no bus or rail services provided in Community Area 2, it may be inferred that the residents who use public transport are travelling (most likely by private vehicle) to a park and ride facility, and travelling by train into Wellington City. There are several park and ride facilities in close proximity to Community Area 2, including Plimmerton, Mana and Paremata.

The Battle Hill Farm Forest Park includes walkways, cycleways and bridleways, including the Bush Reserve Short Loop, Summit Loop, Restoration Trail, Wetlands Walk, Farm Loop, and the Transmission Gully-Puketiro Loop.

Figure 17.5: Community Area 2 - Facilities



6.4 Community Area 3 – Pauatahanui and Whitby

6.4.1 Overview

Community Area 3 extends through rolling rural and rural residential land north of SH58, crosses SH58 and a low-lying estuarine plain associated with the Pauatahanui Inlet, then climbs the moderately-steep terrain to the south. The wider study area includes the communities of Pauatahanui and Whitby, both within the Porirua District. Pauatahanui and Whitby are located west of the Main Alignment. Community Area 3 also includes the proposed Porirua Link Road that will feed into Whitby, at the James Cook / Navigation Drive Intersection.

There are also a number of rural residential properties in Community Area 3, namely on Flightys Road and Bradey Road. Residents on these roads have expressed concern over the Project, particularly in relation to the effects of increased noise levels. Consultation with these residents is on-going and there will be noise mitigation measures undertaken on these roads (i.e. noise walls and/or a 'low-noise' road surface (OGPA)).

The retail outlets that serve the Whitby community are located at the Whitby Village Mall on Discovery Drive. This Mall includes a supermarket, hairdresser, bookshop, café, video store, a restaurant and medical facilities (the Whitby Doctors Clinic and Whitby Pharmacy). The Bradey Room Community Facility at the Whitby Mall provides a venue for community groups, such as the Spinnaker Toastmasters Club who meet fortnightly. Other community facilities in Whitby include the Whitford Brown Community Trust, which is a day service for disabled people, providing help with daily living skills, support and training, located at the corner of Kapiti Crescent and Mana Avenue. The Whitby Rest Home and Hospital (providing a rest home, hospital and dementia care) is located on Observatory Close. The Whitby Library (a branch of the Porirua Library) is located opposite the Mall, and the Toy Library, also located on Discovery Drive, provides lending of educational toys and games for children in the community. A Community Policing Centre is also located at the Whitby Village Centre.

There are a number of places of religious assembly in Pauatahanui and Whitby. The most notable in the area are the two historic churches. St Joseph's Catholic Church, which is located on SH 58, Pauatahanui is the oldest Catholic Church building still in use in Wellington and was the first Catholic Church building in the Porirua basin. Adjacent to the church is a graveyard where a number of early settlers to the Pauatahanui area are buried. It is registered by the New Zealand Historic Places Trust as a Category One Historic Place. St Alban's Anglican Church is located on Paekakariki Hill Road, on the site of the pa Matai Taua. This Church has served the Pauatahanui community for over 100 years, and has architectural significance as a well-resolved timber, Gothic church and is registered by the Historic Places Trust as a Category Two Historic Place. This Church holds Sunday morning services twice a month. There are also a number of churches and places of religious assembly in Whitby, most of which hold regular Sunday morning services.

Pauatahanui has several function centres, namely Seagulls at Pauatahanui on Paremata Road, Lodge at the Inlet on Paekakariki Hill Road, and the Huntaway Lodge on Flightys Road. These centres are popular venues for weddings, due to their close proximity to Wellington and their scenic outlook to the Inlet and surrounding rural land. The Pauatahanui shops on Paekakariki Hill Road serve a wide local community, and visitors to the Inlet, and have several local retail outlets, including a general store, the Lighthouse Cinema, petrol/service station, café, and restaurant/bar.

PCC, in association with the Whitby Residents Association and the Pauatahanui Residents Association, has developed a Village Plan for each community. The Pauatahanui Village Plan was launched in 2009, after a period of consultation with the local community. This consultation highlighted the qualities of Pauatahanui most valued by its residents, including the inlet and estuary, its rural setting and historic heritage. As such, the Pauatahanui Village Plan has four key areas for action: Village centre enhancement, environmental protection, enhanced recreational opportunities and heritage protection and enhancement.

The Whitby Village Plan was also launched in 2009, after a process of community consultation. As a result of this consultation, five key areas for community action have been identified: walkways and reserves, development, education, community character and promotion.

Community

Community Area 3 includes the CAUs of Pauatahanui, Endeavour, Discovery, Resolution, and Adventure. Population growth for Community Area 3 increased between 1996 and 2001, and increased again between 2001 and 2006. The Adventure CAU experiences a population decrease from 1996-2001 (3.5%) but increased from 2001 – 2006. This population increase also occurred for the study area as a whole, and within Wellington City, Kapiti Coast District and Porirua City. The population projections to 2031 suggest that the CAUs in this Community Area, with the exception of Adventure, will have an increased population by 2031. This is reiterated by the PCC Development Framework (2009), which highlights the area surrounding the Whitby shops for further comprehensive development, and the Pauatahanui area as a potential rural residential growth area. The Census projections suggest that there will be a 12% population decrease in Adventure by 2031.

Ethnic composition is very similar across Community Area 3, with European the predominant ethnic group, followed by Maori, and Pacific Islander. The most commonly spoken language in this Community Area is English.

The majority of residents were in full-time employment, with a high percentage not in the labour force. This may be due to the number of older or retired people living in this Community Area, as indicated by the Whitby Rest Home and Hospital, which provides rest home accommodation for up to 73 residents (with 63 residents living in the accommodation at the time of its most recent Ministry of Health Audit, in October 2009). It may also be due to the family oriented environment in Whitby, with the presence of several large schools (primary and secondary) and the 2006 Census indicating that these CAUs had relatively high numbers of residents in the 'less than 15 years' category.

The Median income for Community Area 4 was \$98,000. The Deprivation Index gives the CAUs a score of 1 (with the exception of Adventure that was rated 2). The median deprivation score for the study area was 2, which indicates that Community Area 3 generally has a lower level of deprivation than the study area as a whole.

An active community group within Community Area 3 is the Guardians of the Pauatahanui Inlet (GOPI), who aim to promote and protect the ecological, recreational and cultural values of the Inlet and its catchment area. In conjunction with GOPI, the Pauatahanui Inlet Community Trust (PICT) aim to promote and facilitate the implementation of the Pauatahanui Inlet Action Plan, providing advice to GWRC and PCC on the community's view and on monitoring the two councils' progress on achieving the objectives of this Plan. In 1996 GOPI lodged a submission in opposition to the

existing designations, in relation to a number of issues, including the cumulative effects on the Inlet and its catchment, and visual, landscape and recreational effects. The Pauatahanui Residents Association and the Whitby Residents Association are other active community groups.

Educational Facilities

Pauatahanui School, on Paekakariki Hill Road, is a state primary school with a roll of 232 students in 2010. The school decile rating is 10, which indicates that it has a very low proportion of students from lower socio-economic communities. The northern point of the zone for Pauatahanui School is the summit of Paekakariki Hill Road. The zone continues down Paekakariki Hill Road, west along Grays Road and follows on to State Highway 58 to Moonshine Road. The School hall was utilised as a venue for the Project open days, in October 2010.

Samuel Marsden Collegiate School Whitby is a private co-educational secondary school on Starboard Lane, Whitby, with a roll of 141 students in 2010. Decile ratings are only provided for state and state integrated schools, therefore no decile rating has been assigned to this school. However, as this is a private school, there is an assumption that it would have a very low proportion of students from lower socio-economic communities (equivalent to decile 10). There is no zone scheme in place at the School, but its pupils are predominantly from the catchment areas of Kapiti Coast, and the Hutt Valley.

Adventure School is a state primary school on Longitude Place, Whitby, with a roll of 362 students in 2010. The school decile rating is 10, which indicates that it has a very low proportion of students from lower socio-economic communities. All properties with direct access to Discovery Drive, James Cook Drive, Joseph Banks Drive and Paremata Drive (between James Cook and Joseph Banks) are within the zone for Adventure School.

Discovery School, located on Pullen Lane, Whitby is a state primary school with a roll of 406 students in 2010. The school decile rating is 10, which indicates that it has a very low proportion of students from lower socio-economic communities. The zone for Discovery School extends from Bosun Terrace to SH58, south to the corner of James Cook Drive and Discovery Drive, then east to connect with Postgate Drive.

Postgate School is a state primary school on Staithe Drive North, Whitby, with a roll of 301 students in 2010. The school decile rating is 4, indicating that its students sit below the middle range with respect to the proportion of students from low socio-economic communities. There is no zone/enrolment scheme in place at the School.

There are also a number of early childhood centres in Community Area 3. The Pauatahanui Preschool is located on Paekakariki Hill Road, Pauatahanui, and has a roll of 43 (at its last ERO report, in 2010). Childcare centres in Whitby include Discovery Kindergarten on Pullen Lane, with a roll of 81 in 2008, Adventure Kindergarten on Longitude Place, with a roll of 65 in 2008 and ABC Whitby South Preschool on Cleat Street, with a roll of 20 in 2009.

These educational facilities are not in close proximity to the Link Road that feeds into the James Cook/ Navigation Drive Intersection.

Reserves and Recreation Areas

There are a significant number of reserves, open space and recreation areas located in Community Area 3. Pauatahanui Wildlife Reserve has an area of 50 hectares, and lies at the head of the Pauatahanui Inlet. Four hectares are owned by the Royal New Zealand Forest and Bird Protection Society (Forest and Bird) and protected under a covenant with the Queen Elizabeth II Trust. The rest of the reserve is owned by the Department of Conservation (DOC). This Reserve contains one of the most important salt marshes in the North Island and has a range of vegetation from tidal mudflats to regenerating scrubland, and is inhabited by many local and migratory birds. It is an important feature of the community, and an extensive planting programme has been organised by volunteers from Forest and Bird and from within the surrounding community. This restoration has also extended to tracks, boardwalks and hides for observing birdlife, and the establishment of a plant nursery and visitor centre. GOPI is an active community group which has been established to promote and protect the ecological, recreational and cultural values of the Inlet and its catchment area.

Endeavour Park is a local purpose reserve with two lots classified as recreation reserve. This Park provides recreation opportunities to local residents, as it is home to the Western Suburbs Soccer Club, and the Whitby Colts Cricket Team. Adventure Park is also classified under the Reserves Act 1977, as a recreation reserve with one lot classified as local purpose reserve. Adventure Park includes a skate park, and active sport facilities. The Whitby Bowling Club and Scout Hall are also located here. Samwell Drive Reserve in Whitby has the largest native tree in Porirua - a giant Kahikatea, in excess of 300 years old. There are a significant number of Reserves and playgrounds in Whitby.

Travel Patterns and Community Linkages/Connections

Community Area 3 contains a number of walking tracks, many of which are within the Pauatahanui Wildlife Reserve, including Te Ara Piko (Meandering Path) Pauatahanui Inlet Walkway, a 13 kilometre track around the edge of the Inlet. Te Ara Piko incorporates a number of smaller walks around the Inlet, including the Camborne walkway from Paremata Bridge to Grays Road; the SH 58 footpath from Paremata Bridge to Browns Bay; and a roadside footpath through Pauatahanui village to SH 58 via the old bridge. The Lighthouse Cinema (located within Pauatahanui Village) is a popular attraction within Porirua attracting visitors from the Region.

Whitby has a number of walkways and cycleways including the Whitby Lakeside Paths, around the lower lake and across Discovery Drive to the upper lake; the Whitby Walkway, which travels through parkland settings and areas of native bush, and around the rear of properties and Discovery School. The walkway underpasses all major roads and stretches from Postgate Park to Samuel Marsden Collegiate School near the former Duck Creek Golf Course. This provides a connection for Samuel Marsden students who walk to school. The Village Walkway links Endeavour Park with the Whitby Shopping Centre, and access is provided to recreation areas, such as the Adventure Park Walkway, which links Furneaux Grove with Adventure Park, and the Skyline Route, which is via The Mainsail through regenerating forest to Adventure Drive. The Census data indicates that 2.6% of residents in the Adventure CAU cycle walk or jog to work; these residents may utilise these local connections for this journey.

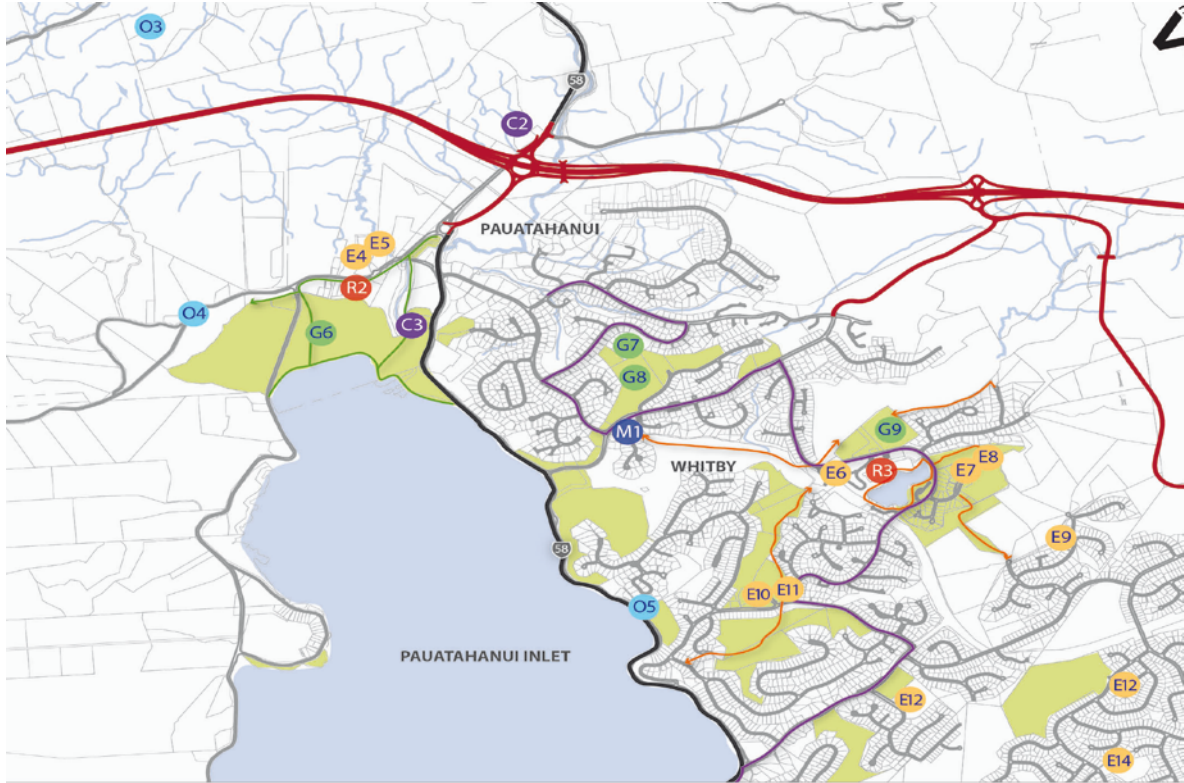
The Census data shows that the majority of residents were in full-time employment, with a high percentage of people not in the labour force. Of those residents in employment, the majority drove,

or were driven, to work. The majority of residents own at least one vehicle, with 56.7% of residents in the Endeavour CAU owning two vehicles. The Resolution CAU had the highest proportion of residents in Community Area 3 who used public transport to travel to work (11.1%) and, interestingly, also had 0% of its residents with no vehicle, suggesting that although they have other means of transportation, many residents still choose to travel to work by public transport.

PCC has established, in its Porirua City Profile (2008), that there is significant worker migration from Porirua into Wellington City (45%)¹¹, with the remainder of residents predominantly filling jobs within Porirua City. As such, it is inferred that a large number of people who take public transport to work from this Community Area are travelling into Wellington City, predominantly by rail (on the Paraparaumu Line). These residents may also be travelling to a park and ride facility by private vehicle, and travelling into Wellington City on the train. There are several park and ride facilities in close proximity to Community Area 3, including Porirua, Plimmerton, Mana and Paremata. There is also a bus service from Whitby (The Crow's Nest), to the Paremata Train Station. There are several regular bus services from Whitby into Porirua City.

¹¹ This figure is based on information from Census data (2001 and 2006).

Figure 17.6: Community Area 3 – Facilities



EDUCATIONAL FACILITIES

- E4** Pauatahanui School
- E5** Pauatahanui Preschool
- E6** Samuel Marsden Collegiate School Whitby
- E7** Adventure Kindergarten
- E8** Adventure School
- E9** ABC Whitby South Preschool
- E10** Discovery School
- E11** Discovery Kindergarten
- E12** Postgate School
- E13** Ascot Park Kindergarten
- E14** Rangikura School

CHURCHES/ PLACES OF ASSEMBLY

- C2** St Josephs Catholic Church
- C3** St Alban's Anglican Church

MEDICAL

- M1** Whitby Rest Home and Hospital

OPEN SPACE

- G6** Pauatahanui Wildlife Reserve
- G7** Samwell Drive Reserve
- G8** Endeavour Park
- G9** Adventure Park

RETAIL CLUSTERS

- R2** Pauatahanui shops on Paekakariki Hill Road
- R3** Whitby Village Mall on Discovery Drive

TRANSPORTATION LINKAGES

- Proposed alignment**
- SH1**
- NIMT Railway Line**
- Walking tracks within Pauatahanui Wildlife Reserve**
- Pedestrian links**
- Bus service linking Whitby & Paremata Train Station**

OTHER

- O3** Huntaway Lodge (function centre)
- O4** Lodge at the Inlet (function centre)
- O5** Seagulls at Pauatahanui (function centre)

6.5 Community Area 4 – Eastern Porirua

6.5.1 Overview

Community Area 4 includes the communities of Waitangirua, Cannons Creek, Ascot Park and Ranui Heights, and the surrounding areas. This Community Area is within the jurisdiction of PCC. It also includes the proposed Porirua Link Road that will feed into the community of Waitangirua. Residential activity is the predominant land use.

There are two significant retail areas that serve the community, in Waitangirua and in Cannons Creek. There are also small sets of shops at Fantame Street, Mungavin Road, Astrolabe Street, and Sievers Grove, which serve the local community. In Waitangirua, the Mall is located on Warspite Avenue, and includes several retail outlets, although the most recent site visits in late-2010 showed that there were also a number of vacant shops within the complex. There is also a second-hand clothing store in the area, and some light industrial activity, including an engineering workshop and the Mana Coach Service bus depot. Medical facilities are located in Waitangirua (pharmacy, Plunket rooms, Ora Toa Health centre, Marae health centre and a day service for adults with mental health disability). Other community facilities include the Maraeroa Marae, the Oasis Community Centre, which serves as a community meeting venue for the Residents Association and other groups, and the Waitangirua Community Police Base. The Porirua Fire Station is located at 10 Mungavin Avenue. This is the main fire station in the vicinity of the Project, with 37 career firefighters, 15 volunteers and 4 fire vehicles.

The Cannons Creek Shopping Area is also located on Warspite Avenue, within the suburb of Cannons Creek. This area includes a chemist, bakery, a 4-Square supermarket, fruit and vegetable shop, and a service station. Community facilities within this area include the Community Police Base, a branch of the Porirua Library and the Cannons Creek Swimming Pool. Cannons Creek also houses the Fanau Centre, located on Bedford Court, which offers free services to the local community (including legal and education advice). The Porirua Pacific Health Service is operated from within the Fanau Centre, offering access to primary general medical services for Pacific Island people in the local area, and for the wider Porirua Pacific community.

There are a number of places of religious assembly in Community Area 4, the majority of which hold regular Sunday morning services. In Waitangirua, this includes the Tokelau Church, North City Apostolic Church, the North City Oasis Church, Jesus Christ for All Pentecostal, the Lao Association of Wellington (Buddhist Temple and Monastery), and the Congregational Christian Church of Samoa. In Cannons Creek places of religious assembly include the Holy Family Catholic Church, Church of Jesus Christ of Latter Day Saints, Porirua PIC: Church of Christ the King, the Congregational Church of Samoa and the Wellington Samoa Seventh Day Adventist Residence. There is also an Apostolic Church, located on Arawhata Street, in Ranui Heights.

Community

Community Area 4 includes the CAUs of Porirua East, Cannons Creek North, Cannons Creek East, Cannons Creek South, Waitangirua, Ascot Park and Ranui Heights. The predominant ethnic groups are Pacific Island, Maori and European and the most commonly spoken language is English, followed by Maori and Samoan. Maori and Samoan speakers may be more prominent in this Community Area, due to the Maori language immersion school, located in Waitangirua/ Ascot Park (Te Kura Maori o Porirua), and the Cook Island Playcentre, which is located at Cannons Creek

School. These ethnic groups are also evident in Community Area 4 through several community facilities, including the Pacific Health Service, the Fanau Centre, the Congregational Christian Church of Samoa and the Tokelauan Church. The 2006 Census data outlines that the Cannons Creek North CAU has the highest proportion of residents within Community Area 4 who have lived in New Zealand for less than 10 years (33.8%). The Waitangirua and Cannons Creek East CAUs had the highest proportion of residents within Community Area 4 who are overseas born (31% and 32.6% respectively).

The CAUs of Cannons Creek South, Cannons Creek East, Waitangirua and Ascot Park all had a decrease in population from 2001 to 2006, whereas the remaining CAUs experienced some population growth during this period. In terms of population projections, there are expected to be population decreases in the Cannons Creek South, Cannons Creek East, Waitangirua, and Ascot Park CAUs; whereas population increases are expected in the Cannons Creek North, Porirua East and Ranui Heights CAUs to 2031. This population projection is also acknowledged by the PCC Development Framework (2009), which earmarks Cannons Creek as a potential area for intensification. HNZN has also initiated a redevelopment programme for its housing stock in Cannons Creek and Waitangirua, which includes higher density housing.

The proportion of three or more family households was the highest for the study area as a whole, within the Waitangirua CAU (1.6%). The majority of dwellings are not owned by their usual residents, with a relatively high rate of HNZN properties in this Community Area. This is most predominant in the Cannons Creek East CAU, where 78.8% of rented dwellings are HNZN properties, followed by Waitangirua CAU, with 66.5% of rented dwellings owned by HNZN. The median weekly rent is \$142.

The majority of the CAUs within this area have a deprivation rating of 10 on the Deprivation Index, with the exception of Ascot Park CAU which has a rating of 9, and the Ranui Heights CAU, which has a rating of 6. These scores indicate that the majority of the CAUs have high rates of deprivation. The median income for Community Area 4 was \$40,800. The Waitangirua CAU had the highest level of unemployment for the study area as a whole (8.4%) however; the majority of residents in Community Area 4 were in fully time employment, with the exception of Cannons Creek East, which had more people listed as 'not in the labour force' (37.5%). Ranui Heights CAU had the lowest levels of deprivation, and also had the highest number of residents in full time employment within this Community Area (58.6%). Ranui Heights also had the highest level of academic attainment within this Community Area, and a median income of \$56,800.

There are active residents' associations in Waitangirua, Cannons Creek and Ranui Heights. In 1996, the Cannons Creek Residents Association submitted on the existing designations, supporting the proposal in relation to reducing the congestion in the Porirua City centre. The Maraeroa Marae Executive is a group directly affected by the Project, and in 2010 it expressed concern at the noise wall that is proposed for the Marae, and vibration and air quality effects as a result of increased traffic.

PCC, in association with the Eastern Porirua Residents Association, Cannons Creek Opportunity Centre, and the Maraeroa Marae, have developed Village Plans for Cannons Creek, Ranui and Waitangirua, after periods of consultation with the local communities. This consultation highlighted the qualities most valued by its residents, including sense of community networks, the multi-cultural nature of the Porirua East area and its unique amenities and facilities. Areas for action in these communities were also identified, including youth services and activities focusing on young people on the streets at night, a focus on shops and businesses and an upgrade of the physical condition

of the existing shops, and a focus on parks and playgrounds, the pool, and local recreation and arts facilities. In Waitangirua, the Village Plan was predominantly focused around the development of the new community park, which is situated opposite Maraeroa Marae. The Park incorporates Maori and Pacifica culture, arts and landscaping.

Educational Facilities

There are a number of educational facilities in Community Area 4, several of which in Waitangirua will be in close proximity to the Link Road that feeds into Waitangirua, as follows:

- Natone Park School, a state primary school on Kokiri Crescent, Waitangirua, with a roll of 78 students in 2010. The ERO Reports for this School indicate that the roll has been decreasing in recent years (from 108 students in 2007 to 78 students in 2010). Bi-lingual education is available at this School, for parents who wish their children to learn in Te Reo Maori as well as English. The School decile rating is 1, which indicates that it has a very high proportion of students from lower socio-economic communities. There is no zone/enrolment scheme in place at the School;
- Corinna Primary School, located on Kalingo Street Waitangirua, is a state primary school with a roll of 304 students in 2010. The roll has been relatively stable in recent years. The School's population is predominantly Pacific Islander (69%) followed by Maori (23%), which is reflected in the Census data for this Community Area. The School decile rating is 1, which indicates that it has a very high proportion of students from lower socio-economic communities. The School has other important roles in the community, as it is the location of the Corinna School Dental Clinic, which serves local school children;
- Tairangi School - a state primary school on Omapere Street, Waitangirua, with a roll of 207 students in 2010, and Te Kura Maori O Porirua - a state composite school (years 1-15) on Warspite Avenue, Waitangirua, with a roll of 204 students in 2010; and
- There are also several early childhood centres in Waitangirua. The Tairangi 6 Hour Kindergarten, which provides childcare for children over the age of 2 years, is located on the corner of Warspite Avenue & Omapere Street, Waitangirua. Waitangirua also has the Waitangirua Kindergarten, located on Kalingo Street, Aoga Amata located on Waihemo Street, and Te Iwi Kohanga Reo, a Maori language immersion pre-school, located on Westmeath Street.

Other schools in the Community Area (beyond the immediate influence of the Project) all with school decile ratings denoting a very high proportion of students from lower socio-economic communities are as follows:

- Cannons Creek School, located on Warspite Avenue, Cannons Creek, - a state primary school with a roll of 182 students in 2010.
- Glenview School - a state primary school on Bedford Street, Cannons Creek, with a roll of 96 students in 2010.
- Maraeroa School, located on Driver Crescent, Cannons Creek, - a state primary school, with a roll of 133 students in 2010.
- Russell School - a state primary school on Fantame Street, Cannons Creek, with a roll of 159 students in 2010.
- Holy Family School is a state integrated primary school on Mungavin Avenue, Cannons Creek, with a roll of 205 students in 2010. This school is affiliated with the Parish of Holy Family, in Porirua East.

- Porirua East School is a state primary school on Martin Street, Ranui Heights, with a roll of 147 students in 2010.
- Brandon Intermediate is a state intermediate school on Driver Crescent, Cannons Creek, with a roll of 194 students in 2010.
- Rangikura School is a state primary school on Conclusion Street, Ascot Park, with a roll of 322 students in 2010. The school decile rating is 2, which indicates that it has a high proportion of students from lower socio-economic communities.
- Te Kura Maori o Porirua is a state Maori immersion composite school (year 1-15) on Warspite Avenue, with a roll of 198 students in 2010.
- Windley School, located on Mungavin Avenue, Porirua East, is a state primary school with a roll of 375 students in 2010. This School has a zone/enrolment scheme, which covers the geographic area from Mungavin Avenue from the Cannons Creek shops to the stadium, Bedford Street to where it meets Durham Street, Sievers Grove until it meets Swansea Street, and Hampshire Street until it meets Bedford Street.
- Porirua College is a state secondary school on Driver Crescent, Cannons Creek, with a roll of 623 students in 2010. The Porirua College zone is bounded by SH1 to the west, Kenepuru Stream and Bothamley Park to the north, Porirua Park to the south and Belmont Regional Park to the south and east.

Porirua Alternative School is also located on Drivers Crescent, and is a community based facility set up to provide education options for young people outside of the mainstream education system. Young people aged 13-16 are referred to the programme by the Police, CYFS and local schools either because they are no longer attending school, or because they are no longer able to remain at school because of behavioural issues. There is no specific enrolment scheme for the School; however, its pupils are generally drawn from the surrounding community.

As well as the early childhood centres in Waitangirua, outlined above, there are also a number of early childhood centres in the remainder of Community Area 4. Maraeroa Kindergarten and Moira Gallagher Kindergarten are both located in Cannons Creek, as is the Te Kapua-Anga Reo, which is the only Cook Island Playcentre in New Zealand, located at Cannons Creek School on Warspite Avenue, The Mungavin Kindergarten is located on Awatea Street, Ranui Heights. The Ascot Park Kindergarten is located on Conclusion Street, Ascot Park, with a roll of 72 in 2008.

Reserves and Recreation Areas

Belmont Regional Park is a significant reserve area within Community Area 4. This covers a total of 3500 hectares of hills and valleys between Porirua and the Hutt Valley, including Waitangirua Farm. The Park features the historic Korokoro Dam, World War II ammunition stores and the original main coach road from Wellington. A wide range of recreational activities are provided for within its wide open spaces including walking, running, hiking, orienteering, horse riding, and mountain biking. Belmont Regional Park has a large number of walkways and cycleways, the most significant being the Puke Ariki/Haywards Korokoro Traverse, which traverses the length of the Park (23km). Other significant walkways include the Skyline Route (which connects into Community Area 3), from the Waitangirua Reservoir to Adventure Drive, in Whitby.

Waitangirua Farm is a 1200ha working farm (with sheep and cow stock) and is a key central component of the Belmont Regional Park. This Park was incorporated in the wider Belmont

Regional Park in 1977 by the Minister of Lands. The farm was sold in 2005 (to the Crown, GWRC and PCC) and is currently leased to Landcorp.

Porirua Park, on Mungavin Avenue, has a 1900-seat covered grandstand with 4 senior playing fields, softball diamond, changing rooms, and night-lighting. The Northern United Rugby Clubrooms are also located here. Ascot Park, accessed from Conclusion Street, includes rugby fields, a pavilion and an area for softball. Mungavin Park, on Mungavin Avenue, has outdoor courts for tennis and netball, and has the Kapi-Mana Netball Clubrooms.

The Porirua Gun Club (Porirua Shooting Association) is located in the vicinity of Porirua Park. This Club is in active use and is directly affected by the Project (as land is required).

There are also a significant number of reserves and playgrounds in Waitangirua, Cannons Creek, Ascot Park and Ranui Heights, including the Porirua City Bowling Club on Hampshire Street, Cannons Creek. Waitangirua Mall, on Warspite Avenue, also has a skate park, and basketball and volleyball courts, as well as a new playground, which has been incorporated in the community park (opened December 2010). For recreational cyclists, the Gareth Varley Memorial Mountainbike Skills Track is 1.25 kilometres in length and involves straights, hills, forest, skills and bridges. It can be accessed from Warspite Avenue (Ascot Park), or from the Ascot Park Reserve carpark on Conclusion Street.

Travel Patterns and Community Linkages/Connections

The 2006 Census indicates that the majority of residents in Community Area 4 were in full-time employment. With regards to their journey to work, residents predominantly drove a private vehicle, and the majority of residents own one vehicle. The Ranui Heights CAU had a significant number of residents who used public transport for their journey to work (14.1%).

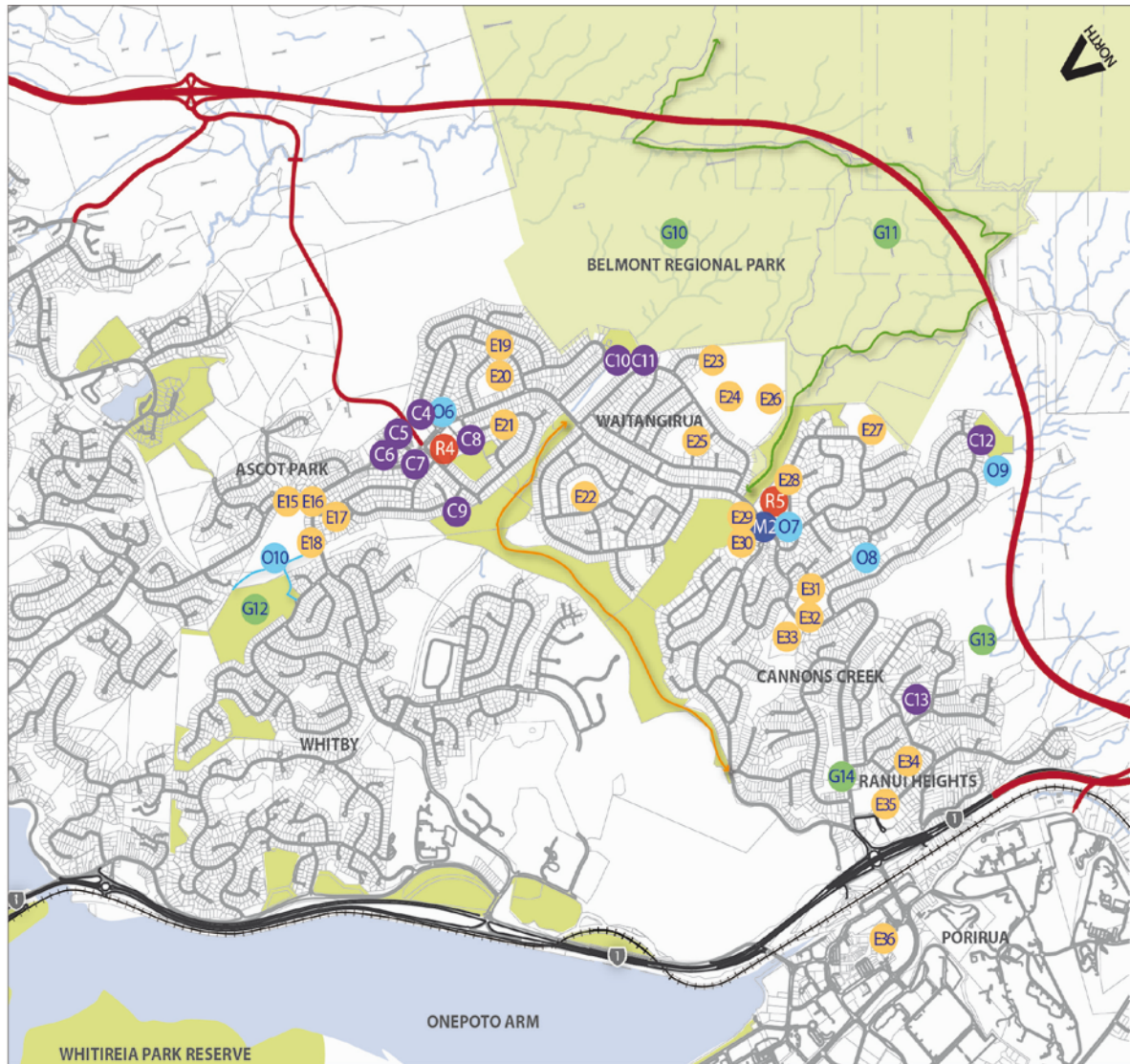
The Porirua City Profile (2008) shows significant worker migration from Porirua into Wellington City (45%)¹², with the remainder of residents predominantly holding jobs within Porirua City. As such, it is inferred that a number of people who take public transport to work from this Community Area are travelling into Wellington City. These residents may also be travelling to a park and ride facility, by private vehicle, and travelling into Wellington City by rail (on the Paraparaumu Line). There are several park and ride facilities in close proximity to Community Area 4, although the facility at Porirua would be most convenient for residents. The residents from Community Area 4 who indicated that they travel to work by public transport may also be travelling into Porirua City by bus. There are bus services that travel to Porirua City, from Ascot Park, Ranui Heights, Cannons Creek, and Waitangirua.

The Cannons Creek shopping area has walkway connections to the Takapu Substation, and also into the Belmont Regional Park, via the Cannon Creek Lakes Reserve. There is also a walkway connection between Bothamley Park and Cannons Creek. The Census indicates that there are residents who cycle, walk or jog to work (for example, 6.2% in the Porirua East CAU), and these connections may be utilised by these residents. Several schools within this Community Area also

¹² This figure is based on information from Census data (2001 and 2006).

operate a 'Walking School Bus', whereby a group of volunteer parents and senior students follow designated routes at a set time, and travel to school picking up students along the way. These 'Buses' operate within this Community Area, at Brandon Intermediate, Windley School and Porirua East School.

Figure 17.7: Community Area 4 – Facilities



EDUCATIONAL FACILITIES

- | | |
|---|--|
| E15 Tairangi School | E26 Brandon Intermediate |
| E16 The Tairangi 6 Hour Kindergarten | E27 Glenview School |
| E17 Te Iwi Kohanga Reo | E28 Porirua Alternative School |
| E18 Te Kura Maori O Porirua | E29 Te Kapua-Anga Reo, Cook Island Playcentre at Cannons Creek School |
| E19 Corinna Primary School | E30 Cannons Creek School |
| E20 Waitangirua Kindergarten | E31 Moira Gallagher Kindergarten |
| E21 Natone Park School | E32 Windley School |
| E22 Russell School | E33 Holy Family School |
| E23 Porirua College | E34 Porirua East School |
| E24 Maraeroa School | E35 Mungavin Kindergarten |
| E25 Maraeroa Kindergarten | E36 Aoga Amata |

CHURCHES/ PLACES OF ASSEMBLY

- C4 Maraeroa Marae
- C5 North City Apostolic Church
- C6 North City Oasis Church
- C7 Tokelau Church
- C8 Jesus Christ for All Pentecostal
- C9 Congregational Christian Church of Samoa
- C10 The Lao Association of Wellington (Buddhist Temple and Monastery)
- C11 Church of Jesus Christ of Latter Day Saints
- C12 Wellington Samoa Seventh Day Adventist Residence
- C13 Apostolic Church

OPEN SPACE

- G10 Belmont Regional Park
- G11 Waitangirua Farm (within Belmont Regional Park)
- G12 Ascot Park
- G13 Porirua Park
- G14 Mungavin Park


RETAIL CLUSTERS

- R4 Waitangirua Mall
- R5 Cannons Creek Shopping Area

MEDICAL

- M2 Porirua Pacific Health Service & Fanau Centre

TRANSPORTATION LINKAGES

-  Proposed alignment
-  SH1
-  NIMT Railway Line
-  Walkways & cycleways within Belmont Regional Park
-  Pedestrian Linkages

OTHER

- O6 Waitangirua Community Police Base
- O7 Cannons Creek Community Police Base
- O8 Porirua City Bowling Club
- O9 Porirua Pistol Club
- O10 Gareth Varley Memorial Mountainbike Skills Track

6.6 Community Area 5 – Linden and Tawa

6.6.1 Overview

Community Area 5 traverses a number of steep gullies, and ends in the gentle slopes of the Porirua Stream Valley at Linden. It includes the communities of Tawa, Linden, and Greenacres, which are within Wellington City; and Porirua Central, within Porirua City. Residential activity is the predominant land use. SH1 severs these suburbs, with Linden and Tawa on the western side of SH1, while Greenacres lies on the eastern side of SH1.

There are three significant centres in Community Area 5; Linden, Tawa and Porirua Central. West of the Main Alignment, in the vicinity of the Kenepuru Link Road, is the suburb of Linden. In Linden, there are a number of small retail shops located on Collins Avenue, including a fruit and vegetable shop, butchery, bridal store, takeaway venue, and an automotive parts and supplies store. The medical facilities in Linden are limited to the Linden Surgery, located on Hinau Street, and the Linden School Dental Clinic, which is not restricted to Linden School pupils and is used by a number of children from other schools in the area. For community events, the Linden Social Centre is located on Linden Avenue, and is available for hire. The Linden Scout Hall, located on Hinau Street, is also an important community facility. The Scout Hall is particularly used for community recreational groups, including Judo, fencing and yoga.

For a larger selection of general interest shops, local residents travel to Tawa where there are a number of small retail outlets, and the Dressmart Factory Outlet shopping centre, located on Main Road. The Community Area of Main Road between Lyndhurst Road and Lincoln Ave forms the village centre of Tawa and provides day-to-day retail services including a supermarket and medical services/pharmacies. Also present along Main Road are many takeaway shops and restaurants.

There are a number of community facilities in Tawa, including the Tawa-Linden Toy Library on Oxford Street the Tawa-Linden Plunket rooms, located on Linden Avenue and the Mervyn Kemp Library, located on the corner of the Main Road and Cambridge Street. The Tawa Swimming Pool is on Davies Street, fairly close to the town centre, and is an important community facility. The Tawa Community Centre is another important community facility, and is home to several community groups, including the Tawa Cook Islands Group, the Tracey Odell School of Modern Dance, the Tawa Historical Society, Tawa Progressive and Ratepayers Association and the Tawa Community Board. The Tawa Volunteer Fire Brigade is located at 16 Lyndhurst Avenue, near the main Tawa shopping area. This Brigade has 30 volunteers and two fire vehicles. Tawa also has a Community Police Constable, located on Main Road.

Porirua Central provides large scale shopping areas (North City Shopping Centre and the Porirua Mega Centre), catering for Porirua City and surrounds. This shopping centre also includes a cinema, bars, and restaurants. Smaller, general interest shops are also provided for in Porirua Central. Porirua Hospital (Kenepuru Hospital) is located on Kenepuru Drive, Porirua Central, providing hospital and emergency medical services to residents in the wider Porirua and Kapiti regions. Porirua Central Police Station is located on Hagley Street, and is the largest Police Station in the vicinity of the Project.

There are also a number of places of religious assembly within Community Area 5. In Linden, St Peters Anglican Church is located on Collins Avenue and is part of the Tawa-Linden Anglican Parish. There are several places of religious assembly in Tawa, representing a wide range of Christian denominations, including parishes for Baptists, Catholics and Anglicans. In Porirua Central is the Community Baptist Church, the Porirua Christian Life Centre, and the Church of Jesus Christ of Latter Day Saints. The majority of these places of religious assembly hold regular Sunday morning services.

Community

Community Area 5 includes the CAUs of Linden, Tawa Central, Greenacres, Takapu, and Porirua Central. The predominant ethnic group in Community Area 5 is European, followed by Maori. The most commonly spoken language in this Community Area is English.

Single-family households were most predominant, although the Porirua Central CAU had a high proportion of residents in single-person households (35.7%). Porirua Central also had the highest household 'mobility' in Community Area 5, and in the study area as a whole, with more than 25% of the resident population having lived at their usual residence for less than one year. The Census data shows that no residents in Porirua Central owned their dwelling (0%), and that 55.6% of people who rented in this CAU were in HNZA accommodation, which accounts for this high household mobility. Greenacres had the highest proportion of residents who owned, or partially owned, their dwelling (73.3%) in this area.

There are wide ranging levels of deprivation in Community Area 5, with Porirua Central rated as the most deprived (with a rating of 10) and Greenacres and Takapu the least deprived (each with a rating of 1). This is reflected in the Census data, which highlights the median income in the Takapu CAU as \$100,000 and \$38,300 in the Porirua Central CAU.

There are a number of active residents groups, including the Tawa Progressive and Ratepayers Association, the Tawa Community Board and the Friends of Tawa Bush Reserve. The Tawa Community Board lodged a submission in opposition to the Project in 1996, and expressed concern particularly in relation to increased noise levels, visual effects, air pollution, and concern over a lack of information provided through the consultation process.

Educational Facilities

Linden School is a state primary school located on Ranui Terrace, Tawa. Linden School had a small roll of 127 students at the time of the last ERO Report in 2009, which is a 21% increase since the previous ERO Report (2006). The school has a diverse student population, with students from more than 6 nationalities in attendance. Maori is the predominant ethnic group at this school (31%), closely followed by New Zealand European/Pakeha (30%), and Samoan (24%). This is an interesting result, as the 2006 Census data for the Linden CAU indicates that the predominant ethnic group is European (63%), followed by Maori (12%) and Pacific Island (9%). This perhaps suggests that the majority of children (those in the 'less than 15 years' age group) in the Linden CAU identify themselves as Maori, but that this is not representative of the CAU as a whole. The school decile rating is 4, indicating that its students sit below the middle range with respect to the proportion of students from low socio-economic communities. There is no zone/enrolment scheme in place at the School. Linden School is also important to the community as it is a Civil Defence Emergency Centre, which means that in a major disaster or emergency, this centre is activated by

volunteers to assist the local community. Linden School also hosts a dental clinic, which is used by school aged children within this area.

Linden School has expressed concern over the Project, particularly in relation to the effects of increased noise levels, increased air pollution, increased traffic hazards, and increased stress levels for teachers. In their 1996 submission on the existing designations, the School sought that a solid crash barrier be erected along the School boundary, that noise barriers be erected (prior to construction) and that earthworks be dampened to reduce dust nuisance during construction. Consultation with the School is on-going and noise barriers will be installed to mitigate the adverse effects of noise.

Tawa College is a state co-educational secondary school on Duncan Street, Tawa, with a roll of 1404 students in 2010. Tawa College is a decile 9 school, indicating a low proportion of students from low socio-economic communities. Due to its proximity to the existing SH1 and to the proposed Main Alignment, Tawa College is part of on-going consultation in relation to the Project. Tawa College was also a venue for a consultation open day in October 2010.

Other primary schools beyond the immediate influence of the Project are:

- Greenacres School, on Raroa Terrace, Tawa, with a roll of 188 students in 2010. Greenacres School is also important to the community as a Civil Defence Emergency Centre.
- Tawa School is a state primary school on Oxford Street Tawa, with a roll of 331 students in 2010. The school decile rating is 8, which indicates that a low proportion of its students come from low socio-economic communities. There is no zone/enrolment scheme in place at the School. Tawa School is also important to the community as a Civil Defence Emergency Centre
- Hampton Hill School, on Rimu Street, Tawa, - with a roll of 202 students in 2010.
- Redwood School - on Redwood Avenue, Tawa, with a roll of 423 students in 2010. Redwood School is also important to the community as a Civil Defence Emergency Centre.
- St Francis Xavier School, on Main Road, Tawa, with a roll of 160 in 2010. Wellington SDA School on Raiha Street, Porirua, with a roll of 73 in 2010.
- Wellington SDA School, on Raiha Street Tawa, is an integrated Seventh - day Adventist primary school.
- Tawa Intermediate on Ranui Terrace, Tawa, with a roll of 508 in 2010.

There are also a number of secondary schools located in Community Area 5, including:

- Bishop Viard College, with a roll of 467 in 2010, located on Kenepuru Drive.
- Tawa College - a co-educational state secondary school on Duncan Street, Tawa, with a roll of 1431 in 2010. The school decile rating is 9, which indicates that a low proportion of its students come from low socio-economic communities. Priority for enrolment places at this School is given to students whose usual and permanent place of residence is within the Tawa Basin (the suburb of Tawa bounded on the north by the Wellington City boundary, and includes Linden, Greenacres, Central Tawa, Redwood, Grenada North, Takapu Valley and Willowbank/Middleton Road). Tawa College is adjacent to the existing SH1 corridor, and was used as a venue for a Project open day in October 2010.
- Mana College - a co-educational state secondary school on Awarua Street, Porirua, with a roll of 480 in 2010.

- Kapi-Mana School, located on Kenepuru Drive - a co-educational state secondary school, located on Kenepuru Drive, Porirua. Kapi-Mana is a special needs school, catering for students with disabilities aged five to 21 years, with a role of 56 in 2010.
- He Huarahi Tamariki is located on Matai Street, Linden, and is a Teen Parent Unit (TPU) – a school for teenage parents from the greater Wellington area (hosted by Wellington East Girls' College), providing a second chance at education for students unable to complete their formal education due to pregnancy or the birth of a child. The school also includes the Griffin 2 School, which is the early-childhood centre that caters for the children of the students.

There are also a number of early-childhood centres, including the Tui Park Kindergarten and the Te Iwi Kohanga Reo, which is a Maori immersion pre-school, in Linden. In Tawa is the Tawa Central Kindergarten, on Oxford Street, Beanstalk Kindergarten on Duncan Street and Brian Webb Kindergarten, on Victory Crescent.

Reserves and Recreation Areas

In Linden, Linden Park is located on Gee Street and contains hockey, cricket, and cricket artificial surfaces. Linden West Park, also located on Gee Street, contains hockey, cricket, and football facilities. Arthur Carman Park is located on Collins Avenue. This Park is a small open space area, which is also a dog exercise park between November and January only.

In Tawa, there are a number of parks, including Lyndhurst Park, located on Lyndhurst Road. This is home to the Tawa Rugby Club and clubrooms, and also contains a playground. Grasslees Reserve is located on Main Road, Tawa, and contains a playground and the Brian Webb Memorial Rose Garden. Redwood Park, located on Main Road, is 4.4 hectares and is home to the Tawa Softball Club and Tawa Soccer Club. Taylor Park, located on Tawa Terrace, is home to the Tawa-Lyndhurst Tennis Club and clubrooms. The North Wellington Badminton Association and its stadium is located on Tawa Street. Tawa is also home to the Tawa Mah Jong Club, which hosts the Wellington Mah Jong Tournament each June. The Tawa Swimming Pool is located on Davies Street and serves the surrounding communities. In the vicinity of the Swimming Pool is a skate park, and a children's playground area.

Porirua City is also well catered in terms of reserves and recreation areas. The Te Rauparaha Arena provides a range of facilities, including an aquatic centre, fitness centre, two gymnasiums, meeting room spaces, a dance studio and a theatre, and hosts expos, polytechnic graduations and various sports events. The Arena is located on Parumoana Street, Porirua Central, adjacent to the Pataka Museum of Arts and Cultures, the Porirua Library and the Porirua Skate Park.

There are a number of playgrounds including Tui Park, Kowhai Park, Mahoe Street Play Area and Wall Park in Linden; Coronation Park, Duncan Park, Grasslees Reserve, Larsen Park, Lyndhurst Park, Taylor Park, Victory Park, and Willowbank Reserve in Tawa; and Ernest Street and Gillies Place Playgrounds in Ranui Heights.

Community groups in Tawa have increasingly worked in partnership with the Council to take interest in and ownership of protecting Tawa's bush clad environment, waterways and community parks.

Travel Patterns and Community Linkages/Connections

The majority of residents within Community Area 5 travel to work by private vehicle. The Takapu CAU has the highest number of residents driving (67.3%) and the lowest number of residents taking public transport (6.1%). This is also reflected in the 50% of Takapu CAU residents that have access to at least two vehicles.

The Porirua City Profile (2008) shows a significant worker migration from Porirua into Wellington City (45%)¹³, with the remainder of residents predominantly filling jobs within Porirua City. Within Community Area 5, Porirua Central is the only CAU within PCC's jurisdiction. The Census data indicates that 35% of residents within this CAU drive to work, and 22.5% cycle, walk or jog - inferring that these residents live and work locally, in Porirua City.

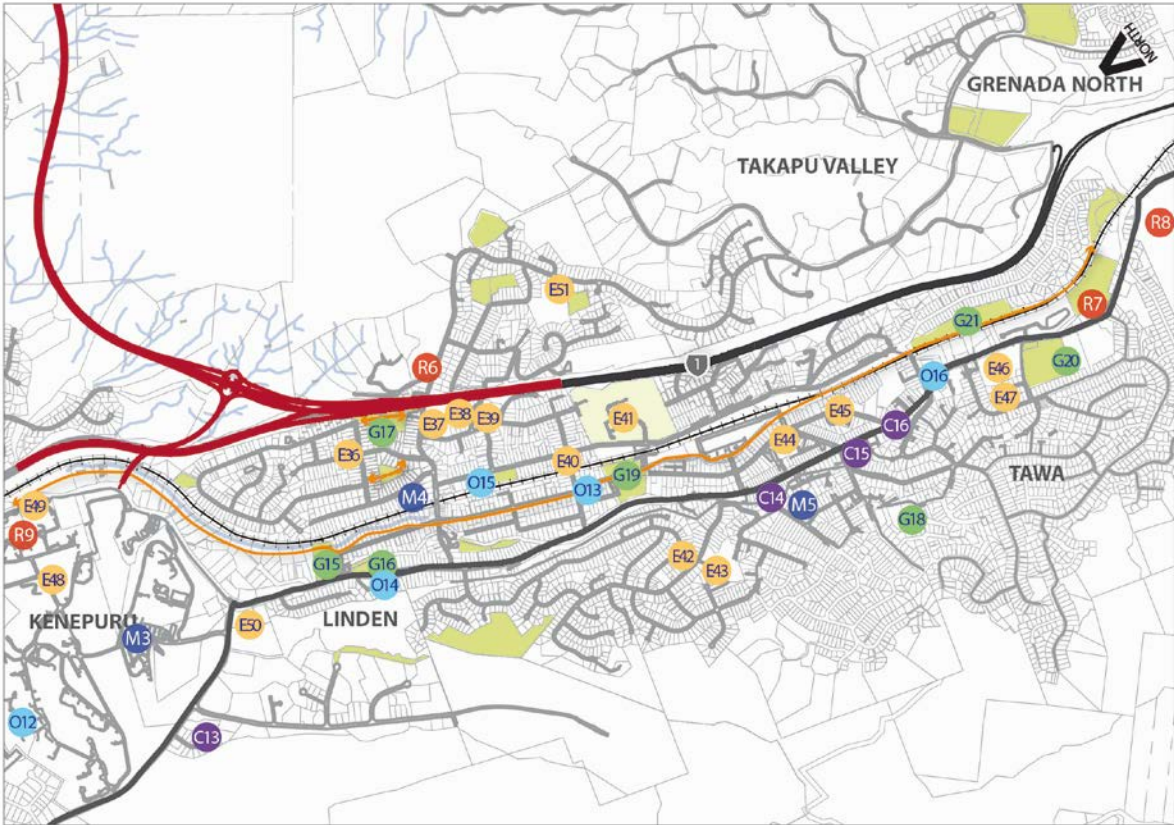
The remainder of the CAUs within this Community Area, namely Linden, Tawa Central, Greenacres and Takapu, are within WCC's jurisdiction. The majority of residents drove to work, but significant numbers used public transport for their journey to work; this was particularly high in Tawa Central, with 22.2% using public transport. There are park and ride facilities within Community Area 5, at Tawa, Redwood and Takapu Road Stations, to provide parking for workers travelling into Wellington City (on the Paraparaumu Line). There are also regular bus services from Porirua, through Tawa, and into Wellington.

There are a number of walkways that provide community linkages, such as the Porirua Stream Walkway (and proposed cycleway), which follows Porirua Stream from Willowbank Park, Tawa, to Kenepuru Railway Station, in Porirua. This walkway may be utilised by the 5.1% of residents in the Tawa Central CAU who indicated that they cycled, walked or jogged to work, and by the residents in this area who indicated that they travel to work by public transport (as an accessway to the Kenepuru Station).

In Linden, Arthur Carman Park provides pedestrian access between Collins Avenue and Mexted Terrace, and the Tui Park Playground provides pedestrian access between Coates Street and Mexted Terrace. These access ways may provide connections for students of both Linden School and He Huarahi Tamariki, which are both located in the area. Tawa Intermediate, Hampton Hill School, Redwood School and Greenacres School all operate a 'Walking School Bus' within this Community Area. This involves a group of volunteer parents following a designated route to school, at a set time, picking up students along the way. Also within this Community Area is access to the Colonial Knob Walkway, via Broken Hill Road, off Raiha Street, between Tawa and Porirua.

¹³ This figure is based on information from Census data (2001 and 2006).

Figure 17.8: Community Area 5 – Facilities



EDUCATIONAL FACILITIES

- E36 Tui Park Kindergarten
- E37 Linden School
- E38 He Huarahi Tamariki
- E39 Tawa Intermediate
- E40 Beanstalk Kindergarten
- E41 Tawa College
- E42 Brian Webb Kindergarten
- E43 Hampton Hill School
- E44 Tawa School
- E45 Tawa Central Kindergarten
- E46 St Francis Xavier School
- E47 Redwood School
- E48 Bishop Viard College
- E49 Kapi-Mana School
- E50 Wellington SDA School
- E51 Greenacres School

CHURCHES/ PLACES OF ASSEMBLY

- C13 Community Baptist Church
- C14 Tawa Baptist
- C15 St Peters Anglican Church
- C16 Our Lady of Fatima Catholic Church

OPEN SPACE

- G15 Linden Park
- G16 Linden West Park
- G17 Arthur Carman Park
- G18 Lyndhurst Park
- G19 Grassleas Reserve
- G20 Redwood Park
- G21 Taylor Park

RETAIL CLUSTERS

- R6 Linden shops
- R7 Dressmart Factory Outlet
- R8 Tawa Village
- R9 North City Shopping Centre & Porirua Mega Centre

MEDICAL

- M3 Porirua Hospital (Kenepuru Hospital)
- M4 Linden Surgery
- M5 Tawa Medical Centre

TRANSPORTATION LINKAGES

- Proposed alignment
- SH1
- +++++ NIMT Railway Line
- Pedestrian Linkages

OTHER

- O12 Te Rauparaha Arena
- O13 Tawa Swimming Pool
- O14 Linden Social Centre
- O15 Linden Scout Hall
- O16 Tawa North Wellington Badminton Stadium

6.7 Community Area 6 – Coastal Communities (Pukerua Bay, Plimmerton, Mana-Camborne, Paremata and Papakowhai)

6.7.1 Overview

Community Area 6 includes the coastal communities that fall within the wider study area, but are not directly adjacent to the Transmission Gully route; namely, Pukerua Bay, Plimmerton, Mana-Camborne, Paremata, and Papakowhai¹⁴. These communities may be indirectly affected as a result of the Project. Residential activity is the predominant land use, and SH1 severs a number of the coastal communities.

Central Plimmerton (on or near Steyne Avenue) has a retail centre that includes a branch of the Porirua Library, as well as medical services (including the Plimmerton Medical Centre, a psychotherapy centre, and Plunket rooms). The Plimmerton Volunteer Fire Brigade is located on Sunset Parade and has 21 volunteers and one fire vehicle. The Plimmerton Hall, which is available for venue hire, is the home of the Mana Little Theatre (amateur theatrical group), and the meetings of the Coastal Quilters quilting group. The Plimmerton Boating Club is also available for venue hire. For larger retail or specialist businesses, local residents travel to Mana or Paremata, which features a larger selection of retail, food outlets and a supermarket; or south into Porirua City. Mana has a Community Police Constable located within the Shoreline Plaza, on Mana Esplanade.

Pukerua Bay has retail facilities, a small branch of the Porirua Library, and a Returned Servicemen's Association (RSA), located on Wairaka Road. The Scout Hall is also available for venue hire.

There are several places of religious assembly, including St Theresa's Catholic Parish and a Baptist Church in Plimmerton; St Barnabas Presbyterian Church in Mana; St Marks at Pukerua Bay, and St Philips, located in Paremata.

Community

Community Area 6 is comprised of the Pukerua Bay, Plimmerton, Mana-Camborne, Paremata-Postgate and Papakowhai CAUs. The 2006 Census data outlines that Community Area 6 makes up 22% of the usually resident population, of the total study area. Population projections for Community Area 6 indicate that all the CAUs will have an increased population by 2031, with the exception of Plimmerton, which will experience a slight decrease (0.4%). Papakowhai is expected to experience the highest increase, with 72.3%. This projected population increase is reiterated by the PCC Development Framework, as Paremata, through to Mana and Camborne, is outlined as a potential urban growth and intensification area, due to its close proximity to community facilities, and easy access to transport links and the coast.

The most predominant ethnic group was European, followed by Maori and 'Other'. The most predominant language spoken in Community Area 6 is English, followed by 'Other'.

¹⁴ Titahi Bay is not considered within these coastal communities, due to its distance from SH1 and the study area.

The Deprivation Index states that the CAUs within Community Area 6 are rated either 1 (Mana-Camborne and Papakowhai) or 2 (Pukerua Bay, Plimmerton and Paremata-Postgate). This suggests that there are low levels of deprivation within Community Area 6, and lower than average for the study area as a whole (where the average is a rating of 4). The Census data reflects these ratings, with the median incomes in Community Area 6 ranging from \$67,000 to \$88,400. The majority of Community Area 6 residents own their own home, and are in full-time employment.

There are several active community groups including the Pukerua Bay Residents' Association, the Plimmerton Residents' Association and the Paremata Residents' Association. In 1996, several of these groups submitted on the existing designations. The Plimmerton Residents' Association submitted in support, as a means of relieving traffic congestion and to provide an alternative route in the event of a national disaster. The Paremata Residents' Association also submitted in support, but expressed concern over the long construction timeframes. With regard to the current Project (2010), the Plimmerton Residents Association is supportive of the Project on the same grounds as its previous submission.

The Pukerua Bay Residents Association, in association with PCC, drove the development of a Village Plan (2007), which involved a series of public meetings and extensive community consultation. Through the village planning work the community identified serious problems with traffic and pedestrian access in and out of the village across SH1. Therefore, areas for future action are in relation to neighbourhood accessibility, including the promotion of safe walking and biking and the promotion of public transport use within Pukerua Bay. The Plimmerton Residents Association, in association with PCC have also developed a Village Plan (2004), where the main priorities identified were reducing traffic speed and making Plimmerton Village more pedestrian friendly.

The Paremata Residents Association is in the early stages of village planning with a series of meetings currently being held to engage the community.

Educational Facilities

Schools within Community Area 6 include:

- Plimmerton School - a state primary school on School Road, Plimmerton, with a roll of 444 in 2010.
- St Theresa's School - a state integrated Roman Catholic primary school on James Street, Plimmerton, with a roll of 166 in 2010.
- Paremata School, located on Paremata Crescent, - a state primary school, with a roll of 365 in 2010.
- Papakowhai School - a state primary school on Spey Place, Papakowhai, with a roll of 292 in 2010.
- Pukerua Bay School - a state primary school on Rawhiti Road, Pukerua Bay, with a roll of 165 in 2010. The school is important to the local community, with the School Hall being used by local community groups for meetings and events, including the Pukerua Bay Line Dancing Club. The School's sports fields also host the Pukerua Bay Soccer Club, for junior players.
- Aotea College is a state secondary school on Okowai Road, Porirua, with a roll of 957 in 2010.

There are also a number of early childhood centres, including the Plimmerton Kindergarten, Sand Dunes Quality Early Learning Centre and the Plimmerton Community Crèche in Plimmerton; The

Paremata Playcentre, and Paremata Kindergarten in Paremata; and the Pukerua Bay Preschool and Kindergarten on Wairaka Road, Pukerua Bay.

Reserves and Recreation Areas

There are several beaches at Pukerua Bay and Plimmerton. These are suitable for swimmers, surfers and windsurfers from throughout the Region. Karehana Bay is also located at Plimmerton, providing a small beach suitable for swimming. These beaches also have heritage value for the local community, as they contain the remains of coastal defence bunkers from World War Two. Paremata Beach and Browns Bay, at Whitby, are also used for swimming. The Paremata Boating Club is located on the south side of the Harbour channel with a boat launching facility to the north.

Ngatittoa Domain is a substantial recreational asset for Porirua, located at the southern point of Mana, bordered by the Porirua Harbour channel, the Mana residential and commercial area, and the North Island Main Trunk Line (NIMT). The Reserve consists of over 16ha of land, used in a variety of organised and informal ways, providing open space areas for active sports activities, with the bulk of the ground available as playing fields. The Reserve is home to a number of recreational organisations, including; the Paremata Plimmerton Rugby Football Club, the Mana Squash Racquets Club, the Titahi Bay Canine Obedience Club, the Ngatittoa Tennis Club, the Paremata Plimmerton Netball Club, and the Mana Cricket Club. There is also a marina area, clubrooms (used for sea scouts), a hall (used for badminton), a coastal strip and an ecologically significant dune area. These all contribute to the recreational purposes of the Reserve. The Paremata Playcentre is also on Reserve land, as is the Lions Club children's playground, located next to the Playcentre. The Reserve also has heritage value, featuring the remains of early military barracks from the 1840s, and was home to both New Zealand and American troops for periods during World War Two.

Another important reserve for Porirua is the Aotea Lagoon, at Papakowhai. The Lagoon provides for fishing and canoeing, and there is also a playground, Pentaque court and extensive Rose gardens as part of the reserve. There are also venues within the Lagoon area available for hire. Gear Homestead, a historic home, is a popular venue for weddings and functions, and is located to the south of Papakowhai.

The Plimmerton Domain, which lies between SH1 and the NIMT, includes soccer fields and the Mana Archery Club. The Plimmerton Village Plan, which was prepared in association with the local community and PCC, outlines the perception that this is an under-utilised recreation asset for Plimmerton. There is strong community support to develop a pedestrian underpass, to increase access to the Domain and also to the Railway Station.

Pukerua Bay features a skate park, which was rebuilt in 2009 in a collaborative venture between PCC, the Residents Association, and the local skating community. The Park is adjacent to the Pukerua Bay Station, and replaces an old asphalt bowl, which anecdotal evidence suggests was New Zealand's first purpose-built skateboarding facility. The Pukerua Bay Tennis Club is located on Rawhiti Road. The Pukerua Bay Toy Library utilises the Tennis Clubrooms once a week. Greenmeadows Park in Pukerua Bay also provides an open space area and a soccer field.

Travel Patterns and Community Linkages/Connections

The existing SH1 route travels through a number of these coastal communities, with an estimated daily traffic volume of 32,600, at Mana Esplanade (modelled in 2006). Many of the communities along the existing SH1 route are separated by the State highway, causing segregation and presenting safety issues for residents. This is especially pertinent in Pukerua Bay and Mana, where the communities have expressed on-going concern over safety issues of SH1. This is reflected in the current consultation, where several comments from the open days were in support of an alternative State highway option to alleviate some of these concerns at Pukerua Bay.

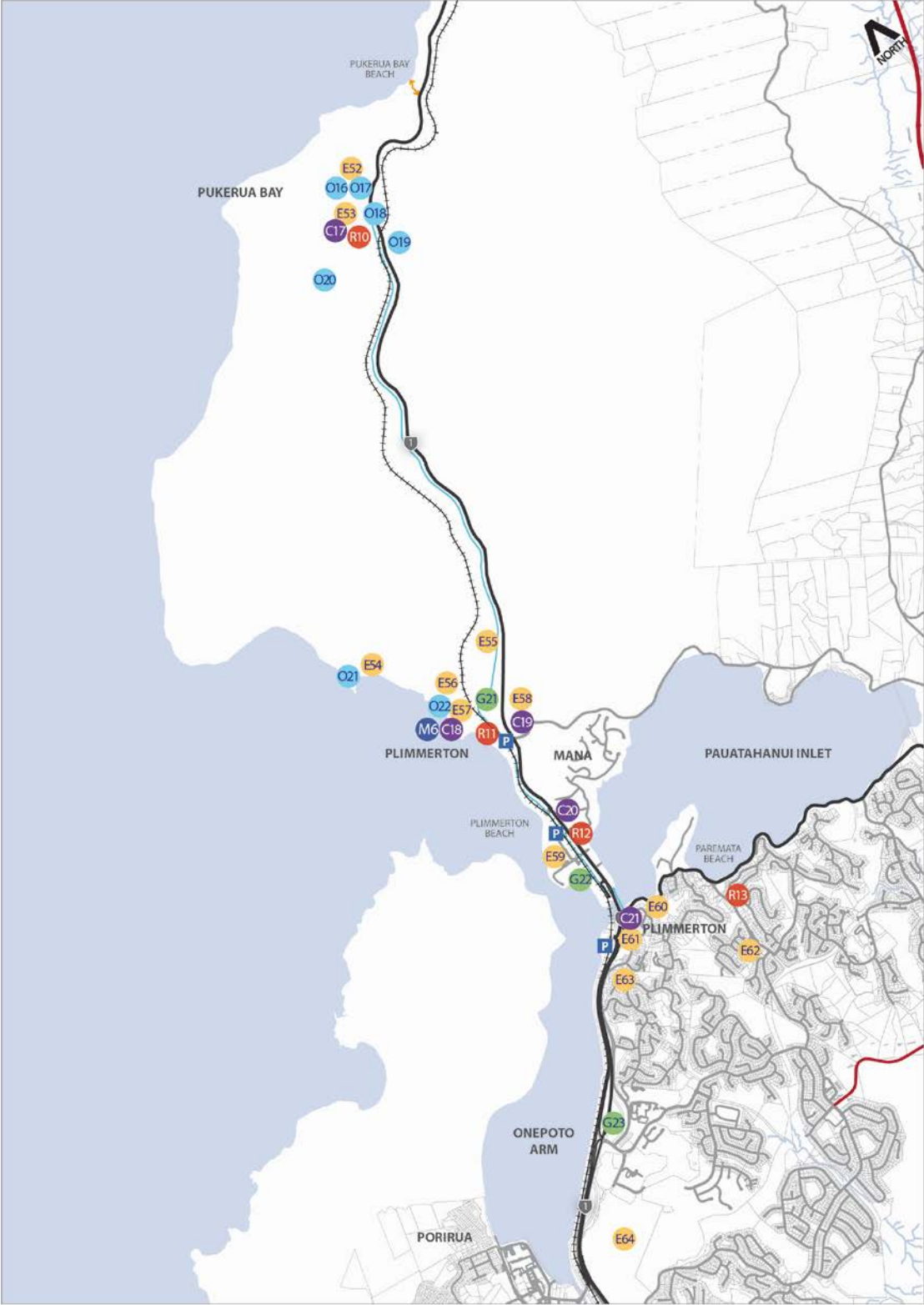
PCC has established that there is significant worker migration from Porirua into Wellington City (45%)¹⁵, with the remainder of residents predominantly filling jobs within Porirua City. The Census data outlines that for Community Area 6, the majority of residents drove or were driven to work, which reflects the data that shows that the majority of residents have access to at least one vehicle. Pukerua Bay had the highest proportion of residents in this Community Area who used public transport to travel to work (18.8%), and therefore may form a proportion of this worker migration into Wellington City.

There are no bus services within Community Area 6, and therefore the public transport use must be by Rail. This area is serviced by the Paraparaumu Line, with stations in Paremata, Mana, Plimmerton and Pukerua Bay. There is also park and ride facilities located at Paremata, Mana and Plimmerton, for those who wish to travel by car to the station, and into Porirua City, or Wellington City, by rail.

There are a number of walkways. In Pukerua Bay there is the Ara Harakeke - The Flax Pathway, which is an award winning cycleway and walkway linking Plimmerton and Pukerua Bay. This connection may also be utilised by residents who indicated that they cycle, walk or jog to work (7.5% of residents in the Papakowhai CAU and 2.9% in Plimmerton). Other walks include the Brendan Beach Walkway, which links the lookout above Centennial Highway to Brendan Beach, and the Papakowhai Walkways, which are a linking network of walkways through large tracts of manuka and young native bush within the Papakowhai area. Pukerua Bay and Papakowhai School both operate a 'Walking School Bus', along a designated route at a set time, picking up students for school.

¹⁵ This figure is based on information from Census data (2001 and 2006).

Figure 17.9: Community Area 6 – Facilities



EDUCATIONAL FACILITIES

- E52 Pukerua Bay Preschool and Kindergarten
- E53 Pukerua Bay School
- E54 Plimmerton Community Crèche
- E55 Sand Dunes Quality Early Learning Centre
- E56 Plimmerton School
- E57 Plimmerton Kindergarten
- E58 St Theresa's School
- E59 The Paremata Playcentre
- E60 Paremata Kindergarten
- E61 Paremata School
- E62 Postgate School
- E63 Papakowhai School
- E64 Aotea College

CHURCHES/ PLACES OF ASSEMBLY

- C17 St Marks
- C18 North Porirua Baptist Church
- C19 St Theresa's Catholic Parish
- C20 St Barnabas Presbyterian Church
- C21 St Philips

OPEN SPACE

- G21 The Plimmerton Domain
- G22 Ngatitua Domain
- G23 Aotea Lagoon

RETAIL CLUSTERS

- R10 Main Road, Pukerua Bay
- R11 Central Plimmerton
- R12 Shops on Mana Esplanade
- R13 Paremata shops

MEDICAL

- M6 Plimmerton Medical Centre

TRANSPORTATION LINKAGES

- Proposed alignment
- SH1
- NIMT Railway Line
- P Park and ride facilities
- Ara Harakeke – The Flax Pathway
- Brendan Beach Walkway (links the lookout above Centennial Highway to Brendan Beach)

OTHER

- O16 RSA
- O17 Scout Hall
- O18 Pukerua Bay Tennis Club
- O19 Pukerua Bay skate park, adjacent to the Pukerua Bay Station
- O20 Greenmeadows Park
- O21 The Plimmerton Boating Club
- O22 The Plimmerton Hall

7 Regional Social Impact Assessment

7.1 Introduction

This section contains an assessment of the regional social impacts of the Project identified in Section 5 of this report. The regional impacts are in relation to:

- Transport, accessibility and connectivity;
- Economic growth and development; and
- Healthy and sustainable communities.

The social impacts for each of these aspects are described below.

7.2 Transport, Accessibility and Connectivity

7.2.1 Overview

The Project is expected to deliver significant social and community benefits in respect of transportation, accessibility and connectivity. The key benefits include:

- Improved network security and reliability in the event of a significant natural event and/or the closure of the existing SH1 coastal route;
- Reduced travel distances and times, and improved safety across the region for users of both the Transmission Gully route and the existing SH1 route and many local roads; and
- Improved amenity and reduced community severance, particularly for communities along the existing SH1 route, and others (such as Pauatahanui) which will experience a large reduction in through traffic volumes.

At the regional level the Project is anticipated to result in significantly positive social benefits to the 0.5 million greater Wellington residents, in relation to transport, accessibility and connectivity.

Strategic Benefits

Stakeholder feedback has indicated a strong level of overall support for the Project, seeing it as a strategically important part of the regional transport network. The 2008 consultation on the preferred route showed that 'almost all' support respondents were resolute in the need for an alternative route to the existing Coastal route for traffic in and out of Wellington on the Western Corridor. The improved accessibility and strategic alternative to SH1 provided by the Project will assist in meeting regional community outcomes with respect to keeping the Greater Wellington Region's population safe from hazards, and will improve resilience of the State highway network in the event of emergency events. The Transmission Gully Project forms part of the transportation planning for the region, and is consistent with the Porirua Transportation Strategy.

Travel Times and Safety

With population growth in the Region, as forecasted by the 2006 Census population projections, there are expected to be more cars on roads irrespective of this Project. The Project will make

traffic flows more efficient and this will lead to less congestion, especially on the existing SH1 coastal route. Reduction in traffic on the Coastal Route will reduce travel times for vehicles using local streets and fewer cars on that route could significantly increase safety for pedestrians, cyclists and local motorists. The Porirua Link Roads will complement the Main Alignment in providing more efficient, safer and more reliable access between eastern Porirua communities and the Hutt Valley, Wellington City and Kapiti Coast.

Amenity and Severance

Communities along the existing SH1 corridor (i.e. in Community Area 6), experience existing noise, pollution from exhaust fumes, and vibration associated with high traffic volumes, as well as significant levels of severance. In areas such as Paekakariki, Pukerua Bay, Plimmerton, Mana and Paremata delays are experienced by vehicles or pedestrians wishing to cross or joining SH1 and safety is an issue for such movements, and conditions will deteriorate as the volume of through traffic grows in the area. The Project will redirect much of the SH1 traffic, which will enable better traffic outcomes in these areas as a result of less through traffic along SH1.

The Project will maintain local connectivity in terms of cycleways and walkways, and access through Regional Parks.

7.3 Economic Growth and Development

7.3.1 Overview

Economic benefits will arise from this Project, both from the construction phase, and from the on-going improvements to accessibility for people and freight across the region. The importance of the Project for future growth and development in the region has been acknowledged in various strategic and planning documents, and investment decisions made accordingly. Accessibility improvements can generate growth, and are also expected to assist the more disadvantaged community areas of the community with improved connectivity and mobility between suburbs enabling better opportunities to access a wider range of employment and living opportunities.

Construction Benefits

The Project is a major construction effort, and will involve the expenditure of approximately \$1 billion, with an average daily spend in the order of approximately \$650,000 over a six year construction period. It will involve approximately 250 dedicated workers and additional subcontractors, resulting in regional social benefits in terms of temporary employment opportunities in construction and engineering, and generating additional expenditure on goods and services from local businesses.

Accessibility Benefits

The Project has since its early planning days been recognised as providing significant economic benefits to the greater Wellington Region. Economic interests in the Wellington Region overwhelmingly support the urgent completion of the route, citing economic/efficiency benefits through travel time savings and productivity improvements. The consultation report prepared by

NZTA in 2008 states that *“Respondents here saw the building of Transmission Gully as the key to increased economic growth not only for the Wellington Region but also for the rest of New Zealand”*.

Land Use Changes and Growth

The Project is a component of the RoNS improvements planned for SH1 between Wellington Airport and north of Levin. As such, potential economic benefits associated with land use change are expected to occur. As well as regional and inter-regional accessibility, local accessibility will be improved by the Project - from access to the strategic road network with reduced use of local roads, specifically to Whitby and Eastern Porirua, to Kenepuru Hospital, Kenepuru commercial area and northern Tawa.

The designated route has been included, or acknowledged, in several planning documents in the Region (e.g. the RLTS, and the Economic Development Strategy). District Plan zoning, plan changes and resource consent applications for development have all recognised the existence of the designation and investment decisions have been made accordingly. The Porirua Development Framework acknowledged Transmission Gully for its role in facilitating regional growth and development. The Project is therefore considered an integral part of planning for the future development of the Wellington Region.

Mobility

There are also potential advantages to some more materially disadvantaged groups in the Region, particularly with improvements to improved vehicle (including public transport) connectivity between Eastern Porirua and the Wellington CBD, the Hutt Valley and the north. Notwithstanding the low levels of private car ownership in some of the Eastern Porirua communities, the Project, and Link Roads in particular, could create the opportunity for direct linkage and express public transport services between those communities and the Wellington CBD and the Hutt Valley. Such improved connectivity could improve opportunities for lower income workers who are more sensitive to travel costs for employment and living options to access a wider range of employment and living opportunities, within and across the Region.

7.4 Healthy and Sustainable Communities

7.4.1 Overview

Major transportation projects, such as the Transmission Gully Project, have the potential to impact on people's health, and the sustainability of communities can be affected by the Project in a number of ways, both positive and negative.

Potential impacts that may be considered 'health promoting' at a regional level include¹⁶:

- Enabling of access, in terms of access to employment, shops, recreation, social support, health services and countryside;
- Recreation and exercise; and
- Economic development.

Potential impacts that may be considered 'health damaging' at a regional level include:

- Road traffic injuries;
- Air pollution (particulates, carbon monoxide, hydrocarbons, lead);
- Severance of communities by road; and
- Constraints on mobility access and independence.

These are addressed below:

Access

During the construction phase, there is potential for temporary disruption of access to community facilities in the Project area; however this will be short-lived and will be addressed through effective monitoring and communication with affected regional communities (as documented in the CEMP).

Once operational, access to active modes of transport will not be adversely affected by the Project. The overall improvements to accessibility throughout the Region will maintain and potentially enhance access to places of employment, shops, social support, and health services. Accessibility to these community facilities will be enhanced by more efficient and safer traffic flows, which will not discourage pedestrian and cycling modes of transport.

Improvements to overall regional accessibility will improve the efficiency and effectiveness of civil defence and emergency response activities. This is considered, on a regional scale, to result in significant social benefits to people's wellbeing across the Region, with increased accessibility for responding to natural hazards and emergencies.

Recreation and Exercise

The Project will maintain vital community linkages including pedestrian and cycleways, property accesses, and linkages through Regional reserves and forest parks, to maintain and encourage further physical activity, recreation, access to facilities and social interaction. It is expected that opportunities may also exist for these existing tracks/parks to be enhanced by creating a new path that links QE to BHFFP to Belmont (as noted in Technical Report 23 Urban Design and Landscape Framework). There will be opportunities for some NZTA owned blocks of land in the area to be made available to GWRC, under the Public Works Act 1981. This land could then be used as Regional Park, in place of any land lost as a result of the Project.

¹⁶ Kavanagh et al. (2005). Urban area disadvantage and physical activity: a multilevel study in Melbourne, Australia. *Journal of Epidemiology and Community Health* (5) p. 934-940

Economic Development

The economic benefits of the Project are outlined in section 7.3 above.

Traffic Safety

The Project will lead to considerable improvements in terms of traffic safety on a regional scale, with substantial reductions in traffic along the SH1 coastal route, and on other local roads in the affected communities, and with modern engineering design being applied to the Main Alignment and interchanges. The Porirua Link Roads and the Kenepuru Link Road, in particular will change the traffic flows in the adjacent communities and the effects are addressed further in the local scale assessment in section 8 below.

Air Quality

The Main Alignment will facilitate free movement of vehicles, reducing the propensity for traffic congestion and vehicle fumes and free-flowing traffic will also result from the reduction in traffic on the coastal SH1 route, and on SH58. On a regional scale, the Project is expected to provide an overall improvement in air quality in adjacent communities, providing a social benefit particularly for the wellbeing of pedestrians and cyclists in these areas.

Community Severance

The Main Alignment has the advantage of routing traffic further from existing communities than the existing SH1 route. Rather than 'severing' communities, the Main Alignment has the beneficial effect of reducing the existing severance of communities along the coastal SH1 route (Community Area 6) by reducing the traffic volumes and avoiding (or delaying) the need for large scale roading improvements on SH1. This is addressed more fully in the local scale assessment in section 8, below.

Constraints on Mobility Access and Independence

As noted above, it is considered that on a regional level overall accessibility will be enhanced through the Region, and existing access to active transport modes, community facilities, and recreational facilities will not be constrained.

8 Local Social Impact Assessment

8.1 Introduction

This section contains an assessment of the key social impacts for the six Community Areas, identified in section 4 of this report. The social impacts are in relation to people's attitudes, expectations and aspirations; their wellbeing and way of life; and their cultural and community values, and are experienced at several phases of the Project:

- Pre-application and planning phase;
- Construction phase; and
- Operation phase.

The social impacts for each of these phases are described below. In addition, the social impacts and the impacted communities are summarised and described, in the succeeding tables.

8.2 Pre-application and Planning Phase

Attitudes, reactions and responses to the Project have varied across the local study areas, as can reasonably be expected with a project of this scale and level of contention. Key themes emerging include:

Desire for the Project to be Completed/Consultation Fatigue

Since the existing Transmission Gully designations were confirmed, the designations have been included in all the District Plans and several regional statutory documents, including the RLTS. Community expectations have changed over time from the initial uncertainty, to frustration at the lack of progress and continued uncertainty, to the point where there appears to now be a fair level of support for the Project to not only proceed, but to be completed promptly. The outcomes from consultation carried out by NZTA in 2008 as part of the SAR process established there was an overall support for a Transmission Gully route.

From the open days, expo, and stakeholder consultation conducted in October 2010, it is apparent that there is still overall support for the proposed alignment¹⁷. However, there is some opposition to the Project as a whole (e.g. questioning of whether transport funds should be spent on public transport rather than developing Wellington's road network was expressed consistently throughout consultation).

¹⁷ For example, 42 feedback forms were received from the open days and the expo. From these indicative responses, 43% were in support of the Project, 7% were in opposition and 50% did not state whether they supported or opposed the Project.

Uncertainty about the Location of the Link Roads

There has previously been some uncertainty, in the planning stages, regarding the location of the proposed Porirua Link Roads into Whitby (Community Area 3) and Waitangirua (Community Area 4), and the design of the Interchanges associated with these Link Roads and with the SH58 intersection. It is noted that an original proposal to locate a Link Road from Transmission Gully into Warspite Avenue, Cannons Creek has now been abandoned in favour of a new link directly into the Waitangirua Village shopping centre (also on Warspite Avenue).

Feedback was received by PCC as a result of its consultation on the Porirua Link Roads. Feedback on the Link Roads was also received as a result of the open days and Project expo. In general, there was very little opposition to the Link Roads¹⁸. It is noted that the developers of large blocks of residential land in these areas have been actively engaged in discussions on the Link Roads, to the point that these are well integrated into local development plans. The Link Roads will be essentially local access roads, at 50 km/h speed restrictions, and will have the ability for local access connections to service the adjacent blocks of land.

Future Development/PCC Vision

With regard to the future plans of communities, the Project is not considered to provide a barrier to achieving PCC's future vision for communities in Community Areas 4 and 5, including future housing intensification and growth of town centres, as set out in the PCC Development Framework. Further, the Project is considered to assist in meeting regional planning outcomes for growth management and intensification. The reduction in traffic on the existing SH1 will offer opportunities for urban redevelopment along that road. SH1's likely revocation and change of status to a local road may also offer opportunities for increased access from the road (which is currently access controlled), and hence better connections of communities in Community Area 6 such as between Mana-Camborne and Plimmerton.

The EPA/Board of Inquiry Process

In many cases with very large roading projects such as this, people's reaction to change can lead to feelings of stress and powerlessness. The Project has now had a considerable planning period, with the existing designation being confirmed through the statutory planning process approximately 8 years ago. In that time there has been extensive consultation and community engagement on the Project, liaison with affected property owners and acquisitions, and engagement with stakeholders on changes to the alignment and design.

For much of that time, and despite the designations having been confirmed, there has been a high level of media speculation, studies of alternative routes, and general uncertainty surrounding whether or not the Project will proceed. This is another key element which has created stress and worry for some people in the study area, having a feeling of 'life on hold' and a generally negative impact on people's overall wellbeing.

¹⁸ A total of 34 submissions were received with 22 of these received electronically through the website. Respondents were asked if they supported, opposed or "don't mind" the Link Roads design and preferred routes. Most of the submissions received "supported" (55%) or "don't mind" (23%) with 21% that opposed the proposal.

Feedback received during the most recent consultation (2010) indicates that the community is supportive of the Project being considered as nationally significant and making use of the EPA and Board of Inquiry process. The majority of residents who are in support of the Project would like to see the Main Alignment completed as soon as possible. No comments were received in opposition to the use of this process.

Property Requirements

The property acquisition process has been underway for several years and many of the affected properties have been purchased in that time. The provisions of the Public Works Act 1981 apply in these situations and any additional property requirements have been communicated and negotiated on a one-on-one basis.

Community Cohesion, Character, Structure and Stability

As previously discussed, property acquisition has been undertaken as part of this Project. However, the properties are large and effects are limited to individual properties, rather than multiple dwellings. However, it is noted that a short row of properties have been bought along Tremewan Street. As such, this has not resulted in any significant change in community composition in the Project area.

Beyond this, the main community impacts associated with the current planning phase relate to people's concern over the character of the surrounding communities, associated with the property acquisition requirements of the Project and in relation to the proposed Link Roads.

Despite the years of uncertainty surrounding the Project, this has not appeared to have impacted on the desirability of the wider Project area as a place to live, as evidenced by the level of population growth experienced from 1996 to 2001 (3.3%) and from 2001 to 2006 (2.9%) and notably subdivision has continued along Flighty's Road. It is also of interest that population growth has occurred in all of the areas that will be affected by the proposed Link Roads. Growth has occurred in the Whitby area (e.g. the Resolution CAU has experienced 21.4% growth from 2001-2006), and further residential development is occurring and, more planned, including alongside the proposed Link Road to James Cook Drive. Linden has also experienced growth albeit at a slightly lower rate. Waitangirua increased growth from 1996 to 2001, but then decreased slightly to 2006 (3.7%).

8.3 Construction Impacts

The main potential social impacts arising from construction activities are considered to relate to:

Construction noise and vibration effects;

- Air quality effects;
- Traffic and access effects; and
- Landscape and visual impacts.

The Project is acknowledged as a major construction task, both in terms of timeframe and scale of works involved. As such, anxiety about construction effects and disruption to the community are also potential adverse social effects arising from construction of the Project.

The CEMP and its subsidiary plans for traffic, noise/vibration, and air quality and will form part of the suite of consent and designation conditions, and the NZTA will require their contractors to perform to a high level in relation to managing stakeholder and community expectations. For the most part, communication is the key tool to manage effects – people can tolerate a fair degree of disruption if they are communicated with and kept informed on what to expect, when to expect it, and that it will finish when they are told it will finish. On-going communication also allows NZTA, PCC and the contractors to understand how the community feels and ascertain the most appropriate way to manage their concerns.

8.3.1 Construction Noise and Vibration

Day time noise will generally not affect residents beyond some nuisance/disturbance during particularly noisy works, although people who stay at home during the day (including those that work from home, are sick or who work night shifts) could be disproportionately affected by long periods of noisy works. During particularly noisy works, this may impact on people's enjoyment of outdoor living areas (or temporarily restrict their use in extreme cases). Good noise management is therefore essential to reducing these noise effects as far as practicable. The Census data indicates that 27.3% of the total study area was not in the labour force (and therefore may be engaged in full-time parenting, study, or retirement) and 4.3% of the total study area was unemployed, suggesting there are a number of residents who may stay at home during the day.

A detailed assessment of construction noise effects has been prepared in the Assessment of Acoustic Effects, Technical Report 12. This report sets out methods to control construction noise in specific locations, such as noise barriers. People and facilities that are particularly close to the route and construction sites have been consulted on a one-one-one basis and asked about their preferences for the type and method of noise management. This includes a number of private residences in Linden and Linden School (Community Area 5), and the Maraeroa Marae in Waitangirua (Community Area 4). Vibration effects on St Joseph's Church on SH58 (Community Area 3), specifically in relation to their 'glacier windows' have been addressed in Technical Report 12 and also in Technical Report 19 (Assessment of Built Heritage Values), which outline that monitoring will be required during construction to determine the effects on the Church.

8.3.2 Air Quality Impacts

Construction of the Project will entail large scale earthworks, and other activities such as contractor's yards, concrete batching and mobile rock crushing, all of which generate dust.

Dust can affect human health and be a nuisance to the surrounding public by causing dust deposits on and in houses, cars and washing, as well as domestic water supplies. Dust may impact on people's enjoyment of outdoor living areas and cause perceived or actual health impacts. Dust management measures are proposed as part of the CEMP, including procedures for responding to complaints. In addition, local health services could be kept informed, that is, they could advise the contractor's in the event of increased localised air quality related illnesses (such as asthma).

The Assessment of Air Quality Effects (Technical Report 13) assesses the potential effects of construction (dust and vehicle emissions) along key routes – and focuses on sensitive receptors in the community such as residential areas, schools, preschools and healthcare facilities. Technical Report 13 also includes assessment of air discharges from the concrete batching and rock crusher(s). The report concludes that the separation distances from the concrete batching plant in the contractor's yard at SH58 to residential activities meets the appropriate standard guideline (of 100 metres); and rock crushing activity will not take place within 500 metres of sensitive activities.

The Assessment of Air Quality Effects recommends that dust from construction activities and from rock crushing be managed through the construction air quality management plan (CAQMP). The primary management approach will be the suppression of dust at its source, which will ensure that potential effects are avoided. Specific monitoring stations are proposed at the sensitive receptors of Linden School (Community Area 5), and Maraeroa Marae (at Waitangirua – Community Area 4). Those recommendations are endorsed in this SIA.

Once the proposed dust monitoring and mitigation measures are put in place, dust management is not generally expected to be an issue. Overall, it is considered the social effects caused by emissions to air during the construction phases will be appropriately managed, given the proposed monitoring and mitigation measures.

8.3.3 Traffic and Access Impacts

During the construction phase some suburban and rural roads will also be used for construction-related traffic. This includes Paekakariki Hill Road (Community Area 2), Bradey Road (Community Area 3), and some streets in Ranui Heights (Community Area 4).

Some temporary disruption to access for community facilities, schools, health centres and regional parks, or on cycleways and pedestrian linkages may occur. However, the development and implementation of the Construction Traffic Management Plan (CTMP) and the availability of alternative public access points elsewhere, means that impacts on people's way of life will be appropriately managed.

Full details of traffic and access impacts are detailed in Technical Report 4 (Assessment of Traffic and Transportation Effects) and the CTMP, to be developed.

8.3.4 Recreation

Overall, access to Belmont and Battle Hill Regional Parks (and pedestrian and cycle linkages through the Parks) will be maintained in the long term (post-construction), but there will be some minor changes to the Parks during construction, in order to manage phasing of construction activities. For example, several of the existing tracks will be used for construction access, limiting public access at these points, including walking and cycling connections.

Horse riding has been identified through consultation as a popular recreational activity within Regional Parks, on private land and on local roads (such as Paekakariki Hill Road - Community Area 2). There may be some disruption to this activity during construction of the Project as a consequence of additional construction traffic on roads causing safety concerns, and from occupation of publicly owned land (i.e. Regional Parks). Similarly, construction of the Project has the potential to affect well-used regional cycle routes, including Kenepuru Drive and SH58.

There will be other effects on recreation as a result of the construction of the Project. For large scale earthworks projects that take place near water bodies, there is the potential for water based recreation to be affected, as people are less likely to swim, fish or participate in water sports if the water quality is affected, for example by sedimentation which could potentially result from the Project. It is acknowledged that these water bodies (streams and the Harbour) currently experience periods of increased sedimentation at times, for example after a heavy rainfall event. The Assessment of Water Quality Effects (Technical Report 15) outlines the measures that will be implemented to reduce any adverse effects on water quality during construction of the Project, which include erosion and sediment control. Technical Report 15 also outlines the measures that will be in place to ensure that no hazardous substances, for example petrol or oil, enter the water bodies.

8.3.5 Landscape and Visual Impacts

The main visual effects during the construction phases will arise from construction yards, partially completed roading elements, and concentrations of vehicles and machinery at the construction sites¹⁹. These elements will represent a significant change in the amenity and the 'look and feel' of neighbourhoods (including recreation areas, such as Lanes Flat – Community Area 3 - and the Regional Parks) for local residents (particularly for those who will have a view over construction sites), over a reasonably long duration. This may affect people's pride in neighbourhood, but as the visual effects of construction are temporary, it is not considered to have a significant impact on wellbeing or way of life overall. Some people, including children, will have a genuine interest in the construction work and activity in their neighbourhood and these people may consider that the visual impact of construction is not an adverse effect.

Full details of the landscape and visual effects are detailed in Technical Report 5 (Assessment of Landscape and Visual Effects).

¹⁹ Full details of landscape and visual impacts are detailed in the Assessment of Landscape and Visual Effects (Technical Report 5).

The Contaminated Land Assessment (Technical Report 16) identified several areas of land where contaminants of concern are present, which could pose a human health risk. The Porirua Gun Club was a site that was identified as having near-surface results above guideline values for lead and polycyclic aromatic hydrocarbons (PAH). Remedial work on the land will be required, particularly in the firing range areas. A Contaminated Soil Management Plan (CSMP) has been developed to address the management of material with contaminants present. The primary approach of the CSMP is as a framework for the development of particular contaminated soil control practices and procedures to minimise effects on human health and safety and to reduce impacts on the environment. Full details of contaminated land are detailed in the Contaminated Land Assessment (Technical Report 16).

8.3.6 Anxiety about Construction Effects

While it is expected that there will be a sense of relief amongst some people that construction of the Project has finally started (given the long duration of the designation and speculation and uncertainty about the Project over many years), this will be tempered by the fairly lengthy construction period overall, of some six years.

Attitudes to the Project may worsen upon the commencement of construction, due to:

- The introduction of construction nuisance and disruption; and
- The anticipation of effects that the completed Project may generate.

The lengthy construction duration is likely to cause some annoyance among those residents located adjacent to construction yards which will exist for most of the construction period. Construction of the road will be a moving front and so these effects will be temporary. For some residents, construction activity will conflict with expectations that the amenity of their living environment remains the same or similar to their current situation. Construction works can be socially disruptive and can represent an annoyance to surrounding residents and road users, depending on how well they are managed. Construction impacts from the main route are expected to be more pronounced in the areas adjacent to the most densely populated areas, and therefore have the potential to be the most socially disruptive. This is the case in Community Area 4, where the proposed Link Road is to be constructed into Waitangirua Village. Linden (Community Area 5) is also situated in the vicinity of both construction work and construction traffic.

The reality and experience of the NZTA and other infrastructure agencies in relation to the effects of large construction projects in local communities is that people can put up with a lot as long as they are told about it, know what to expect and have a pleasant and approachable person to talk to when there is a problem. This can be dealt with by a requirement in consent conditions and management plans. Conditions have been proposed that will allow flexibility for discussions to take place, to best suit the local communities and individuals most affected by the Project at the time of the works being undertaken.

The commencement of construction will also put an end to the uncertainty surrounding the Project during the long planning phase.

Disruption to the Community

There will be disruption to the community during the construction phase of the Project as a result of such matters as:

- Construction traffic;
- Noise; and
- Perception arising from large crews of construction workers in the area.

There are a number of community facilities in close proximity to the Project, and there may be some inconvenience during construction, particularly in relation to access for these facilities. This may be particularly the case at the Tokelau Church in Waitangirua (Community Area 4), St Joseph's Church on SH58 (Community Area 3), Belmont and Battle Hill Regional Parks, and at the Maraeroa Marae (Community Area 4).

The Maraeroa Marae is an important community facility in Waitangirua, which will be affected by the Project. The Link Road that enters Waitangirua will share a boundary with the Marae, creating noise and inconvenience to access, during construction. Members of the Marae also have concerns over parts of their land which may be affected by the Project, for example by noise walls on the property.

Linden is situated in the vicinity of both construction work and construction traffic, so will experience a large presence of construction workers. Construction traffic may cause some disruption to local facilities, such as Linden School and Tawa College, particularly in relation to noise and access.

As stated above, management of community expectations is expected to be successfully undertaken through a comprehensive communication program. The CEMP provides the appropriate mechanisms for on-going communication, as well as monitoring programs to keep in control of any effects arising from these activities. There are also options for flexibility around construction management. For example, the contractor can communicate with local facilities, such as churches and function centres, to discuss when they are holding services, weddings or functions and work through ways of mitigating the construction effects on these activities, such as not working on those days, or working elsewhere.

Population Turnover

The Census data outlines 'household mobility' (i.e. length of residence) within each of the study area CAU's, giving an insight into 'population turnover' occurring within different areas. The six year construction period may, therefore, see a changing resident population, as a result of 'natural' turnover, rather than as an effect of construction activity, causing disruption to the community.

For the CAU's in closest proximity to construction works, household mobility is outlined in the Census data as follows:

- In the Linden and Pauatahanui CAU's, the greatest proportion of residents had lived in the area for 1-4 years, indicating a relatively high 'natural' population turnover;
- In the Waitangirua CAU, the greatest proportion of residents had lived in the area for 10-29 years, indicating a relatively low 'natural' population turnover;

- In the Resolution CAU (in Whitby), the greatest proportion of residents had lived in the area for 5-9 years, indicating a moderate 'natural' population turnover.

Therefore, in a six-seven year construction period, the Linden, Pauatahanui and Resolution CAU's all may experience a 'natural' population turnover, rather than an uncharacteristic turnover resulting from disruptive construction effects.

Benefits to the Community

Potential benefits to the community can also arise during the construction period. Major construction projects around the country, including those undertaken by the NZTA, have often experienced a range of benefits to the community arising from the increased activity brought about by construction and new workers in an area, including:

- Patronage of local businesses – people buying their lunch and groceries, shopping locally for essential goods, making use of services in the area close to their workplace, and so forth;
- Commitments and contributions to local community activities on a case by case basis;
- Reduction in crime resulting from the presence of people and passive surveillance;
- Employment opportunities for local people; and
- Interest from the local community, including children, in the construction work and activity in their neighbourhood, which may present opportunities for educational programmes for schools, and opportunities for school visits.

There will be a daily influx of temporary construction workers (which could be in the order of 200-300 workers) during peak construction time. This may bring significant benefits, particularly in terms of increased spending at local businesses (especially food outlets), and passive surveillance that large groups of people provide, which can lead to a reduction in crime. However, small communities may struggle to accommodate the demand that is placed on its local facilities, as a result of the influx of construction workers.

A summary of construction themes and their actual or potential effects on the social environment is provided in the following table.

Table 17.1 Summary of construction themes and actual or potential effects on the social environment

Theme	Actual or Potential Construction Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
Noise and vibration	<p>Construction noise may impact on people's enjoyment of outdoor living areas (or temporarily restrict their use in extreme cases). People who stay at home during the day (including those that work from home, are sick or who work night shifts) could be affected by long periods of noisy works.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ A large proportion of the construction works, including a concrete batching plant, will be in the vicinity of the SH58 Interchange (Community Area 3). Residents in close proximity to this area, including residents from Pauatahanui and surrounding rural residential properties, such as those on Joseph Banks Drive, may be subjected to long periods of noisy works. ■ The Porirua Link Roads into Whitby (Community Area 3) and into Waitangirua (Community Area 4) are in very close proximity to residential areas. In Waitangirua, the Link Road is also in close proximity to community facilities, including schools, churches and the Marae, and therefore there is increased sensitivity in these communities to noise. ■ There will also be an effect on other parts of Eastern Porirua (Community Area 4), including construction traffic and associated noise in the streets of Ranui 	<ul style="list-style-type: none"> ■ Methods to control construction noise in specific locations (including residential properties and schools), such as noise walls, are outlined in the Assessment of Acoustic Effects (Technical Report 12) and the Construction Noise Management Plan. ■ Protocols in CEMP will include monitoring, reporting, consultation and communication, which will help manage effects and community engagement during construction process. ■ People who are particularly close to the route and construction sites will be consulted on a one-one-one basis and asked about their preferences for the type and method of noise management during construction. Noise barriers will be constructed early (as practicable) to mitigate construction noise. ■ Linden School will have a new noise barrier installed at the time of construction, and this will have benefits during construction and operation. ■ There is no SIA specific mitigation required for the noise and vibration effects, as it is adequately addressed by the mitigation measures outlined in Technical Report 12. ■ Storage areas and plant will be located to minimise effects 		✓	Localised

Theme	Actual or Potential Construction Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>Heights.</p> <ul style="list-style-type: none"> ■ The construction works in Linden (Community Area 5) are in very close proximity to residential areas, community facilities, including schools, and retail activity, and therefore there is increased sensitivity in this community to noise. ■ Residents in the vicinity of the existing SH1 coastal route (Community Area 6) may be aware of construction activity in adjacent areas; however, construction noise is not expected to have an effect on these communities. 				
Air quality	<p>Construction activities will entail large scale earthworks, and other activities such as contractor's yards, concrete batching, mobile rock crushing, bridge construction and excavations, which will all generate local dust.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ The main construction compound for the Project will be located near the SH58 Interchange (Community Area 3). This area is therefore a dust sensitive location. ■ The area around James Cook Drive (Whitby – Community Area 3) and Warspite Avenue (Waitangirua – Community Area 4), where construction of the Porirua Link Roads is proposed, is identified as a dust sensitive location, due to the surrounding residential areas. ■ Linden has also been identified as a dust sensitive location, as it is in the vicinity of 	<ul style="list-style-type: none"> ■ The Assessment of Air Quality Effects (Technical Report 13) assesses the potential effects of construction effects (dust and vehicle emissions) along key routes – and focuses on sensitive receptors in the community such as residential areas, schools, preschools and healthcare facilities. Dust from construction activities (including concrete batching and rock crushing) and its potential effects, such as on domestic water supplies, will be managed through the CAQMP. Once the proposed mitigation measures are put in place, dust management is not generally expected to be an issue. ■ The Assessment of Air Quality Effects also includes assessment of air discharges from the concrete batching and rock crusher(s). The report concludes that the separation distances from the concrete batching plant in the contractor's yard at SH58 to residential activities meets the appropriate standard 		✓	Local

Theme	Actual or Potential Construction Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	both construction work and construction traffic, and it has sensitive receptors in the community, such as residences, schools and preschools	<p>guideline (of 100 metres); and rock crushing activity will not take place within 500 metres of sensitive activities.</p> <ul style="list-style-type: none"> There is no SIA specific mitigation required for the air quality effects, as it is adequately addressed by the mitigation measures outlined in Technical Report 13. 			
Traffic and access	<p>Some suburban and rural roads will be used for construction-related traffic. There will be a marked increase in heavy vehicle numbers. This will have access implications for residents in the vicinity. Construction activities are likely to affect operating conditions on existing road networks.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> Some suburban and rural roads will be used, such as Paekakariki Hill Road (until an access is created off SH58) (Community Area 2). This construction traffic may affect residents on this road, and those who use this road as an alternative route into the Pauatahanui area, e.g. for residents of Paekakariki (Community Area 1). Construction activities may affect operating conditions on existing road networks at MacKays Crossing (Community Area 1). During the construction phase, SH58 (Community Area 3) will be used by much of the construction-related traffic associated with this Project. At the SH58 Interchange, site access points will be 	<ul style="list-style-type: none"> Consideration will be given to implementing road safety road improvements along Paekakariki Hill Road to enhance the movement of heavy vehicles. Improvements could include localised widening to facilitate the transport of long loads such as bridge beams, improved signage and road marking and temporary speed restrictions through Pauatahanui Village during working hours. Construction of bridge structures will be staged with traffic diverted over or around. The effects of using rural and suburban roads will be reduced by ensuring the traffic lanes be maintained during peak periods with lane and shoulder narrowing. Construction traffic routes and the way the traffic will be managed is not expected to result in significant effects on public access to community facilities, schools, health centres, and regional parks, or on cycleways and pedestrian linkages. Construction works which close the road will need to be carefully planned to ensure that alternating flow (stop / go) operations can be implemented without causing significant delays or alternative routes are available and have sufficient capacity to cater for diverted traffic. 		✓	Local

Theme	Actual or Potential Construction Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>installed providing access to the works and the site office as appropriate. Bradey Road will also be used for construction related traffic</p> <ul style="list-style-type: none"> Construction traffic may be noticeable in Eastern Porirua (Community Area 4), as suburban roads in Ranui Heights will be used, and as a result of the construction of the Link Road into Waitangirua. Construction traffic may be noticeable in Whitby (Community Area 3), as a result of the construction of the Link Road into the James Cook Drive/ Navigation Drive Intersection. Construction traffic may cause delays for vehicles and pedestrians in the vicinity of Kenepuru Drive (Community Area 5). 	<ul style="list-style-type: none"> At the connection to Kenepuru Drive, vehicle, pedestrian and cycle access will need to be maintained at all times – to individual properties, and to community facilities (such as schools). This may involve lane narrowing and construction of temporary footways and traffic lanes and property accesses as required. Speed restrictions will be put in place to improve safety for road users using the narrower lanes, which may lead to some reduction in capacity. Construction traffic routes and the way the traffic will be managed is not expected to result in significant effects on public access to community facilities, schools, health centres, and regional parks, or on cycleways and pedestrian linkages. Construction Traffic Management Plan will be implemented, as required. There is no SIA specific mitigation required for the traffic and access effects. 			
Recreation	<ul style="list-style-type: none"> Overall, access to Belmont and Battle Hill Regional Parks (and pedestrian and cycle linkages through the Parks) will be maintained in the long term (post-construction), but there will be some minor changes to the Parks during construction, in order to manage phasing of construction activities. For example, several of the existing tracks will be used for construction access, limiting public access at these points, including walking and cycling connections. 	<ul style="list-style-type: none"> Construction Traffic Management Plan will be implemented, as required, recognising that horse riders are present on local roads such as Paekakariki Hill Road. At the connection to Kenepuru Drive, vehicle, pedestrian and cycle access will need to be maintained at all times – to individual properties, and to community facilities (such as schools). This may involve lane narrowing and construction of temporary footways and traffic lanes and property accesses as 		✓	Local

	<ul style="list-style-type: none"> ■ There may be some disruption to horse riding during construction of the Project resulting from additional construction traffic on roads causing safety concerns, and from occupation of publicly owned land (i.e. Regional Parks). ■ Construction of the Project has the potential to affect well-used regional cycle routes, including Kenepuru Drive, SH58 and SH1 at MacKays Crossing. ■ Water based recreation may be affected, as people are less likely to swim, fish or participate in water sports if the water quality of streams and/ or the Harbour is affected, for example by sedimentation which could potentially result from the construction of the Project. 	<p>required.</p> <ul style="list-style-type: none"> ■ The Assessment of Water Quality Effects (Technical Report 15) outlines the measures that will need to be implemented to reduce the adverse effects on water quality, which include erosion and sediment control. ■ There is no SIA specific mitigation required for the effects on recreation. 			
Landscape and visual	<p>The main visual effects during the construction phases will arise from construction yards, earthworks, partially completed roading elements, and concentrations of vehicles and machinery at the construction sites. These elements will represent a significant change in the amenity and the 'look and feel' of neighbourhoods for local residents, over a reasonably long duration. This may affect people's pride in neighbourhood but is considered to have little overall impact on wellbeing or way of life overall.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ Particularly those with a view of the main construction hub in Pauatahanui, and surrounding rural residential properties (Community Area 3). 	<ul style="list-style-type: none"> ■ Visual effects will be temporary (until completion of construction). ■ Implementation of measures outlined in the urban design and landscape framework and the Assessment of Landscape and Visual Effects as appropriate at completion of Project. ■ A Contaminated Soil Management Plan (CSMP) has been developed to address the management of material with contaminants present. Full details of contaminated land are detailed in the Contaminated Land Assessment (Technical Report 16). ■ There is no SIA specific mitigation required for the landscape and visual effects, as it is adequately addressed by the mitigation measures outlined in Technical Report 5. 	✓	✓	Local

	<ul style="list-style-type: none"> Other areas will also have views of construction activity, including Linden (Community Area 5), and in the vicinity of the Porirua Link Roads (Whitby in Community Area 3 and Waitangirua in Community Area 4). <p>The contaminated land assessment (Technical Report 16) identified several areas of land where contaminants of concern are present, which could pose a human health risk. The Porirua Gun Club was a site that was identified as having near-surface results above guideline values for lead and polycyclic aromatic hydrocarbons (PAH).</p>				
Anxiety	<p>The relief that the Project has started (given the long duration of the designation and years of speculation and uncertainty) is tempered by the lengthy construction period.</p> <p>The construction duration is likely to cause some annoyance among those residents located adjacent to construction areas, and for road-users.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> Much of the construction work for the Project will be based within Community Area 3 (in the vicinity of the SH58 roundabout) including contractor's yards, concrete batching, and mobile rock crushing. Construction impacts from the main route are expected to be more pronounced in the areas adjacent to the most densely populated areas, and therefore have the 	<ul style="list-style-type: none"> Communication with affected people. The CEMP includes mechanisms for communication with the general public and affected people. The reality and experience of the NZTA and other infrastructure agencies in relation to the effects of large construction projects in local communities is that people can tolerate adverse effects provided they are kept informed and their concerns are taken account of and have a pleasant and approachable person to talk to when there is a problem. This can be dealt with by implementing the CEMP and by conditions on the designation and management plans There is no SIA specific mitigation required for the anxiety effects, as it is adequately addressed by the measures outlined in the CEMP. 		✓	Local

	<p>potential to be the most socially disruptive. This is the case in Community Area 4, where the proposed Link Road is to be constructed into Waitangirua Village. Linden (Community Area 5) is also situated in the vicinity of both construction work and construction traffic.</p>				
<p>Disruption to the community</p>	<p>A change to people's way of life and the overall community dynamic as a result of construction traffic; noise; and perception arising from large crews of workers present in the areas. There may be some inconvenience during construction, particularly in relation to access.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ The main construction compound for the Project will be located within Community Area 3, including contractor's yards. This will result in traffic and noise and the surrounding areas, such as Pauatahanui, will experience the presence of a large number of construction workers ■ There are a number of places of assembly close to the Waitangirua Link road (Community Area 4) including the Maraeroa Marae and the Tokelau Church. The close proximity of these places of assembly to the proposed Waitangirua Link Road may result in some inconvenience during construction, particularly in relation to access. ■ Linden is situated in the vicinity of both construction work and construction traffic, so will experience a large presence of construction workers. Construction traffic may cause some disruptions to local 	<ul style="list-style-type: none"> ■ Management of community expectations is successfully undertaken through a comprehensive communication program. ■ The CEMP provides the appropriate mechanisms for on-going communication, as well as monitoring programs to keep in control of any effects arising from these activities. ■ Implement Construction Traffic Management Plan, as required, for disruption to communities (such as access disruption) due to construction traffic. ■ Appropriate measures will be undertaken to address the construction and longer-term impacts on these facilities, including some options for flexibility around construction management. ■ Maintenance of access to schools, churches and other facilities. ■ There is no SIA specific mitigation required for the disruption to the community, as it is adequately addressed by the measures outlined in the CEMP and the Construction Traffic Management Plan. 		✓	Local, Regional

	<p>facilities, such as Linden School and Tawa College, particularly in relation to noise and access.</p> <ul style="list-style-type: none"> Residents in Community Area 6 will be aware of construction activity in the adjacent areas, such as construction traffic; however, this activity is not expected to disrupt community activity in this area. 				
Benefits to the Community	<p>There will be a daily influx of temporary construction workers (which could be in the order of 200-300 workers for the Project as a whole) during peak construction time. This may bring significant benefits, particularly in terms of increased spending at local businesses, and increased participation in community life (e.g. schools, clubs, sporting activities). Small communities may struggle to accommodate the demand that is placed on its local facilities, as a result of the influx of construction workers.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> As much of the construction work for the Project will be located within Community Area 3, Pauatahanui may benefit from an increased population, including spending at local businesses and increased passive surveillance. In Eastern Porirua (Community Area 4), Waitangirua and Cannons Creek both may benefit from this influx of workers, for local businesses and shopping centres near work sites, and as passive surveillance to reduce crime. Linden and surrounding areas, such as 	<ul style="list-style-type: none"> No mitigation required. 	✓		Local, Regional

	<p>Tawa (Community Area 5) may also benefit from an influx of workers, for local businesses, and as passive surveillance.</p> <ul style="list-style-type: none"> ■ In Community Area 6, construction workers may frequent local businesses along the existing State highway (such as in Mana and Paremata). ■ Other small community centres, such as Paekakariki (Community Area 1) may also benefit from this influx of construction workers, as they may shop in the village, or find accommodation there. 				
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8.4 Operational Impacts

There are a number of operational consequences of the Project (including unintended consequences) that may impact on people's wellbeing and way of life, as discussed below.

8.4.1 Noise and Vibration

All properties near the Main Alignment and those that are considered to be sensitive receptors – including schools, residential properties, care centres, churches – have been assessed against the New Zealand Standard 6806:2010 Acoustics: Road Traffic Noise. This is a new standard specifically written to manage road traffic noise. The Transmission Gully Project is the first NZTA project in Wellington to be assessed against the new standard. At the Interchanges there will be an increase in road-traffic noise levels, but these remain within the criteria set by NZ Standard 6806.

Heavy vehicles on roads can generate vibration that travels through the ground to nearby houses. Typically this is normally well below limits set to avoid structural damage to houses or cosmetic damage such as cracking plaster and paintwork and vibration levels reduce as vibration travels further away from a road. A detailed assessment of road-traffic vibration has been conducted in the Assessment of Acoustic Effects (Technical Report 12), which includes measurements of vibration from the existing SH1 in Linden, and has found that beyond approximately seven metres from the road any vibration noticed would be at an acceptable level. It is noted there are no houses within seven metres of the proposed road.

As a new road, the Project will cause a noticeable change in noise amenity in some locations, which can in turn affect people's wellbeing. This will be managed through a variety of methods, including noise barriers and planted bunds (mounds). A new noise barrier will be installed at Linden School (Community Area 5) at the time of construction, and this will provide noise mitigation both during construction and operation. Maraeroa Marae in Waitangirua (Community Area 4) will also have a noise wall installed. Technical Report 12 outlines the mitigation measures to be implemented for the adverse effects of noise and vibration.

It should be noted that a large proportion of the Main Alignment will traverse areas in which there are no residential areas, such as the 'Rural Communities' in the vicinity of Maungakotukutuku and Paekakariki Hill (Community Area 2), and therefore people's wellbeing is not expected to be impacted in these areas. Additionally, some residents will experience a reduction in traffic noise in their neighbourhoods (such as those in the Coastal Communities, e.g. Pukerua Bay), which can be seen as a positive effects of the operation of the Project.

8.4.2 Air Quality

Vehicle emissions and the potential adverse health impacts associated with these emissions are a potential impact relating to the operation phase, especially in relation to people's wellbeing. Traffic volumes are predicted to increase at several locations, including Kenepuru Drive (Community Area 5) and SH58 east of the Main Alignment (Community Area 3), and in areas surrounding the Porirua Link Roads (Community Areas 3 and 4), once the Project is operational. However, Technical Report 13 (Assessment of Air Quality Effects) states that the vehicle emissions from these vehicles will still fall within the New Zealand guidelines for air quality requirements, and no mitigation is recommended. Technical Report 13 provides further details around these vehicle emissions.

A key benefit of the Project is the removal of traffic from local roads and the existing SH1 route, which is prone to congestion at commuter and holiday peak periods, to the alternative Project route. The result is a more efficient movement of traffic, and hence less congestion. Therefore, whilst there will be increased traffic volumes at several locations, the traffic will generally be moving unimpeded, thereby reducing the rate of vehicle emissions.

8.4.3 Amenity

The completed Project will represent a significant change in the amenity of the area for local residents, with potential adverse noise and visual effects, particularly for those with a view of the Main Alignment, and the Porirua Link Roads (Whitby - Community Area 3 and Waitangirua – Community Area 4).

There will be an effect on amenity at Belmont Regional Park (Community Area 4) due to the introduction of the Main Alignment, particularly within the Duck Creek Valley. There will also be an adverse effect on amenity at Battle Hill Farm Forest Park (Community Area 2) within the Horokiri Stream Valley, where at present this Valley has a remote and quiet character, which will be fundamentally changed by the proposed road. The Main Alignment will also separate the most heavily used part of the Park from the trails in the pine forest on the opposite side of Horokiri Stream. There will be an effect on amenity at Mahoe Park and Arthur Carman Park in Linden (Community Area 5), once the Project is operational. However, both these parks are currently affected by the existing SH1.

Planting will be incorporated as a mitigation measure for affected visual outlook. For example, central areas and road margins will be planted with low growing species and taller trees and shrubs will be introduced as a view shaft for the existing houses and to frame views along the road corridor. At St Joseph's Church (Community Area 3), planting on the western boundary of the Church has been offered, to screen the SH58 Interchange from view within the Church grounds. Planting measures are outlined in the Assessment of Landscape and Visual Effects (Technical Report 5).

Noise barriers will be incorporated for increased noise effects. The details of these barriers are outlined in Technical Report 12 (Assessment of Acoustic Effects).

8.4.4 Connectivity and Movement

Generally, the Project will reduce travel distances and generate accessibility and connectivity improvements in the community areas within the Project Area, which is considered to result in positive social impacts to people's patterns of daily living. It is noted that a large number of residents within the Project area own at least one vehicle (36.2%) and that the majority of residents journey to work by car (60.6%). These residents will enjoy improved accessibility benefits from proximity to the Main Alignment. Increased accessibility and reduced travel times are also a positive effect for emergency service providers, responding to emergencies locally, or within the wider Region.

Improved accessibility to the new State highway network will benefit people's pattern of daily living by improving connectivity and reducing travel times to other areas in Wellington, including places of work, community facilities and facilities of regional importance such as Wellington International Airport. The Project will improve accessibility to St Joseph's Church on SH58 (Community Area 3), and will increase access opportunities to Belmont Regional Park (Community Area 4). The Project

may have the potential to provide further opportunities for redevelopment of businesses in areas where they may not have previously been so viable, as a result of increased traffic flow (e.g. at Waitangirua).

While there has been some comment from residents in Paekakariki (Community Area 1) who feel they may be disadvantaged by limited access points on to the Main Alignment, there will be an overall net benefit to people's access to the State highway network. For example, Paekakariki residents will have to travel north to enter the State highway network once the Project is operational; however, the reduced traffic along the existing SH1, particularly at the entry point into Paekakariki (SH1/Beach Road Intersection) is a positive operational effect of the Project, in terms of road safety and ease of accessibility.

There will be loss of pedestrian connectivity and reduced safety of the regional cycle network around the SH58 Interchange (Community Area 3), and also on Warspite Avenue, in Waitangirua (Community Area 4). However, there will be reinstated or alternative cycling and walking tracks in some areas and a signalised junction with pedestrian phase at Warspite Avenue junction with the Porirua Link Road. These measures are outlined in the Urban and Landscape Design Framework (Report 23) and the Assessment of Traffic and Transportation Effects (Technical Report 4).

A significant impact for the coastal communities (Community Area 6) is the overall reduction in traffic as well as reduced severance. In this instance, 'severance' is used to describe the effects of roads and traffic that physically separate a community. Roads and traffic can affect social interaction and accessibility, particularly when the roads are wide and there is a high volume of traffic, travelling at speed. Significant roads, such as SH1 in this instance, also have few crossing points for pedestrians and cyclists, and it is also difficult for local traffic to enter the road network. Communities may feel cut-off by the physical presence of the road and there may be perceptions of danger associated with living near a busy arterial.

Currently, several of the communities along SH1, particularly at Mana and at Pukerua Bay, experience east-west severance as a result of the State Highway. The Project will provide an alternative route to the existing SH1 and, as a result, the existing SH1 is expected to have reduced traffic volumes. A less busy road, with fewer vehicles, reduces its severance effects.

The reduced severance of the existing SH1 will increase access opportunities to private residences that are accessed off SH1, as well as to community facilities including retail and medical centres, and to churches. This is especially pertinent in the Mana area, which has a number of retail stores and takeaway outlets accessed directly off SH1. Pukerua Bay will also benefit from a reduction in traffic, as residents have stated that crossing SH1 presents a number of safety and mobility issues for residents and is the major contributing factor to community severance, posing both a real and perceived barrier. Reduced severance is also expected to improve the amenity of those communities and provide opportunities for the potential enhancement of the urban environment.

8.4.5 Safety

Improvements to the overall transportation network will bring about significant improvements to road safety, particularly along the existing SH1 route which will have a positive impact in relation to the health/wellbeing of local residents (as well as road users from elsewhere in the Region). Some sections of the existing SH1 between Linden and MacKays Crossing have unusually high crash severity. The Project is expected to significantly improve the road safety performance than that of

the existing SH1, by providing improved modern design standards. The Project will feature safety improvements, such as a continuous median barrier separation for northbound and southbound traffic and grade separated intersections. The overall effect will be improved road safety for road users and for the communities along the existing SH1.

The Porirua Link Roads will introduce increased traffic volumes into Whitby and Waitangirua. This has the potential to decrease road safety for people within these areas. Road traffic injuries represent the most apparent, and one of the most significant, effects of transport on health. Motor vehicle crashes are well documented and are responsible for a considerable proportion of morbidity, disability and mortality in New Zealand. As previously noted, Regional Public Health commented that statistics for Maori and Pacific drivers indicate they have a higher risk of injury per distance driven than other drivers and that the traffic crash mortality rate for the lowest socio-economic group is more than twice as high as the highest one. This is especially pertinent for the community of Waitangirua (Community Area 4), which is where one of the Porirua Link Roads will feed traffic into the local road network from the Main Alignment. The Census data shows that the predominant ethnic group in Waitangirua is Pacific Island (68.8%), followed by Maori (23%). Waitangirua is also a low socio-economic neighbourhood, which is demonstrated by its deprivation rating of ten on the Deprivation Index, indicating that it has very high levels of deprivation. Recommendations for traffic calming have been made in Technical Report 23 (Urban Design and Landscape Framework) for the design of the Link Road, where it connects into Waitangirua, to include measures for reducing driver speed on entry into the local road network.

Regional Public Health also commented that consideration must be given to mental health and wellbeing, and specifically suicide prevention, when changes are proposed to the physical environment. Reducing access to means of attempting and completing suicide is an effective method in reducing rates of suicide. There is local and international evidence that demonstrates that constructing barriers in suicide 'hotspots', such as road bridges, reduces the number of attempts. There are 29 bridges proposed for the Project, which represents a number of structures that could potentially be used as 'jumping' points (although not all of these will be accessible to the public). Regional Public Health has recommended that the bridges that are accessible to the public be designed to include safety barriers, to reduce the likelihood of suicide attempts.

The NZ Police commented that the incidence of crime is often reduced when areas are well lit at night time and have increased traffic volumes. As such, this is a potential positive effect resulting from the operational phase of the Project, especially in areas that did not previously have high traffic numbers, such as in Waitangirua. As above, increased accessibility and reduced travel times are also a positive effect for emergency service providers, responding to emergencies locally, or within the wider Region.

8.4.6 Route Security

SH1 between Linden and MacKays Crossing is vulnerable to several threats which collectively reduce the security of the route. These include large earthquakes, tsunami and high rainfall events, (which cause flooding and road traffic crashes). The Project will improve the security of SH1 and the security of the Region's road network by providing increased resilience to natural hazards and by providing an alternative route to the current SH1.

The result of this is a reduced road closure period (as compared with closures anticipated on the existing SH in a like for like event) in the event that the Main Alignment is affected by any of these threats, providing a positive effect for people's wellbeing. This is because reduced road closure

periods allow for more rapid response by emergency vehicles and improved access to regional hospital facilities following a major natural disaster. The Project will also provide improved access to key electricity transmission, gas and water infrastructure following such an event, and improved access for emergency service providers. The availability of alternative routes will allow traffic to be diverted, rather than stopped, in the event of a road closure on one of the routes. These measures will positively impact on people's confidence in the transport network and their general wellbeing.

8.4.7 Local Character

Impacts in relation to people's expectations of neighbourhood character vary between community areas, and according to people's individual expectations. For example, at MacKays Crossing and Linden (these being the connection points at each end of the Main Alignment) the operational 'reality' of the State Highway is not expected to differ greatly from the existing environment, as the existing SH1 transportation corridor is a long-established feature. However, it should also be acknowledged that in other areas impacts on people's actual living environment will be permanently changed. For the rural section of the Project (i.e. in the vicinity of Paekakariki Hill - Community Area 2) there will be a significant change to the landscape caused by the new road structures and associated traffic, although given the rural nature and lack of community infrastructure in the area, significant impacts on services and facilities are not anticipated in this area.

Varying in extent between Community Areas, the Project will result in a permanent alteration to local character, including:

- For the MacKays segment of the Project (Community Area 1) and for the Linden community area (Community Area 5), this change in character will generally be a minor increase to existing effects experienced by residents who are already in an environment dominated by a busy arterial State Highway; and
- In Eastern Porirua (Community Area 4) and in Tawa/ Linden (Community Area 5), the Main Alignment roading structures will generally be located at the extremity of communities and will begin to form a new definable urban edge. The Link Roads will introduce a change of character to these community areas particularly in terms of new structures and increased volumes of traffic and consequent increased sense of activity. Some residential areas will experience a change in local character because they will overlook the new road.

As outlined in section 8.4.4 above (connectivity and movement), there will also be a reduction in severance on the existing SH1, which increases accessibility and safety. Reduced severance can also improve the amenity and local character of communities, providing opportunities for the potential enhancement of the urban environment.

While attention is needed with respect to specific design of intersections, pedestrian facilities, walkways and cycleway connections, in general, it is expected there will not be significant adverse impacts resulting from the Project on local communities.

Population growth

There will be reduced severance for communities along the existing SH1 route (Community Area 6), such as Pukerua Bay, Mana and Paremata, which increases accessibility and safety. Reduced severance can also improve the amenity of communities, providing opportunities for the potential enhancement of the urban environment, and potentially encouraging population and economic

growth. This is an important aspiration that has been outlined within the Village Plans developed within this Community Area, particularly in Pukerua Bay. Paekakariki may also experience population growth, as it will no longer be accessed directly off the State Highway, potentially providing a safer and more attractive environment to prospective residents.

Census data can be used to determine whether the Project has the potential to enable or constrain growth in certain areas. The 2006 Census projects that population increases are anticipated in Community Area 6 (Coastal Communities) - with the exception of Plimmerton - to 2031. This is in line with the prediction that reduced severance will increase accessibility and safety and therefore the desirability of an area and so growth may be enabled in these areas, as a result of the Project.

In the other Community Areas, there is particularly significant population growth anticipated in the Maungakotukutuku (Community Area 2) CAU. Conversely, there are projected population decreases for the Cannons Creek South, Cannons Creek East, Waitangirua and Ascot Park CAU's (all within Community Area 4). The Proposed Link Road into Waitangirua will service Community Area 4, which will increase accessibility and connectivity, so growth may be enabled for this community and the predicted population decreases may not prove to be accurate, once the Project is operational.

Growth may be constrained in some areas, for example for those areas in close proximity to the Main Alignment. However, communities in close proximity, such as Linden, are already living in an environment dominated by a busy arterial State Highway, and therefore the Project should not constrain further growth for this area. The Linden CAU is projected to have a population increase of 6.5% to 2031.

8.4.8 Recreation Opportunities

There will be both positive and adverse effects on both formal and informal recreational facilities and parks, as a result of both the construction and the operation of the Project. These include effects on:

- Regional Parks;
- Water based recreation;
- Porirua Gun Club;
- Pauatahanui Golf Course;
- Horse riding trails;
- Lanes Flat; and
- Regional cycling routes.

Regional Parks

The Main Alignment will enter BHFFP, but is separated from the most heavily used parts of the Park (the Park headquarters, Ken Gray Education Centre, adjacent picnic areas, horse riding paddocks and most of the Park's six trails), by 'Gas Line Ridge'. The main affected trail will be the 'Transmission Gully – Puketiro Loop' which will be bisected by the Main Alignment.

Overall, access to Belmont and Battle Hill Regional Parks (and pedestrian and cycle linkages through the Parks) will be maintained or improved. Whilst the route necessarily removes parts of these reserves, the key points are:

- Pedestrian and cycle linkages will be maintained upon completion of the Project;
- In Belmont Regional Park (Community Area 4) there are two spur trails from the main ridge to Duck Creek, from where there are two connecting trails to Cannons Creek Lake Reserve in Waitangirua. Physical access will be maintained along the existing trail alignments by making use of bridges in order to pass under the Main Alignment;
- a construction of a new track as part of the Project, to be made available for recreational users, linking existing tracks at Mount Wainui and BHFFP through to QE Park; and
- At BHFFP (Community Area 2), the Project has been anticipated for some time and the Park development appears to have taken it into account by avoiding trails and facilities in this area. The connection to the pine forest trails will be maintained by means of underpasses. From within the pine plantation the road will be screened, although users will still be aware of its presence, if only from traffic noise.

It is also expected that there will be opportunities for some NZTA owned blocks of land to be made available for exchange with the Wellington Regional Council, under the Public Works Act 1981. This land could then be used as Regional Park, in place of any land lost as a result of the Project. There may also be opportunities for establishment of further recreational facilities.

Water based recreation

Water based recreation may be affected as a result of the Project, as people are less likely to swim, fish or participate in water sports if the water quality of streams and/ or the Harbour is affected. There may be some disruption to this activity during construction of the Project (as discussed previously), however, it is not anticipated that these effects on water based recreation will continue to be adversely affected once the Project is operational. The Assessment of Water Quality Effects (Technical Report 15) outlines the measures that will need to be implemented to reduce the adverse effects on water quality. In addition, Technical Report 15 also outlines that the applicable standards for water quality for contact recreation can be met, once the Project is operational.

Porirua Gun Club

There will be provision made for the relocation of the Porirua Gun Club (Community Area 4), which is impacted by the Main Alignment, to a new location, in consultation with various parties including the Club, landowners and the relevant Councils.

Pauatahanui Golf Course

The Project requires the acquisition of land on which two golf holes are located. Parts of the Pauatahanui Golf course will therefore need to be rearranged, in consultation with the club, so that it will be able to continue to operate once the Project is operational. The proposed designation boundary has been drawn to incorporate neighbouring land to accommodate the rearrangement of these golf holes (along with other construction related activities). The works will be done in consultation with the golf club in order that the works can be staged to accommodate continued use as far as practicable.

Horse riding trails

Horse riding has been identified during consultation as a popular recreational activity within Regional Parks, on private land and on local roads, and it is understood that Paekakariki Hill Road is well used. There may be some disruption to this activity during construction of the Project, however, it is not anticipated that these effects on horse riding activities will continue to be adversely affected once the Project is operational.

Lanes Flat

The Proposal involves the construction of a new wetland habitat in the Lanes Flat area. This area will be constructed for stormwater management, ecological enhancement and visual amenity reasons – all related to the mitigation of other effects related to the construction of the Project. This area will also incorporate walking trails and a recreational cycle track leading alongside the stream and underneath the alignment. The underpass will be constructed both to allow pedestrian and cycle access, and to allow passage of the stream underneath.

Regional cycling routes

These include:

- Kenepuru Drive; and
- State Highway 58.

Both construction and operation of the Project have the potential to have adverse effects on these well-used regional cycle routes.

A summary of operational themes and their actual or potential effects on the social environment is provided in the following table.

Table 17.2 Summary of operational themes and actual or potential effects on the social environment

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
Noise and vibration	<p>As a new road, the Transmission Gully Project will cause a noticeable change in amenity in some locations, and increased noise and vibration can affect surrounding communities, facilities and schools. Heavy vehicles on roads can generate vibration that travels through the ground to nearby houses.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ Linden School (Community Area 5) is located alongside the existing SH1 and the proposed Main Alignment, and as such will experience on-going impacts from the operation of the road. ■ Other schools and community facilities (including retail activity) in close vicinity to the Main Alignment, and also the Porirua Link Roads (e.g. the Maraeroa Marae in Waitangirua), may experience on-going noise impacts from the operation of the Project. ■ Residential areas overlooking the route (e.g. Ranui Heights) are susceptible to noise effects. ■ Residents in the vicinity of the existing SH1 (e.g. in Pukerua Bay, Community Area 6) will have reduced traffic noise 	<ul style="list-style-type: none"> ■ A detailed assessment of road-traffic vibration has been conducted (refer Technical Report 12), which includes measurements of vibration from the existing SH1 in Linden, and has been found that beyond approximately seven metres from the road any vibration noticed would be at an acceptable level. There are no houses within seven metres of the Main Alignment. ■ Noise barriers/fences as appropriate, as identified in Technical Report 12. A new noise barrier will be installed at Linden School at the time of construction, and this will provide noise mitigation both during construction and operation. Maraeroa Marae in Waitangirua will also have a noise wall installed. ■ There is no SIA specific mitigation required for the noise and vibration effects, as it is adequately addressed by the mitigation measures outlined in Technical Report 12. 	✓	✓	Local, Regional
Air quality	<p>Vehicle emissions and the potential adverse health impacts associated with these emissions.</p>	<ul style="list-style-type: none"> ■ Design the Main Alignment to maximise the efficient running of vehicles. ■ Measures outlined in the Assessment of Air 	✓	✓	Local, Regional

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>Affected communities:</p> <ul style="list-style-type: none"> ■ Vehicle emissions and the potential adverse health impacts associated with these emissions will be most significant in these areas where Link Roads bring traffic near residential areas and community facilities, e.g. in Waitangirua (Community Area 4). ■ Increased traffic will result from the proposed Porirua Link Roads, particularly at Waitangirua (with an estimated 3,000 vehicles per day), as this traffic is diverted from other routes. ■ Traffic volumes are also predicted to increase at Kenepuru Drive, at SH1 south of Linden and at SH58 east of the Main Alignment. Traffic volumes are predicted to decrease to the west of the Main Alignment and on Paekakariki Hill Road. ■ There will be reductions in traffic on the SH1 coastal route, which will have positive effects for those communities, through an overall improvement in air quality. 	<p>Quality Effects (Technical Report 13).</p> <ul style="list-style-type: none"> ■ There is no SIA specific mitigation required for the air quality effects, Technical Report 13. concludes that [complete] 			
Amenity	<p>The completed Project will represent a significant change in the amenity of neighbourhoods for local residents and to some recreation areas.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ This change in amenity will be particularly pertinent for those with a 	<ul style="list-style-type: none"> ■ Planting will be incorporated as a mitigation measure for affected visual outlook. ■ Central areas and road margins will be planted with low growing species and taller trees and shrubs will be introduced as a view shaft for the existing houses and to frame views along the road corridor. ■ Planting measures are outlined in the 	✓	✓	Local

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>view of, or close to, the Main Alignment, such as near the SH58 Interchange (Community Area 3), and the Link Roads (Whitby - Community Area 3 and Waitangirua – Community Area 4).</p> <ul style="list-style-type: none"> There will be an effect on amenity at Belmont Regional Park (Community Area 4), particularly within the Duck Creek Valley, and on amenity at Battle Hill Farm Forest Park (Community Area 2), within the Horokiri Stream Valley. These areas have a remote and quiet character, which will be fundamentally changed by the Project. There will be an effect on amenity at Mahoe Park and Arthur Carman Park in Linden (Community Area 5). There will be a change in amenity for residents in the coastal communities (Community Area 6), as there will be fewer vehicles (Including trucks) travelling on the existing SH1. 	<p>Assessment of Landscape and Visual Effects (Technical Report 5).</p> <ul style="list-style-type: none"> In the vicinity of SH58, there will be an extension of the existing kanuka belt to mitigate adverse visual effects for properties adjoining the Main Alignment. Noise barriers/fences as appropriate, as identified in Technical Report 12 (Assessment of Acoustic Effects). There is no SIA specific mitigation required for the effects on amenity, as it is adequately addressed by the mitigation measures outlined in Technical Reports 5 and 12. 			
Connectivity and movement	<p>Overall, the Project will reduce travel distances and generate accessibility and connectivity improvements in the local study area.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> Residents of Paekakariki indicated that it would become more difficult for them to enter the State highway network once the Project is operational; however the reduced traffic along the existing SH1, particularly at the entry point into 	<ul style="list-style-type: none"> Maintain and improve opportunities for cycling and walking, including an east-west connection at the SH58 Interchange across the Main Alignment. New cycleways and footpaths in Linden, Improved opportunities for cycling and walking at Kenepuru Drive (refer urban design and landscape framework). There will be no permanent disruption to pedestrian connectivity as a result of the Project. 	✓		Local, Regional

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>Paekakariki (Beach Road Intersection), is a positive operational effect in terms of road safety and ease of accessibility.</p> <ul style="list-style-type: none"> Improved accessibility to the State highway network via the Porirua Link Roads (Community Areas 3 and 4) and Interchanges at SH58 and James Cook (Community Area 3) and at Kenepuru (Community Area 5). The overall reduction in traffic in the coastal communities (Community Area 6), and increased access opportunities from the existing SH1, is expected to enhance the amenity of those communities and provide opportunities for urban enhancement. There will be some loss of pedestrian and cycle connectivity around the SH58 Interchange (Community Area 3), and on Warspite Avenue in Waitangirua (Community Area 4). 	<ul style="list-style-type: none"> There is no SIA specific mitigation required for the effects on connectivity and movement. 			
Safety	<p>Improvements to the overall transportation network will bring about significant improvements to road safety. Some sections of the existing SH1 between Linden and MacKays Crossing have unusually high crash severity.</p> <p>Road traffic injuries represent the most apparent, and one of the most significant, effects of transport on health.</p> <p>Suicide attempts from road structures are also a potential safety issue of concern.</p>	<ul style="list-style-type: none"> The Project is expected to significantly improve the road safety performance of the SH1, by providing an improved vertical and horizontal alignment and safety improvements. The overall effect will be improved road safety for road users and for the communities along the existing SH1. Recommendations have been made for the design of the Link Road, where it connects into Waitangirua, to include landscaping and traffic calming measures, including a dedicated pedestrian phase at a signalised intersection, to reduce driver speed as they enter the local 	✓	✓	Local, Regional

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>Affected communities:</p> <ul style="list-style-type: none"> ■ The incidence of crime is often reduced when areas are well lit and have increased traffic volumes. This is a positive effect, especially in areas that did not previously have high traffic numbers, such as in Waitangirua (Community Area 4). ■ Increased traffic volumes on the Link Roads in Whitby (Community Area 3) and Waitangirua (Community Area 4), and on Kenepuru Drive (Community Area 5) have the potential to decrease road safety for people in these areas. 	<p>road network.</p> <ul style="list-style-type: none"> ■ Publicly accessible bridges should include safety barriers, to reduce the likelihood of suicide attempts. ■ There is no SIA specific mitigation required. 			
Route security	<p>SH1 between Linden and MacKays Crossing is vulnerable to several threats which collectively reduce the security of the route, including large earthquakes, high rainfall events causing flooding, tsunami, and road traffic crashes.</p>	<ul style="list-style-type: none"> ■ The Project will improve the security of SH1 and the security of the Region's road network by providing increased resilience to natural hazards and by providing an alternative route to the current SH1. ■ There is no SIA specific mitigation required. 	✓		Local, Regional
Local character	<p>People's expectations of neighbourhood character will vary between community areas and according to people's individual expectations. In some instances, impacts on people's living environments will be permanently changed.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ For the MacKays segment of the Project (Community Area 1) and for Linden (Community Area 5) the change in character will be minor, as the environment is already dominated by a 	<ul style="list-style-type: none"> ■ Landscaping and planting measures to reduce the visual effects of large road structures (as outlined in Technical Report 5). ■ Maintain and reinstate walkways and access to reserves and recreational facilities and will seek to provide new and alternative public access through currently private land connecting QE Park, Akatarawa Forest and the Regional Parks. ■ Maintenance of existing linkages through the community area. ■ Whilst additional traffic will be introduced into residential communities at Waitangirua, this 	✓	✓	Local

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>busy State highway.</p> <ul style="list-style-type: none"> ■ For the rural section of the Project (Community Area 2) there will be a significant change to the landscape caused by the new road structures and associated traffic. However, there are limited residential areas in Community Area 2 and the greatest change to character may be experienced by visitors such as recreational users. ■ In Eastern Porirua (Community Area 4) and in Whitby (Community Area 3) the Link Roads will introduce a change of character, especially due to new structures and increased traffic volumes. ■ The completed Project may increase the sense of severance between Pauatahanui and land to the West developed as lifestyle properties, and at Flighty's Road. ■ The removal of dwellings in local streets which are currently located adjacent to the road will result in a new set of residents experiencing a frontage to the road and an increased acknowledgement of the visual presence of the road ■ For residents of Paekakariki (Community Area 1), there will be reduced traffic on the existing SH1, increasing the ease of access into the township. There will also be reduced severance for communities along the 	<p>should be seen in conjunction with PCC's planned improvements to the urban environment at the Waitangirua Park, the potential for rejuvenation and redevelopment of urban land in the north-east quadrant, and also the planned redevelopment of HNZA land in the area.</p> <ul style="list-style-type: none"> ■ It is expected that the Link Roads in particular may provide further opportunities for redevelopment of businesses in areas where they may not have previously been so viable (e.g. at Waitangirua – Community Area 4). ■ Noise barriers and other mitigation measures outlined in technical reports and in the Urban Design and Landscape Framework report will provide for minimal change to the overall character of much of this area. ■ Urban enhancement programs may be expected to be initiated by respective councils and community groups flowing on from reduced traffic on SH1 and in local streets. ■ There is no SIA specific mitigation required for the effects on amenity, as it is adequately addressed by the mitigation measures outlined in other Technical Reports (e.g. Technical Report 12, Assessment of Acoustic Effects). 			

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	existing SH1 route (Community Area 6), such as Pukerua Bay, Mana and Paremata. This is an important aspiration that has been outlined within the Village Plans developed within this Community Area (particularly in Pukerua Bay).				
Recreation opportunities	<p>There will be effects on recreation as a result of the operation of the Project.</p> <p>Affected communities:</p> <ul style="list-style-type: none"> ■ The Project will require acquisition of land from Belmont Regional Park (Community Area 4) and Battle Hill Farm Forest Park (Community Area 2) ■ The Porirua Gun Club (Community Area 4) will be relocated as a result of the Project ■ The Project requires the acquisition of land at the Pauatahanui Golf Course (Community Area 2), on which two golf holes are located. Parts of the Golf Course will therefore need to be rearranged. ■ Both construction and operation of the Project have the potential to have adverse effects on well-used regional cycle route (at Kenepuru Drive [Community Area 5], SH58 [Community Area 3] and SH1 at MacKays Crossing [Community Area 1]). ■ People are less likely to swim fish or participate in water sports if the water quality of streams and/ or the Harbour is 	<ul style="list-style-type: none"> ■ Traffic Management Plan for pedestrians and cyclists within the Regional Parks with a focus on making linkages clear ■ Application of CPTED principles for underpasses and bridges to encourage safe and useable facilities. ■ Stormwater treatment will be undertaken for the project as a whole, which will address the water quality effects ■ Communications Plans for the Porirua Gun Club (with a clear methodology for negotiation of the replacement facilities) and for the Pauatahanui Golf Course (a clear methodology for negotiation of the staged replacement of golf holes so that the course can continue to be used as far as practicable) ■ Traffic Management Plan to be prepared recognising that horse riders are present on local roads such as Paekakariki Hill Road, and a focus on making linkages clear ■ Detailed design and Kenepuru Drive tie-in to accommodate the regional cycle route. ■ The Proposal involves the construction of a new wetland habitat in the Lanes Flat area. This area will be constructed for stormwater management, ecological enhancement and 	✓	✓	Local, Regional

Theme	Actual or Potential Operational Effect	Mitigation	Positive	Adverse	Local or Regional level effect(s)
	<p>affected, for example by increased sedimentation resulting from the Project. There is not expected to be an adverse effect resulting from the Project, once it is operational.</p> <ul style="list-style-type: none"> ■ Horse riding on is a popular recreational activity within Regional Parks, on private land and on local roads (e.g. Paekakariki Hill Road – Community Area 4). There may be some disruption to this activity during construction resulting from additional construction traffic on roads, but this is not anticipated to be an adverse effect, once the Project is operational. 	<p>visual amenity reasons – all related to the mitigation of other effects related to the construction of the Project. This area will also incorporate walking trails and a recreational cycle track leading alongside the stream and underneath the alignment. The underpass will be constructed using CPTED principles to allow both pedestrian and cycle access, and to allow passage of the stream underneath.</p> <ul style="list-style-type: none"> ■ It is expected that there may be opportunities for some NZTA owned blocks of land to be made available to the Wellington Regional Council, for inclusion within their Regional Park network. ■ There is no SIA specific mitigation required for the effects on recreation, as it is adequately addressed by the mitigation measures outlined in other Technical Reports (including Technical Report 5, Assessment of Landscape and Visual Effects). 			

8.5 Monitoring

As previously discussed, social impacts are often the 'human' experiences of other effects, and appropriate mitigation for and management of these effects are discussed in the SIA as well as in other assessment reports. In many instances, these assessment reports have also recommended that on-going monitoring is undertaken, to ensure that any effects of the Project are appropriately managed. This recommendation for the on-going monitoring of effects is endorsed by this SIA, especially when there is the potential for local communities to be affected. As such, to avoid the 'double-counting' of monitoring activities, it is considered that the monitoring recommended in other technical reports (including those that relate to actual and potential effects on people) will also adequately and appropriately manage social effects.

It is acknowledged that the impacts of the Project, especially from construction (noise, dust etc), will be noticeable for the local communities in which the Project will interface. Open on-going communication will be undertaken to ensure that the community is informed about what is happening in their neighbourhood. This will cater for expected concerns, but will also be capable of addressing concerns that were not anticipated during the pre-lodgement assessments.

On-going open communication is provided for within the CEMP and in conditions. It is therefore recommended that a condition that provides for open communication in relation to the hours that construction work will take place will determine the most appropriate construction work timeframes for particular areas. That is, discussion with residents in close proximity to construction activity may highlight a preference for longer daily construction hours over fewer days, or for fewer daily construction hours over longer periods of time.

In response to this issue, conditions have been proposed that will allow flexibility for these discussions to take place, to best suit the local communities and individuals most affected by the Project at the time of the works being undertaken.

The CEMP includes the following mechanisms to communicate with the general public:

- Website;
- A free-phone contact number;
- Mail Drops;
- Brochures and Billboards;
- Establishment of a Community Reference Group (CRG);
- Distribution of an E-Newsletter; and
- Media Coverage.

A Communications Register will be also kept for the Project, electronically. All enquiries and complaints will be logged. Responses to the questions will be tracked and closed out within an agreed timeframe between the respondent and the NZTA.

Appendix 17A

Statutory and Strategic Context

This appendix sets out the documents and strategies considered relevant for the SIA, including:

- National context;
- Regional context;
- District context; and
- NZTA strategic context.

1. National Context

Resource Management Act

The Resource Management Act 1991 (RMA) requires the decision making process to include consideration of the actual and potential effects of activities on the environment. The RMA definition of the environment in Section 2 includes (emphases added):

- (a) *Ecosystems and their constituent parts, **including people and communities**;*
- (b) *All natural and physical resources; and*
- (c) *Amenity values; and*
- (d) ***The social, economic, aesthetic, and cultural conditions** which affect the matters stated ion paragraphs (a) to (c) of this definition or which are affected by those matters.*

This definition is central to define the social impacts with respect to the environment.

Other sections of the RMA are also integral to an assessment of social effects, as follows:

- Section 3 of the RMA outlines the meaning of 'effect', which is directly relevant to the context of this social effects assessment:

"In this Act, unless the context otherwise requires, the term effect includes—

- (a) *any positive or adverse effect; and*
- (b) *any temporary or permanent effect; and*
- (c) *any past, present, or future effect; and*
- (d) *any cumulative effect which arises over time or in combination with other effects— regardless of the scale, intensity, duration, or frequency of the effect, and also includes—*
- (e) *any potential effect of high probability; and*

(f) any potential effect of low probability which has a high potential impact”.

- Section 5 of the RMA defines the purpose of the RMA: *to promote the sustainable management of natural and physical resources. Sustainable management means (emphasis added) “managing the use, development, and protection of natural and physical resources in a way, or at a rate, which **enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while:***

Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;

Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

Avoiding, remedying, or mitigating any adverse effects on the environment”.

- Section 7(c) of the RMA states that (emphasis added) *“all persons exercising functions and powers under the Act... shall have particular regard to... the maintenance and enhancement of **amenity values**”.*
- Section 168(3) of the RMA, which relates to NoR, requires the NZTA, amongst other things, to *“consider the effects on the environment of allowing the requirement...”*
- Schedule 4(2) of the RMA states that any person preparing an assessment of the effects on the environment should consider the following matters (emphasis added):

*“Any effect on those in the neighbourhood and, where relevant, the wider community **including any socio-economic and cultural effects**”.*

Local Government Act

The Local Government Act 2002 (LGA) provides a purpose and framework for local government, whilst promoting accountability to the public and promoting a sustainable development approach. The purpose of the LGA is set out in section 10, that being (emphasis added):

- (a) To enable democratic local decision-making and action by, and on behalf of, communities; and*
- (b) To promote the **social, economic, environmental, and cultural well-being of communities**, in the present and for the future.*

Under Part 6 of the LGA, Council is required to undertake long-term planning with its community, in the form of identifying community outcomes and preparing a Long Term

Council Community Plan (LTCCP). Community outcomes are detailed within the LTCCP and set a vision and direction for the social, cultural, economic and environmental wellbeing of the community.

New Zealand Transport Strategy 2008

The New Zealand Transport Strategy (NZTS) sets out a vision that *“by 2010 New Zealand will have an affordable, integrated, safe, responsible, and sustainable transport system”*. The objectives of the NZTS are to:

- Assist economic development
- Assist safety and personal security
- Improve access and mobility
- Protect and promote public health; and
- Environmental sustainability

The NZTS has a number of targets with which the ARLTS must align its strategic objectives. Of relevance to the SIA, these include:

- Increase the area of Crown transport land covered with indigenous vegetation;
- For identified critical routes, improve reliability of journey times and reduce average journey times;
- Reduce road deaths to no more than 200 per annum by 2040;
- Reduce serious injuries on roads to no more than 1,500 per annum by 2040;
- Increase use of public transport to seven percent of all trips by 2040 (i.e. from 111 million boardings in 2006/7u to more than 525 million boardings in 2040);
- Increase walking, cycling and other active modes to 30 percent of total trips in urban areas by 2040;
- Reduce the number of people exposed to health-endangering noise levels from transport; and
- Reduce the number of people exposed to health-endangering concentrations of air pollution in locations where the impact of transport emissions is significant.

2. Regional Context

Regional Policy Statement for the Wellington Region 1995

The Regional Policy Statement for the Wellington Region 1995 (RPS) sets out how to sustainably manage the region's natural and physical resources, and prescribes a broad policy framework for regional and district plans within the Wellington Region. Of particular relevance to the Transmission Gully Project are the following:

- The nature and rate of development, and of growth, meets the needs of people, but takes place in a sustainable manner;
- There is an accessible transport system which is safe, which allows for diversity in modes of transport, which uses resources efficiently and which has minimal adverse effects on the environment;

- People are able to satisfy their recreational demands with little adverse effect on the environment;
- Urban areas are healthy and attractive places for people to live and work;
- Places, things and objects of cultural and heritage value are conserved; and
- The nature and rate of development, and of growth, meets the needs of people, but takes place in a sustainable manner.

Proposed Regional Policy Statement for the Wellington Region 2009

The Proposed Regional Policy Statement for the Wellington Region 2009 (RPS) is awaiting a final decision, and is currently subject to a number of appeals²⁰. Of particular relevance to the Transmission Gully Project are the following:

- Connected community – Connections and access are efficient, quick and easy – locally, nationally and internationally. Communication networks, air and sea ports, roads and public transport systems enable links with others, both within and outside the region;
- Sense of place – There is a deep sense of pride in the Wellington region and there is a strong community spirit. The region's unique characteristics are valued – its rural, urban and harbour landscapes, its climate, its central location, and its capital city;
- Essential services – High quality and secure infrastructure and services meet our everyday needs. These are developed and maintained to support the sustainable growth of the region, now and in the future;
- Healthy community – Physical and mental health is protected. Living and working environments are safe, and everyone has access to health care. Every opportunity is taken to recognise and provide for good health;
- Strong and tolerant community – People are important. All members of the community are empowered to participate in decision making and to contribute to society. We celebrate diversity and welcome newcomers, while recognising the importance of our tangata whenua.

Wellington Regional Land Transport Strategy 2007- 2016

The Wellington Regional Land Transport Strategy has been developed within a broad legislative and policy framework. The Strategy responds to the expected economic and population growth of the region and the need to manage an increasing demand for travel. The key objectives of the Strategy are to:

- Assist economic and regional development
- Assist safety and personal security
- Improve access, mobility and reliability
- Protect and promote public health
- Ensure environmental sustainability
- Ensure that the Regional Transport Programme is affordable for the regional community.

²⁰ As at June 2011.

The most significant features identified in the Strategy to be progressed through the supporting implementation documents (such as the Wellington Regional Strategy) are:

- The improvement of the region's rail network, including infrastructure and rolling stock upgrades
- A comprehensive programme of measures to manage the demand for travel
- Progress on specific roading projects, such as the Transmission Gully route, within the next ten years.

Wellington Regional Cycling Plan

The Wellington Regional Cycling Plan, adopted by the Regional Transport Committee in December 2008, identifies a range of actions and initiatives to achieve the outcomes for cycling set out in the Wellington Regional Land Transport Strategy. The key actions of the Plan are:

- To improve the cycling network;
- To improve cycling and public transport integration;
- To provide for cyclists in land development;
- To influence central government policy;
- To seek adequate funding;
- To support delivery of cyclist skills training programmes;
- To improve information for cycling;
- To encourage participation in cycling;
- To improve cycling connections between local networks; and
- To support development of the 'Great Harbour Way'.

The lead agency for each action varies depending on responsibility. They include Greater Wellington, territorial authorities, the NZ Transport Agency, and other agencies such as Regional Public Health. The effectiveness of the plan relies on a commitment from all key stakeholders. Local councils, in particular, will have a vital role in improving the cycling network.

Greater Wellington Regional Council Long Term Council Community Plan & Annual Plan

This 10-Year Plan is a requirement of the Local Government Act 2002. It contains information about Greater Wellington's planned activities for the next ten years and shows how these contribute to the agreed community outcomes. This document also incorporates the Proposed 2009/10 Annual Plan.

The following community outcomes are considered particularly relevant to the Transmission Gully Project

- A healthy environment and community, where resources are used efficiently and physical and mental health is protected;
- A quality Lifestyle, where a variety of activities can be pursued;
- A strong sense of place, where the region's unique characteristics are valued;
- A prosperous, prepared, strong, tolerant and connected community; and
- High-quality and secure infrastructure and essential services.

Achievement of the community outcomes would ensure social, economic, environmental and cultural well-being in the region.

Wellington Regional Strategy

The Wellington Regional Strategy (WRS) is a sustainable growth strategy for the region that has been developed by the nine local authorities in conjunction with central government and the region's business, education, research and voluntary sectors. It aims to make the region "internationally competitive" that is, a region that offers the competitive package of a great lifestyle and job opportunities, supported by a strong economy.

The aims of the WRS will be achieved by a collaborative effort of the private sector, central and local government, and organisations seeking to foster economic development. The WRS provides an overview of the opportunities that exist to lift the region's economic performance.

The WRS identifies three focus areas for sustainable growth:

- Leadership and partnership
- Grow the region's economy, especially its exports
- Good regional form

In accordance with these focus areas; the Wellington Regional Strategy specifies a series of actions that should be implemented over time:

- Strong regional centres and land for business growth
- Quality urban design
- Integrating transport with urban and rural needs
- Rural industry growth
- More homes close to the city centres and transport links
- Affordable housing
- Rural lifestyles
- Open spaces
- Regional focus areas

Since adoption of the WRS in May 2007, a number of projects have begun, including the following:

- A regional urban design strategy;
- Focus on industrial land;
- Rural residential development and subdivision design for the Kapiti Coast;
- A regional open space strategy;
- A regional broadband plan as a key to economic growth.

3. Local Context

Kapiti Coast District Plan

The Kapiti Coast District Plan sets out the city's resource management strategy, including how the Council will control the effects of activities and development and seek to ensure the sustainable management of the natural and physical resources within the district.

Specific issues and objectives of relevance to the social environment include:

- Matters of concern to the Tangata Whenua of the District - it is necessary to take into account the origin of Tangata Whenua values towards the environment and the legislative provision for Tangata Whenua involvement in resource management;
- Residential Environment - It is desirable to ensure that residential areas have a pleasant, safe and healthy living environment;
- Rural Environment - The rural environment is of considerable value to the residents of the district and, in particular, the farming community;
- Central Area Issues - A cohesive and integrated pattern of development is desired, with a high standard of amenity and effective and varied transport linkages;
- Coastal, landscape and ecology issues - these are important assets of the district and have many unique characteristics and natural qualities. Open spaces and reserves are also an integral part of the District; and
- Transportation - Transport is a key means by which social, economic, cultural, recreational and other activities are undertaken. Roding is critical to the future of the Kapiti Coast.

Kapiti Coast District Council Long Term Council Community Plan (LTCCP)

Kāpiti Coast: Choosing Futures Community Plan 2009 describes the Council's responsibilities and how its actions contribute to the achievement of Community Outcomes.

The following community outcomes are considered relevant to the Transmission Gully project:

- Healthy natural systems which people can enjoy;
- Local character is retained within a cohesive District;
- The nature and rate of population growth and development is appropriate to community goals;
- The Community makes wise use of local resources and people have the ability to act in a sustainable way on a day to day basis;
- The District has a strong, healthy, safe and involved community

Upper Hutt City Plan

The District Plan is the primary document that manages land use and development within Upper Hutt. The Upper Hutt City District Plan sets out the specific objectives, policies, methods and rules that have been adopted to enable Council to promote the sustainable management of the City's natural and physical resources.

Specific issues and objectives of relevance to the social environment include:

- Protecting the environmental quality of open spaces from the adverse effects of development and activities and the need to provide adequate open space for the future residents of Upper Hutt.
- The maintenance and enhancement of essential natural landscape elements that determine Upper Hutt's landscape and geological structure and identity and contribute to the amenity values of the City.
- The promotion of a healthy and safe built environment.
- The sustainable management of physical infrastructure so that it can meet both the needs of today's community and the reasonably foreseeable needs of future generations.

Upper Hutt City Council Long Term Council Community Plan (LTCCP)

The Upper Hutt City Council 10 Year Plan 2009-2019 sets out a vision for the City and identifies a number of community outcomes that will contribute to achieving this vision. The following community outcomes are considered particularly relevant to the Transmission Gully project:

- Upper Hutt is the city of choice for people from all walks of life - Upper Hutt is one community,
- The economy is robust, innovative and growing - the city's infrastructure and access systems support the local and regional economy in a sustainable manner
- Upper Hutt offers a green and attractive living environment - people treasure the environment, including hills, ridgelines, rivers, bush, wildlife, landscape and heritage features
- The community is safe, healthy and strong - education, social and health services for all ages, cultures and abilities are excellent and easily accessible.
- Upper Hutt is connected with the world - local and regional transport systems are safe, affordable, accessible, and work well. The city offers a continually improving roading network.

Porirua City District Plan

The Porirua City District Plan is a document that provides for change, development and use of the environment, while protecting and safeguarding it for future generations. It sets a framework of rights to using the environment and imposes obligations to protect it.

Specific issues and objectives of relevance to the social environment include:

- Ensuring an environment which is healthy, attractive and safe.
- Recognising the importance of the City Centre as a built resource and the need for it to continue to develop to meet changing needs and demands.
- To have a suburban environment that is an attractive and lively place in which to live.
- To have a rural area in which there is a balance between rural activities and the natural environment

Porirua City Council Long Term Council Community Plan (LTCCP)

The Porirua City Council LTCCP 2009-2019 sets out a vision for the City and identifies a number of community outcomes that will contribute to achieving this vision. The following community outcomes are considered particularly relevant to the Transmission Gully project:

- Active & Healthy - People understand, access and participate in healthy choices, activities and healthcare services
- Prosperous - Businesses flourish, innovation abounds, and people have quality jobs.
- A Safe City - A safe place to live, work, shop, learn, play and visit
- Sustainably Designed & Built - The built environment fits our harbour and hills, meets current and future community requirements and housing needs
- A Valued Natural Environment - The natural environment is valued and protected by the community and its quality is improved
- Well Connected & On The Move - Aim is to maintain a sustainable transport network to serve through and local traffic (freight, cars, cycles and pedestrians). Transmission Gully is identified as a clear local, regional and national road transport priority.

Porirua Development Framework 2009

The Porirua City Council Development Framework 2009 is a guiding document that is intended to influence how and where Porirua City will physically develop over time. The Framework is a practical tool to help manage future development. It identifies where development could occur, the type of development that may be appropriate in certain areas, where Council should focus its planning efforts, and what works are necessary to ensure development can occur sustainably.

The Framework makes recommendations on objectives and actions to be completed. The final decisions on the Framework's recommended actions, the timing of those actions, and their related costs, will be considered through the LTCCP process.

The following objectives are considered particularly relevant to the Transmission Gully project:-

- Social Infrastructure – Ensure that each community is provided with universally appropriate, accessible, safe public services and facilities that meet the needs of all sectors of society
- Culture and History – Recognise and provide for cultural and historical associations with the natural and built environment.
- Transport and Infrastructure – Improve the transport system, by strengthening the links between communities while ensuring they are safe for all users; focusing on the creation of transport nodes; widening the choice of transport modes; future proofing the physical infrastructure; and focusing on the use and provision of public transport and walking/cycling.
- Recreation – Ensure recreational facilities are located in easily accessible areas; are an appropriate form to cater for community needs; and are safe environments for leisure and recreation activities to occur.
- Environment – Ensure the natural environment is sustainably managed
- Planning Places - Retain and support the character of existing communities and villages and to promote the efficient use of existing urban zoned land, networks and infrastructure.

Wellington City District Plan

The District Plan details the specific objectives, policies and rules that have been adopted to promote the sustainable management of natural and physical resources in Wellington. It sets out the environmental outcomes that Council seeks to achieve.

Specific issues and objectives of relevance to the social environment include:

- To enable efficient, convenient and safe access for people and goods within the Rural Area
- To promote the development of a safe and healthy City
- To facilitate and enable the exercise of tino rangatiratanga and kaitiakitanga by Wellington's tangata whenua and other Maori
- To maintain and enhance indigenous and part indigenous habitats and ecosystems, by protecting them from modification and loss
- To provide for designations, to ensure the efficient functioning and operation of public works.

Wellington City Council Long Term Council Community Plan (LTCCP)

The Wellington City Council 10 Year Plan (LTCCP) 2009-2019 sets out a vision for the City and identifies a number of community outcomes that will contribute to achieving this vision

The following community outcomes are considered particularly relevant to the Transmission Gully project:

- Wellington's long-term environmental health will be protected by well-planned and well-maintained infrastructure.
- Wellingtonians will be well-prepared and co-ordinated to deal with any civil emergency and its aftermath.
- Wellington's thriving suburban centres and rural areas will offer enhanced services and lifestyle choices.
- Wellingtonians will be healthy and experience a high quality of life.
- Social services, especially public health and housing, will be affordable, available and accessible to all Wellingtonians.
- Wellington city and its amenities will be accessible to all Wellingtonians.
- Opportunities for active and passive recreation in Wellington will be diverse, safe, affordable, accessible and attractive.
- Wellington's transport system will be designed to meet the needs of its people efficiently and sustainably.
- Wellington's traffic will flow smoothly through and around the city and its suburbs.
- Links by land, air and sea will meet the needs of people and enterprises.
- Wellingtonians will protect and have access to public green open spaces and the coast.

4. [NZTA Strategic Context](#)

National State Highway Strategy 2007

The NZTA's National State Highway Strategy (NSHS) makes a commitment to improving the contribution of state highway's to the environmental and social wellbeing of New Zealand, and prioritising then addressing environmental and social issues. The strategy commits to:

- Develop mechanisms to value environmental and social effects in decision making processes;

- Priorities mitigation of the environmental effects of existing state highways;
- Ensure the NZTA operates in an energy efficient manner and plan, design, operate and maintain state highways to conserve energy;
- Promote good urban design and assess the impacts of projects on communities and in doing so consider environmental and social issues early in the planning and design process; and
- Use best practice and policies that balance social needs with all other competing needs and focus on avoiding negative impacts on communities.

NZTA Environmental Plan 2008

The NZTA Environmental Plan recognises that the state highway system is an essential part of New Zealand's transport system that provides access to social, educational, employment and recreational opportunities and, in this way, contributes to the well-being of communities. It also acknowledges that state highways can have adverse effects on the cohesion of local communities. The Environmental Plan sets out the Agency's environmental and social commitments and how these commitments will be met. The NZTA is committed to:

Being socially and environmentally responsible;

Improving the contribution of state highways to the environmental and social well-being of New Zealand by:

- Protecting and enhancing the environment where appropriate;
- Avoiding adverse effects to the extent reasonable in the circumstances
- Using and managing resources efficiently
- Considering environmental issues early
- Contributing to sustainable outcomes by working with others; and
- Continually improving environmental performance.

Of specific relevance to this SIA, the Environmental Plan defines an objective to "enhance and contribute to community cohesion". The implementation plan for this objective consists of the following:

- Collaborate and Advocate: Collaborate and work in partnership with relevant stakeholders to mitigate social impacts around the state highway network;
- Consultation and Public Engagement: Minimise community severance caused by new and existing state highways;
- Route Selection: Investigate, consider and select, so far as is practicable, route options for new or improved sections of state highways that avoid severance of sensitive receivers;
- Assessment of Effects: Assess the social impacts of new or improved sections of state highways by using the Social and Environmental Assessment tools;
- Designation Conditions: Ensure that new state highway designation conditions relating to severance and barrier effects have taken into account social impacts;
- Urban Design: Consider urban design principles to facilitate community cohesion;
- Design Contract: Ensure any requirements to mitigate and manage social impacts associated with a project are detailed in the appropriate design contract documentation;

- **Build:** Minimise the disruption to communities that state highway construction and maintenance activities may have by:
 - Appropriate timing/sequencing of construction and maintenance activities;
 - Maintaining access where practicable, to existing travel options, including cycling and pedestrian and public transport facilities such as bus stops;
- **Asset Management:** Engage with local authorities to identify the needs of affected communities and how those needs might be accommodated.

Appendix 17B

Demographic Profile of Local Study Area

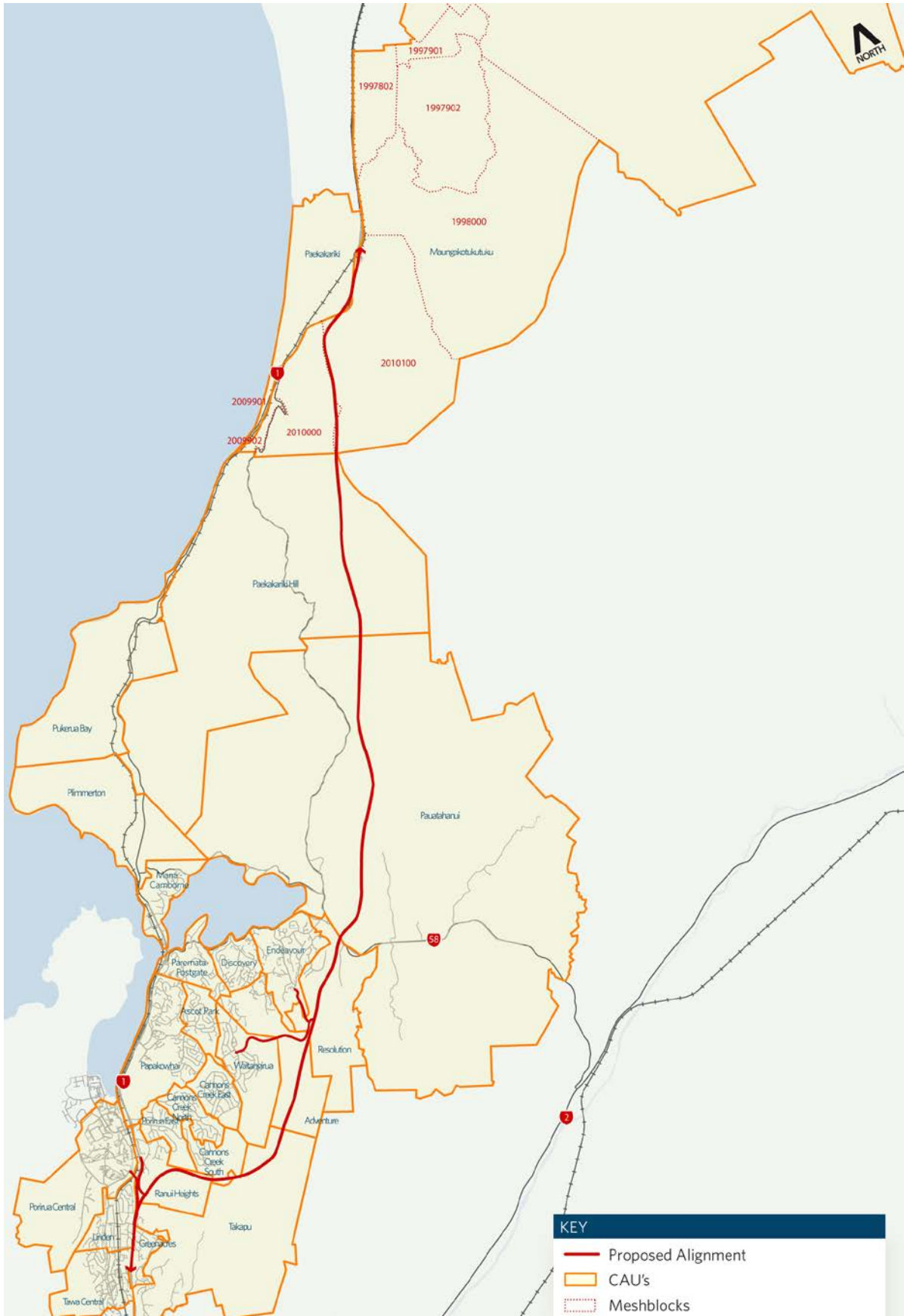
The following presents a demographic profile for the Census Area Units (CAUs) shown in Figure B-1. The local study area is contained within these selected CAUs and is also shown on this map.

This review has been based on data from the 2006 Census, with the inclusion of some data from the 2001 and 1996 Census to show growth and trends. It is important to note that data from the 2006 Census is now five years out of date - however this data remains the most appropriate dataset available with which to compile a study area profile. It is also important to note that Upper Hutt City Council has jurisdiction over a small area of land within the Study Area. However, this land is of a relatively small size with regards to the study area, is predominantly bush-clad, with a small pastoral component, and does not contain any residential property or sites of community interest. As such, the Census data for Upper Hutt City has not been included within this demographic profile.

Census data classified as 'not elsewhere included' or 'confidential'²¹ has also not been included in this analysis.

²¹ 'Not elsewhere included' within the Census refers to data that was inadequately described, or not stated by the respondent. 'Confidential' ('C') refers to information that was not provided within the Census data.

Figure B-1 Study Area - Census Area Unit's and Maungakotukutuku Meshblocks



1. Population Characteristics

B.1.1 Population Size

Table B.1 shows the usually resident population and rates of population change for the study area CAUs. A total of 50,385 people lived in the study area CAUs in 2006, representing approximately 18.4% of the combined population of Wellington City, Kapiti Coast District and Porirua City. Between 1996 and 2006 the study area population increased from 47,397 to 50,385 people (6.3%).

Between 2001 and 2006 the Porirua Central CAU experienced a relatively high rate of population growth (36.4%), as did the Takapu CAU (30.6%); both of which are located in Community Area 5. Wellington City had relatively high rates of population growth between 2001 and 2006 (9.5%). The CAUs of Cannons Creek South, Cannons Creek East, Waitangirua and Ascot Park (all in Community Area 4) had a decrease in population. The decrease in Paekakariki (Community Area 1) was most significant, at 7.6%.

Table B.1 - Usually Resident Population (1996-2006)

Area	Population Size			Change (1996-2001)	Change (2001-2006)
	1996	2001	2006		
Linden	3,606	3,795	3,813	5.2%	0.5%
Tawa Central	4,080	4,092	4,284	0.3%	4.7%
Greenacres	1,140	1,218	1,467	6.8%	20.4%
Takapu	69	216	282	213.0%	30.6%
Ranui Heights	1,209	1,263	1,344	4.5%	6.4%
Porirua Central	348	231	315	(-) 33.6%	36.4%
Porirua East	2,028	1,995	2,052	(-) 1.6%	2.9%
Cannons Creek North	3,099	3,156	3,312	1.8%	4.9%
Cannons Creek South	1,590	1,623	1,560	2.1%	(-) 3.9%
Cannons Creek East	4,062	3,873	3,771	(-) 4.7%	(-) 2.6%
Waitangirua	4,131	4,233	4,077	2.5%	(-) 3.7%
Adventure	1,284	1,239	1,269	(-) 3.5%	2.4%
Resolution	45	84	102	86.7%	21.4%
Ascot Park	2,703	2,814	2,706	4.1%	(-) 3.8%
Papakowhai	2,127	2,226	2,460	4.7%	10.5%
Paremata-Postgate	2,418	2,391	2,397	(-) 1.1%	0.3%
Endeavour	2,295	2,925	3,417	27.5%	16.8%
Discovery	2,649	2,730	2,820	3.1%	3.3%
Mana-Camborne	2,160	2,238	2,280	3.6%	1.9%
Plimmerton	2,052	2,052	2,055	0%	0.1%
Pauatahanui	672	831	948	23.7%	14.1%
Paekakariki Hill	135	117	132	(-) 13.3%	12.8%

Area	Population Size			Change (1996-2001)	Change (2001-2006)
	1996	2001	2006		
Pukerua Bay	1,665	1,692	1,722	1.6%	1.8%
Paekakariki	1,671	1,731	1,599	3.6%	(-) 7.6%
Maungakotukutuku	159	195	201	22.6%	3.1%
Study Area Total	47,397	48,960	50,385	3.3%	2.9%
<i>Wellington City</i>	<i>157,719</i>	<i>163,824</i>	<i>179,466</i>	<i>3.9%</i>	<i>9.5%</i>
<i>Kapiti Coast District</i>	<i>38,583</i>	<i>42,447</i>	<i>46,200</i>	<i>10%</i>	<i>8.8%</i>
<i>Porirua City</i>	<i>46,626</i>	<i>47,367</i>	<i>48,546</i>	<i>1.6%</i>	<i>2.5%</i>

B.1.2 Population Projections 2006-2031

The following table provides a summary of population projections to the year 2031, for each of the CAUs of relevance to the Transmission Gully Project, and the projections for the relevant territorial authorities, namely Wellington City, Kapiti Coast District and Porirua City. The population projections have the estimated resident population of each area at 30 June 2006 as a base²², and cover the period to 2031 at five-year intervals.

Three alternative series (designated low, medium and high) have been produced by Statistics New Zealand for each area unit using different fertility, mortality and migration assumptions. At the time of release, the medium series is considered the most suitable for assessing future population and, as such, is the series used in Table B.2, below.

Table B.2 shows that there is projected to be a population increase of 13.2% to 2031, with particularly significant increases in the Takapu, Papakowhai and Maungakotukutuku CAUs. There are projected to be population decreases in the Cannons Creek South, Cannons Creek East, Waitangirua, Ascot Park (all within Community Area 4) and the Adventure and Plimmerton CAUs. Paekakariki Hill CAU is not expected to have a population increase or decrease to 2031.

Table B.2 – Area Unit Population Projections 2006 - 2031

Area	Population Projection					
	2006	2011	2016	2021	2026	2031
Linden	3,990	4,090	4,170	4,210	4,240	4,250
Tawa Central	4,470	4,640	4,800	4,970	5,130	5,270
Greenacres	1,530	1,590	1,650	1,710	1,770	1,830
Takapu	290	360	790	1,270	1,770	2,280

²² This 2006 base figure is an estimate of the population at 30 June 2006. The 2006 Census was held on 7 March 2006, therefore there is a disparity between this base figure and the usually resident population figures for 2006, as outlined in Table B.1.

Area	Population Projection					
	2006	2011	2016	2021	2026	2031
Ranui Heights	1,410	1,440	1,470	1,490	1,510	1,540
Porirua Central	330	340	350	370	380	380
Porirua East	2,160	2,210	2,230	2,260	2,280	2,310
Cannons Creek North	3,490	3,520	3,540	3,540	3,530	3,500
Cannons Creek South	1,640	1,520	1,540	1,540	1,540	1,520
Cannons Creek East	3,960	3,860	3,880	3,880	3,860	3,820
Waitangirua	4,290	4,160	4,140	4,090	4,010	3,890
Adventure	1,310	1,310	1,290	1,260	1,220	1,170
Resolution	100	120	130	150	160	180
Ascot Park	2,830	2,730	2,750	2,760	2,750	2,710
Papakowhai	2,530	3,360	3,630	3,880	4,130	4,360
Paremata-Postgate	2,500	2,560	2,600	2,630	2,640	2,620
Endeavour	3,520	3,860	4,040	4,220	4,400	4,550
Discovery	2,920	2,990	3,050	3,090	3,120	3,120
Mana-Camborne	2,350	2,690	2,410	2,420	2,420	2,400
Plimmerton	2,120	2,120	2,140	2,150	2,140	2,110
Pauatahanui	970	1,020	1,060	1,100	1,140	1,180
Paekakariki Hill	140	140	140	140	140	140
Pukerua Bay	1,770	1,800	1,820	1,840	1,850	1,850
Paekakariki	1,650	1,680	1,700	1,710	1,720	1,720
Maungakotukutuku	840	960	1,070	1,190	1,310	1,430
Study Area Total	53,110	55,070	56,390	57,870	59,160	60,130
<i>Wellington City</i>	<i>187,700</i>	<i>200,500</i>	<i>211,800</i>	<i>221,400</i>	<i>230,400</i>	<i>238,700</i>
<i>Kapiti Coast District</i>	<i>47,500</i>	<i>50,600</i>	<i>53,400</i>	<i>56,000</i>	<i>58,500</i>	<i>60,900</i>
<i>Porirua City</i>	<i>50,600</i>	<i>52,700</i>	<i>53,900</i>	<i>54,700</i>	<i>55,300</i>	<i>55,600</i>

B.1.3 Age Structure

Table B.3 provides a summary of the age structure for the study area CAUs in 2006. Age structure provides insight into the proportion of residents of working age population, as well as pre and post-employment aged people.

Generally, the age structure within each of the CAUs is similar to the study area as a whole. However, there are several notable exceptions to this, with the Porirua Central CAU having a higher percentage of people in the 'working age' group (15-64 years), and fewer people under the age of 15 (13.3%). The Papakowhai and Mana-Camborne CAUs had proportionally more people aged 65 years and over (12.1% and 12.5% respectively) and the Takapu CAU had the fewest in this age group (1.1%). The median age for the study area as a whole is 35 years.

Table B.3 - Age Structure (2006)

Area	< 15 yrs	15-64 yrs	65+ yrs	Median Age (2006)
Linden	22.8%	66.6%	10.6%	34
Tawa Central	23.5%	65.1%	11.3%	34
Greenacres	10.3%	25.3%	2.8%	34
Takapu	33.0%	67.0%	1.1%	34
Ranui Heights	23.2%	68.8%	7.6%	33
Porirua Central	13.3%	81.0%	4.8%	35
Porirua East	30.2%	63.4%	6.3%	28
Cannons Creek North	31.3%	63.7%	5.1%	24
Cannons Creek South	32.3%	61.7%	6.3%	26
Cannons Creek East	32.1%	61.0%	6.8%	25
Waitangirua	33.0%	61.1%	6.0%	24
Adventure	24.3%	67.6%	8.0%	32
Resolution	21.2%	72.7%	6.1%	42
Ascot Park	29.5%	65.0%	5.2%	28
Papakowhai	19.9%	67.8%	12.1%	39
Paremata-Postgate	22.5%	70.0%	7.4%	36
Endeavour	26.9%	68.0%	5.3%	37
Discovery	24.7%	68.3%	7.0%	35
Mana-Camborne	18.8%	68.7%	12.5%	40
Plimmerton	19.0%	70.9%	9.6%	39
Pauatahanui	25.6%	69.0%	5.1%	38
Paekakariki Hill	18.2%	70.5%	6.8%	41
Pukerua Bay	24.6%	67.4%	8.0%	36
Paekakariki	21.8%	68.3%	10.1%	39
Maungakotukutuku	15.2%	53.0%	7.6%	45
Study Area Total	24.8%	63.0%	7.5%	35
<i>Wellington City</i>	<i>17.7%</i>	<i>73.9%</i>	<i>8.4%</i>	<i>33</i>
<i>Kapiti Coast District</i>	<i>19.4%</i>	<i>57.4%</i>	<i>23.3%</i>	<i>44</i>
<i>Porirua City</i>	<i>27.8%</i>	<i>69.7%</i>	<i>8.4%</i>	<i>32</i>

B.1.4 Ethnic Diversity

The ethnic composition of the CAUs of the study area, compared to Wellington City, Kapiti Coast District, and Porirua City, is summarised in Table B.4 below. Within the study area CAUs, many had a distinct ethnic composition. In particular, the following can be noted:

- The largest ethnic group in the study area CAUs was European. The largest proportion of residents identifying themselves as European ethnicity lived in the Resolution and Pauatahanui CAUs
- The second largest ethnic group was those of Pacific Island ethnicity. The largest proportion of residents who identified themselves as Pacific Islanders lived in the Cannons Creek East and Waitangirua CAUs (both within Community Area 4);
- The third largest ethnic group in the study area CAUs was Maori. The largest proportion of residents who identified themselves as Maori lived in the Porirua Central and Porirua East CAUs;
- The largest proportion of residents identifying themselves as Asian lived in the Linden and Greenacres CAUs (both within Community Area 5);
- Those who identify themselves to be of Middle Eastern, Latin American and African ethnicity (MELAA) made up 0.6% of the CAU study area residents. The majority of these residents lived in the Paekakariki Hill CAU;
- Those who identify themselves as 'Other' made up 9.9% of the CAU study area as residents.

Table B.4 - Ethnic Diversity (2006)

Area	European	Maori	Pacific Island	Asian	MELAA ²³	Other
Linden	63.8%	12.0%	9.5%	14.9%	0.4%	10.7%
Tawa Central	69.7%	8.6%	6.9%	10.6%	1.3%	13.1%
Greenacres	70.9%	7.0%	4.5%	11.4%	0.2%	14.9%
Takapu	69.2%	4.4%	3.3%	8.8%	0.0%	24.2%
Ranui Heights	61.7%	23.8%	22.2%	5.5%	0.2%	10.2%
Porirua Central	52.0%	33.0%	20.0%	8.0%	0.0%	3.0%
Porirua East	41.5%	33.0%	40.5%	4.8%	1.0%	4.2%
Cannons Creek North	27.7%	28.6%	58.8%	5.4%	0.5%	2.3%
Cannons Creek South	28.3%	26.4%	60.3%	3.7%	0.6%	3.3%
Cannons Creek East	18.8%	19.0%	71.4%	5.5%	1.1%	1.3%
Waitangirua	19.8%	23.0%	68.8%	4.6%	0.3%	1.7%
Adventure	74.5%	14.2%	12.0%	3.4%	0.2%	10.6%
Resolution	87.5%	0.0%	0.0%	6.3%	0.0%	12.5%
Ascot Park	42.7%	31.2%	44.4%	6.1%	0.6%	5.7%
Papakowhai	75.7%	11.7%	4.2%	7.6%	0.4%	12.8%
Paremata-Postgate	78.7%	11.2%	6.0%	2.8%	0.4%	13.7%
Endeavour	78.8%	5.7%	2.8%	3.8%	0.3%	15.9%

²³ Middle Eastern/Latin American/African

Area	European	Maori	Pacific Island	Asian	MELAA ²³	Other
Discovery	75.1%	8.7%	4.9%	5.1%	0.5%	15.6%
Mana-Camborne	80.3%	7.3%	2.4%	3.5%	0.3%	14.2%
Plimmerton	80.7%	11.4%	2.2%	1.5%	0.4%	13.8%
Pauatahanui	82.7%	5.6%	1.3%	1.3%	0.0%	15.0%
Paekakariki Hill	73.8%	11.9%	0.0%	2.4%	2.4%	23.8%
Pukerua Bay	81.4%	8.2%	2.1%	1.8%	0.5%	15.0%
Paekakariki	80.4%	19.2%	2.5%	1.5%	0.8%	10.2%
Maungakotukutuku	63.8%	1.7%	3.4%	0.0%	0.0%	10.3%
Study Area Total	58.9%	15.7%	23.7%	5.9%	0.6%	9.9%
<i>Wellington City</i>	<i>70.1%</i>	<i>7.7%</i>	<i>5.2%</i>	<i>13.2%</i>	<i>2.1%</i>	<i>10.6%</i>
<i>Kapiti Coast District</i>	<i>79.6%</i>	<i>12.3%</i>	<i>2.2%</i>	<i>2.4%</i>	<i>0.2%</i>	<i>13.4%</i>
<i>Porirua City</i>	<i>56.8%</i>	<i>20.9%</i>	<i>26.6%</i>	<i>4.5%</i>	<i>0.5%</i>	<i>8.9%</i>

Table B.5 below identifies that approximately 90.2% of residents in the study area spoke English; with a further 25.6% speaking another language ('languages spoken' exceeded 100% as many people speak more than one language). After English, Samoan was the most common language spoken in the study area, with 9.3% of residents speaking the language. 'Other' languages made up 11.5%.

Table B.5 - Languages Spoken (2006)

Area	English	Maori	Samoan	Sign Language	Other
Linden	92.8%	2.7%	3.0%	0.6%	16.4%
Tawa Central	91.0%	2.2%	2.2%	0.5%	14.3%
Greenacres	95.1%	1.2%	1.4%	0.2%	12.9%
Takapu	90.4%	1.1%	1.1%	0.0%	9.6%
Ranui Heights	92.9%	5.4%	7.8%	0.9%	7.1%
Porirua Central	92.4%	14.3%	12.4%	1.0%	8.6%
Porirua East	89.5%	10.7%	15.9%	0.7%	12.3%
Cannons Creek North	75.9%	7.0%	21.9%	0.7%	11.3%
Cannons Creek South	84.0%	7.7%	25.4%	0.8%	10.6%
Cannons Creek East	79.8%	5.0%	29.0%	1.0%	15.6%
Waitangirua	81.9%	6.4%	28.3%	0.8%	15.0%
Adventure	95.7%	3.8%	3.8%	0.7%	9.2%
Resolution	94.1%	0.0%	0.0%	0.0%	5.9%
Ascot Park	89.9%	8.9%	15.7%	0.6%	12.6%
Papakowhai	94.7%	2.6%	0.6%	0.6%	10.9%

Area	English	Maori	Samoan	Sign Language	Other
Paremata-Postgate	95.6%	2.4%	1.4%	0.4%	7.3%
Endeavour	96.5%	0.8%	0.5%	0.3%	8.3%
Discovery	94.8%	2.3%	1.0%	0.3%	9.9%
Mana-Camborne	96.1%	1.7%	0.7%	0.5%	8.0%
Plimmerton	95.0%	2.9%	0.4%	0.4%	8.3%
Pauatahanui	94.9%	0.9%	0.3%	0.0%	7.0%
Paekakariki Hill	93.0%	4.7%	0.0%	0.0%	4.7%
Pukerua Bay	94.6%	2.3%	0.5%	0.2%	9.1%
Paekakariki	96.1%	6.4%	0.2%	0.9%	10.1%
Maungakotukutuku	75.8%	0.0%	0.0%	0.0%	4.5%
Study Area Total	90.2%	4.2%	9.3%	0.6%	11.5%
Wellington City	92.2%	2.2%	2.2%	0.5%	19.3%
Kapiti Coast District	94.3%	3.8%	0.4%	0.7%	6.6%
Porirua City	89.5%	5.5%	10.1%	0.6%	9.9%

As shown in Tables B.6 and B.7, below, given that 23.5% of residents were born overseas and 33.4% have been living in New Zealand for fewer than nine years, it is likely that many residents speak English as a second language only.

Table B.6 - Country of Birth (2006)

Area	New Zealand born	Overseas born
Linden	71.1%	26.4%
Tawa Central	70.2%	24.5%
Greenacres	76.8%	21.9%
Takapu	79.8%	17.0%
Ranui Heights	79.9%	16.5%
Porirua Central	71.4%	22.9%
Porirua East	74.9%	21.6%
Cannons Creek North	58.2%	26.8%
Cannons Creek South	66.2%	26.0%
Cannons Creek East	57.0%	32.6%
Waitangirua	61.4%	31.0%
Adventure	74.9%	23.2%
Resolution	85.3%	11.8%
Ascot Park	74.9%	19.9%
Papakowhai	78.3%	19.3%

Area	New Zealand born	Overseas born
Paremata-Postgate	80.4%	17.6%
Endeavour	75.3%	23.2%
Discovery	73.9%	23.6%
Mana-Camborne	78.0%	20.0%
Plimmerton	77.7%	19.4%
Pauatahanui	80.6%	16.5%
Paekakariki Hill	83.7%	11.6%
Pukerua Bay	78.4%	19.0%
Paekakariki	78.8%	18.5%
Maungakotukutuku	56.7%	19.4%
Study Area Total	71.6%	23.5%
<i>Wellington City</i>	<i>69.1%</i>	<i>27.2%</i>
<i>Kapiti Coast District</i>	<i>76.5%</i>	<i>19.5%</i>
<i>Porirua City</i>	<i>72.6%</i>	<i>21.8%</i>

Table B.7 - Years since Arrival in New Zealand, for the Overseas Born (2006)

Area	0-9 Years	10-19 Years	20 years or more
Linden	38.6%	21.7%	35.9%
Tawa Central	40.9%	22.0%	36.0%
Greenacres	39.3%	26.2%	32.7%
Takapu	18.8%	50.0%	25.0%
Ranui Heights	21.6%	20.3%	52.7%
Porirua Central	45.8%	12.5%	29.2%
Porirua East	32.9%	18.8%	40.3%
Cannons Creek North	33.8%	20.3%	35.5%
Cannons Creek South	28.1%	22.2%	42.2%
Cannons Creek East	28.1%	21.0%	40.8%
Waitangirua	29.2%	18.3%	42.8%
Adventure	39.8%	18.4%	38.8%
Resolution	C	C	C
Ascot Park	17.2%	17.8%	56.7%
Papakowhai	34.2%	19.0%	44.3%
Paremata-Postgate	28.4%	10.6%	58.9%
Endeavour	43.2%	19.3%	35.2%
Discovery	40.5%	20.7%	37.8%
Mana-Camborne	34.9%	10.5%	50.0%

Area	0-9 Years	10-19 Years	20 years or more
Plimmerton	30.8%	13.5%	54.1%
Pauatahanui	26.4%	18.9%	49.1%
Paekakariki Hill	60.0%	0.0%	60.0%
Pukerua Bay	32.1%	14.7%	50.5%
Paekakariki	34.3%	11.1%	48.5%
Maungakotukutuku	14.3%	7.1%	28.6%
Study Area Total	33.4%	19.0%	41.9%
<i>Wellington City</i>	<i>45.7%</i>	<i>18.1%</i>	<i>32.5%</i>
<i>Kapiti Coast District</i>	<i>24.8%</i>	<i>11.5%</i>	<i>60.9%</i>
<i>Porirua City</i>	<i>32.1%</i>	<i>17.4%</i>	<i>44.4%</i>

2. Household and Dwelling Characteristics

B.2.1 Families and Households

B.2.1.1 Occupied Households

A household is defined by the Census as either one person or two or more people who usually reside together and share facilities (e.g. cooking, living, and bathroom facilities). Table B.8 below summarises the number of occupied dwellings and occupancy rates for the study area CAUs. It shows that in 2006, the study area CAUs comprised approximately 15.7% of the combined housing stock of Wellington City, Kapiti Coast District and Porirua City (which have a total of 103,830 dwellings). Within the study area, the highest occupancy rates were identified in Community Area 4 (with the highest occupancy rates in the Cannons Creek North, Cannons Creek South, Cannons Creek East, Waitangirua and Ascot Park CAU's). Takapu CAU (Community Area 5) also had a high occupancy rate.

Table B.8 - Occupied Dwellings and Occupancy Rates (2006)

Area	Occupied Dwellings	Occupancy Rates
Linden	1,383	3
Tawa Central	1,530	3
Greenacres	456	3
Takapu	81	4
Ranui Heights	477	3
Porirua Central	42	3
Porirua East	633	3
Cannons Creek North	930	4
Cannons Creek South	423	4
Cannons Creek East	954	4
Waitangirua	993	4

Area	Occupied Dwellings	Occupancy Rates
Adventure	426	3
Resolution	33	3
Ascot Park	777	4
Papakowhai	816	3
Paremata-Postgate	870	3
Endeavour	1,059	3
Discovery	936	3
Mana-Camborne	906	2
Plimmerton	822	2
Pauatahanui	315	3
Paekakariki Hill	48	3
Pukerua Bay	636	3
Paekakariki	663	2
Maungakotukutuku	72	2.5
Study Area Total	16,281	3.1
<i>Wellington City</i>	<i>68,901</i>	<i>3</i>
<i>Kapiti Coast District</i>	<i>19,368</i>	<i>2</i>
<i>Porirua City</i>	<i>15,561</i>	<i>3</i>

B.2.1.2 Household Composition

In terms of household composition, the majority of households within the study area are comprised of a single family (72.8%), which is also the case in the overall results for Wellington City, Kapiti Coast District and Porirua City. The proportion of three or more family households was highest in Waitangirua (1.6%). The majority of single person households were in the Paekakariki (29.1%), Linden (24%), and Porirua Central (35.7%) CAUs. 'Other multi-person households' refers to households that are comprised of people who are not family members, living together in a house-share environment. The highest proportion of 'other multi-person households' was in Porirua Central (14.3%).

Table B.9 - Household Composition

Area	One-Family Household	Two-Family Household	Three or more Family Household	Other Multi-Person Household	Single Person Household
Linden	68.1%	3.1%	0.0%	4.2%	24.0%
Tawa Central	67.7%	2.4%	0.2%	3.7%	23.2%
Greenacres	82.0%	2.0%	0.0%	1.3%	14.7%
Takapu	84.6%	3.8%	0.0%	3.8%	3.8%
Ranui Heights	66.5%	3.9%	0.7%	5.8%	21.3%

Area	One-Family Household	Two-Family Household	Three or more Family Household	Other Multi-Person Household	Single Person Household
Porirua Central	50.0%	7.1%	0.0%	14.3%	35.7%
Porirua East	65.6%	6.7%	1.0%	7.2%	19.1%
Cannons Creek North	60.1%	6.5%	1.1%	4.5%	17.5%
Cannons Creek South	71.4%	6.4%	0.0%	4.3%	13.6%
Cannons Creek East	66.5%	9.8%	1.0%	4.4%	11.7%
Waitangirua	68.1%	11.6%	1.6%	4.0%	10.6%
Adventure	78.9%	4.2%	0.0%	2.8%	14.1%
Resolution	83.3%	0.0%	0.0%	0.0%	8.3%
Ascot Park	74.4%	7.4%	0.8%	2.3%	13.2%
Papakowhai	79.9%	3.7%	0.4%	0.7%	14.2%
Paremata-Postgate	79.8%	2.1%	0.0%	2.4%	15.3%
Endeavour	88.9%	2.3%	0.0%	0.9%	7.4%
Discovery	84.4%	1.9%	0.0%	2.3%	9.7%
Mana-Camborne	72.0%	1.3%	0.0%	3.0%	23.3%
Plimmerton	70.6%	1.9%	0.0%	4.1%	21.9%
Pauatahanui	80.8%	1.0%	0.0%	2.9%	12.5%
Paekakariki Hill	81.3%	0.0%	0.0%	6.3%	12.5%
Pukerua Bay	79.7%	0.5%	0.0%	2.4%	15.5%
Paekakariki	64.1%	1.8%	0.0%	3.6%	29.1%
Maungakotukutuku	50.0%	0.0%	0.0%	0.0%	9.1%
Study Area Total	72.8%	4.1%	0.3%	3.3%	16.9%
<i>Wellington City</i>	<i>62.0%</i>	<i>1.7%</i>	<i>0.9%</i>	<i>9.8%</i>	<i>24.6%</i>
<i>Kapiti Coast District</i>	<i>66.2%</i>	<i>1.2%</i>	<i>0.0%</i>	<i>2.4%</i>	<i>28.6%</i>
<i>Porirua City</i>	<i>72.1%</i>	<i>4.6%</i>	<i>0.4%</i>	<i>3.6%</i>	<i>16.8%</i>

B.2.1.3 Household Mobility

Table B.10, below, provides a summary of the number of years at usual residence for the study area CAUs in 2006. This data provides a simplified measure of the 'mobility' of the residency in the study area, by providing the length of time (up to the date of the Census) that a resident has lived at their 'usual residence', as classified on Census night.

Within the study area, the greatest 'mobility' of the resident population appeared to be in the Porirua Central CAU, with more than 25% of the resident population having resided at their usual residence for less than one year. The least 'mobile' population appears to be the Paekakariki and Pukerua Bay CAUs with the highest proportion of the resident population having resided in their usual residence for 30 years or more.

Table B.10 - Years at Usual Residence (2006)

Area	<1yr	1-4yrs	5-9yrs	10-29yrs	30 years or more
Linden	18.7%	30.3%	18.8%	23.5%	4.6%
Tawa Central	18.4%	28.4%	19.4%	20.9%	5.4%
Greenacres	14.1%	35.7%	21.9%	21.3%	3.9%
Takapu	8.5%	40.4%	37.2%	8.5%	0.0%
Ranui Heights	22.1%	30.6%	16.1%	21.4%	2.9%
Porirua Central	27.6%	31.4%	24.8%	6.7%	0.0%
Porirua East	23.4%	26.9%	18.1%	20.6%	3.9%
Cannons Creek North	20.3%	26.4%	16.2%	16.0%	2.7%
Cannons Creek South	18.3%	26.9%	17.7%	20.8%	4.8%
Cannons Creek East	15.0%	25.4%	16.4%	23.6%	4.1%
Waitangirua	19.9%	23.4%	17.2%	23.6%	4.6%
Adventure	22.9%	30.7%	19.4%	24.1%	0.0%
Resolution	11.8%	23.5%	44.1%	11.8%	0.0%
Ascot Park	17.7%	23.9%	19.4%	25.1%	5.4%
Papakowhai	21.6%	25.0%	20.6%	25.9%	3.7%
Paremata-Postgate	17.3%	30.2%	19.4%	26.0%	4.1%
Endeavour	17.9%	40.0%	24.8%	14.8%	0.1%
Discovery	16.8%	35.2%	18.6%	23.5%	1.6%
Mana-Camborne	16.2%	31.0%	18.7%	27.1%	4.6%
Plimmerton	19.3%	28.0%	15.6%	26.7%	5.5%
Pauatahanui	15.8%	27.8%	20.9%	27.5%	2.8%
Paekakariki Hill	18.6%	23.3%	18.6%	30.2%	4.7%
Pukerua Bay	13.1%	27.0%	21.8%	26.7%	7.3%
Paekakariki	17.8%	29.3%	17.1%	25.7%	6.0%
Maungakotukutuku	12.1%	9.1%	31.8%	16.7%	4.5%
Study Area Total	18.3%	28.9%	19.1%	22.6%	3.9%
<i>Wellington City</i>	26.9%	30.5%	15.4%	18.1%	3.9%
<i>Kapiti Coast District</i>	20.6%	32.6%	20.1%	18.9%	2.7%
<i>Porirua City</i>	18.3%	28.2%	18.5%	22.9%	4.0%

3. Transport

B.3.1 Vehicle Ownership

Household vehicle ownership provides insight into the mobility and economic status of a population. A summary of the number of motor vehicles owned by households in the study area CAUs is provided in Table B.11, below.

The highest proportion of people within the study area owned either one or two vehicles (with 36.2% for each). Rates of ownership of three or more vehicles were highest in Resolution (41.7%) and Takapu (38.5%), whilst Cannons Creek North was the CAU with the highest percentage of residents without a vehicle (24%).

Table B.11 - Vehicle Ownership (2006)

Area	No Vehicle	One Vehicle	Two Vehicles	Three or More Vehicles
Linden	11.2%	43.7%	31.6%	11.9%
Tawa Central	8.3%	46.5%	30.3%	10.4%
Greenacres	2.7%	28.7%	44.0%	24.0%
Takapu	3.8%	7.7%	50.0%	38.5%
Ranui Heights	6.5%	45.8%	32.3%	12.3%
Porirua Central	7.1%	42.9%	21.4%	14.3%
Porirua East	21.5%	42.6%	25.4%	8.1%
Cannons Creek North	24.0%	35.1%	16.9%	6.5%
Cannons Creek South	15.6%	41.1%	27.0%	5.7%
Cannons Creek East	22.2%	37.1%	22.2%	6.3%
Waitangirua	16.4%	39.2%	26.4%	9.1%
Adventure	3.5%	31.7%	46.5%	17.6%
Resolution	0.0%	16.7%	41.7%	41.7%
Ascot Park	8.5%	41.1%	33.3%	11.6%
Papakowhai	1.9%	27.3%	50.9%	18.7%
Paremata-Postgate	2.8%	30.6%	46.5%	18.8%
Endeavour	0.6%	18.5%	56.7%	23.1%
Discovery	2.3%	26.4%	46.6%	22.8%
Mana-Camborne	5.7%	37.0%	43.0%	12.7%
Plimmerton	6.3%	35.8%	39.6%	16.0%
Pauatahanui	1.0%	14.3%	47.6%	34.3%
Paekakariki Hill	0.0%	18.8%	43.8%	25.0%
Pukerua Bay	3.9%	41.5%	39.1%	13.5%

Area	No Vehicle	One Vehicle	Two Vehicles	Three or More Vehicles
Paekakariki	10.0%	50.7%	29.7%	7.3%
Maungakotukutuku	0.0%	13.0%	26.1%	21.7%
Study Area Total	9.1%	36.2%	36.2%	14.0%
<i>Wellington City</i>	<i>13.5%</i>	<i>44.7%</i>	<i>29.3%</i>	<i>8.6%</i>
<i>Kapiti Coast District</i>	<i>8.5%</i>	<i>44.6%</i>	<i>33.2%</i>	<i>10.6%</i>
<i>Porirua City</i>	<i>10.5%</i>	<i>35.4%</i>	<i>35.6%</i>	<i>13.5%</i>

B.3.2 Transport

The means of travel to work is a key variable in understanding community travel patterns and movements. Table B.12, below, shows travel to work patterns in 2006, with figures adjusted to exclude those who did not specify a means of travel to work, or those who worked at home or did not work at all on the day of the Census.

The proportion of study area residents who commuted to work by private vehicle (either as a driver or as a passenger) was 60.6%, which was comparable to Kapiti Coast District (60%) and Porirua City (62.7%). The highest proportion of people who drove to work were from the Endeavour (69.1%), Ascot Park (68.9%) and Takapu (67.3%) CAUs. The proportion of residents who commuted by public transport was 13.9% for the study area as a whole, with Tawa Central (22.2%), Paekakariki (20%) and Linden (20.9%) the highest users of public transportation to work within the study area. Porirua Central had the highest proportion of residents who cycled, walked or jogged to work (22.5%).

Table B.12 - Journey to Work (2006)

Area	Drove/Passenger ²⁴	Public Transport (bus/train)	Cycled, Walked or Jogged	Other
Linden	56.1%	20.9%	2.8%	0.3%
Tawa Central	53.3%	22.2%	5.1%	0.4%
Greenacres	59.3%	19.0%	1.9%	0.8%
Takapu	67.3%	6.1%	2.0%	0.0%
Ranui Heights	63.2%	14.1%	3.8%	1.3%
Porirua Central	35.0%	7.5%	22.5%	0.0%
Porirua East	60.4%	9.5%	6.2%	1.1%
Cannons Creek North	59.6%	9.4%	2.6%	1.2%
Cannons Creek South	59.5%	10.8%	3.2%	1.1%
Cannons Creek East	60.6%	9.9%	2.6%	1.3%

²⁴ Includes motorcycles

Area	Drove/Passenger ²⁴	Public Transport (bus/train)	Cycled, Walked or Jogged	Other
Waitangirua	61.5%	9.4%	2.9%	0.9%
Adventure	66.8%	10.6%	2.6%	0.9%
Resolution	61.1%	11.1%	0.0%	0.0%
Ascot Park	68.9%	10.6%	2.5%	0.3%
Papakowhai	62.7%	12.2%	7.5%	0.4%
Paremata-Postgate	63.5%	13.2%	1.3%	0.6%
Endeavour	69.1%	9.4%	1.1%	0.9%
Discovery	66.7%	11.0%	1.5%	0.4%
Mana-Camborne	59.5%	15.9%	3.8%	0.4%
Plimmerton	57.0%	16.4%	2.9%	1.0%
Pauatahanui	63.3%	5.6%	2.2%	0.6%
Paekakariki Hill	65.5%	6.9%	0.0%	0.0%
Pukerua Bay	54.5%	18.8%	1.3%	1.0%
Paekakariki	50.2%	20.0%	3.5%	0.4%
Maungakotukutuku	50.5%	15.2%	16.2%	0.0%
Study Area Total	60.6%	13.9%	3.3%	0.7%
<i>Wellington City</i>	<i>46.0%</i>	<i>17.1%</i>	<i>17.4%</i>	<i>1.1%</i>
<i>Kapiti Coast District</i>	<i>60.0%</i>	<i>9.0%</i>	<i>4.7%</i>	<i>0.6%</i>
<i>Porirua City</i>	<i>62.7%</i>	<i>11.3%</i>	<i>3.3%</i>	<i>0.8%</i>

4. Socio-Economic Characteristics

B.4.1 Education

Education data provides a 'snapshot' of the education status of the resident population. This statistic was collected for the resident population aged 15 years and over. The highest qualifications for study area CAU residents in 2006 are summarised in Table B.13, below.

Within the study area, the Paekakariki, Pukerua Bay and Plimmerton CAUs generally had a higher proportion of residents with a higher level of education attainment. The Waitangirua, Cannons Creek South and Cannons Creek East CAUs generally had a higher proportion of residents with lower levels of educational attainment. Within the study area as a whole, the highest proportion of respondents (31.9%) had a diploma/ bachelor degree as their highest qualification.

Table B.13 - Highest Qualification (2006)

Area	No Qualification	Secondary School or Equivalent	Diploma/Bachelor Degree	Post Graduate
Linden	20.0%	28.2%	34.5%	3.8%
Tawa Central	16.2%	27.2%	36.7%	5.5%
Greenacres	13.2%	33.1%	40.1%	5.6%
Takapu	7.8%	32.8%	40.6%	3.1%
Ranui Heights	25.9%	27.7%	30.0%	2.9%
Porirua Central	33.0%	22.0%	18.7%	2.2%
Porirua East	34.7%	24.3%	23.4%	0.8%
Cannons Creek North	29.0%	20.6%	17.0%	1.1%
Cannons Creek South	29.5%	24.6%	18.4%	0.6%
Cannons Creek East	32.9%	23.9%	13.8%	0.5%
Waitangirua	35.9%	22.0%	16.0%	0.2%
Adventure	16.6%	30.3%	39.1%	4.4%
Resolution	15.4%	34.6%	46.2%	3.8%
Ascot Park	30.3%	28.8%	23.3%	1.4%
Papakowhai	15.0%	29.8%	39.5%	5.6%
Paremata-Postgate	12.7%	28.4%	43.4%	7.4%
Endeavour	11.5%	33.0%	39.4%	6.8%
Discovery	12.3%	32.2%	40.9%	5.4%
Mana-Camborne	13.9%	29.6%	40.1%	6.6%
Plimmerton	11.9%	24.0%	46.3%	10.5%
Pauatahanui	12.8%	29.8%	44.3%	6.0%
Paekakariki Hill	8.6%	25.7%	42.9%	5.7%
Pukerua Bay	12.0%	28.4%	42.3%	8.5%
Paekakariki	14.9%	26.2%	38.5%	11.8%
Maungakotukutuku	2.4%	4.7%	7.1%	0.9%
Study Area Total	20.3%	27.0%	31.9%	4.4%
<i>Wellington City</i>	<i>10.5%</i>	<i>25.3%</i>	<i>40.3%</i>	<i>11.3%</i>
<i>Kapiti Coast District</i>	<i>22.2%</i>	<i>25.5%</i>	<i>33.7%</i>	<i>4.1%</i>
<i>Porirua City</i>	<i>22.8%</i>	<i>26.6%</i>	<i>30.4%</i>	<i>3.8%</i>

B.4.2 Labour Force Status

Labour force participation rates provide an indication of economic status and the proportion of residents engaged in activities such as full-time parenting, study, or retirement. Table B.14, below, shows labour force participation rates in the study area CAUs.

In the study area as a whole, the highest proportion of residents were employed full-time (50.9%), followed by 27.3% who were not in the labour force. The Paekakariki Hill CAU had the highest proportion of residents employed full-time (74.3%), whilst the lowest proportion of residents employed full-time were in the Porirua Central CAU (30.8%). Similarly, Waitangirua also had a high proportion of residents within the study area who were unemployed (8.4%). The highest proportion of residents who were not in the labour force was in Porirua Central (47.3%), and Cannons Creek East (37.5%).

Table B.14 - Labour Force Status (2006)

Area	Employed Full-time	Employed Part-time	Unemployed	Not in the Labour Force
Linden	51.1%	13.5%	4.1%	29.9%
Tawa Central	50.2%	15.1%	2.7%	27.5%
Greenacres	55.7%	17.9%	2.2%	23.2%
Takapu	58.7%	17.5%	1.6%	19.0%
Ranui Heights	58.6%	10.2%	3.5%	25.4%
Porirua Central	30.8%	14.3%	5.5%	47.3%
Porirua East	47.3%	10.3%	7.3%	33.9%
Cannons Creek North	35.1%	10.4%	8.2%	33.1%
Cannons Creek South	41.2%	11.4%	8.0%	32.4%
Cannons Creek East	35.6%	9.4%	8.2%	37.5%
Waitangirua	38.5%	10.5%	8.4%	37.4%
Adventure	58.4%	15.3%	1.9%	23.1%
Resolution	50.0%	26.9%	0.0%	23.1%
Ascot Park	51.6%	10.7%	6.1%	28.3%
Papakowhai	58.8%	14.7%	2.1%	23.4%
Paremata-Postgate	59.4%	16.3%	2.7%	20.5%
Endeavour	60.1%	16.2%	2.4%	20.3%
Discovery	59.7%	16.4%	2.4%	19.8%
Mana-Camborne	57.3%	15.5%	2.1%	24.4%
Plimmerton	57.3%	16.2%	2.7%	21.3%
Pauatahanui	59.4%	17.9%	1.7%	18.8%
Paekakariki Hill	74.3%	8.6%	2.9%	11.4%
Pukerua Bay	55.0%	18.0%	2.3%	22.6%
Paekakariki	51.4%	16.8%	3.8%	26.2%

Area	Employed Full-time	Employed Part-time	Unemployed	Not in the Labour Force
Maungakotukutuku	44.4%	24.1%	0.0%	13.0%
Study Area Total	50.9%	13.9%	4.3%	27.3%
<i>Wellington City</i>	<i>54.9%</i>	<i>14.5%</i>	<i>3.5%</i>	<i>23.8%</i>
<i>Kapiti Coast District</i>	<i>40.7%</i>	<i>14.2%</i>	<i>2.7%</i>	<i>39.7%</i>
<i>Porirua City</i>	<i>49.7%</i>	<i>13.2%</i>	<i>4.7%</i>	<i>28.2%</i>

B.4.3 Household Income

Household income is a composite of the income earned by individual residents of each household. This statistic provides insight into the economic condition of households in this study area (while also recognising that the number of household members also influences household income figures). Average annual household incomes in the study area CAUs are summarised in Table B.15, below.

Within the study area, the Takapu, Resolution, Endeavour and Paekakariki Hill CAUs had the highest median household incomes (\$100,000 per year), and also the highest proportion of household incomes in excess of \$100,001 per year. The lowest median household incomes were in Cannons Creek North, Porirua Central and Porirua East CAUs. The median weekly rent paid per week ranged from \$94 in Cannons Creek East to \$301 in the Endeavour CAU.

Table B.15 – Household Income and Median Weekly Rent Paid (2006)

Area	\$20,000 or Less	\$20,001-\$50,000	\$50,001-\$100,000	\$100,001 or More	Median Income	Median Weekly Rent Paid
Linden	13.4%	26.6%	28.8%	18.7%	\$55,000	\$196
Tawa Central	11.2%	22.4%	32.5%	18.5%	\$61,200	\$221
Greenacres	6.0%	17.3%	32.7%	35.3%	\$84,300	\$210
Takapu	3.8%	11.5%	19.2%	50.0%	\$100,000	C
Ranui Heights	6.5%	30.3%	31.0%	16.1%	\$56,800	\$200
Porirua Central	7.1%	35.7%	21.4%	7.1%	\$38,300	\$180
Porirua East	17.3%	27.4%	24.5%	6.3%	\$39,600	\$150
Cannons Creek North	17.2%	23.7%	13.6%	4.5%	\$33,500	\$135
Cannons Creek South	10.0%	24.3%	20.7%	5.0%	\$44,600	\$142
Cannons Creek East	14.2%	21.2%	18.0%	5.4%	\$40,500	\$94
Waitangirua	13.4%	22.6%	16.8%	7.0%	\$40,800	\$140
Adventure	4.9%	20.4%	35.2%	26.8%	\$72,900	\$260
Resolution	8.3%	0.0%	16.7%	58.3%	\$100,000	C
Ascot Park	9.3%	25.2%	29.8%	11.6%	\$54,900	\$201
Papakowhai	3.7%	17.5%	31.3%	37.3%	\$88,400	\$301
Paremata-Postgate	4.2%	18.1%	34.8%	35.2%	\$82,400	\$260
Endeavour	2.6%	10.0%	24.5%	55.0%	\$100,000	\$301
Discovery	3.6%	15.6%	37.5%	33.9%	\$85,500	\$300
Mana-Camborne	8.0%	22.0%	30.3%	29.3%	\$70,400	\$251
Plimmerton	9.7%	17.8%	25.7%	36.1%	\$81,000	\$251
Pauatahanui	6.7%	10.6%	26.0%	43.3%	\$98,000	\$210
Paekakariki Hill	6.3%	18.8%	18.8%	43.8%	\$100,000	C
Pukerua Bay	6.3%	23.7%	35.3%	22.7%	\$67,900	\$230
Paekakariki	14.6%	28.8%	29.2%	14.2%	\$49,900	\$201
Maungakotukutuku	C	C	C	C	C	C
Study Area Total	9.5%	20.9%	27.1%	23.2%	\$70,400	\$210
<i>Wellington City</i>	<i>9.8%</i>	<i>19.4%</i>	<i>27.2%</i>	<i>30.7%</i>	<i>\$74,200</i>	<i>\$270</i>
<i>Kapiti Coast District</i>	<i>16.8%</i>	<i>32.9%</i>	<i>24.9%</i>	<i>12.7%</i>	<i>\$42,500</i>	<i>\$201</i>
<i>Porirua City</i>	<i>10.5%</i>	<i>21.5%</i>	<i>26.5%</i>	<i>21.0%</i>	<i>\$62,400</i>	<i>\$171</i>

B.4.4 Household Tenure

Household tenure can provide insight into the economic condition of households²⁵. Household tenure in the study area CAUs is summarised in Table B.16, below.

In 2006, the proportion of home ownership (including dwellings held in family trusts) in the study area CAUs was 62.3%. There were high rates of home ownership in the Greenacres, Endeavour and Pukerua Bay CAUs. There were substantially less rates of home ownership in the Cannons Creek North, Porirua Central and Waitangirua CAUs. Of those who rented, the majority were renting from a private landlord (58.7%), although there was a high proportion of residents renting accommodation from the Housing New Zealand Corporation in the Cannons Creek South (63.9%), Cannons Creek East (78.8%) and Waitangirua (66.5%) CAUs.

Table B.16 - Household Tenure (2006)

Area	Dwelling Owned or Partly	Dwelling Held in Family Trust	Dwelling Not Owned	Landlord, for Households in Rented Occupied Dwellings	
				Private	Public (E.g Housing New Zealand)
Linden	54.8%	8.8%	32.5%	64.2%	29.9%
Tawa Central	57.8%	7.3%	29.8%	74.6%	20.3%
Greenacres	73.3%	13.3%	11.3%	93.3%	0.0%
Takapu	46.2%	42.3%	7.7%	C	C
Ranui Heights	58.7%	5.2%	29.7%	97.6%	0.0%
Porirua Central	0.0%	7.1%	71.4%	33.3%	55.6%
Porirua East	34.9%	2.9%	56.5%	49.5%	45.0%
Cannons Creek North	17.3%	3.3%	59.9%	34.5%	60.3%
Cannons Creek South	27.9%	2.1%	55.0%	33.3%	63.9%
Cannons Creek East	26.9%	3.8%	54.4%	17.9%	78.8%
Waitangirua	23.8%	2.7%	61.3%	30.2%	66.5%
Adventure	62.7%	12.0%	22.5%	93.3%	3.3%
Resolution	54.5%	36.4%	9.1%	C	C
Ascot Park	46.7%	4.7%	40.5%	50.5%	46.2%
Papakowhai	67.2%	16.8%	13.8%	93.5%	0.0%

²⁵ However, it is important to note that household tenure is subject to individual preference and not owning a dwelling does not necessarily denote low socio-economic status.

Area	Dwelling Owned or Partly	Dwelling Held in Family Trust	Dwelling Not Owned	Landlord, for Households in Rented Occupied Dwellings	
				Private	Public (E.g Housing New Zealand)
Paremata-Postgate	63.8%	14.6%	19.9%	98.1%	0.0%
Endeavour	69.2%	21.1%	8.3%	96.0%	0.0%
Discovery	66.8%	14.7%	16.0%	95.7%	0.0%
Mana-Camborne	62.3%	14.7%	19.3%	96.1%	3.9%
Plimmerton	52.6%	18.3%	26.1%	96.6%	0.0%
Pauatahanui	46.2%	33.7%	17.3%	100.0%	0.0%
Paekakariki Hill	56.3%	18.8%	18.8%	C	C
Pukerua Bay	71.0%	8.7%	17.4%	93.9%	0.0%
Paekakariki	58.0%	8.7%	28.8%	91.7%	3.3%
Maungakotukutuku	29.2%	20.8%	8.3%	C	C
Study Area Total	51.7%	10.6%	31.4%	58.7%	36.9%
<i>Wellington City</i>	<i>47.1%</i>	<i>10.1%</i>	<i>37.4%</i>	<i>81.3%</i>	<i>13.8%</i>
<i>Kapiti Coast District</i>	<i>59.5%</i>	<i>11.9%</i>	<i>22.9%</i>	<i>87.8%</i>	<i>8.0%</i>
<i>Porirua City</i>	<i>49.0%</i>	<i>9.6%</i>	<i>34.4%</i>	<i>54.0%</i>	<i>42.6%</i>

B.4.5 Deprivation

Deprivation refers to a state of observable and demonstrable disadvantage relative to the local community of the wider nation to which an individual, family or group belongs. Deprivation indicators bring a multiple of population and household variables together to provide a measure of the 'well-being' of the population.

B.4.5.1 2006 Index of Deprivation

The Department of Public Health has produced the 2006 Index of Deprivation (NZDep2006). The Index combines nine Census variables, which are considered to most appropriately reflect aspects of material and social deprivation, to provide a 'score' for each CAU. This score is provided as a scale from 1 to 10, with 10 representing the most deprived 10% of areas in New Zealand.

The nine variables used in assessing deprivation are as follows:

- Income: People ages 18-64 receiving means tested government benefit;
- Employment: People aged 18-64 who are unemployed;
- Income: People in households with income below a particular income threshold;

- Communication: Accessibility of people to a telephone;
- Transport: Accessibility of people to a car;
- Support: People aged less than 65 years living in a single parent family;
- Qualifications: People aged 18-64 without any formal qualification;
- Living Space: People living in households below a particular bedroom/occupant threshold (threshold defined by people living in households with – 1 bedroom for occupants (cumulatively 10% of population live in this deprived living state); and
- Owned Home: People not living in their own home.

Table B17 below has been broken down into community areas to outline the differences in deprivation levels across the Project area, and to identify the vulnerable community groups. Based on levels of deprivation, Community Area 4 (Eastern Porirua) can be described as the most vulnerable group in the Project area. Community Area 2 (rural communities of Maungakotukutuku and Paekakariki Hill) and Community Area 3 (Pauatahanui and Whitby) have the lowest levels of deprivation in the Project area.

Table B.17 - Weighted Deprivation Scores for the CAUs in the Project Area (2006 Index)

Community Area	CAU	NZDepRank2006
1	Paekakariki	6
2	Paekakariki Hill	1
2	Maungakotukutuku	1
3	Adventure	2
3	Resolution	1
3	Endeavour	1
3	Discovery	1
3	Pauatahanui	1
4	Ranui Heights	6
4	Porirua East	10
4	Cannons Creek North	10
4	Cannons Creek South	10
4	Cannons Creek East	10
4	Waitangirua	10
4	Ascot Park	9
5	Linden	6
5	Tawa Central	5
5	Greenacres	1
5	Takapu	1
5	Porirua Central	10
6	Pukerua Bay	2
6	Plimmerton	2

Community Area	CAU	NZDepRank2006
6	Mana-Camborne	1
6	Paremata-Postgate	2
6	Papakowhai	1
	Median for Study Area	2
	Average for Study Area	4

B.4.5.2 School Decile Ratings

In the Transmission Gully SIA decile ratings for individual schools in the study area are identified as part of profiling the existing environment, and for developing an understanding of the various communities. School decile ratings are determined by the Ministry of Education and take account of a number of factors including the socio-economic status of the families of the pupils at the school. Census information is used to calculate the socio-economic indicator for each school, and is determined by a number of factors, including household income, occupation, household crowding, educational qualifications and income support.

All schools are attributed a 'decile rating', with 10% of schools assigned to each rating from 1 -10. In other words, a low decile rating of '1' indicates that the school roll is in the 10% of schools with the highest proportion of disadvantaged children, conversely a rating of '10' has the lowest proportion of disadvantaged children. Each school is defined by the Census meshblocks from which its students come from and is ranked with all other schools and their socio-economic indicators (with a score assigned for each of these factors, which are cumulated for an overall score and the decile rating).

The decile ratings for schools within the study area²⁶ are outlined in the following table:

Table B.18 - School Decile Ratings (State & State Integrated Schools) 2008²⁷

Community Area	School	2008 Decile Rating
1	Paekakariki School	7
3	Adventure School	10
3	Discovery School	10
3	Pauatahanui School	10
3	Postgate School	4
3	Samuel Marsden Collegiate School - Whitby	N/A

²⁶ School decile ratings are only provided for state and state integrated schools. Therefore, the private schools within the study area have not been allocated a decile rating, and are marked as 'Not Applicable' (N/A).

²⁷ School decile ratings are recalculated following each Census, which occurs every five years. As such, the decile ratings above are the most recently calculated and therefore the most appropriate dataset available for the completion of this demographic profile.

Community Area	School	2008 Decile Rating
4	Cannons Creek School	1
4	Corinna School	1
4	Glenview School (Eastern Porirua)	1
4	Holy Family School (Porirua)	1
4	Maraeroa School	1
4	Natone Park School	1
4	Porirua East School	2
4	Rangikura School	2
4	Russell School (Eastern Porirua)	1
4	Tairangi School	1
4	Te Kura Maori o Porirua	3
4	Windley School	1
4	Brandon Intermediate	1
4	Porirua College	1
4	Porirua Alternative School	N/A
5	Greenacres School	9
5	Hampton Hill School	6
5	Linden School	4
5	Redwood School	10
5	St Francis Xavier School (Tawa)	9
5	Tawa School	8
5	Tawa College	9
5	Bishop Viard College	2
5	Mana College	2
5	Kapi-Mana School	4
5	He Haurahi Tamariki	1
5	Wellington SDA School	2
6	Plimmerton School	10
6	St Theresa's School	10
6	Paremata School	9
6	Papakowhai School	9
6	Pukerua Bay School	10
5	Tawa Intermediate	8
6	Aotea College	5