

APPENDIX 7

EFFECTS ON SOCIAL VALUES

**LYTTELTON PORT COMPANY
RECOVERY PLAN**

STRATEGIC SOCIAL ASSESSMENT

Prepared by Taylor Baines & Associates

6 November 2014

TABLE OF CONTENTS

EXECUTIVE SUMMARY.	-i-
1 INTRODUCTION.	-1-
1.1 Brief for this assessment.	-1-
1.2 Institutional context.	-2-
1.3 Approach and methods.	-5-
1.4 Links with other experts' assessments.	-7-
1.5 Report structure.	-8-
2 EXISTING SOCIAL SETTING.	-9-
2.1 Communities of interest.	-9-
2.2 Social Context.	-9-
2.3 Lyttelton town and harbour since the earthquakes.	-16-
2.4 Expectations and aspirations for Lyttelton.	-22-
3 LYTTELTON PORT COMPANY RECOVERY PLAN.	-24-
3.1 Recovery Plan process.	-24-
3.2 Key assumptions.	-24-
4 STRATEGIC SOCIAL BENEFITS AND COSTS.	-29-
4.1 Principal elements of change envisaged.	-29-
4.2 Potential social benefits of the Recovery Plan.	-30-
4.3 Potential social costs of the Recovery Plan.	-42-
4.4 Summary of other 'social effects' assessments.	-49-
5 CONCLUSIONS AND RECOMMENDATIONS.	-50-
REFERENCES.	-52-
APPENDICES.	-54-
Appendix 1: Taylor Baines research consultation record.	-55-
Appendix 2: Demographic comparisons.	-58-
Appendix 3: Analysis of complaints about port activities.	-60-

EXECUTIVE SUMMARY

1. While this Recovery Plan is focused primarily on LPC land and recovery projects, the relationship between LPC recovery, Lyttelton community recovery and the wider recovery efforts for Christchurch is evident in this and other assessments.
2. LPC recovery relates to the timely recovery of port infrastructure while maintaining and increasing operational capacity.
3. The Christchurch recovery is reflected in the high volumes of freight passing through the port which are related to rebuilding the city and regional economic activity.
4. The Lyttelton community recovery (as it is relevant to this Recovery Plan) is related to the opportunities for re-connecting town and harbour, and rebuilding the relationship between the community and the port company, tempered by the potential for adverse effects. Some may be asked to accept adverse effects for a prolonged construction period. Community expectations for the Norwich Quay interface between town and harbour, expressed at the time of the Master Plan, may have to be moderated in light of subsequent feasibility studies.
5. The general tenor of community consultation thus far is that a balance needs to be maintained between these potentially conflicting elements of recovery - not emphasising one at the expense of another.
6. This high-level social assessment concludes that there are significant potential social benefits. The principal social benefits are associated with -
 - immediate security of employment at the port, and the long-term potential for more employment and a safer working environment at the port;
 - new waterfront amenities in the Inner Harbour at Dampier Bay and the realisation of an important aspiration for the community of Lyttelton to re-connect with the harbour and enjoy access to it;
 - new business and employment opportunities at Dampier Bay;
 - the opportunity to secure ferry terminal facilities that provide in the short term a significantly enhanced level of amenity and service for its users and in the long term the potential for increased capacity in the service; and
 - the opportunity for a stronger, positive relationship between the town of Lyttelton and LPC as the basis for increased social cohesion and enhanced identity.
7. These benefits will rely on commercial development and decisions over several decades which will have implications for the extent of social benefits realised. The full realisation of potential benefits will depend on LPC achieving up to 37ha of reclamation at Te Awaparahi Bay, which enables a cascade of changes in the location of port activities, thereby freeing up space in the Inner Harbour for public access.

8. If the full reclamation does not proceed, the scale of potential community benefits will be more limited.
9. The potential for several significant social costs have also been identified during this assessment, some of which have been further assessed by various technical experts (traffic - access and safety, noise, air quality). The principal social costs are associated with -
 - the growth in vehicular traffic through the tunnel and to the port with adverse social effects that increase over time unless suitably mitigated; and
 - off-site effects of port operations and re-construction activity on amenity values close to the port, which is likely to be greatest during the period of intense demolition and construction over the first 5-10 years and then diminish significantly when port operations migrate eastwards, vacating much but not all of the Inner Harbour.
10. This Social Impact Assessment recommends mitigation in two categories. Firstly, there is mitigation which is already or should be incorporated into the Recovery Plan via the rules package. Secondly, there are recommendations which either complement the rules package but come under legislation other than the RMA or which seek to extend the scope of mitigation via voluntary initiatives.
11. The combination of the potential for increased employment levels, demand for high levels of workplace safety, and maintaining port operational competitiveness simultaneously would suggest that land reclamation of up to 37ha is necessary.
12. Similarly, the community expectations for improvements in waterfront amenities and public access would suggest that increased outer harbour (eastward) operational port capacity is necessary.
13. Furthermore, we consider the institutional arrangements outlined in this report to be necessary to support community recovery.
14. A summary table linking social effects, related issues, affected groups and recommended mitigation is presented on the following pages.

Taylor Baines

Social effects	Related issues	Affected groups [Geographical level] [L=local; D= 'District']	Recommended Mitigation		Comments [Nature & Significance]
			In the Rules Package	Additional recommendations	
SOCIAL BENEFITS					
(1) LPC employment: job security and livelihoods support a range of flow-on social benefits to individual workers, their households and their communities that result from having people in paid jobs; reclamation (enlarged working areas) and re-constructed port facilities provide for safer working environment	<ul style="list-style-type: none"> - Importance of managing workplace safety for multiple workforces during re-construction. - Employment and livelihood opportunities in safe work environments support several determinants of health. 	[D,L] Individual workers at LPC, the households they support and the communities they live in, including Lyttelton and harbour communities (15%) wider city communities (80%), and wider regional communities (5%)	<ul style="list-style-type: none"> - Provision for CEMP during re-construction period. - OSH matters are typically addressed under different legislation and therefore not part of the rules package. - The CEMP needs express acknowledgment that construction activities are occurring within an operating port environment, not a greenfield setting, and corresponding consistency with LPC's OSH Plan. 	<ul style="list-style-type: none"> - Updated LPC OSH Plan. - Whole-site OSH Accord (LPC + Port User Groups) 	<ul style="list-style-type: none"> - Job security for existing workforce is immediate. - Risks to workplace safety are greatest in the short term, prior to the reclamation becoming operational. - Potential for employment growth is greatest once the reclamation becomes operational.
(2) New waterfront amenities - Dampier Bay: additional focal point for Lyttelton residents to engage in community activities and establish social connections; realisation of community aspirations to re-connect with the harbour; assists in post-quake psycho-social recovery	<ul style="list-style-type: none"> - Ability to ensure that Lyttelton community values and preferences are appropriately reflected in the design. Social benefits can reduce where local preferences are not adequately recognised. 	[D,L] Lyttelton residential community and residents of Christchurch who visit Lyttelton	<ul style="list-style-type: none"> - Provision for ODP to be included in the LPRP; - Provision for consultation and submissions on the ODP as part of the LPRP process. 	<ul style="list-style-type: none"> - community involvement in design workshops - adopting best practice participatory planning 	<ul style="list-style-type: none"> - Potential for social benefits is moderate in the short term, and reaches its full potential once port industrial activities vacate Wharf #7

Taylor Baines

Social effects	Related issues	Affected groups [Geographical level] [L=local; D= 'District']	Recommended Mitigation		Comments [Nature & Significance]
			In the Rules Package	Additional recommendations	
(3) New business and employment opportunities - Dampier Bay: Livelihood and employment opportunities and flow-on social benefits (as in (1)).		[L] Potential opportunity for residents anywhere in Christchurch.	- As for (2) above.	- As for (2) above.	- Scale of benefits is minor in absolute terms, but potentially significant in the local community
(4) Ferry terminal re-location: greater long-term certainty, potential for increased capacity and enhanced level of amenity and service for users of the ferry service.	<ul style="list-style-type: none"> - Competing preferences for location amongst different groups of users. - Increased walking distance between terminal and town centre. - Potential for improved terminal facilities, better bus connections and enhanced user amenities. 	[D,L] All users of the Diamond Harbour ferry service - approximately 50% Diamond Harbour residents and 50% visitors from Christchurch and elsewhere.	- As for (2) above.	- As for (2) above.	- The removal of the ferry terminal from core port operational space offers significant social benefits, but no location is likely to be optimal for all users.
(5) Stronger relationship between LPC and the town: increased social cohesion; stronger positive identity for Lyttelton;	<ul style="list-style-type: none"> - Enhanced social licence to operate for LPC. 	[D,L] Residents of Lyttelton. LPC, its shareholders, workforce and stakeholders.	<ul style="list-style-type: none"> - Sequenced opportunities for engagement and community input throughout the LPRP development process. 	<ul style="list-style-type: none"> - Continued voluntary engagement on projects outside of the statutory process (e.g. Dampier Bay development, construction activities). - Social Licence surveys and strategy development 	- The potential for these social benefits are cumulative over the long term and require continuous attention in order to be sustained.

Taylor Baines

Social effects	Related issues	Affected groups [Geographical level] [L=local; D= 'District']	Recommended Mitigation		Comments [Nature & Significance]
			In the Rules Package	Additional recommendations	
SOCIAL COSTS					
(6) Growth in vehicular traffic through the tunnel and along Norwich Quay: potential risk of tunnel congestion extending emergency (ambulance) response times; reduced environmental amenity values on Norwich Quay; existing scarcity of parking exacerbated	- Perceptions of increased traffic hazards could jeopardise accessibility between town centre and the waterfront.	[L] - Residents and workers in Lyttelton	- As for (2) above.	- As for (2) above. - LPC contribution to Rapid Response Vehicle dedicated to Lyttelton. - Formalised contacts between LPC and Emergency Services n Lyttelton - via Port User Group and dedicated contacts.	- These risks are progressive in scale over time.
(7) Off-site amenity effects from port operations and re-construction activities: existing levels of noise exposure are likely to be exceeded and for an extended period of time affecting amenity values adversely; reclamation and the rebuilt Cashin Quay offer the prospect of reduced exposure to port noise with the consequent improvement in amenity values.	- There is acceptance within the Lyttelton that a degree of nuisance or amenity effect is characteristic of a port town. - It is accepted by LPC that off-site amenity issues should be managed and not ignored. - The psycho-social recovery of communities affected by natural disasters takes 5-10 years.	[L] Residents and businesses closest to port operational areas	- Provision for updated Noise Management Plan and Construction Environmental Management Plan to recognise and respond to cumulative effects of construction and operational noise. - Port Liaison Committee mechanism endorsed; it's mandate should require a more pro-active approach to addressing noise issues during the re-construction period.	- Expand the mandate of the PLC to address air quality and lighting issues.	- The risk of adverse effects on amenity and health from prolonged exposure to cumulative noise is greatest during the period of intense re-construction activity (the next 5-10 years) - In the long term, with migration of port activities eastward, the incidence and severity of off-site noise effects is likely to be reduced with corresponding improvements in residential and business amenity values.

1 INTRODUCTION

1.1 Brief for this assessment

The purpose of this Report is to undertake an assessment of the social well-being effects to support the preparation of the Lyttelton Port Recovery Plan. The background to this exercise was described by the Port's Chief Executive in the following words -

*"Following the devastating Canterbury earthquakes of 2010 and 2011 our port, like the rest of the city has faced a series of unprecedented challenges. Our focus has been on staying operational while completing temporary repairs and dealing with continued growth in international trade. it will take hard work and commitment for us to achieve our goals, with almost every structure within the port requiring rebuild or significant repair. Although the port is facing the largest development in its history, and one of the largest recovery projects ever faced in New Zealand, the earthquakes have provided a unique opportunity to reconfigure our facilities to deliver a modern thriving port that is well connected to its community and supports a healthy harbour environment for future generations."*¹

The brief for the social impact assessment provided to Taylor Baines specified the following -

- 1) review and assess the likely construction activities at the Port and proposed change in Port layout;
- 2) review relevant technical reports from other experts (namely marine hydrodynamics, traffic, noise, hazardous substances, landscape, economics, air quality, etc.) to understand the potential effects (positive and negative) on the community during construction and in the long term;
- 3) undertake an overall assessment of effects of the construction and development works on the social and economic wellbeing of the community, including recreational users of the Harbour; and
- 4) prepare a technical report detailing the above.

For clarity, the assessment of economic wellbeing is being carried out separately by Mike Copeland of Brown Copeland & Co, while a dedicated tourism and recreational assessment is being carried out by Rob Greenaway of Rob Greenaway & Associates. Taylor Baines has liaised with both of these experts. Responsibility for other aspects of community engagement² has been with Carter Price Rennie and Chris Mene. Furthermore, after discussions with the Canterbury District Health Board (CDHB) in late August 2014, the CDHB has worked with LPC and its team of consultants to conduct a preliminary Health and Wellbeing Impact Assessment (HWIA)³. Since there is a substantial degree of overlap between this HWIA and the Taylor Baines Social Assessment (although the methods are different), Taylor Baines has contributed to the HWIA.

¹ Peter Davie, CEO - Foreword to *Port Lyttelton Plan - Our Future*

² For example, Port Talk and a series of community workshops.

³ Note that CDHB and Environment Canterbury have an agreement which seeks to encourage the integration of Health and Wellbeing Impact Assessment with Environmental Impact Assessment. Such assessments have been carried out previously for recovery plans - Central City Recovery Plan and the Land Use Recovery Plan.

1.2 Institutional context

1.2.1 Purposes of the Canterbury Earthquake Recovery Act 2011

This assessment and report has been prepared under the Canterbury Earthquake Recovery Act 2011 (the CER Act). While the approach to assessing social effects is no different in essence, the CER Act does have purposes which are different from those of the Resource Management Act (RMA). The CER Act purposes⁴ are -

- (a) to provide appropriate measures to ensure that greater Christchurch and the councils and their communities respond to, and recover from, the impacts of the Canterbury earthquakes;
- (b) to enable community participation in the planning of the recovery of affected communities without impeding a focused, timely, and expedited recovery;
- (c) to provide for the Minister and CERA to ensure that recovery;
- (d) to enable a focused, timely, and expedited recovery;
- (e) to enable information to be gathered about any land, structure, or infrastructure affected by the Canterbury earthquakes;
- (f) to facilitate, co-ordinate, and direct the planning, rebuilding, and recovery of affected communities, including the repair and rebuilding of land, infrastructure, and other property; and
- (g) to restore the social, economic, cultural, and environmental well-being of greater Christchurch communities.

Key definitions from the CER Act include -

- (a) “recovery” includes “restoration and enhancement”; and
- (b) “rebuilding” includes -
 - (i) extending, repairing and improving infrastructure; and
 - (ii) rebuilding communities.

Furthermore, Section 10 of the CER Act states that the Minister must reasonably consider the measures put forward by the Lyttelton Port Company (LPC) to be “necessary” to achieve the purposes of the Act.

⁴ CER Act 2011, Section 3.

1.2.2 Direction to develop a Lyttelton Port Recovery Plan

The direction to develop a Lyttelton Port Recovery Plan, made by the Minister on 18 June 2014, specifies the geographic extent on which the Recovery Plan should focus as follows -

“..all land in the Lyttelton Port area owned, occupied or used by Lyttelton Port Company Limited at the date of this direction, pockets of land within that geographic area under separate ownership and the area of Norwich Quay.”⁵

while noting that -

“In developing the draft Lyttelton Port Recovery Plan, Canterbury Regional Council must consider issues and effects that may occur outside of the geographic extent of the Recovery Plan, including matters relating to land use and transport associated with the recovery of Lyttelton Port, the social, economic, cultural and environmental well-being and effects on surrounding communities and Lyttelton harbour, and wider transportation issues across greater Christchurch.”⁶

1.2.3 Matters to be dealt with

The Ministerial Direction, at section 5.1, also provides guidance on matters to be addressed by the Lyttelton Port Recovery Plan, including *“but not limited to:*

- 5.1.1 The recovery of the damaged port, including the repair, rebuild and reconfiguration needs of the port, and its restoration and enhancement, to ensure the safe, efficient and effective operation of Lyttelton Port and supporting transportation networks;⁷*
- 5.1.2 The social, economic, cultural and environmental well-being of surrounding communities and greater Christchurch, and any potential effects with regard to health, safety, noise, amenity, traffic, the coastal marine area, economic sustainability of Lyttelton town centre and the resilience and well-being of people and communities including the facilitation of a focused, timely and expedited recovery;*
- 5.1.3 Implications for transport, supporting infrastructure and connectivity to the Lyttelton town centre, including, but not limited to, freight access to the port, public access to the inner harbour and the location of passenger ferry terminals and public transport stops;*
- 5.1.4 The needs of users of Lyttelton Port and its environs, including, but not limited to, iwi, importers and exporters, cruise ship passengers and crew, tourism operators and customers, commercial fishers, recreational users and public enjoyment of the harbour and well-being of communities.”*

Therefore, this Report is produced as part of the “necessary information” that LPC must provide Environment Canterbury to enable the preparation of a preliminary draft Lyttelton Port Recovery Plan under clause 6.5 of the Direction.

⁵ New Zealand Gazette, No.65, 19 June 2014. Section 4.1

⁶ Ibid. Section 4.3

⁷ Relevant to Section 3 of this Report.

1.2.4 Opportunities for public consultation and community input under the Direction

Three phases of activity involved in the preparation of the **Lyttelton Port Recovery Plan (LPRP)** each provide for public consultation and community input.

Phase 1 (the current phase), driven by LPC, has involved consultation and engagement with the community and stakeholders on LPC's long-term vision for the repair, rebuild, restoration and enhancement of the port, and on the scope and matters to be addressed in the technical assessment reports commissioned by LPC. This has fed into the package of information which will be presented to Environment Canterbury.

Phase 2, which will be driven by Environment Canterbury, involves the preparation of a **preliminary draft LPRP**, based on information provided by LPC (from Phase 1). Environment Canterbury then undertakes its own consultation and engagement with the community and key stakeholders on this preliminary draft, prior to holding a public hearing. After the public hearing, Environment Canterbury will provide the Minister for Canterbury Earthquake Recovery with a **Draft LPRP**.

Phase 3, driven by the Minister for Canterbury Earthquake Recovery, will publicly notify the Draft LPRP and invite written comments from the public, after which the Minister will make a decision on the **Final LPRP** and will then notify this decision.

Discussion and recommendations later in this report concerning community input should be interpreted mindful of these provisions made in the Minister's Direction.

1.2.5 Other aspects of institutional setting relevant to a consideration of social effects

Besides the CER Act context, it is important from a social and community perspective, to acknowledge the level of effort already invested by members of the community of Lyttelton and numerous other stakeholders, supported by the City Council, in developing the Lyttelton Master Plan in 2012. Whilst not a statutory document, the Master Plan embodies important expressions of community aspirations and possible future initiatives. The relationship between the Town and the Port is clearly important to some of these.

Two inter-organisational developments are relevant in this context -

- The Lyttelton Master Plan envisaged a Heads of Agreement⁸ between Council, LPC, NZTA, KiwiRail and Environment Canterbury for the purposes of investigating and resolving issues concerning heavy traffic access to the port and public access to the Inner Harbour waterfront; and
- On 5 June 2014, the City Council established a Lyttelton Recovery Plan CCC Working Party comprising 3 councillors and 3 community board members, supported by Council staff with objectives which include "to ensure that the Lyttelton community through the Community Board are actively engaged in the Recovery Plan and its development."⁹

We expect this Working Party to be active in promoting and ensuring appropriate levels of community engagement throughout all stages of LPRP development.

⁸ Christchurch City Council (2012): 48. These investigations were subsequently referred to as the Lyttelton Access Project

⁹ Christchurch City Council (2014): 1-2.

1.3 Approach and methods

1.3.1 Strategic Social Impact Assessment

LPC released the Port Lyttelton Plan for the purposes of consultation to inform specialist assessments such as the Social Impact Assessment. The Port Lyttelton Plan comprises LPC's vision for the recovery of the Port including numerous discrete but interlinked projects expected to be implemented over the next decade. This assessment therefore takes a strategic, overall look at likely social and community effects, rather than a project-by-project assessment. Hence, we describe it as a Strategic Social Impact Assessment¹⁰. Under an operational Recovery Plan, implementation of the Port's recovery will take place on a project-by-project basis through the District Plan and the Regional Coastal Plan.

1.3.2 Approach and methods

Taylor Baines promotes a participatory approach to conducting social assessment. In doing so, we have not relied solely on community consultation and stakeholder engagement activities organised by LPC or Carter Price Rennie (CPR). However, we have drawn upon the information coming out of those activities.

In summary, we have used multiple methods of gathering social input, including -

- attendance at some of the stakeholder engagement workshops organised by LPC;
- targeted interviews with key informants across a range of perspectives (see Appendix 1 for details);
- feedback on LPC information materials from the LPC website, Port Talk and written submissions.

These sources of primary social data have been complemented by -

- discussions with experts involved in other aspects of assessing the Port Lyttelton Plan; and
- census data and other existing data sets relevant to this assessment, as well as other reference materials (see References for further details), although we have conducted no dedicated surveys.

¹⁰ Consistent with international practice, where strategic assessment applies at the planning level compared to project-level SIA.

1.3.3 Conceptual framework

Taylor Baines has drawn upon several sources of guidance for conceptualising the dimensions of health and wellbeing. The primary source for this assessment exercise was the Integrated Recovery Planning Guide developed by Crown Public Health and the Christchurch City Council¹¹.

This Planning Guide sets out the following principles of integrated planning for health and well-being of particular relevance to the Lyttelton Port Recovery Plan situation (*comments in parenthesis exemplify the relevance of the principle in this case*) -

- establishing and maintaining effective communication links with the community is essential (*relevant to particular communities and groups within communities*);
- engaging communities and encouraging participation in recovery planning and actions will build stronger more resilient communities (*relevant to on-going engagement during recovery Plan implementation*);
- well-designed, safe and accessible places and spaces support good health, well-being and a sense of belonging (*relevant to the design of Dampier Bay, other waterfront spaces and the connections between these and the centre of Lyttelton*);
- housing that is affordable, secure, dry and warm is critical for ensuring good health outcomes, particularly for the very young and elderly (*relevant to a consideration of the ambient noise and air quality in residential locations closest to the port*);
- people who enjoy and identify with their local neighbourhoods are more likely to engage in community activities and establish social connections (*relevant to the attractiveness of new waterfront locations for local events and local residents*);
- the quality of our air, water, soil and bio-diversity underpin the health and economic prosperity of our society (*relevant to harbour health and ambient qualities in public spaces in Lyttelton*);
- incorporating sustainability considerations will help achieve economic, social and environmental goals simultaneously, in both the short and long term
- promoting safe, direct, convenient, comfortable and attractive cycling and walking networks enables people to choose active transport options, encouraging active lives (*relevant to links with the wider cycling and walking networks around the harbour*); and
- prosperous businesses, quality employment and job security can make it easier to pursue a healthy lifestyle (*relevant to LPC, other Lyttelton businesses, businesses that operate in the city and region; relevant to the quality of the working environment at LPC*).

These principles were derived from the Urban Development Strategy (UDS), the guide

¹¹ Crown Public Health (2011)

entitled Health Promotion and Sustainability Through Environmental Design (HPSTED) and the Recovery Framework prepared by Civil Defence and Emergency Management (CDEM). While not identical with the conceptual framework adopted by Taylor Baines in numerous RMA cases, it is largely complementary, and not contradictory.

Recreation is an important contributor to health and social wellbeing. This will be addressed in the Recreation Assessment.

1.3.4 Limitations and constraints

It is important to recognise the limitations of time and information which necessarily constrained the level of detail in this assessment - due to the four-month time-frame in the direction and the evolving nature of LPC's proposed recovery works. Time constraints need to be understood not merely in terms of the total time elapsed since LPC and Environment Canterbury were jointly directed by the Minister for Canterbury Earthquake Recovery to prepare the Lyttelton Port Recovery Plan (19 June 2014), but in terms of the time available for stakeholder engagement and discussion as project information evolved and the related technical assessments were prepared.

1.4 Links with other experts' assessments

As noted in Sections 1.1 and 1.3 above, Taylor Baines have reviewed the following technical reports¹² of other experts:

- Abley Transportation Consultants. Lyttelton Port Recovery Plan, Integrated Transport Assessment. 3rd Draft 13 October 2014.
- Rob Greenaway & Associates, 2014. Lyttelton Port Company Earthquake Recovery Planning Recreation and Tourism Issues. Draft v2, 24 September 2014
- Urban Design Assessment Draft, 26 September 2014
- Pederson Read. Lyttelton Port of Christchurch Recovery Plan - Assessment of Environmental Effects: Lighting. 20 October 2014
- Dyanna Jolly, 2014. Cultural Impact Assessment: An assessment of potential effects of the Port Lyttelton Plan and Lyttelton Port Recovery Plan on Ngai Tahu values and interests. 15 October 2014.
- URS Lyttelton Port Recovery Plan: Assessment of Construction Noise Effects, Draft 3 October 2014
- Tonkin & Taylor Port Recovery Plan Air Quality Assessment, Draft October 2014

¹²Version numbers and dates correct at the time of writing.

1.5 Report structure

The remainder of this report is structured in the following way -

- Section 2: describes the Existing Social Setting that provides the social context for assessing the Recovery Plan;
- Section 3: a brief description of the Recovery Plan process and the key assumptions necessary for assessing social issues and effects;
- Section 4: an assessment of potential social benefits and costs associated with the Recovery Plan in its totality, and corresponding recommendations for inclusion in the rules package and for additional consideration by LPC; and
- Section 5: a brief set of conclusions.

2 EXISTING SOCIAL SETTING

2.1 Communities of interest

In relation to the Port of Lyttelton and its operations, a number of distinct communities of interest exist.

Some of these communities of interest will be the primary focus of this social impact assessment, namely -

- the residents of Lyttelton town and harbour settlements;
- businesses operating in Lyttelton; and
- people employed at the Port.

Due to time limitations outlined previously, some particular interests have not been engaged, such as ships crews¹³, sub-contractors at the Port¹⁴, and non-recreational visitors to Lyttelton.

Tangata whenua interests around the harbour will be the focus of the Cultural Impact Assessment.

Other communities of interest will be the primary focus of the Recreation and Tourism Assessment, namely -

- recreational visitors to Lyttelton from Christchurch, Canterbury and overseas; and
- overseas visitors on cruise ships.

The interests of business customers of the Port will be addressed in the economic assessment.

2.2 Social Context¹⁵

2.2.1 Gateway to Canterbury

*Lyttelton is a place connected to the world via the sea. It is a place of arrival and departure and a place of discovery from its Maori past to the present day.*¹⁶

The town of Lyttelton, sited on the steep sides of an extinct volcano, became the gateway to the Canterbury Plains when it provided a safe anchorage for the first immigrant ships to the province in 1850. Over the last 160 years social change in the town has been closely linked with developments in port facilities, maritime services, and the rail and road networks which expedite the flow of goods and people through the port. Before a tunnel for rail traffic was opened in

¹³ In some cases, these represent distinct nationalities - for example Russian and Phillipines crews.

¹⁴ For example, stevedore or transport sub-contractors.

¹⁵ Note: we expect tangata whenua history to be presented in the CIA Report, prepared by Dyanna Jolly.

¹⁶ Christchurch City Council (2012): 14.

1867, access to Christchurch and the remainder of the region was by the Bridle Path, a road via Evans Pass, or around by sea to the Heathcote-Avon Estuary.¹⁷

The physical separation of the Port Hills meant Lyttelton was a relatively isolated and distinct place from Christchurch City until the opening of the road tunnel in 1964.¹⁸ By the beginning of the 21st century, however, the town of Lyttelton had become “a fashionable place to live” as many cottages had been restored, and older buildings in the commercial centre converted to boutique shops and cafes.¹⁹ The town has become the service centre for several smaller settlements around the harbour; including Corsair Bay, Cass Bay, Rapaki and to a lesser extent Governors’ Bay on the northern side,²⁰ and Diamond Harbour on the southern side to which a regular ferry operates.

2.2.2 Port and transport developments 1950-1980

Since the 1950s the transformation of the built environment of the port and town of Lyttelton has transformed the nature of its community from a core of residents whose workplace was in the town, to one where many residents commute daily to their place of work in Christchurch. In 1951 workplaces at Lyttelton provided 1,350 residents with employment (850 of them in port activities), and a further 500 residents worked in Christchurch. There were also 400 watersiders and 50 railway staff employed in port activities whose home was in Christchurch.²¹ During the 1950s and 1960s the fleet of fishing trawlers based at the port made day trips, and sent their catch by train to the fish market in Christchurch. There was a passenger ferry to Diamond Harbour operating at frequent intervals and weekends, and picnickers travelled by launch to places such as Corsair Bay.²²

The expansion of port facilities, changes in maritime services, and competition between road and rail operators for freight and passengers transformed the economy and community at Lyttelton. Cashin Quay (opened 1964) provided berths for larger vessels, and sufficient space for bulk cargoes of fertiliser, wheat and coal. Rapid changes in ship design and the handling of cargoes during the 1960s and 1970s also changed the nature of work at the port. Ships built for transporting containers resulted in fewer vessels berthed in the inner harbour, and fewer watersiders were required to work them. Despite a new ferry terminal with roll-on/roll-off facilities, the ferry service to Wellington ended in 1976 because of intense competition from the railway ferries operating from Picton²³ and also from increasingly competitive domestic air travel.

The town also lost its gasworks and abattoir during this period, but gained its first supermarket and a new bank. Builders demolished older wooden houses and replaced them with new dwellings as parts of the town became gentrified.²⁴ The population of Lyttelton declined from 3,589 in 1956 to 3,461 in 1976. Maori residents, however, increased from 60 to 137 over this period; mainly due to the arrival of North Island Maori seeking work on the wharves and in wool stores. At least half of the watersiders employed at the port in 1976 resided in Christchurch, while about half of the town’s adult males worked in Christchurch.²⁵

¹⁷ Christchurch-Lyttelton Road Tunnel Authority (1964).

¹⁸ New Zealand Historic Places Trust Pouhere Taonga (2009): 4.

¹⁹ New Zealand Historic Places Trust Pouhere Taonga (2009): 24.

²⁰ Christchurch City Council (2012): 13.

²¹ From a 1951 survey cited by Rice, G.W. (2004): 110.

²² Kayes, B. (2014) :41.

²³ Rice, G.W. (2004): 122.

²⁴ Rice, G.W. (2004): 122.

²⁵ Rice, G.W. (2004): 132

The opening of the road tunnel in February 1964 saved eight kilometres from the trip between Christchurch and Lyttelton by the Evans Pass route and avoided a steep hill climb.²⁶ This event had a significant impact on both the port and town of Lyttelton as more cargo was transported by truck and more people commuted by road.²⁷ During the first 12 months of road tunnel operation the railway line from Lyttelton to Christchurch lost 403,000 (25%) of its passengers and New Zealand Railways reduced its off-peak and weekend services. By this time the electric locomotives operating these services were near the end of their working lives, and they were replaced by diesel locomotives in September 1970. Suburban passenger services to Lyttelton eventually ceased in February 1972, but boat trains continued to provide transport for people travelling on the Lyttelton-Wellington ferries until September 1976 when the inter-island service ended.²⁸

After extensive land reclamation at the port, the construction of storage sheds on Cashin Quay in 1965, and the introduction of containers, customers could choose whether their cargo travelled by road or rail. Many tons of general freight were diverted away from rail, and trains of containers and bulk coal exported from the West Coast became the mainstay of the line.²⁹

2.2.3 Port and the community 1980 to the present

The container terminal handled most of the port's cargo during the 1980s, and Japanese and Taiwanese fishing vessels were more frequent visitors than coastal shipping.³⁰ By 1991 containerisation had almost halved the workforce required by the port since the 1960s. A growing number of foreign fishing vessels with joint-venture contracts had based their operations at the port and residents of the town heard Korean and Russian voices on the streets. Cruise ships became a regular sight at the port during the summer months; bringing thousands of visitors to Canterbury for sightseeing trips.³¹

In 1989 the Lyttelton Port Company (LPC) superseded the Lyttelton Harbour Board, and the Lyttelton Borough Council was absorbed by the Banks Peninsula District Council.³² The LPC invested more capital in the port's development during the 1990s than had occurred over the previous three decades, but, according to Rice, the LPC's commercial approach "was often at the expense of amicable relations" with "its host community".³³ Residents of Lyttelton reacted to the LPC's commercial emphasis, and its policy of removing moorings for yachts from the harbour, by establishing several community organisations in the early 1990s aimed at preserving the town's historic heritage (e.g. Norwich Quay Preservation Society and Maritime Museum Trust).³⁴

The 1982 Inner Harbour marina was regarded as inadequate by many residents, and by 1999 a new floating marina at Magazine Bay was close to completion, only to be destroyed in October 2000 by a southerly storm that wrecked the breakwater and sank 12 yachts.³⁵

Coal exports reached a record 1.8 million tonnes in 2002. At that time the LPC had 270 permanent staff and numerous casual staff. Over twenty shipping lines used the port, and the

²⁶ Christchurch-Lyttelton Road Tunnel Authority (1964).

²⁷ New Zealand Historic Places Trust Pouhere Taonga (2009): 23

²⁸ Dew, L. (1988): 19-20, 22.

²⁹ Dew, L. (1988): 22.

³⁰ Rice, G.W. (2004): 138.

³¹ Rice, G.W. (2004): 145-147.

³² Rice, G.W. (2004): 137.

³³ Rice, G.W. (2004): 138.

³⁴ Rice, G.W. (2004): 147.

³⁵ Rice, G.W. (2004): 151.

port provided jobs for 900 people in Canterbury who were employed by 400 port-related businesses.³⁶

Since then, the proportion of people working at the port who live in Lyttelton or neighbouring harbour settlements has continued to decline. Census data for 2001 recorded that 20% of those who worked at the port lived in Lyttelton or neighbouring harbour settlements. By 2013, this had reduced to 13%. These data corroborate well with 2014 data for LPC staff. Currently, LPC employs 525 residents of Canterbury: 10% of these employees live in Lyttelton town itself, and a further 5% live in various locations around Lyttelton harbour from Rapaki to Purau. The remainder are distributed (in terms of place of residence) broadly across Christchurch and even further afield, as the following summary (based on analysis of residential post codes) illustrates –

Ports Hills (Cashmere to Redcliffs and Sumner) – 15%

Central City (including Edgware, Merivale and Riccarton) – 8%

Eastern suburbs (Linwood, Aranui, New Brighton, Burwood) – 14%

Northern suburbs (Marshlands, Parklands, Redwood, Belfast, Kaiapoi) -16%

Western suburbs (Bryndwr, Burnside, Sockburn, Hei Hei, Hoon Hay, Halswell) – 13%

Southern suburbs (Woolston, Sydenham, Spreydon, Addington) – 11%

Wider Canterbury (Amberley, Rangiora, Darfield, Rolleston, Peninsula) – 7%

At the present time, the Lyttelton Business Association numbers some 50-60 members, including the Port Company. The vast majority of its members are in Lyttelton itself, and the Association meets on a monthly basis. Whilst the largest proportion of businesses operate in the central business area around London Street and Norwich Quay, some small businesses such as B&Bs and artist's studios operate in the surrounding residential areas, and several marine engineering firms operate on Port Company land in the vicinity of the dry dock facility. These companies are both significant employers in Lyttelton, currently employing about 40 and 80 staff respectively, and both having been established in the 1950s. Although not entirely focused on marine engineering, both companies are major users of the dry dock facility and provide services to vessels visiting the port.

A rising property market that had started during the 1970s continued in the town until the early 1990s, with new houses being built on empty sections and steep slopes, and older houses selling for good prices.³⁷

Despite rising property prices, people choose to come to live in Lyttelton for a variety of reasons - access to recreational opportunities including boating, biking and walking in the hills, visual amenity, and a strong sense of belonging to an identifiable community with its own distinctive features and events, including its Saturday market and other events such as the Festival of Lights and the Downhill Urban Challenge, all of which attract large numbers of city visitors to Lyttelton.

Numerous interviews for this assessment elicited comments on the strong sense of connectedness experienced by Lyttelton residents and business people. Such observations are

³⁶ Rice, G.W. (2004): 153.

³⁷ Rice, G.W. (2004): 150.

reinforced by CCC data³⁸ and by the research on community resilience factors carried out in a 2012 case study in Lyttelton.³⁹ Other observations include -

“an old fashioned community where people look after each other and feel safe”;
“a perception that crime is low”;
“Lyttelton is a safe town; very little burglary; a lot is due to the small community and everyone knowing each other and the topography of being able to look on to other properties”
“the Youth Centre is amazing; it offers camping and swimming and fishing and is great for the youth”.

Notwithstanding these sentiments, there were also comments made about the sense of separation between the main part of Lyttelton town and Lyttelton West, and the distance and access difficulties between the town and Naval Point.

Interviews for this assessment elicited numerous comments supportive of the Port's future development and on-going operation and its relationship with the town -

“The port and town are woven together anything to do with the port comes through Lyttelton”;
“We realise with Port Talk opening up and having a presence how much we have missed the Port staff being in the town”;
“Historically the port was open to the public would be good to get it open again”;
“We look at the Port all day and night. We like watching the activity there.”;
“The port is part of who we are as a community.”;
“We value the port as educational.”;
“It is a working port and people like to see what is happening there as an ever changing scene.”
“A lot of people are coming to Lyttelton to live; .. seen as attractive and a lot like the fact that it is a working port.”

And there were also references to less harmonious times, signalling both an opportunity and a need to address relationship issues -

“A problem with past history between the Port and the community and we have to break this barrier.”;
“There were promises for change years ago but never came to anything, why would this be different?”;
“There may be negativity associated with the Port and their history, but I want to encourage businesses to move on ..”;
“... the Port fears reverse sensitivity.”

With port operations so close to long-established residential areas of the town, it is not unexpected that there have been issues related to off-site effects from certain port activities. The main off-site effects have concerned noise and dust generated by activities in certain areas of the port and experienced as nuisances by some nearby residents.

A District Plan review and related Environment Court mediation process in 2006 focused on the need to manage the extent and level of off-site noise, and resulted in the development of a Noise Management Plan - an operative instrument in the District Plan. The purpose of this Plan was to implement good practice noise management in the port, taking its cue from New Zealand Ports Guidelines⁴⁰. Important features of this Noise Management Plan included -

(i) acoustical modeling of noise contours to identify levels of exposure and the locations

³⁸ Christchurch City Council, 2013 - Lyttelton: see Community Resilience mapping.

³⁹ Quigley & Watts Ltd, 2013: 58-76

⁴⁰ Port Environmental Manager, pers.comm. 4 September.

of dwellings experiencing noise levels above an agreed threshold level⁴¹;

- (ii) the establishment of a Port Liaison Committee (PLC) to oversee and evaluate the implementation of good noise management practice in the port;
- (iii) the establishment and funding by the Port Company of an Acoustical Treatment Programme⁴² to improve internal noise attenuation and achieve an appropriate internal design standard for eligible residential properties, as determined by (i) and prioritised by (ii); and
- (iv) to control the future development of activities sensitive to port noise through the Port Influences Overlay Area identified in the District Plan and determined from the contours as modeled at that time.

The District Plan, and an associated Port Noise Management Plan and Port Noise Mitigation Plan provide further details of the package⁴³.

The PLC comprised five community representatives⁴⁴ (of whom one was specifically a member representing the Lyttelton Community Association), two representatives of Port Users (e.g. stevedores), and representatives from Environment Canterbury and the City Council.

Prior to the earthquakes, the PLC typically met 3-4 times a year in order to review noise monitoring results, consider complaints, and consider any other issues arising⁴⁵. So far six dwellings have received acoustical treatment⁴⁶. The PLC communicates with the Lyttelton community via the Lyttelton Review. The question of whether to expand the mandate of the PLC to address other issues in the relationship between Port and residents has come up for discussion, but so far its mandate remains focused solely on noise management.

2.2.4 Diamond Harbour

Diamond Harbour provides a focal point for the southern bay communities of Charteris Bay, Church Bay, Diamond Harbour and Purau, with some local services available. It is an area which has experienced substantial and continued population growth over the past two decades, even increasing by 6% between 2006 and 2013 when all other areas nearby experienced static or declining populations.

Diamond Harbour School is a decile 9 full primary school (years one to eight) and caters for children across the Diamond Harbour and Port Levy areas. The roll has been steady between 110 and 130 over much of the past two decades, but currently sits at 154. When Lyttelton School opens on its new site in 2015, it will enable one class of 30 pupils from Diamond Harbour to attend for 'manual training' each week⁴⁷, using the ferry and walking up to the school, thereby also gaining the benefit of built-in exercise. A new kindergarten is currently being built in the school grounds to cater for the growing number of young families moving to Diamond Harbour.

⁴¹ Modeling in 2008 identified 35 dwellings eligible for acoustical treatment.

⁴² The Programme aimed to treat three dwellings each year. Eligible householders can apply for the treatment work (e.g. acoustical batts and double glazing) to the value of \$60,000 per property. The PLC receives and prioritises applications.

⁴³ Ford, pers.comm. 17 October 2014.

⁴⁴ Providing representation from different locations around the town (i.e. geographical spread).

⁴⁵ For example, at one stage, the operations to load ships with scrap metal had to be moved from Cashin Quay to the Inner Harbour, bringing them closer to certain dwellings and increasing their exposure to the related noise. Such ships visited about six times each year. While loading operations occur 24/7, certain noise mitigation measures were agreed, such as the use of rubber mats and the restriction to allow only "light loading" between the hours of 2300 and 0700.

⁴⁶ No systematic followup evaluation has been carried out. However, anecdotal response has been positive.

⁴⁷ At present manual training is not an option at Lyttelton, so Diamond harbour pupils travel weekly by bus to Phillipstown.

There are no secondary schools in the Lyttelton Harbour Basin. Zoning is for Cashmere High School and Linwood High School, however some secondary students attend Lincoln High School, and others attend various schools across Christchurch. There is a medical centre in Diamond Harbour, but there are no rest homes.⁴⁸ The settlement also boasts a dairy and several cafes which have considerable destination patronage from the city as well as local patronage.

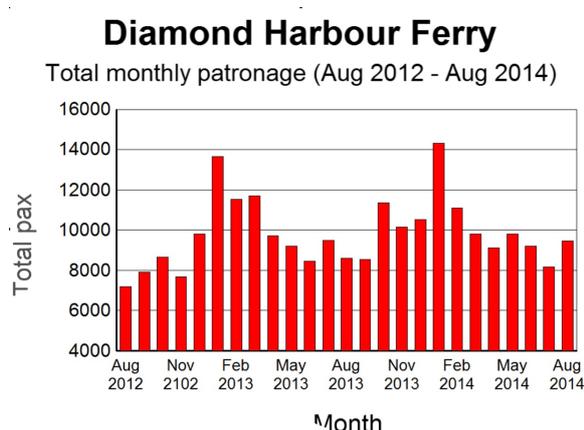
Access to other services in Lyttelton or Christchurch is either via the ferry across to Lyttelton or by road via Gebbies Pass, Dyers Pass Road or the Lyttelton Tunnel.

Several interviewees refer to “a friendly community where people look out for each other”; “a community that cares, a lot of mutual support and self reliance, a lot of clubs and groups that people belong to”. Until six years ago there were two local residents associations on the southern side of the harbour, but these amalgamated into the Diamond Harbour Residents’ Association, which is described as “strong and active”.

Diamond Harbour ferry service

The ferry service between Diamond Harbour and Lyttelton⁴⁹ is an important and essential link supporting the community of Diamond Harbour. Approximately 15 residents keep cars on the Lyttelton side in order to commute to work in the city⁵⁰. On Saturdays, as many as 150 Diamond Harbour residents travel by ferry to Lyttelton to the Farmers’ Market and for other shopping⁵¹. As noted elsewhere, both the pharmacy and the supermarket provide delivery services to residents of Diamond Harbour via the ferry.

Data on ferry patronage reinforce these observations and illustrate the importance of the ferry service both to residents of Diamond Harbour and to visitors to Diamond Harbour. The visitor element is illustrated by the seasonal pattern of ferry patronage - see Figure below⁵².



The visitor element is also illustrated by the fact that daily weekend patronage (average number of patrons per weekend day) is almost twice the level of daily weekday patronage, notwithstanding the high level of use by Diamond Harbour residents on Saturdays (reported above). Average weekday patronage in January 2014 was 353/day, compared with an average weekend daily patronage of 775/day. In March 2014 the corresponding figures were 254/day and 448/day.

Data illustrating the typical time of travel for Monday to Friday in March 2014 highlight the importance for Diamond Harbour commuters and residents wishing to visit Lyttelton.

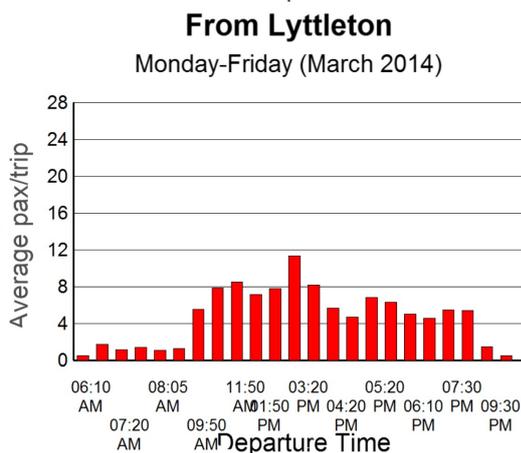
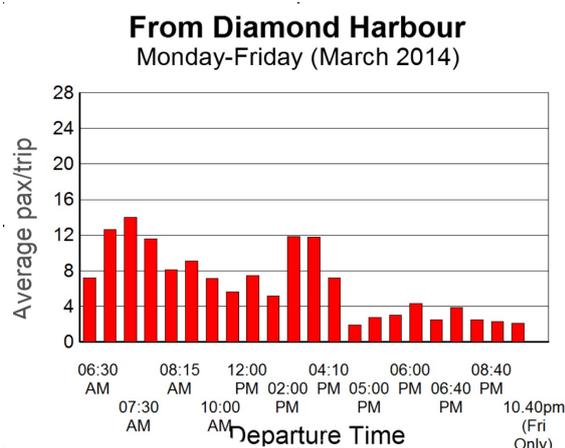
⁴⁸ Christchurch City Council, 2013.

⁴⁹ The weekday schedule provides 2-3 return crossings per hour at peak times and hourly return crossings at other times between 6.10am and 10.40pm.

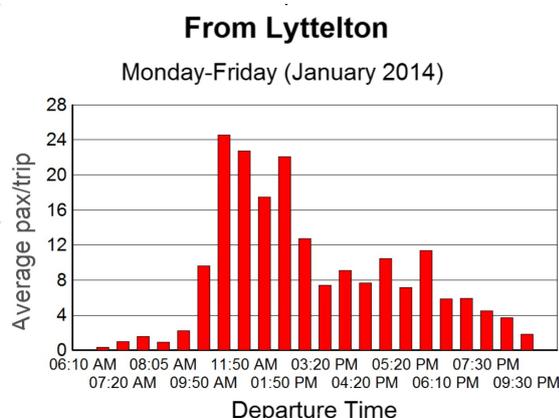
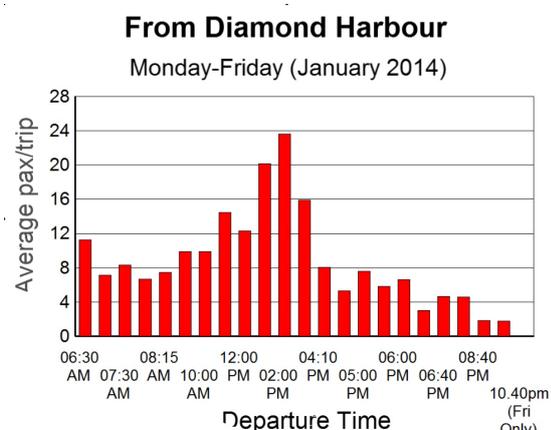
⁵⁰ Rob Greenaway, pers.comm. by email, 14 August 2014.

⁵¹ Ibid.

⁵² Patronage data provided by Environment Canterbury - Connie Hutchinson, pers.comm. 18 Sept 2014.



Similar data for January 2014 illustrate use of the ferry service by short-stay visitors to Diamond Harbour during the holiday period.



2.3 Lyttelton town and harbour since the earthquakes

2.3.1 Immediate impacts in Lyttelton

Lyttelton was near the epicentre of the earthquake of 22 February 2011, which was shallow and centred under the Port Hills. About 60 per cent of the main street experienced structural damage, including all of the historic buildings on the main street, and the road tunnel linking the port to the city was closed for six days. The earthquake rendered unusable the supermarket, most of the pubs⁵³, restaurants, and meeting venues. A significant number of houses were also badly damaged or destroyed. Many older commercial buildings that provided affordable rentals to businesses were damaged, and many community facilities have been demolished or closed pending their repair or replacement. Because of the steep, rocky terrain, Lyttelton was affected by rock fall and failed retaining walls rather than liquefaction. Two people lost their lives on the Port Hills walking tracks that day. No one was killed in collapsed buildings in Lyttelton⁵⁴.

⁵³ The earthquake reduced the number of hotels and bars in Lyttelton from 19 to 1.

⁵⁴ Quigley & Watts, 2013: 58

The LPC ensured core services at the port were restored within 96 hours, allowing goods to be forwarded to affected areas of Christchurch and the wider region.⁵⁵

The Quigley & Watts research on community resilience documents⁵⁶ how the community of Lyttelton benefited in the immediate aftermath of the main earthquake events from the high level of social networking and the extent of existing social infrastructure.

A major Gap Filler project was initiated after the Quakes, the Petanque Club, on the corner of Canterbury and London Street. It provided a court for playing petanque, public seating, a garden acting as a community meeting point. The memorial for the anniversary of the Quakes was held here, as was Christmas Carols and the Anzac Day service. Several other beautification projects initiated by local residents to improve the mental well being of the community were completed such as the Hopscotch Board, Fish Murals along London Street and seating. A community garden was set up to teach people about plants and their beneficial properties.

2.3.2 Population and demographic composition in Lyttelton

Over the past 17 years⁵⁷, the resident population of Lyttelton declined by 7.5%. While most of this decline occurred as a result of the earthquakes, trends prior to the earthquakes showed slightly more decline than growth⁵⁸. This is in stark contrast to the population growth trends experienced in other communities around the harbour, and also to a lesser extent the population growth experienced in Christchurch City as a whole, which grew 7.9% over the 17-year period, despite an earthquake-induced decline of -2.0% between 2006 and 2013. (See Appendix 2 for details).

Within these overall population trends there have also been some demographic differences emerge. For example, between 2006 and 2013 -

- the median age of the usually resident population of Lyttelton, already higher than for Christchurch City (38 compared to 36) increased by 17% to 44 (compared with Christchurch City increase of 8% to 39);
- the percentage of Lyttelton's residents employed in managerial or professional occupations, already higher than for Christchurch City (45% compared to 34%) increased to 51% (compared with 37% for Christchurch City); and
- the percentage of Lyttelton's residents with tertiary education already higher than for Christchurch City (25% compared to 15%) increased to 29% (compared with 19% for Christchurch City).

Overall, the resident population in Lyttelton has not changed much in total numbers over this period - there have not been many new sections opened up for housing - but it has become progressively older and wealthier. Households resident in Lyttelton now have higher levels of home ownership⁵⁹ and are more likely to be occupied by couples without children⁶⁰ (or whose children have left home). This is a trend sometimes referred to as 'gentrification'. Correspondingly, fewer port workers now live in Lyttelton itself.

⁵⁵ Stevenson, J.R. *et al.*, 2011: 3-4.

⁵⁶ At 62-64

⁵⁷ Based on census data 1996-2013

⁵⁸ 1996-2001: -1.5%; 2001-2006: +0.9%

⁵⁹ In 2013, 23% rented in Lyttelton compared with 31% in Christchurch City.

⁶⁰ In 2013, 47% of Lyttelton households were "couple only" compared with 43% in Christchurch City.

Although these demographic changes probably reflect to some degree the trend that some interviewees have commented on - that people are making a deliberate choice to buy or rent in Lyttelton because it is seen as “different “ from Christchurch - there has been over the same period a greater tendency for Lyttelton residents to stay put - the 2013 census indicated that 48% of Lyttelton residents were still living in the same dwelling as they had been five years previously, compared with 42% for Christchurch City households.

One other Lyttelton household statistic which has changed markedly over the past 12 years is the number using coal for home heating, down from 23% in 2001 to 3% in 2013, a trend which has significance for local air quality and reflects the Natural Resources Regional Plan (Air Quality Chapter) which has come into effect during this period.

The relatively modest recent changes in the total resident population of Lyttelton are underlined by data on school rolls which reveal⁶¹ the total number of primary school children attending schools in Lyttelton was the same in July 2013 as it had been in July 2010. The same is true for the total primary school population for all schools around Lyttelton Harbour⁶².

2.3.3 Social and community services and facilities in Lyttelton

While the earthquakes damaged many buildings, the public agencies, service organisations and community groups operating in those buildings continue to function. Indeed, many were central to the recovery efforts since the earthquakes⁶³ - Volunteer Fire Brigade, St John Ambulance, Lyttelton Community House and Lyttelton Youth Centre, Lyttelton Harbour Information Centre, Project Lyttelton, Lyttelton Timebank, NZ Police and local Civil Defence volunteers. And in the immediate aftermath of the earthquakes the Port Company and the larger marine engineering companies were also instrumental in supporting community recovery, providing equipment and personnel to assist others.

Some community organisations now operate out of alternative spaces or in a different format. All three emergency services - police, fire service and ambulance - have bases in Lyttelton.

The Police have had a presence in Lyttelton since 1880, and up until the earthquakes had a busy office with 13 staff, covering Sumner, Woolston, as well as the harbour communities around to Port Levy. Organisational changes since the earthquakes have seen Lyttelton reduced to a “second tier” post with one sergeant and three officers covering the same area, meaning that service levels have declined. First response to incidents now comes from the City. Police describe the town and the port as having a very low crime/incident rate. Call-outs to the port, which include traffic-related incidents, have typically been for incidents such as trespassing, immigration issues, thefts as well as accidents and fatalities.

Twenty years ago, St John Ambulance had two units based in Lyttelton, with resident trained officers able to respond quickly. At the present time, personnel are a mix of four paid staff and two volunteers, covering 12-hour shifts. Although one ambulance is still based at Lyttelton, it spends much of its time attending demands in the City. Consequently, ambulances are now dispatched to Lyttelton from the City when needed. Current intentions are to have one ‘rapid response vehicle’ based in Lyttelton⁶⁴; the driver taking the vehicle to

⁶¹ Ministry of Education, July funding roll data 1996-2012

⁶² Lyttelton (Main and West), Governor’s Bay and Diamond Harbour

⁶³ Quigley & Watts, 2013: 58

⁶⁴ St John’s would like to see this vehicle based at the port - Emergency Services focus group, 7 August 2014.

work and therefore able to respond more quickly to local incidents. At present, most demand for the Lyttelton staff comes from assisting with city demands. It was noted that in the past when cruise ships were in port, there was considerable demand from attending the needs of elderly passengers on board.

The Lyttelton Volunteer Fire Brigade responds to about 140 calls each year, of which about 15% (~20) are to the Port for incidents such as ship fires, equipment fires, hazardous materials emergencies and workplace accidents. Maintaining full capacity for the fire service was described as *“hard at the moment”*⁶⁵, due to the changing base of volunteers. Twenty years ago, the majority of volunteers used to be from the Port, and port workers were also more likely to live in Lyttelton or nearby, so that the Fire Service was always able to rely on volunteers responding promptly in an emergency. More recently, fewer port staff come from Lyttelton; indeed, there are fewer port staff residing in Lyttelton, and port staff also face greater demands at work⁶⁶. As a consequence, the Lyttelton Fire Service has to be more flexible in its recruitment of volunteers, accepting some who live some distance from Lyttelton⁶⁷. Nevertheless, there is still a preference to draw volunteers from the local catchment since *“we have to get the first truck dispatched within three minutes.”*⁶⁸ Because of the geographic spread of volunteers, it is always more difficult to achieve this quick response during the day than at night. Several key informants expressed a desire for more formal communication links between the Port and emergency services and Civil Defence - *“the Port has a huge number of assets of value in an emergency such as trucks, diggers, tools, petrol, people power, fire hoses, heavy machinery.”* However, liaison arrangements have become less formalised over time.

Lyttelton has its own medical centre located in Oxford Street providing primary health care to residents, families, businesses, seafarers and visitors in the Lyttelton Harbour and Port Hills area, with a complement of four doctors, four nurses and two support staff⁶⁹. There is also a dispensing chemist, with deliveries to Diamond Harbour via the ferry service.

Meeting spaces have been at a premium since the earthquakes, especially for large gatherings, with the Recreation Centre currently closed and the fire station hall and three of the four churches demolished. The Recreation Centre is being repaired and modernised and will house squash courts, an office and sound-proofed meeting rooms, with an expected opening in 2015. Lyttelton’s outdoor swimming pool is currently being rebuilt.

The Visitors Information Centre had to move into a port-a-com on London Street for several years but reopened on its original site on Oxford Street in 2013. It has a small meeting room and office. The Lyttelton Library acts as another informal meeting space, and its free wifi is used widely, especially by crew members on visiting ships.

The Naval Point (Yacht) Club provides space for some of the recreational activities which formerly took place in the Lyttelton Recreation Centre. Indeed, the club has become very busy with bookings for all sorts of activities. Despite being physically removed from the centre of the town, this involvement has resulted in *“a really busy calendar”* and *“a lot more contact with the local community”*. Junior membership has increased substantially - from 20 to 120 - *“as a result of the Lyttelton community knowing about us”* and also because there is less on offer at the moment in Lyttelton for children.

⁶⁵Ibid.

⁶⁶This is not to imply that individual volunteers themselves are less reliable.

⁶⁷So that some volunteers currently live and work in Lyttelton, some live in Lyttelton but work in the city, whilst others live in the city and work in Lyttelton.

⁶⁸Emergency Services focus group, 7 August 2014.

⁶⁹<http://www.lytteltonhealthcentre.co.nz/> - accessed 30 August 2014

The restoration of the Loons performance venue in Canterbury Street is almost completed. It will include a performance venue, bar and a meeting space. The Tin Palace is a new exhibition space that was opened to get art out into the community after the earthquakes.

The two primary schools, Lyttelton West and Lyttelton Main have merged and will be known as Lyttelton Primary School. The school currently operates from two sites⁷⁰ until the new school, which has recently begun construction on Oxford Street, opens in mid 2015. The Ministry is working with the local theatre company to provide a shared theatre facility for productions.

The schools host a number of community activities in their halls. A certain level of anxiety exists within the community about the loss of further meeting spaces which may result from the rebuild of the merged schools. Indeed, the community use of the existing school meeting spaces already competes with the school's own use. Furthermore, the only pre-school in the area operates from a leased building at Lyttelton West School. The future of this building is not yet known⁷¹.

The phrase 'community hub' has been ascribed to several other locations in the town by various interviewees - notably the library and the re-opened supermarket. Several also comment to the effect that *"the centre of town seems to be moving West with the opening of Albion Square"*.

St Saviour's, a heritage Anglican Church, has recently been re-located from Cathedral Grammar School in the city onto a site on the corner of Canterbury and Worcester Streets. It was the original Anglican church in Lyttelton before being acquired by the Cathedral Grammar School as a chapel in the 1990s.

2.3.4 Business activities in Lyttelton

As was the case with social and community services, local businesses have had to be adaptable to survive since the earthquakes. While many businesses have re-opened, there is no doubt that the town has lost a number of attractions - galleries, museum, timeball - which all complemented the Farmers' Market, a weekly event that serves locals as well as attracting visitors from Christchurch.

Lyttelton Farmers' Market was relocated in 2010 to London Street from its original site at Lyttelton Main School on Oxford Street and operates every Saturday morning. The Grassy Market which used to be at the school continues to open in a number of different locations in the town, and an Art Market operates alongside it. The Community Garage Sale has relocated temporarily next to Albion Square with trading four days a week.

Various observers note that the town's stock of fit buildings is fully tenanted, a factor that may be constraining the rate of local business recovery. Foot traffic in London St is reported as not having returned to pre-quake levels. However, the re-opened supermarket has already made a difference to this.

The supermarket services Lyttelton harbour residents as well as seamen from vessels in port, and is looking to set up a weekly delivery to Diamond Harbour via ferry. Recognising the elderly amongst the resident population and the steep topography of the town, a home delivery service is also intended.

⁷⁰ Lyttelton West and the former St Joseph's.

⁷¹ Christchurch City Council, 2013 - Lyttelton: 8

A number of cafes, bars and restaurants have re-opened in the central area of the town including a pop-up coffee bar on Canterbury Street, with some re-establishing the strong associations they have always had with local musicians providing live entertainment.

Businesses on Norwich Quay are at various stages of rebuilding. While one bank has closed since the earthquakes, two banks maintain ATM services in London Street.

The Black Cat Ferry service is an important service linking Diamond Harbour with Lyttelton, but also linking visitors to Lyttelton to other attractions such as Quail Island. At Diamond Harbour, Godley House, an historic home converted to a reception venue and café, was demolished and in its place the Godley House Café has opened. Chalfont Café also opened nearby in 2013.

A number of businesses interviewed commented on the adverse effect on their patronage levels which occurred when the cruise ships visits were interrupted by the earthquake damage.

Significant marine engineering firms - Lyttelton Engineering and Stark Bros - continue to operate as before.

For some observers, a notable gap in the local business community is commercial accommodation, whether in the form of a small hotel or B&Bs.

2.3.5 Community recovery in Lyttelton

The harbour communities, and particularly Lyttelton itself, continue to face difficulties and challenges to recovery, whether they be residents or businesses.

A lot of its community facilities are either being repaired or are going to be repaired. While Lyttelton may be further ahead than other suburban communities in Christchurch in some respects⁷², the signs of damage and loss are still very evident.

Some describe the community as “tired”, reflecting a variety of observations: some people finding it hard to get out at night to any extra meetings; having to drive children further for sport and other recreational pursuits; insurance and accommodation issues familiar to many in Christchurch; red-zoning issues. The school merger added another layer of anxiety. Trying to keep life as normal as possible is hard work, particularly for parents of young children. Business owners have to deal with all manner of regulatory challenges to re-development where rebuilding is involved. Some people are sitting on land not knowing what to build.

Nevertheless, there are also signs of recovery. Progress is evident with the re-design of Albion Square, the repairs to the Recreation Centre and the re-opening of the supermarket. Albion Square is a “flagship” project, the land bought by City Council and with community consultation a design for it has been created and peer reviewed by local designer. The area is in the process of being converted into a more formalised arrangement for community gatherings. It will have a Maori gate carved by a local carver, the Centotaph war memorial is being re-sited here, and there is to be a children’s play area and performance space, as well as public seating and toilets. It is due to be opened in October 2014.

⁷² For example, a master-plan prepared in 2011

As noted elsewhere, the sense of community connectedness is strong in Lyttelton. Indeed, there are signs that it has strengthened after the earthquakes. Where, prior to the earthquakes there appeared to be a distinction between Old and New Lyttelton - those who had lived there for a long time with families who had lived there, and newcomers who were seeking to live there by choice - since the earthquakes there has been a pooling of resources and a recognition that both the "Old" and the "New" have strengths to offer.

Notwithstanding the strengths - in terms of community resilience - of the Lyttelton community referred to above, those in Community and Public Health involved in promoting public health and recovery caution against assuming that these levels of social connectedness and resilience are an absolute protection against future stresses. They emphasise that⁷³ -

"international experience suggests that psychosocial recovery after disaster takes five to ten years. ... recovery has several phases which communities and individuals progress through differently. Initially people pull together to deal with immediate concerns then later wellbeing declines in a 'disillusionment' phase when people realise the full impact of the event. Wellbeing improves when people start to move forward in their lives."

2.3.6 The Port Liaison Committee since the earthquakes

Two of the community representatives on the PLC left Lyttelton after the earthquakes, and their positions have not yet been filled. The frequency of PLC meetings has reduced slightly to about two a year. As noted above, six dwellings have so far received acoustical treatment through the Programme, and two others have been approved. However, earthquake damage to dwellings and delays in repair work have resulted in corresponding delays to further acoustical treatments. The PLC has endorsed the proposition that eligible dwellings should receive the acoustical treatment at the same time as earthquake repairs are carried out⁷⁴.

2.4 Expectations and aspirations for Lyttelton

Led by the Lyttelton/Mt Herbert Community Board following the 22 February 2011 earthquake, the Lyttelton Master Plan provides a comprehensive summary of community ideas and priorities for the recovery of Lyttelton. Of those that are relevant to this Port Recovery Plan, several were described as "high priority needs with broad community support"⁷⁵ -

- a plan for the renewal of Lyttelton Town Centre developed with genuine community participation, and incorporating many of the suggestions made by the community;
- public access to the inner harbour waterfront;
- cruise ship terminal facilities, designed to enable a contribution to the local economy; and
- heavy port traffic re-routed off Norwich Quay.

⁷³ Canterbury Earthquake Recovery Authority, 2014: 4

⁷⁴ LPC Environmental Manager, pers.comm. 4 September 2014

⁷⁵ Christchurch City Council (2012): 22.

Two others, with lesser priority, were -

- an assessment of the environmental effects of proposed reclamation using demolition rubble; and
- a review of Lyttelton's stormwater, surface water and water supply upgrades.

In subsequent master plan-related focus group and public meetings (June 2011), the following relevant themes emerged⁷⁶ -

- recognition that Lyttelton is a port town;
- access to the waterfront;
- maintain good access from Diamond Harbour ferry to London Street;
- improve Norwich Quay;
- trucks diverted off Norwich Quay;
- passenger rail; and
- cruise terminal.

⁷⁶ Christchurch City Council (2012): 23.

3 LYTTTELTON PORT COMPANY RECOVERY PLAN

3.1 Recovery Plan process

LPC must provide Environment Canterbury with all necessary information to enable it to prepare a preliminary draft Lyttelton Port Recovery Plan. Environment Canterbury - the Canterbury Regional Council - must then develop a draft Lyttelton Port Recovery Plan for public notification by the Minister.⁷⁷

3.2 Key assumptions

For the purposes of assessing effects, the team of experts across all disciplines were provided with the following description of the Recovery Proposal⁷⁸.

3.2.1 Introduction

The purpose of the Lyttelton Port Recovery Plan is to address the recovery of the port. This includes the repair, rebuild and reconfiguration needs of the port, and its restoration and enhancement, to ensure the safe, efficient and effective operation of Lyttelton Port and supporting transport networks

By nature the recovery will be highly complex, involving a multitude of individual yet interrelated projects many of which will need to be carefully coordinated with each other as well as the operation activities at the Port. The ultimate outcome of this repair, rebuilding and reconfiguration work is the moving east of port operations in a timely manner, which results in:

- The container terminal being established up to 37ha of reclaimed land in Te Awaparahi Bay;
- The shifting of some types of general cargo from the Inner Harbour to Cashin Quay; and
- The development of public access to the Inner Harbour in two stages (Dampier Bay and potentially the Dampier Bay Extension) to provide a commercial marina and associated activities, with public access and connectivity between Lyttelton and other parts of Naval Point.

At this stage it is assumed that the direct repairs or rebuild of existing wharf structures, seawalls and hard-standing areas and the construction of the reclamation would take in order of fifteen years, being completed in about 2028. However, the complete migration of the Port's operation to the east could well take up to 30 years.

Some of the repaired or rebuilt berths at Cashin Quay, Naval Point and the new berths at Te Awaparahi Bay will be designed to handle larger vessels with a deeper draft. The deepening and widening of the current navigation channel to enable access of these larger vessels is therefore inextricably linked to and forms an important part of the Port's Recovery.

The Figures contained in Chapter 2 of the Lyttelton Port Recovery Plan provide an outline of proposed Recovery. The Recovery description below is discussed under four headings:

- Reclamation, Container Terminal and Quarry;
- Cashin Quay;

⁷⁷ New Zealand Gazette, No. 65, 19 June 2014, section 3.

⁷⁸ Email from Jared Petterson, 21 October 2014.

- Inner Harbour; and
- Cruise Berth Options.

It must be emphasised that the descriptions below are based on our current understanding of the economic and commercial drivers which shape the Ports infrastructure needs. It is possible that the infrastructure needs of our customer and the freight mix could change over the next 15 years, in response to worldwide economic factors and industry changes. More detailed descriptions, including the project codes, of each individual projects are included in Chapter 2.

3.2.2 Reclamation, Container Terminal and Quarry

The additional reclamation will be developed using a range of different methodologies, which will be influenced by the type and quantity of available fill. It will initially move in a southerly direction to enable the construction of a new berth line, which facilitates the development of the first stage of a terminal in behind this. It is anticipated that this part will comprise approximately 8 hectares directly south of the currently consented 10 hectare area and would be constructed from quarry sourced hardfill (Gollans Bay quarry and/or Sumner Road reopening works), end tipped in a similar way to the current 10 hectares.

Land creation would then focus on moving in an easterly direction, and it is likely that a combination of hard and marine fill will be utilized. This area could be as much as 19 hectares, and may require the construction of a containment bund if marine fill is to be utilised. Aggregate would need to be imported to form the foundation of the pavement layers. This then enables the extension to the east of the adjacent new berth line, and subsequent development of a container terminal in behind this.

This staged methodology will provide for the creation of critical additional container terminal capacity at the earliest opportunity.

Container Terminal

The new terminal will include a container-handling yard connected to two modern berths designed to handle larger vessels. These are typically 6000 TEU⁷⁹ vessels that are approximately 300m long and have a draught of up to 14.5m. The berths will be constructed in two stages and at full completion up to eight cranes could be used to serve two vessels. The container terminal would be designed to utilize straddle carriers to move containers.

Quarry

The existing quarry will provide rock for the proposed reclamation in Te Awaparahi Bay, not only for fill material but also for large rocks needed to 'armour' the reclaimed land from the sea. The rock will also be needed to armour the rebuilt seawalls elsewhere in the Port e.g. in the Inner Harbour. The rate of take and the extent of the quarry will be no more than what is currently consented for the 10 hectare reclamation.

Previous investigation work suggested bench widths of up to 7.5m at the quarry although double-benches may be used in parts of the quarry. Double-benches involves approximately

⁷⁹ The twenty-foot equivalent unit i.e. 6000 twenty foot containers

10m wide benches, stepped out every 30m vertical. The existing haul road connecting the quarry to Te Awaparahi Bay will need to be widened, and in places realigned to ensure gradient is suitable for haul trucks.

3.2.3 Cashin Quay

Cashin Quay berth No.2 is currently subject to a major rebuild. This includes the removal and reconstruction of the wharf, seawall and associated hard standing areas. The other three berths at Cashin Quay will also require significant repair or replacement.

Cashin Quay will continue to handle containers in the medium term, however, after the container handling facilities are established in Te Awaparahi Bay, Cashin Quay's focus will change to one of general, bulk and break bulk cargos such as logs, fertiliser, and scrap metal. Coal will continue to use Cashin Quay berth No.1.

New buildings will be developed to support the expanding port including maintenance and administration facilities.

3.2.4 Inner Harbour

Eastern Port Operations

The eastern part of the Inner Harbour (from Wharf No.3 eastwards) will continue to be part of the Port operational area. However, the cargo handling operations will shift towards those which are less noisy and dusty (these will be moved to Cashin Quay). Cement ships, some break bulk cargo, car vessels and the larger fishing vessels are likely to use this area as would the tugs and other support vessels used by LPC.

Number 2 and 3 wharves will need to be replaced or substantially repaired as will the No.1 breastwork.

Dampier Bay

The development of Dampier Bay with a mixed use commercial development and marina is anticipated to commence early on in the Recovery. This will allow for community access to the waterfront with an emphasis on activities that have wide appeal.

Dampier Bay will result in improved public access and connectivity between Lyttelton township and the western Inner Harbour. The proposed waterfront promenade will also facilitate better connectivity between Lyttelton township and the recreational areas at Naval Point.

The first phase of the Dampier Bay development involves the construction of a modern floating pontoon marina catering for up to 200 berths. Phase 1 will also include developing the landside adjacent to the marina, this will include car parking, marina facilities, walkways and some commercial development. This is expected to be completed in 2016/2017.

The remainder of the Dampier Bay development is expected to take a further 4-7 years. This will include:

- Development of the landside with a mixed used commercial development (up to a total of 15,000m² of floor space), possible uses include; marine related industries and services, retail, hospitality, office/studio;
- Retiring the use of Sutton Quay for heavy vehicle port access and shifting the security fence to the eastern side of No.7 Wharf;
- Extension of the walkway along the waterfront and linking this with pedestrian access to Norwich Quay (via or adjacent to Sutton Quay);
- Creation of a new Diamond Harbour ferry terminal which will link with public transport and walkways to the township. The most likely location for the terminal is at the base of No.7 wharf; and
- Creation of some open space areas

The design of the buildings, promenade and other public spaces will be undertaken in a way which respects both the character of the Port and Lyttelton Township.

Dampier Bay may continue to serve the inshore fishing fleet although the exact location for them has yet to be decided.

Dampier Bay Extension

The Dampier Bay Extension project comprises the LPC owned land between No.7 wharf and the western side of No 3 wharf. It also includes the block of LPC owned land to the south of Norwich Quay and provision of public access to No.7 wharf. It does not include the railway lines and siding which are owned by Kiwirail.

The ability to develop this area is dependent on the migration of the port to the east and can only happen once a new container terminal is operating in Te Awaparahi Bay and majority number of trades have moved to Cashin Quay. Consequently timing for starting works in this area is approximately 15-25 years

As this project is not to commence for some time, planning has yet to commence on what could be done in this area. However the following are potential options:

- The demolition of Wharf's No. 4, 5 and 6 creates the potential for an extension to the recreational marina area to the east of Number 7 Wharf, enabling the construction of further marina berths;
- Continuation of the Dampier bay waterfront walkway;
- Limited on land development to provide support services for the marina and walkway; and
- Potential for some type of commercial development.

In the meantime Port land is at a premium and this area will continue to be used for cargo handling and other port-related operations.

Naval Point (Port owned land)

The bulk fuel berth is to remain at its existing location at Naval Point although this facility will be rebuilt, and will be constructed in a way that can be extended to accommodate larger vessels in future if required. The Dry Dock will continue to operate in the same location, as will

those activities that rely on the dock. It is possible the old Cattle Jetty, located between the Oil Berth and the Dry Dock, could be replaced with a new wharf.

3.2.5 Options for Cruise Ships

Inner Harbour and Outer Harbour development options for Cruise ships are being investigated. These include an option to locate the berth facilities on the harbor side of the Naval Point Tank Farm or alternatively to locate the berth at Gladstone Quay in the Inner Harbour. The new berth will be of a size to handle large cruise ships which are up to 350m in length and have draught of approximately 8.5m.

Both options would require dredging to establish the berth pocket and the Z-berth mole would need to be removed for the Inner Harbour option.

3.2.6 Port-wide repairs and reconstruction

In addition to the specific assets that need repairing or replacement (i.e. wharfs) there is also port wide infrastructure that needs repairing or rebuilding. This is principally the pavements, roads and underground services.

This work will be programmed around the need to continue operations at the port and will occur throughout the recovery program.

Pavements and roadways

Much of the ports pavement have suffered significant earthquake damage. Many of the roads and sealed surfaces in the port will either need to be replaced or have significant repairs. This will involve removal of the existing pavement, re-compacting the underlying material (including re-levelling) and then re-surfacing.

Services

Like other parts of the City, the ports services, i.e. stormwater, wastewater, power and data have been damaged and need repair or replacement. Some parts will also need upgrading to provide for the reconfiguration of the Port. Services work will also focus on providing resilient internal networks for the Ports 24/7 operations.

This work will involve the excavation and repair of the underground services including provision of relocated and discharge points into the harbor if needed. Some above ground structures, such as substations, pump stations etc, will also need to be repaired and in some cases relocated.

4 STRATEGIC SOCIAL BENEFITS AND COSTS

The description and discussion of potential social benefits and social costs in this section of the report draws upon all the sources of information described in section 1.3.2, synthesised and interpreted by the Taylor Baines team.

4.1 Principal elements of change envisaged

The principal changes envisaged over the lifetime of the proposed Recovery Plan that result in social effects, whether positive or adverse, can be summarised as follows -

- container volumes handled by LPC are expected to double within the next decade, then double again by 2041⁸⁰
- growth in vehicular traffic to and through Lyttelton associated with increased freight tonnages handled by the port and associated with the new waterfront attractions;
- modifications to Norwich Quay to cater for increasing port traffic as well as enhanced access to the waterfront;
- providing public access to specific parts of the Inner Harbour waterfront, including the development of Dampier Bay as a public access destination on the waterfront;
- re-location and enhancement of the Diamond Harbour ferry facilities;
- extensive demolition and re-construction activities on port land occurring at the same time as the port continues normal operational activities with increasing levels of throughput;
- reclamation of up to 37ha of land for the future container terminal in Te Awaparahi Bay;
- provision for the return of cruise ship visits;
- on-going community engagement by the Port Company, reflecting a commitment to building a positive relationship between the Port and its host communities.

⁸⁰ LPC 2014, p.7

4.2 Potential social benefits of the Recovery Plan

The description of potential social benefits and costs that follows is not intended to be encyclopedic; rather it focuses on the key social issues arising out of the LPRP.

The most significant potential social benefits of the LPRP are associated with -

- future levels of employment at the port;
- new waterfront access and amenities at Dampier Bay;
- new business opportunities at Dampier Bay;
- a re-located ferry terminal; and
- a stronger, positive relationship between the Lyttelton Port Company and the town of Lyttelton.

4.2.1 Maintenance and potential increase in port-related employment

Social benefits: Job security and the livelihoods (incomes) provided by paid employment support a range of flow-on social benefits to individuals, their households and their communities that result from having people in paid jobs⁸¹.

Job security for the existing port workforce is immediate. The potential for employment growth is greatest once the reclamation becomes operational.

For whom: Residents throughout Christchurch City; the distribution of where port employees live is now well-established; currently 15% in Lyttelton Harbour settlements and 80% in the rest of Christchurch.

LPC currently employs 525; other contractors at the port employ about 40; other port-related activities (e.g. road and rail transport) and other service providers to LPC are not counted in these numbers.

Key assumptions: Projected growth in freight throughput is summarised in the Integrated Transport Assessment⁸², which disaggregates the main commodity streams and reveals differences in expected rates of growth for each stream.

Uncertainties: It should not be assumed that future employment levels will be commensurate with future freight tonnages. Future employment demand at the port is highly dependent on the choice of freight-handling technology.

Dependencies: Some of the projected long-term growth is dependent on achieving

⁸¹ Benefits include support for material well-being, improved mental and physical health, enhanced job prospects for dependent children, reduced risk of substance abuse and related addictions, enhanced social connectedness and life satisfaction. See Quigley and Baines, 2014.

⁸² Abley Transportation Consultants, 2014, Table 5.1 at p.37.

the full 37ha reclamation, without which freight-handling capacity at the port will be constrained.

Related issues: The social benefits of jobs at the port are closely related to workplace safety. LPC recently⁸³ undertook a review which identified a range of issues for H&S at the port. As a result, the H&S Team is now embarking on the process of implementing changes to H&S practices and procedures at the port⁸⁴, working towards the establishment of an effective HSE⁸⁵ Management System.

Some recovery projects (e.g. first section of Cashin Quay repairs) are already consented and under way. This means that construction activities are already occurring alongside and in the same space as 'normal' port operations of loading and unloading ships. Access and egress arrangements for loading/unloading in some areas of the port already involve passage through building sites; and the physical arrangements in which individual workers work (e.g. routes taken, unexpected neighbouring activities, ..) are frequently and constantly changing and challenging. Traffic management, maintaining access to plant workshops and maintenance facilities, and the commissioning of new work areas (temporary roadway constructions and appropriate signage) is occurring under circumstances of increasing congestion and business pressures to maintain throughput and increase port productivity. Until the full reclamation at Te Awaparahi Bay is ready for occupation, more than a decade from now, such productivity demands will occur within an increasingly congested port footprint.

The number of re-construction projects being implemented simultaneously at the port will increase as the Recovery Plan is implemented, so that interactions between multiple projects will become more commonplace for the next 4-5 years.

Noting that a proportion of port workers also live in Lyttelton, the H&S Team point out that some of these individuals will be living under continual stress - the on-site stresses described above during the working day, and the off-site stresses related to noise and vibration (re-construction piling) experienced in some residential areas of the town when they are not at work.

Despite these challenges, the LPC H&S Team express the view that the Recovery Plan offers the prospect of *"a huge turning point in morale and culture"* for port workers so long as the appropriate H&S Management System is put in place and implemented. In the Team's view, if people working at the port have a clear understanding of what is expected, *"they can deliver results."* In their view, it would be damaging to morale and culture if serious efforts are not made *"to*

⁸³ May-July 2014.

⁸⁴ Discussion with LPC Health & Safety Managers, 1 October 2014.

⁸⁵ Various referred to as "Health & Safety in Employment" or "Health, Safety & Environment"

move beyond the talk”.

The additional H&S issue that requires attention is the fact that construction activities covered by the Construction Environmental Management Plan (CEMP) are occurring within an operating port environment and not an isolated greenfields setting. The LPRP should recognise the importance of improved H&S outcomes to its success and therefore the need to align construction-related H&S management with operations-related H&S management.

Recommendations:

In the rules package The LPRP will provide for a Construction Environmental Management Plan (CEMP) which will address construction-related aspects of workplace safety. This CEMP should include express acknowledgment that construction activities are occurring within an operating port environment, not a greenfield setting, and provide for corresponding consistency with LPC’s operational HSE Management System.

Additional It is expected that the HSE Management System currently being developed by LPC will reflect the fact that for much of the next decade, port operations and port re-construction activities will be occurring in close proximity to each other and in a way that is continuously changing.

Recognising that there are many people working on the port site who are not LPC employees, it would be desirable that a Whole-site H&S Accord be agreed between LPC and Port Users, which reflects the exceptional features of the prevailing work environment for the next decade.

4.2.2 New waterfront amenities in Lyttelton and the realisation of Lyttelton community aspirations to re-connect with the harbour

- Social benefits:** An additional focal point for Lyttelton residents to engage in community activities and establish social connections, reinforcing community identity. Good development at Dampier Bay will be a major achievement that will assist the psycho-social recovery of Christchurch residents as well as Lyttelton residents, and will send a strong message - *“we’re building back better than before”*
- The potential for social benefits is moderate in the short term, and reaches its full potential once port industrial activities vacate Wharf #7
- For whom:** While re-connecting with the harbour is an aspiration specific to the residents of Lyttelton (who numbered almost 3,000 at the 2013 census), and the new waterfront amenities will be on their doorstep, these amenities will also be enjoyed by other harbour communities, city and regional visitors who can be expected to be attracted to Lyttelton in larger numbers (unquantified, but expected to be in the 1000s⁸⁶).
- Key assumptions:** Port land is available on terms which support a mix of commercial and community activities. Indication of a possible Dampier Bay Development Schedule is provided in the Integrated Transport Assessment⁸⁷ showing a mix of industrial, retail, office, commercial, community and trade spaces, as well as the re-located ferry terminal.
- Initial Dampier Bay re-development is expected within the first two years of Recovery Plan implementation. Further re-development of a people-friendly waterfront in the areas adjacent to wharves 4,5 and 6 is not expected until after 2026.
- Uncertainties:** The mix of specific activities and amenities is currently unknown although a general concept has been developed by urban designers at Boffa Miskell and represented in an Indicative Outline Development Plan⁸⁸. Community consultation has revealed enthusiasm for a wide variety of possible activities to be provided for⁸⁹.
- Dependencies:** Successful waterfront development will depend on commercial viability. Rent and lease terms will be critical factors.
- Realisation of the full extent of the publicly-accessible waterfront area⁹⁰ depends on the migration eastwards of bulk-cargo port operations which currently occur at Wharf #7, and this in turn depends on achieving the full 37ha reclamation at Te Awaparahi Bay.

⁸⁶ Refer to discussion of ferry patronage data.

⁸⁷ Abley Transportation Consultants, 2014, Table 5.2 at p.37.

⁸⁸ Boffa Miskell, 2014. Urban Design Report v2, 26 September 2014. Figure 9

⁸⁹ Mene 2014, pp.16-17.

⁹⁰ LPC 2014, map opposite p.2 - green areas.

Related issues: There are diverse expectations within the community of what could be accommodated at Dampier Bay, leading to a risk of exaggerated expectations for some.

Layout needs to be cognisant of the presence of the commercial fishing fleet and the dry dock operations (including metal work and spray painting), since the dry dock is an important piece of maritime infrastructure that will not be re-located, and is the location for on-going marine industrial activities and associated employment, critical to several significant local businesses, besides LPC⁹¹.

Other issues to address, highlighted in community interviews and further reinforced in technical assessments, include-

- the need for convenient and safe access between Dampier Bay and the town centre;
- the need for convenient and safe access between Dampier Bay and the western parts of Lyttelton town⁹²;
- the need to provide two vehicular access routes for emergency services to public areas at Dampier Bay^{93,94};
- the need to ensure that Dampier Bay is well connected to the public bus route around the town;
- the need for safe areas from which children (and others) can observe port activities and study “our place”;
- the need to find the right scale and balance for Dampier Bay development, that complements the Lyttelton town centre experience while not threatening it with excessive competition;
- the level of interest in providing land-based and sea-based active recreation (e.g. mountain bikes, kayaks and fishing rod hire);
- the level of interest in providing children’s play facilities, or siting certain facilities (e.g. skate park) at Dampier Bay which are not so easily accommodated elsewhere;
- the role of public art within the proposed development;
- the level of need and location for off-street parking, recognising the shortage of parking spaces in the town, particularly at weekends;
- the balance to be sought in the mix of marina facilities to be made available after re-development (piled vs floating)

Effective on-going community involvement in assessing options and proposals for Dampier Bay development is important. There is a high level of expectation within the Lyttelton community that this will occur, and that designs will not be driven entirely by technical experts.

The Recovery Plan should provide for community input (on a level similar to that which was enabled for the Suburban Centres

⁹¹ Key informant interviews, 13 August 2014.

⁹² See, for example, the Urban Design Graphic Supplement at Figure 9, showing the potential connection from Voelas Rd.

⁹³ Ibid. At Figure 9, showing new road with entrances at Sutton Quay and Godley Quay.

⁹⁴ See also Abley Transportation Consultants, ITA Report (3rd Draft, 13 October 2014), Figure 3.6- vehicle access to Dampier Bay.

Programme Lyttelton Master Plan in 2011) to the development of a Master Plan (or Outline Development Plan) encompassing Dampier Bay developments (Stages 1 & 2), Norwich Quay re-development, re-location of the ferry terminal and the access and urban design considerations which link all these together into a coherent project.

Recommendations:

In the rules package The information produced by LPC as part of this LPRP process will include an Outline Development Plan (ODP) covering Stage 1 Dampier development. The next stage of the LPRP process provides appropriately for community engagement and consultation by Environment Canterbury, and for submissions on the ODP (inter alia).

Additional Given the recent experience of Lyttelton residents with their town centre master planning exercise, best practice participatory planning would envisage a similar exercise in relation to the Dampier Bay ODP.

Similar recommendations should apply in respect of the ferry terminal re-location and improvements to Norwich Quay.

4.2.3 New business opportunities and employment in Lyttelton associated with waterfront development

Social benefits:	Livelihood and employment opportunities and flow-on social benefits as outlined in 4.2.1 above. The scale of social benefits is minor in absolute terms, but potentially significant in the local community of Lyttelton.
For whom:	Similar to existing pattern - a mix of Lyttelton and city residents; totals unquantified but likely to be in the tens rather than hundreds.
Key assumptions:	<p>The scale and mix of development at Dampier Bay is yet to be determined. The transport assessment⁹⁵ has assumed two tranches of development (5,500 m² by 2026 and 15,000 m² by 2041) including elements of industrial, trade, retail, office space, community use and allowing for limited accommodation space as part of 'mixed-use'.</p> <p>Initial Dampier Bay re-development includes a re-located ferry terminal (see below).</p> <p>New business opportunities at Dampier Bay add to the diversity of Lyttelton's business base; the waterfront business precinct complements the existing core business area of Lyttelton, rather than competes with it.</p> <p>There is currently a shortage of serviceable buildings in Lyttelton from which businesses can operate.</p>
Uncertainties:	As for 4.2.2 above.
Dependencies:	As for 4.2.2 above.
Recommendations:	As for 4.2.2 above.

⁹⁵ Abley Transportation Consultants. Lyttelton Port Recovery Plan, Integrated Transport Assessment. (3rd Draft 13 October 2014). Table 5.2

4.2.4 Ferry terminal re-location.

Enhancement and potential capacity increase in ferry service and cross-harbour connections

Social benefits: Consultation⁹⁶ as well as relevant technical assessments indicate a broad range of improved amenities expected for ferry patrons - improved facilities for ticketing and waiting, improved physical access to the ferry itself, improved connection with public transport, proximity to car parks, convenient access to public toilets and an emergency phone, improvements to night lighting and personal safety; proximity to other Dampier Bay developments (see 4.2.2 above) and good connections with recreational spaces.

area
also
also

Re-location of the ferry terminal to a site outside the core operational area of the port provides greater future certainty for the service⁹⁷, while offering the significant social benefits described above. Re-location provides the opportunity for the ferry operator to expand services and vessel size. Overall therefore, re-location of the terminal is expected to enhance the connections between Lyttelton and Diamond Harbour.

For whom: Diamond Harbour residents who commute to Lyttelton or the city; Diamond Harbour residents visiting Lyttelton or the city for shopping, entertainment and hospitality; Diamond Harbour School pupils visiting Lyttelton School for manual training (weekly); Local and city visitors to Diamond Harbour and Quail Island. In total, monthly ferry patronage is currently typically between 8,000 and 10,000 during the winter months, rising to 14,000 at the height of summer.

Key assumptions: Re-location, combined with upgraded facilities and effective access provisions between the ferry terminal and the Lyttelton central business area, does not result in loss of patronage (see further discussion in section below).

New terminal facilities and access provisions are put in place before re-location occurs. However re-location is not expected to occur for several years⁹⁸

Wharf #7 will continue to be used by LPC for bulk cargo handling⁹⁹ for at least the next decade.

⁹⁶ Key informant interviews, Port Talk. See also Mene, 2014, p.21

⁹⁷ The presence of the ferry terminal within the operational port has no statutory backing; it is a commercial arrangement which could be terminated at any time. Matt Bonis, pers.comm. 22 October 2014.

⁹⁸ Section 3 details indicate between 4 and 7 years.

⁹⁹ Currently involving activities such as unloading vehicle imports and loading scrap metal exports.

- Uncertainties: The most likely location for the new ferry terminal is to the west of Wharf #7. Several locations are possible¹⁰⁰
- The timing of other Dampier Bay developments in close proximity to this potential ferry terminal location is also uncertain.
- Dependencies: Until container activity migrates east from Cashin Quay (dependant on full 37ha reclamation), LPC will continue to use Wharf #7 for bulk cargo operations because it has sustained less damage than other wharves that could be used in the meantime.
- Related issues: Expressed community preference prior to earthquakes was to retain the existing location¹⁰¹. However, the 2012 Lyttelton Master Plan contemplated the possibility for the ferry terminal to be re-located¹⁰². An important consideration in this preference was the comparison of walking distances between existing and proposed ferry terminal locations and the London Street shops. Boffa Miskell estimate the typical walking time from the existing terminal location at 7 minutes and the likely walking time from the proposed location at 8 minutes^{103,104}, an increase of some 14% in walking time. Abley Transportation Consultants have provided a detailed analysis of walking times and distances achieved within 5,10 and 15 minutes¹⁰⁵.
- Despite shortcomings of the existing terminal location (poor lighting, poor disability provision, distance from parking, no weather protection, lack of line-of-sight connection between ferry pilot and bus drivers, no public toilets ...), there are physical constraints to re-developing and upgrading the ferry terminal in its present location, due to port operational activities nearby. Re-location offers the opportunity to create a ferry terminal facility with considerably improved functionality to offset the small increase in walking time between the new location and the town centre.
- The ferry operator has a preference¹⁰⁶ to move to a location that could allow for larger vessels in future.
- The ferry service is important to numerous communities of interest (harbour residents, visitors) and any single location for the terminal is unlikely to be preferred by all. The ferry service is also important to service delivery between Lyttelton and Diamond Harbour.

¹⁰⁰ See Boffa Miskell, 2014. Urban Design Report v2, 26 September 2014. Figure 9

¹⁰¹ [Need to find the CCC document reference.]

¹⁰² At p.47, last line.

¹⁰³ Urban Design Assessment Draft, 26 September 2014, section 4.5, p.18

¹⁰⁴ Corresponding, more detailed estimates by Abley Transportation Consultants (para.7.33, p.57) are 6mins 40secs vs 8mins 20secs, an increase of 25%

¹⁰⁵ Abley Transportation Consultants. Lyttelton Port Recovery Plan, Integrated Transport Assessment. (3rd Draft 13 October 2014). Figure 7.11, p.56.

¹⁰⁶ Refer Rob Greenaway & Associates, 2014. Lyttelton Port Company Earthquake Recovery Planning Recreation and Tourism Issues. Draft v.2

Success of a re-located ferry terminal is absolutely dependent on high levels of (multi-modal) access, significantly improved pedestrian safety and amenity along the route, with facilities for cycle parks, car parks, and all-weather bus stop.

Recommendations: As for 4.2.2 above.

4.2.5 A stronger positive relationship between LPC and the town of Lyttelton

Social benefits: A positive relationship leads to increased social cohesion and a stronger positive identity for the town. The potential for these social benefits are cumulative over the long term and require continuous attention in order to be sustained. They are based on the potential to transform the relationships between LPC and stakeholders, and its host community of Lyttelton, from one of mutual acceptance to one of mutual benefit and trust.

For whom: Residents and businesses in Lyttelton, including LPC itself and its staff.
Other stakeholders (port user groups) in LPC operations.

Related issues: From an LPC business perspective, moving from a relationship of mutual acceptance to one of mutual trust is an investment in community and stakeholder support for its long-term development aspirations.

While the LPRP process is aimed at achieving a statutory licence to operate, working towards a social licence to operate provides added assurance which is helpful if circumstances change in a way which requires future negotiating with stakeholders.

of The Recovery Plan has some long time frames, including 5-10 years more intense development activity associated with demolition and reconstruction.

The community engagement efforts by LPC during this current assessment period have been universally well received by the community and port stakeholders. There is a corresponding expectation that LPC will commit to on-going community engagement during the lifetime of the Recovery Plan.

There are a number of well-known business approaches which can contribute cumulatively towards a social licence to operate -

- use of social impact management plans as part of project development and implementation. An updated Noise Management Plan (originally referred to in section 2.2.3) would be an example in the current context.

- Corporate Social Responsibility initiatives. Efforts in relation to opening up access to LPC's waterfront land provide an example of this.

- community engagement commitments, such as those associated with this Recovery Plan;

- monitoring and public reporting on social and environmental outcomes. Reporting on workplace safety outcomes, and 'healthy harbour' (water quality) outcomes are some examples.

There are also established methods¹⁰⁷ for quantifying and measuring progress towards the highest levels of social licence. These are useful not merely for assessing achievements in the state of the relationships, but more importantly for identifying priorities and devising strategies for improving and sustaining the relationships..

Key assumptions: LPC has indicated its willingness to engage meaningfully with the community and stakeholders - the Consultation Objectives¹⁰⁸ developed in July 2014 included -

- To develop and build stakeholder trust of the Port and improve the Port's relationship and connections with all the communities it interacts with;
- Create pathways and tools for ongoing community engagement now and in the future;
- Assist the Port to clearly understand what is important to all its varied stakeholders.

Recommendations:

In the rules package The sequenced opportunities for engagement and community input throughout the LPRP development process provide a good foundation for building a stronger positive relationship between LPC and the town of Lyttelton.

Additional LPC is already continuing voluntary engagement on construction activities beyond what is required by the statutory process¹⁰⁹. Continuing this voluntary engagement on other projects (e.g. Dampier Bay development) would be a positive step towards building a stronger positive relationship.

Adopting even more pro-active steps towards building social licence - for example, using stakeholder surveys to measure progress and develop strategies for improving relationships further - would demonstrate strong industry leadership.

¹⁰⁷ Ministry for Primary Industry, 2014. How to improve your social licence to operate: A New Zealand Industry Perspective. MPI Information Paper No. 2014/05. p.10.

¹⁰⁸ LPC 2014, p.8

¹⁰⁹ For example, communications with potentially affected neighbours over construction activities, even when such activities already comply with existing standards (e.g noise standards). Matt Bonis, pers.comm. 23 October 2014.

4.3 Potential social costs of the Recovery Plan

4.3.1 Growth in vehicular traffic through the tunnel and along Norwich Quay

Assumptions: Increased traffic volumes through the Lyttelton tunnel and along Norwich Quay in the morning and evening peaks have been estimated¹¹⁰ by Abley Transportation Consultants. In 2013, average morning peak hour vehicles through the tunnel were 838 and passing along Norwich Quay just east of the tunnel exit were 729. Corresponding figures for the evening peak hour in 2013 were 920 and 679. Abley's estimate that by 2026 the morning average peak hour vehicles will have increased by between 46% and 50% through the tunnel and by between 39% and 45% along Norwich Quay. For 2041 the corresponding increases over 2013 volumes are estimated at between 77% and 98% through the tunnel and between 75% and 94% along Norwich Quay¹¹¹.

Abley Transportation Consultants have assumed that Norwich Quay remains the principal route into the port for the foreseeable future. *"Due to the current demands on Port land, it is unlikely that LPC would be in a position to cease use of the land that would be required for an alternative port access road in the short to medium term (up to 15 years)."*¹¹²

Social costs:: As a result of these expected increases in tunnel/Norwich Quay traffic volumes, several potential social costs are possible -

- emergency service providers have expressed concern about the potential risk of a greater frequency of tunnel congestion events affecting response times for an ambulance to reach an incident in Lyttelton with potential implications for health outcomes;

- a further deterioration in environmental amenity values¹¹³ on Norwich Quay, with potential implications for the attractiveness of Norwich Quay to other users;

- perceptions of increased traffic hazards could have the potential to affect adversely the pedestrian accessibility between the town centre and the waterfront, unless measures are implemented which effectively counter such perceptions, with adverse implications for the popularity of Dampier Bay, but not necessarily for the successful re-location of the ferry terminal¹¹⁴; and

¹¹⁰These estimates incorporate the limits on freight mode shift to rail in future, as modelled in the Abley Transportation Consultants Report. Ann-Marie head, pers.comm 10 October 2014.

¹¹¹Similar estimates are available for the average evening peak hour traffic at these locations.

¹¹²At para.10.1, p.66.

¹¹³Particularly noise, vibration, air quality

¹¹⁴Pedestrian access to the town centre from the ferry terminal at either location involves crossing Norwich Quay.

- the existing scarcity of accessible parking will be exacerbated¹¹⁵.

These social costs will be experienced mostly by residents of Lyttelton and people who work in Lyttelton. Furthermore, unless addressed effectively, they will be progressive in scale over time as traffic volumes increase.

Related issues: Although St John Ambulance has a unit based in Lyttelton, current operational policies of the service mean that the Lyttelton ambulance spends much of its time attending needs in the city. Consequently, response time to incidents in Lyttelton are increasingly likely to have to factor in travel times from the city through the tunnel¹¹⁶. The 'rapid response vehicle' based in Lyttelton that would mitigate this risk remains a concept. Furthermore, Civil Defence and Emergency Services would like to have more formal communication links¹¹⁷ with the Port, since liaison arrangements have become less formalised over time.

Closure of the Sumner Rd/Evans Pass Rd route has resulted in hazardous and over-dimension loads being transported under escort through the tunnel, involving between 8 and 30 movements closing the tunnel each night between 7pm and 6am. Such closures mean that *"no general vehicles will be allowed to enter the tunnel for between six and ten minutes."*¹¹⁸

There is clearly the potential for conflict with the community's Norwich Quay re-development expectations articulated in the Lyttelton Master Plan¹¹⁹.

Crossing Norwich Quay is important for many pedestrian routes within Lyttelton: from town centre to waterfront and ferry terminal; from Lyttelton West to Lyttelton East; access from Lyttelton Primary School to the sports fields on the Lyttelton Recreation Reserve.

¹¹⁵ During the week, LPC land likely to be re-developed at Dampier Bay is currently used by non-LPC workers for parking their cars. Additional parking demands associated with the proposed Dampier Bay developments have been estimated at 174 by 2026 and 402 by 2041, assuming 50% parking demands for community and the marina during weekdays and no parking demand for industrial, office, commercial and trade uses on the weekends. Abley Transportation Consultants (3rd Draft 13 October 2014) at Table 7.8

¹¹⁶ Abley Transportation Consultants 2014 note at para 7.58 - "This will require consideration in future as congestion and delays increase on the route between Lyttelton and Christchurch. Alternative arrangements may need to be made to ensure appropriate resources are available to respond to incidents in Lyttelton."

¹¹⁷ Regular meetings and clear points of contact.

¹¹⁸ Abley Transportation Consultants ITA Report (Draft 19 Sept), para. 3.44

¹¹⁹ At p.45.

Recommendations:

In the rules package For addressing the potential Norwich Quay issues and parking concerns, community engagement as for 4.2.2 is recommended.

Additional As for 4.2.2

The proposal for pedestrian-controlled signalised crossings of Norwich Quay, proposed by Abley Transportation Consultants, and other medium-term modifications to the Norwich Quay streetscape could be the focus of a participatory planning activity; similarly for parking provision addressed as part of the planning for Dampier Bay developments.

Regarding the concerns of the Emergency Services, LPC may wish to consider some involvement in providing for the Rapid Response Vehicle dedicated to Lyttelton. Monitoring the frequency and severity of tunnel congestion events, and providing monitoring feedback to Emergency Services in Lyttelton would be an alternative response.

Liaison arrangements between the Port and Emergency Services and Civil Defence should be put on a more formal footing¹²⁰ to ensure greater certainty of response. Contribution by the Port towards the establishment and/or operation of a rapid response vehicle would be appropriate

¹²⁰This may occur partly through their involvement in Port User Group meetings.

4.3.2 Off-site amenity effects from port operations and reconstruction activities

- Social costs: Off-site adverse amenity effects can arise from demolition/ construction activities at the port occurring simultaneously with on-going port operations -
- noise and vibration effects can arise from pile driving and from freight handling, both containerised and bulk cargoes;
 - air quality effects can arise from construction activities, traffic and shipping movements, and bulk cargo handling such as coal and logs; and
 - light-spill and glare effects can occur from night lighting necessary for the safe operation of the port.

There is a level of acceptance within the Lyttelton community that a certain degree of nuisance or amenity effect is part and parcel of living in a port town; indeed “the sights and sounds” of the port are accepted by many as part of the character of the place. Typical operational noise sources include vehicle movements, reversing alarms, containers banging, a ship’s generator in port, and so on.

It is also accepted by LPC that off-site amenity issues should be managed and not ignored or taken for granted. Hence the existence of the Port Noise Management and Mitigation Plans and the associated Port Liaison Committee process (described earlier at sections 2.2.3 and 2.3.6).

LPC’s complaints record¹²¹ indicates that in the years since the major earthquakes (i.e. 2011 onwards), the number of port-related complaints¹²² declined from the 2011 peak of 44 to 11 in 2013 and increased to 11 in the first six months of 2014. Of these, 53% were about noise, 12% were about dust and 22% were related to reclamation debris.

Over the lifetime of the LPRP -

- the risk of adverse effects on amenity and health for residents and businesses closest to port operational areas from prolonged exposure to cumulative noise is greatest during the period of intense demolition/construction activity (the next 5-10 years). In the long term, with migration of port activities eastward, the incidence and severity of off-site noise effects is likely to be reduced with corresponding improvements in residential and business amenity values.

¹²¹ See Appendix 3 for details.

¹²² i.e. excluding complaints related to City Depot activities.

- In the long term, with migration of general cargo-handling activities eastward to Cashin Quay, dust discharges are expected to reduce significantly. However, while shipping emissions will also decline with the migration east of the container terminal, vehicle emissions will continue to increase with increasing container vehicle trips passing along Norwich and Gladstone Quays.

Noise and vibration:

At the time of writing, the construction noise assessment¹²³ and the operational noise assessment¹²⁴ had been completed. However, the subsequent analysis and description of cumulative noise effects had not been completed.

The operational noise assessment concludes¹²⁵ that *“Based on the forecast use of the port there will be an insignificant change to the port noise contours during the port recovery period. After that period there will be a reduction in noise for the residents at the eastern half of the Inner Harbour. The proposed development to the east will not generate any additional noise for any residents in Lyttelton.”*

The construction noise assessment explains¹²⁶ that *“For some activities and work locations, construction noise will exceed guideline noise limits from NZS 6803 at some receivers.”* and *“As part of the Recovery Plan for Lyttelton Port, an amendment is proposed that allows noise to exceed these limits provided that appropriate assessment and management occurs.”*

Air quality:

In assessing air quality effects, the report notes that *“Dust monitoring and complaints records indicate current port operations in the Inner Harbour, particularly log storage and handling, are a source of dust nuisance. With the relocation of log storage and handling to Cashin Quay, the effects of operational discharges to air from general cargo activities are expected to be reduced significantly”*¹²⁷. However, this shift in location is dependent upon the future re-location of container activities to the proposed reclamation.

Regarding containerised cargo, the report states *“Significant expansion is proposed of containerised cargo (400% in 30 years) once the new container terminal is constructed at Te Awaparahi Bay. This will result in an increase in vehicle and shipping emissions. The increase in exhaust emissions from shipping and on-site equipment will not translate into a similar increase in offsite effects at receptors, as this will be off-set by the significant separation distance from the closest houses to the terminal operations*

¹²³ URS Lyttelton Port Recovery Plan: Assessment of Construction Noise Effects, 3 October 2014 [PLEASE NOTE THAT SECTIONS 7 (AEE) AND 8 (CONCLUSIONS) ARE EMPTY]

¹²⁴ Hegley Acoustic Consultants. Lyttelton Port of Christchurch, Port Recovery Plan: Operational Noise Assessment, October 2014.

¹²⁵ Conclusions, p.19.

¹²⁶ Executive Summary, p.iii.

¹²⁷ Tonkin & Taylor Port Recovery Plan Air Quality Assessment. Section 6.2.

*created by the relocation east. There will however be an increase in transport emissions as a result of increased truck movements to and from the Port.*¹²⁸

In respect of potential Inner Harbour construction effects on air quality, the Air Quality Assessment identifies small numbers of potentially sensitive receptors on Godley Quay and Sumner Road, depending on the prevailing wind direction at the time¹²⁹. The most significant source of dust is likely to be wind and/or traffic-generated dust from unstabilised, dry, exposed surfaces such as exposed earthworks and reclamation, stockpiles and unpaved haul roads. Tonkin & Taylor recommend addressing such risks through measures specified in a Construction Environmental Management Plan.

Light-spill/glare:

Within the Inner Harbour, new lighting is expected and required as an important amenity element around the Dampier Bay development - there have been numerous calls for improved lighting in the vicinity of the ferry terminal in order to enhance personal safety; similarly, in the proposed publicly accessible waterfront area of Dampier Bay, good levels of lighting are expected in order to promote safe use.

The proposed expansion of the container terminal on reclaimed land in Te Awaparahi Bay will¹³⁰ -

- *“significantly increase the width and viewing angle of the flood lit area to an observer in Diamond Harbour”* and will bring the new areas *“closer to some observers in Diamond Harbour and this will increase the intensity of the lighting effects”* ;

- *“become visible to observers in Purau¹³¹. At a distance of approximately 3 kilometres, the lighting effects will be noticeable but minimal”*;

- *“will almost double the width and viewing angle of the flood lit area to an observer in Governors Bay. The distance of the new areas is over 6 kilometres and therefore will have minimal adverse effects to an observer.”¹³²*

“Current lighting in the port generally uses conventional high pressure sodium lamps and conventional luminaires mounted on poles up to 30 metres in height. While the existing lighting installation complies with the District Plan for lighting performance for spill light on site boundaries, the visual effects of sky glow and glare are not well controlled. The recommended methodology to light developments in Dampier Bay pole mounted new technology LED

¹²⁸ Ibid.

¹²⁹ Ibid, Table 3.

¹³⁰ Pederson Read. Lyttelton Port of Christchurch Recovery Plan - Assessment of Environmental Effects: Lighting. 20 October 2014. Section 9.2.

¹³¹ At present only the coal terminal areas, with relatively low level lighting and a small number of lighting poles, are visible from Purau.

¹³² Ibid. Section 9.2.1.

*luminaires supplemented with low level and building mounted amenity/feature/architectural luminaires. The main pole mounted luminaires will provided significant benefits compared to conventional luminaires including improved visual amenity, reduced glare, compliant light spill and minimal sky glow effects.*¹³³

*“The expanded container terminal may require the use, in the first instance, of similar lighting solutions to those presently employed with similar effects to existing. In the longer term (5 to 10 years) it is expected that developments in LED technology will enable “flat glass” luminaires to be used resulting in reductions to visible glare and upward light spill.”*¹³⁴

Recommendations:

In the rules package The rules package should include provision for and updated Noise Management Plan and Construction Environmental Management Plan to recognise and respond to the cumulative effects of construction and operational noise.

It should also endorse the Port Liaison Committee (PLC) mechanism and require the PLC to take a more pro-active approach to addressing noise issues during the re-construction period. In this regard, depending on the outcome of the combined noise assessments, the PLC may wish to -

- re-assess the eligibility of dwellings in the town for acoustical treatment and consider accelerating the acoustical treatment programme for eligible dwellings in advance of the re-construction period;

- consider appropriate ways of providing periodic relief for the most affected communities from intrusive noise and vibration during the prolonged re-construction period (4-5 years)¹³⁵.

Additional

Consideration should be given to expanding the mandate of the PLC to addressing air quality and lighting issues.

¹³³ Ibid. Section 10.

¹³⁴ Ibid.

¹³⁵ For example, in the interests of sustaining the psycho-social recovery amongst the residents of Lyttelton, it may be appropriate to schedule construction-free weekends once every quarter, and complement these occasions by providing opportunities for the community and the public to visit the re-construction areas and observe progress.

4.4 Summary of other ‘social effects’ assessments

As explained in section 2.1, specific communities of interest were the focus of a separate Cultural Impact Assessment and a separate Recreation and Tourism Assessment.

Principal findings of these assessments are summarised here.

4.4.1 Cultural benefits and issues

The Cultural Impact Assessment¹³⁶ acknowledges Ngai Tahu’s history of occupancy and land use around the harbour, and the cultural landscape and mahinga kai traditions, noting that cultural well-being and use of the harbour is directly related to harbour water quality. Manawhenua are committed to working with LPC to achieve a healthy harbour that is “*both a mahinga kai and a port.*”

Reinstatement of the existing port infrastructure, if managed appropriately, provides an opportunity to improve the environmental performance of port infrastructure in key areas such as stormwater management.

Manawhenua have “*significant concerns with including the proposed reclamation at Te Awaparahi Bay in the Recovery Plan*”, since this is “*a major new long-term capital works project requiring an assessment and decision making framework that:*

- *balances port requirements with the value of the harbour as a Ngāi Tahu cultural landscape and mahinga kai; and*
- *provides both parties with the certainty required to achieve their respective aspirations for the harbour.*”

4.4.2 A range of tourism and recreational benefits

The Recreation and Tourism Assessment¹³⁷ concludes that the net effect of the LPC recovery projects are potentially substantially positive due to the scale of benefit afforded by a marina and coastal public access and activity centre in Dampier Bay. This facility has many potential development opportunities and has wide community support. While no business case has been developed, the ability to co-locate a range of retail, service, recreation, community, heritage and transport options in a potentially very appealing marine setting will lend a significant advantage to the commercial viability of any enterprises.

¹³⁶ Dyanna Jolly, 2014. Cultural Impact Assessment: An assessment of potential effects of the Port Lyttelton Plan and Lyttelton Port Recovery Plan on Ngai Tahu values and interests.

¹³⁷ Rob Greenaway & Associates, 2014. Lyttelton Port Company Earthquake Recovery Planning Recreation and Tourism Issues. Draft v.2

5 CONCLUSIONS AND RECOMMENDATIONS

While this Recovery Plan is focused primarily on LPC land and recovery projects, the relationship between LPC recovery, Lyttelton community recovery and the wider recovery efforts for Christchurch is evident in this and other assessments.

LPC recovery relates to the timely recovery of port infrastructure while maintaining and increasing operational capacity. The Christchurch recovery is reflected in the high volumes of freight passing through the port which are related to rebuilding the city and regional economic activity. The Lyttelton community recovery (as it is relevant to this Recovery Plan) is related to the opportunities for re-connecting town and harbour, and rebuilding the relationship between the community and the port company, tempered by the potential for adverse effects. Some may be asked to accept adverse effects for a prolonged construction period. Community expectations for the Norwich Quay interface between town and harbour, expressed at the time of the Master Plan, may have to be moderated in light of subsequent feasibility studies.

The general tenor of community consultation thus far is that a balance needs to be maintained between these potentially conflicting elements of recovery - not emphasising one at the expense of another.

This high-level social assessment concludes that there are significant potential social benefits. The principal social benefits are associated with -

- immediate security of employment at the port, and the long-term potential for more employment and a safer working environment at the port;
- new waterfront amenities in the Inner Harbour at Dampier Bay and the realisation of an important aspiration for the community of Lyttelton to re-connect with the harbour and enjoy access to it;
- new business and employment opportunities at Dampier Bay;
- the opportunity to secure ferry terminal facilities that provide in the short term a significantly enhanced level of amenity and service for its users and in the long term the potential for increased capacity in the service; and
- the opportunity for a stronger, positive relationship between the town of Lyttelton and LPC as the basis for increased social cohesion and enhanced identity.

These benefits will rely on commercial development and decisions over several decades which will have implications for the extent of social benefits realised. The full realisation of potential benefits will depend on LPC achieving up to 37ha of reclamation at the Awaparahi Bay, which enables a cascade of changes in the location of port activities, thereby freeing up space in the Inner Harbour for public access. If the full reclamation does not proceed, the scale of potential community benefits will be more limited.

Several potentially significant social costs have also been identified during this assessment,

some of which have been further assessed by various technical experts (traffic - access and safety, noise, air quality). The principal social costs are associated with -

- the growth in vehicular traffic through the tunnel and to the port with adverse social effects that increase over time unless suitably mitigated; and
- off-site effects of port operations and re-construction activity on amenity values close to the port, which is likely to be greatest during the period of intense demolition and construction over the first 5-10 years and then diminish significantly when port operations migrate eastwards, vacating much but not all of the Inner Harbour.

This Social Impact Assessment recommends mitigation in two categories. Firstly, there is mitigation which is already or should be incorporated into the Recovery Plan via the rules package. Secondly, there are recommendations which either complement the rules package but come under legislation other than the RMA or which seek to extend the scope of mitigation via voluntary initiatives.

The combination of potential for increased employment levels, demand for high levels of workplace safety, and maintaining port operational competitiveness simultaneously would suggest that land reclamation of up to 37ha is necessary.

Similarly, the community expectations for improvements in waterfront amenities and public access would suggest that increased outer harbour (eastward) operational port capacity is necessary.

Furthermore, we consider the institutional arrangements outlined in this report to be necessary to support community recovery.

REFERENCES

Canterbury Earthquake Recovery Authority, 2014. Community in Mind - Hei Puawai Waitaha - a flourishing community: Strategy for rebuilding health and wellbeing in greater Christchurch. June 2014. 15p.

Christchurch City Council, 2014. Lyttelton Recovery Plan - CCC Working Party Terms of Reference - 5 June 2014.

<http://resources.ccc.govt.nz/files/CityLeisure/projectstoimprovechristchurch/lytteltonportrecoveryplan/LytteltonRecoveryPlanWorkingPartyTermsofReference5June2014.pdf> - accessed July 2014.

Christchurch City Council, 2013. Community profiles in suburban areas.

<http://www.ccc.govt.nz/cityleisure/statsfacts/communityprofiles/index.aspx> - accessed July 2014.

Christchurch City Council, 2012. Lyttelton Master Plan: Suburban Centres Programme. Christchurch City Council, Christchurch.

Christchurch-Lyttelton Road Tunnel Authority, 1964. Christchurch-Lyttelton Road Tunnel: Official Opening by Sir Bernard Fergusson, Governor General of New Zealand 27 February 1964. Booklet.

Crown Public Health, 2011. Integrated Recovery Planning Guide - For a healthy, sustainable & resilient future. Version 2.0. June 2011.

<http://www.cph.co.nz/Files/IntegratedRecoveryGuideV2-Jun11.pdf> - accessed July 2014.

Dew, L., 1988. The Country Commuter: the regional railway network of Christchurch. Christchurch Transport Board/ Tramway Historical Society. Christchurch.

Kayes, B., 2014. Lyttelton: My Home Town. New Zealand Memories 107 (April/May 2014): 39-43.

Lyttelton Port Company, 2014. Lyttelton Port Plan - Our Future.

Mene, C., 2014. Lyttelton Port Recovery Plan: Consultation Summary and Analysis Report. September 2014.

New Zealand Historic Places Trust Pouhere Taonga, 2009. Lyttelton Township Historic Area (Vol.1). Registration Report for a Historic Area. New Zealand Historic Places Trust Pouhere Taonga.

Quigley and Baines, 2014. The social value of a job. Report prepared for the Aquaculture Unit of the Ministry of Primary Industries. October 2014. 35p.

Quigley and Baines, 2014a. How to improve your social licence to operate: A New Zealand Industry Perspective. MPI Information Paper No: 2014/05. Prepared for Aquaculture Unit, Ministry for Primary Industries. March 2014. 30p.

Quigley & Watts Ltd, 2013. Building Community Resilience: Learning from the Canterbury earthquakes. Report prepared for the Health Research Council and Canterbury Medical Research Foundation. March 2013.

Rice, G.W.,2004. Lyttelton: Port and Town An illustrated history. Canterbury University Press, Christchurch.

Stevenson J. R., Kachali H., Whitman Z., Seville E., Vargo J., and Wilson T.,2011. Preliminary observations of the impacts of the 22 February Christchurch earthquake on organisations and the economy: a report from the field (22 February – 22 March 2011). Bulletin of the New Zealand Society for Earthquake Engineering, Vol. XX, No. Y, Month 2011.

APPENDICES

Appendix 1: Taylor Baines research consultation record

Appendix 2: Demographic comparisons

Appendix 3: Analysis of complaints about port activities

Appendix 1: Taylor Baines research consultation record

8 July	CCC, Senior Planner Project Lyttelton
23 July	Diamond Harbour Community Association (3)
24 July	Lyttelton Primary School Lyttelton Pre-school Lyttelton Supermarket, London Street (2) CCC, Lyttelton Library Lyttelton Kindergarten (3) Real Estate Company in Lyttelton Bar in London Street
27 July	Governor's Bay resident (workshop attendee)
28 July	Lyttelton Farmers' Market CCC, Lyttelton Strengthening Communities Norwich Quay business owner
30 July	Restaurant in London Street
4 August	CDHB/CPH presentation by LPC
5 August	CPH - Health in All Policies
6 August	Boffa Miskell, Urban Design consultant Abley Transportation Consultants CPH, Medical Officer of Health Lyttelton Business Association CDHB/CPH - Bio-security Team (3)
7 August	NZ Police - Lyttelton Volunteer Fire Service - Lyttelton St John Ambulance - Lyttelton LPC - Operations Manager Wood carver - artist
8 August	London Street business owner
11 August	CDHB/CPH - Accessibility/Health Promotion CDHB/CPH - Psycho-social well being
13 August	Marine engineering firm Real Estate company in Lyttelton Maritime Union Youth Centre, Lyttelton (2) Marine engineering firm
14 August	CDHB/CPH - Emergency Response Team, Health Protection
25 August	Diamond Harbour School Two Diamond Harbour businesses
26 August	One Diamond Harbour business
4 Sept	LPC Environmental Manager - LPC noise management issues
5 Sept	CCC Environmental Health Team
5 Sept	Environment Canterbury, Passenger Transport Planner
1 Oct	LPC Health & Safety Management Team (3)

In summary, we have interviewed about 50 people from a range of perspectives, including Lyttelton businesses and community organisations (24), other Lyttelton Harbour communities (8), Councils and CDHB (13) and several units within LPC

itself (5). Many of the representatives of the Lyttelton businesses and community organisations are also residents of Lyttelton or the harbour communities.

A summary of issues raised in discussions, grouped by category of key informant, is provided in the following table -

Category of key informant	Issues raised/topics discussed
Lyttelton businesses and community organisations	<ul style="list-style-type: none"> - waterfront opportunities for recreation, social connections, education, new businesses, employment - safe access to waterfront/Dampier - level of community networking and expectations of community participation - port traffic - pedestrian safety in Lyttelton - ferry terminal location - off-site noise and dust effects, particularly during construction - post-quake stress in the community - loss of Lyttelton facilities and attractions in the earthquake - safe access to Naval Point - buffering Dampier Bay development from industry - tunnel congestion at times - Norwich Quay environmental amenity - identity/special character of Lyttelton as a port town - post-quake challenges to small businesses in Lyttelton - town centre shifting west post-quake - relationship between port and Lyttelton community, including legacy of mistrust - shortage of parking - PT connections in Lyttelton - relationship between port and civil defence/emergency services - reclamation impacts on boating, seafood harvest
Other Lyttelton Harbour communities	<ul style="list-style-type: none"> - ferry terminal location and facilities - linkage to Lyttelton town centre - PT connections to ferry - port traffic - off-site visual effects - off-site noise effects - off-site lighting effects - waterfront opportunities for recreation, social connections, education - convenient access to parking in Lyttelton
Councils	<ul style="list-style-type: none"> - post-quake community recovery - Norwich Quay environmental amenity - port traffic - accessibility between town centre and waterfront/Dampier Bay - employment in Lyttelton - lighting/safety at Dampier Bay - nature and quality of town/LPC relationship - relationship between port and civil defence/emergency services - visibility of the port activities

Category of key informant	Issues raised/topics discussed
CDHB	<ul style="list-style-type: none">- LPC relationship with the town- importance of waterfront opportunities to community post-quake recovery- ferry terminal accessibility- shortage of parking in Lyttelton- risks from prolonged exposure to off-site noise and vibration- emergency response/border control- bio-security risks during construction- off-site dust effects
LPC	<ul style="list-style-type: none">- job security at the port- improved work conditions- workplace safety- off-site noise effects- off-site dust effects

Appendix 2: Demographic comparisons

		Lyttelton	Christchurch City	New Zealand
% aged 65+ years	2001	10.8	13.7	12.1
	2013	13.3	15.0	14.3
% aged under 15 years	2001	19.2	19.3	22.7
	2013	17.8	17.8	20.4
Median age	2001	37.9	35.7	34.8
	2013	44.2	38.6	38.0
% Maori	2001	9.4	7.0	14.1
	2013	7.3	8.1	14.1
% tertiary education	2006	24.9	15.3	14.2
	2013	29.4	19.0	17.8
% couple only households (couple without children)	2001	47.4	41.0	39.0
	2013	47.4	42.8	40.9
% renting (dwelling not owned and not held in a family trust)	2001	22.4	30.5	30.7
	2013	23.1	30.8	31.1
% coal for heating	2001	22.5	6.7	8.9
	2013	3.0	0.5	3.9
% electricity for heating	2001	84.6	84.7	69.0
	2013	87.1	89.8	74.8
% Manager & Professional	2006	45.3	33.9	36.0
	2013	51.0	37.0	39.1
% Trade & Machinery Operator Driver	2006	11.5	16.1	16.8
	2013	10.5	15.3	15.7
% Labourer	2006	8.5	9.9	11.0
	2013	7.9	9.6	10.5
% Unemployed	2001	4.3	4.3	4.8
	2013	3.1	3.3	4.5

Taylor Baines

	UR1996	UR2001	UR2006	UR2013	%pop change 1996 to 2001	%pop change 2001 to 2006	%pop change 2006 to 2013	%pop change 1996 to 2013
Lyttelton AU	3090	3045	3072	2859	-1.5	0.9	-6.9	-7.5
Diamond Harbour AU	1071	1266	1389	1467	18.2	9.7	5.6	37.0
Governors Bay AU	702	792	873	870	12.8	10.2	-0.3	23.9
Christchurch City TA	316608	324078	348459	341469	2.4	7.5	-2.0	7.9

Appendix 3: Analysis of complaints about port activities

Year	2009 (pt)	2010	2011	2012	2013	2014 (pt)	Total 09-14	Total 11-14
Noise								
port	3	7	25	8	4	1	48	38
construction	0	0	1	1	0	3	5	5
other	0	1	0	1	0	0	2	1
Dust								
port	4	12	4	1	2	3	26	10
Debris/litter								
reclamation	0	0	11	3	2	2	18	18
other	0	0	0	0	1	1	2	2
Other	0	4	3	1	2	1	11	7
Total:	7	24	44	15	11	11	112	81

Source: Kim Kelleher, LPC Environment Manager, pers.comm.