TE TUPU NGĀTAHI
SUPPORTING GROWTH

VOLUME 4

Takaanini Level Crossings Social Impact Assessment

October 2023

Version 1.0

WAKA KOTAHI NZ TRANSPORT AGENCY

AT

New Zealand Government

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Glossary of Defined Terms and Acronyms

We note that 'Takaanini' (with double vowels is used throughout the Report Acknowledging the ongoing kōrero and guidance from Manawhenua on the cultural landscape. 'Takanini' is used where reference is made to a specific and existing named place (e.g., Takanini Road, Takanini Town Centre etc.). Manawhenua is also used throughout the Report as while gifting the programme name as Te Tupu Ngātahi, Manawhenua confirmed this was an appropriate spelling (capital 'M' and one word). Notwithstanding this, the term is spelled as two words in other fora and the proposed designation conditions – Mana Whenua.

Acronym/Term	Description
AEE	Assessment of Effects on the Environment report
AT	Auckland Transport
AUP:OP	Auckland Unitary Plan: Operative in Part
CBD	Central Business District
Council	Auckland Council
CTMP	Construction Traffic Management Plan
CNVMP	Construction Noise and Vibration Management Plan
ECE	Early Childhood Education
FUZ	Future Urban Zone
IAIA	International Association for Impact Assessment
KiwiRail	KiwiRail Holdings Limited
Level Crossing	A place where rail lines and a road cross at the same elevation. Level crossings in Takaanini have active controls to guide road users including flashing lights and boom barriers for motorists, and in some cases automated gates for pedestrians. These devices are activated prior to and during the passage of a train through the level crossing.
NIMT	North Island Main Trunk rail line
NoR	Notice of Requirement
NoR 1	Notice of Requirement 1: Takaanini Level Crossings Project (Spartan Road, Manuia Road, Manuroa Road, and Taka Street)
NoR 2	Notice of Requirement 2: Takaanini Level Crossings Project (Walters Road)
NPS:UD	National Policy Statement on Urban Development
SCEMP	Stakeholder Communication and Engagement Management Plan
SH1	State Highway 1
SIA	Social Impact Assessment
TLC/ the Project	Takaanini Level Crossings Project
Te Tupu Ngātahi	Te Tupu Ngātahi Supporting Growth
ULDMP	Urban and Landscape Design Management Plan

Acronym/Term	Description
Waka Kotahi	Waka Kotahi New Zealand Transport Agency

1 Introduction

This Social Impact Assessment (**SIA**) has been prepared to inform the Assessment of Effects on the Environment (**AEE**) for the two Notices of Requirement (**NoR**) to protect the land required for the future development of the Takaanini Level Crossing Project (**TLC/ the Project**). The Project proposes to construct five new bridges across five project areas: NoR 1 relates to four of the proposed Project areas (referred to as Spartan Road, Manuia Road, Manuroa Road and Taka Street) while NoR 2 relates to the remaining Project area (referred to as Walters Road).

Changes in the urban environment can have intended and unintended impacts on the quality of life of individuals and communities. It is important to anticipate the outcomes of proposed changes so that measures can be implemented to minimise adverse social impacts and maximise benefits. This study focusses on the project's likely impacts on local communities and social infrastructure.

For the purposes of this SIA Report, the following definition of SIA, as provided by the International Association for Impact Assessment (**IAIA**)[1] has been adopted:

> *Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.*

1.1 Project Description

The overall Project proposes the removal and/or replacement of four existing road over rail level crossings at Spartan Road, Manuroa Road, Taka Street and Walters Road in Takaanini. As further discussed in the AEE, the Project responds to functionality and safety issues anticipated at these crossings from the increasing number of train movements along the North Island Main Trunk line (**NIMT**). The Project and indicative design also take into account the long-term planned expansion of the NIMT from the current two rail tracks to up to four tracks. The increased rail frequency will lead to greater barrier arm down-time and therefore increased severance and congestion in the area.

The Project primarily involves the construction of five new bridges to support safe and reliable east-west transport movement across the NIMT in Takaanini. This includes dedicated active mode bridges at Spartan Road and Manuroa Road, and two-lane arterial road bridges with active mode facilities at Manuia Road, Taka Street and Walters Road. Manuia Road is a new east-west connection in the network, acting as a replacement for vehicular trips that would have used the closed Spartan and Manuroa Road level crossings. The bridges and associated works/improvements are located across five project areas and will be progressed as two NoR packages (refer to Table 1-1 and Figure 1-1).

The indicative design has been prepared for assessment purposes, and to indicate what the final design of the Project may look like. The final design will be refined and confirmed at the detailed design stage. Key features of the works common across project areas include the following:

- Bridge structures across the NIMT with a vertical clearance from existing ground level to road surface of approx.7.8m;

[1] https://www.iaia.org/wiki-details.php?ID=23.

- Works to tie in with existing roads;
- Batters and/or retaining and associated cut and fill activities;
- Vegetation removal within the project areas to enable construction; and
- Areas identified for construction related activities including site compounds, construction laydown, alternative access, and construction traffic manoeuvring.

Further details of each project area are provided in the following sections below.

Table 1-1: The TLC project areas and NoR packages

NoR Reference	Project area	Description	Requiring Authority
Takaanini Level Crossings Project NoR 1	**Spartan Road**	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.	Auckland Transport
	Manuia Road	Construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	
	Manuroa Road	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.	
	Taka Street	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	
Takaanini Level Crossings Project NoR 2	**Walters Road**	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	

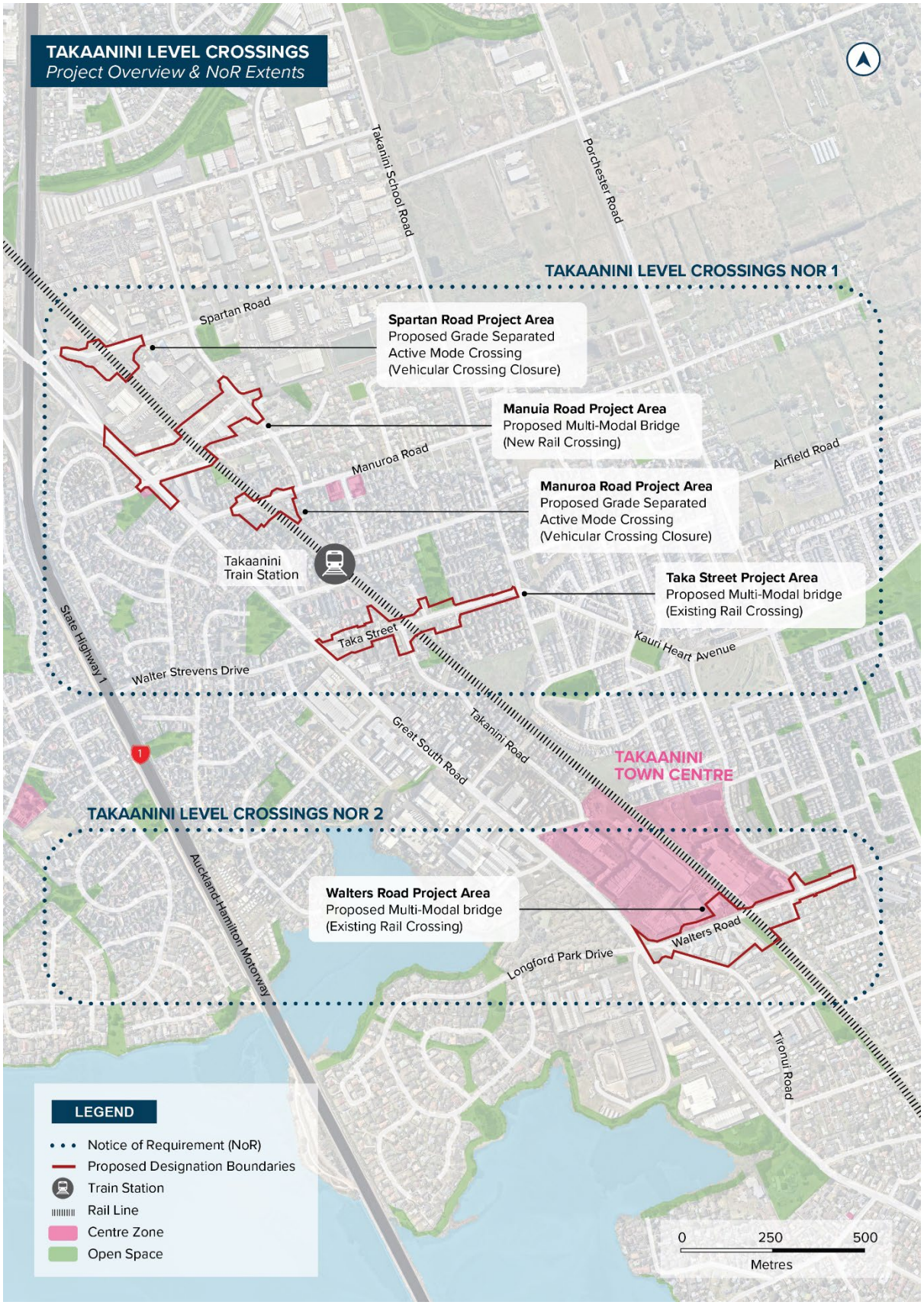


Figure 1-1: Overview of the Project, project areas and extent of the NoRs

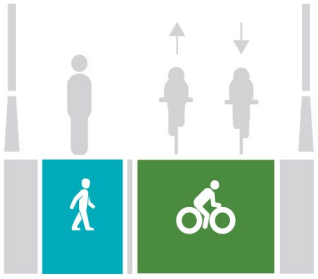
1.2 NoR 1 – Spartan Road, Manuia Road, Manuroa Road and Taka Street

1.2.1 Spartan Road project area

As set out in Table 1-2 below, the proposed works within the Spartan Road project area include closure of the existing level crossing and replacement with a new active modes bridge across the NIMT.

Table 1-2: Overview of Spartan Road project area

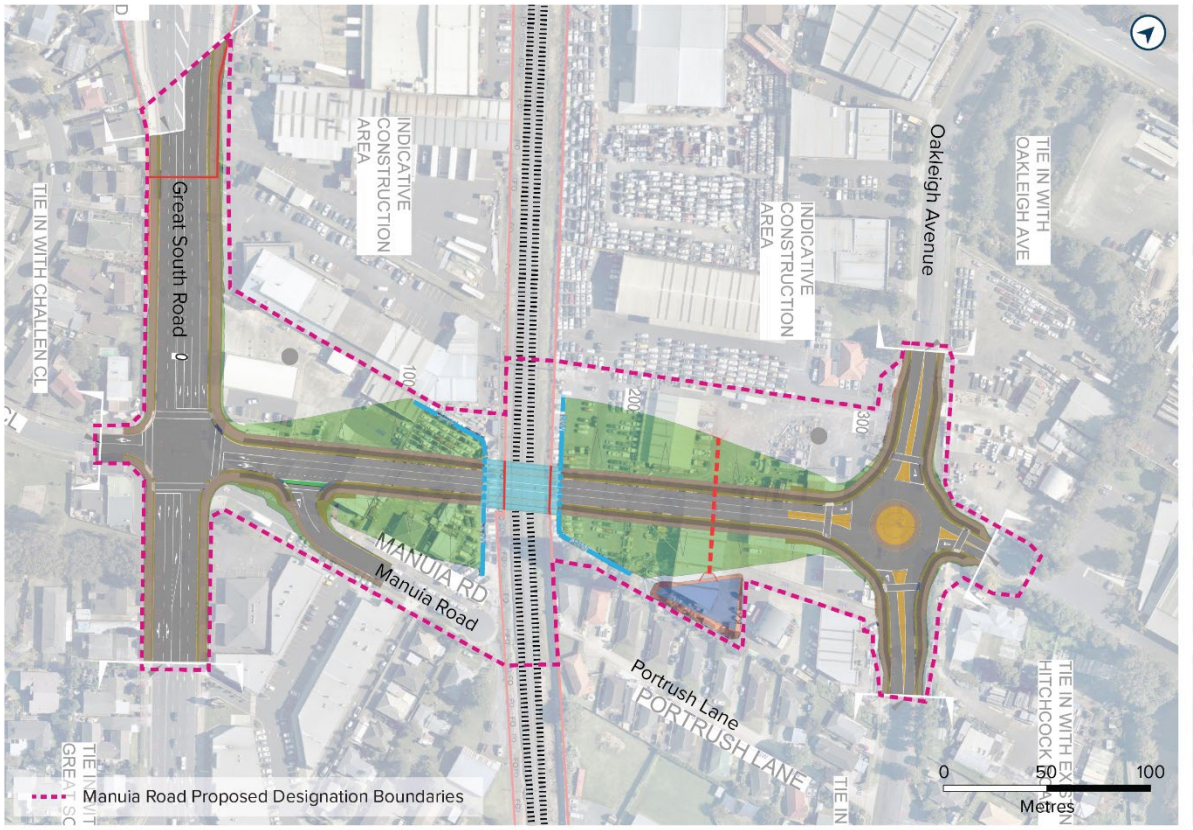
NoR 1 - Spartan Road project area	
	
Key features	
Overview	• Closure of the existing road corridor to vehicular traffic across the NIMT. • Construction of an active mode bridge across the NIMT. • Construction of cul-de-sacs (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Spartan Road. • Ramps and stairs will connect to the bridge on either side (east and west) of the NIMT and will tie into the cul-de-sacs.
Other structures	• None
Other road closures / cul-de-sacs	• None

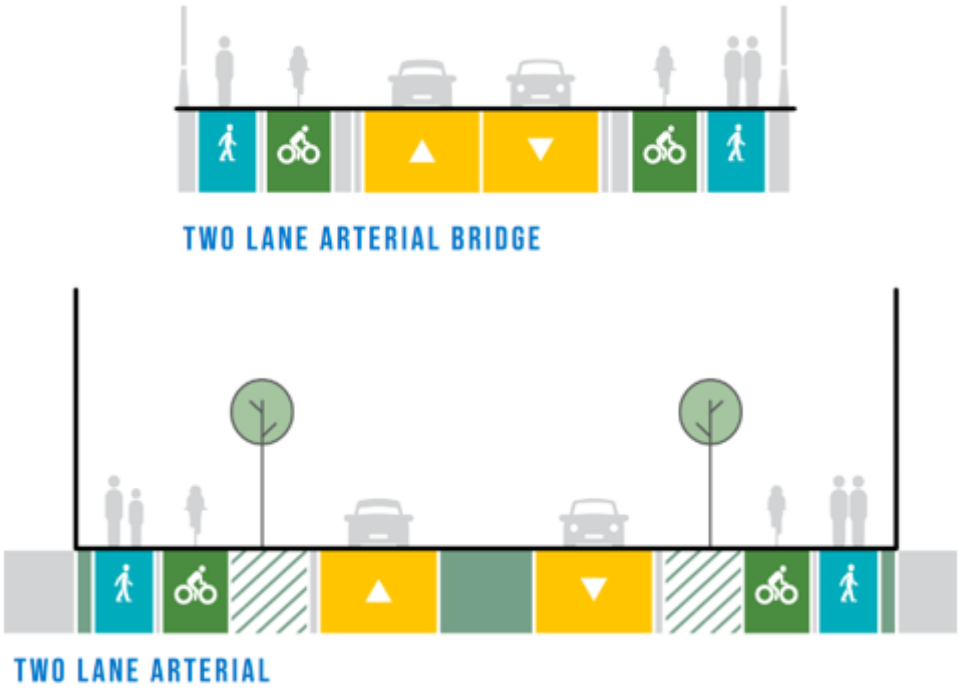
Speed environment	• 50km/h (where it is trafficked)
Access lanes	• None
Intersections	• None
Stormwater infrastructure	• Kerb and channel along road edge
Typical cross sections	

1.2.2 Manuia Road project area

As set out in Table 1-3 below, the proposed works within the Manuia Road project area include construction of a new grade-separated road crossing (bridge) across the NIMT. The new bridge will accommodate one vehicle lane in each direction and active mode facilities.

Table 1-3: Overview of the Manuia Road project area

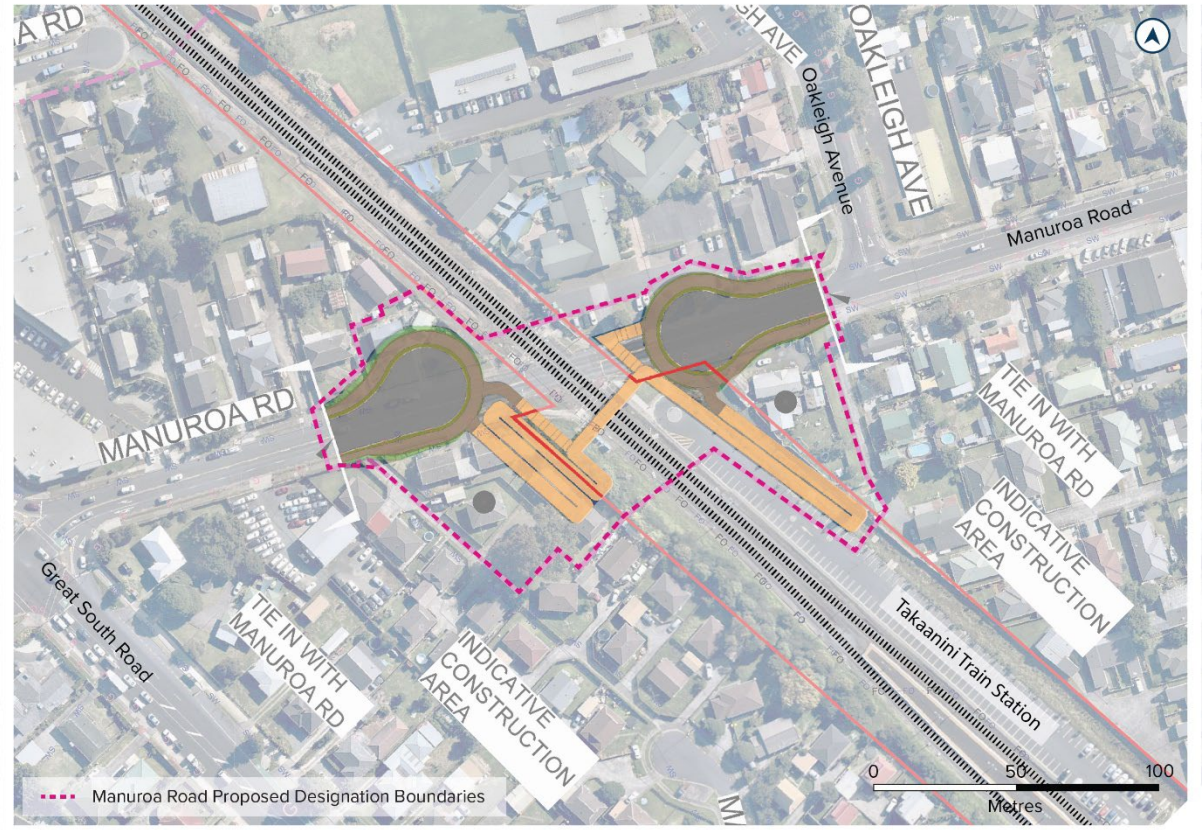
NoR 1 – Manuia Road project area	
	
Key features	
Overview	• There is currently no existing east-west corridor / level crossing across the NIMT in this project area. • Construction of a new arterial road bridge across the NIMT accommodating two lanes (one in each direction) and separated active mode facilities. • Construction of new arterial road corridors tying into either side of the bridge (east and west of the NIMT) accommodating two vehicle lanes (one in each direction) and separated active mode facilities.
Other structures	• Retaining / abutment walls (either side of the NIMT)
Other road closures / cul-de-sac	• Reconstruction of existing cul-de-sac at Hitchcock Road (east of the NIMT) to tie into the new intersection at Oakleigh Avenue/ Manuia Road / Hitchcock Avenue (as described below) and upgrade with footpath.
Speed environment	• 50km/h
Access lanes	• Existing Manuia Road will be reconfigured into an access lane for remaining properties, tying in with the new Manuia Road corridor / bridge (west of NIMT).
Intersections	• Upgrade of the existing Great South Road / Challen Close / Manuia Road intersection to provide for signalisation, footpath upgrades and tie in works with the existing roads.

	• New roundabout intersection at Oakleigh Avenue/ Manuia Road / Hitchcock Avenue with active mode facilities and tie in works.
Stormwater infrastructure	• Stormwater culvert and associated flood offset storage area • Kerb and channel along road edge *Note: NoR has also considered space requirements for future stormwater treatment devices (though subject to future Regional Plan consenting process)*
Typical cross sections	

1.2.3 Manuroa Road project area

As set out in Table 1-4 below, the proposed works within the Manuroa Road project area include closure of the existing level crossing and replacement with a new active modes bridge across the NIMT.

Table 1-4: Overview of the Manuroa Road project area

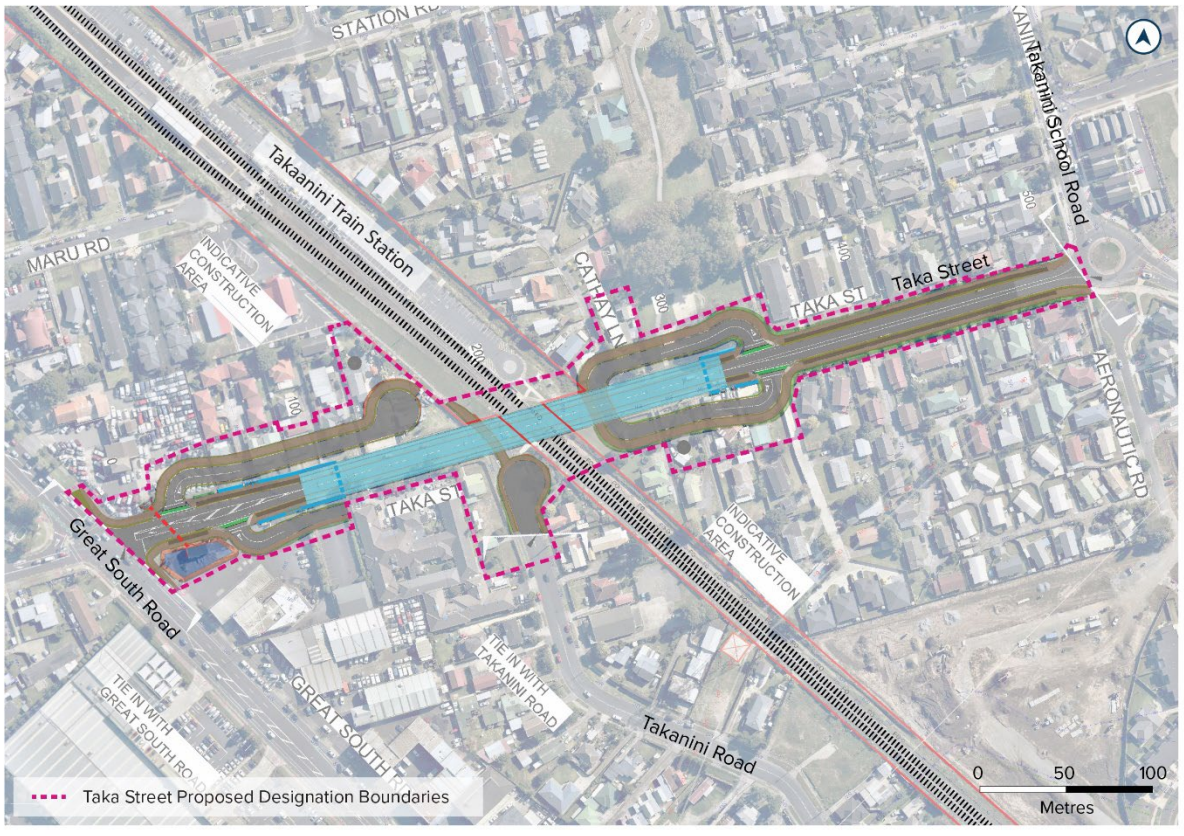
NoR 1 – Manuroa Road project area	
	
Key features	
Overview	• Closure of the existing road corridor to vehicular traffic across the NIMT. • Construction of an active mode bridge across the NIMT. • Construction of cul-de-sacs (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Manuroa Road. • Ramps and stairs will connect to the bridge on either side (east and west) of the NIMT and will tie into the cul-de-sacs.
Other structures	• None
Other road closures / cul-de-sac	• None
Speed environment	• 50km/h (where it is trafficked)
Access lanes	• None
Intersections	• None
Stormwater infrastructure	• Kerb and channel along road edge

Typical cross sections	 ACTIVE MODE BRIDGE

1.2.4 Taka Street project area

As set out in Table 1-5 below, the proposed works within the Taka Street project area include closure of the existing level crossing and replacement with a new grade-separated road crossing (bridge) across the NIMT. The new bridge will accommodate one vehicle lane in each direction and active mode facilities.

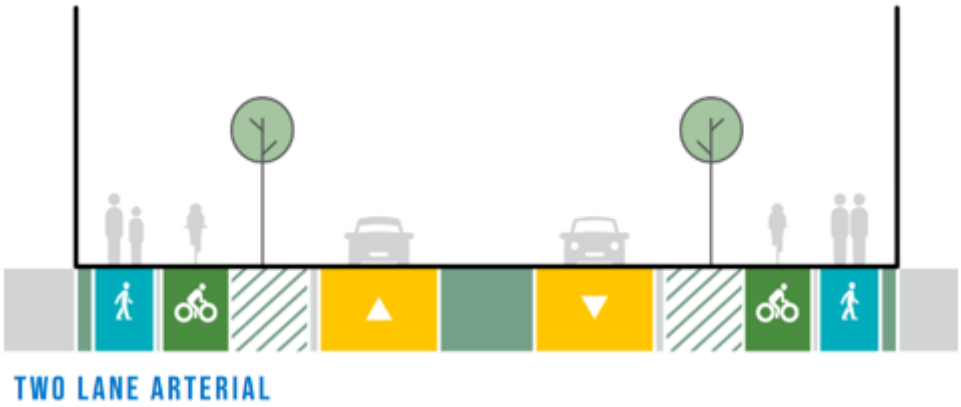
Table 1-5: Overview of the Taka Street project area

NoR 1 – Taka Street project area


Key features	
Overview	• Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities. • Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities.
Other structures	• Retaining / abutment walls
Other road closures / cul-de-sac	• Closure of existing Takanini Road (north) to vehicular traffic at the intersection with Taka Street bridge i.e., no through-traffic provision. Replacement with a cul-de-sac and works to tie into the existing corridor of Takanini Road to the south. Active modes connection from Takanini Road to Takaanini Station (under the new Taka Street bridge).
Speed environment	• 50km/h

Access lanes	• Construction of four access lanes:
	  • Construction of a new access lane (cul-de-sac) located west of the NIMT and north of the Taka Street road corridor. It accommodates a footpath on the northern side and bi-directional traffic. The access lane will tie in with the Taka Street corridor and allows access to existing properties to remain and Takaanini Station.
	  • Construction of a new access lane located west of the NIMT and south of the Taka Street road corridor. It accommodates a footpath on the southern side and bi-directional traffic. The access lane will tie in with the Taka Street corridor and allows access to existing properties to remain.
	  • Construction of two access lanes located west of the NIMT (north and south of the Taka Street road corridor and looping under the new Taka Street bridge). They accommodate a footpath on the outer edge and bi-directional traffic. The access lane(s) will tie in with the Taka Street corridor and allow access to existing properties to remain including Takaanini Reserve and Cathay Lane.

Intersections	• None
Stormwater infrastructure	• Stormwater culvert and associated flood offset storage area • Kerb and channel along road edge *Note: NoR has also considered space requirements for future stormwater treatment devices (though subject to future Regional Plan consenting process)*
Typical cross sections	

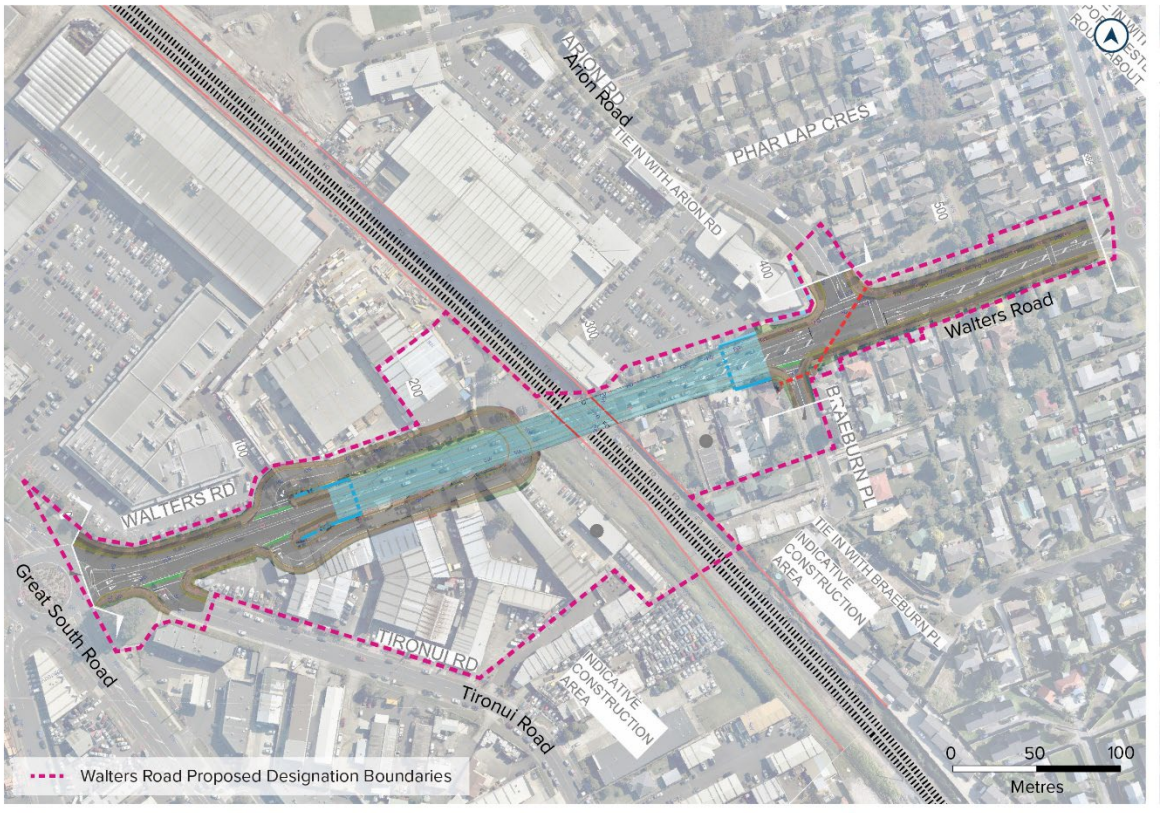


1.3 NoR 2 – Walters Road

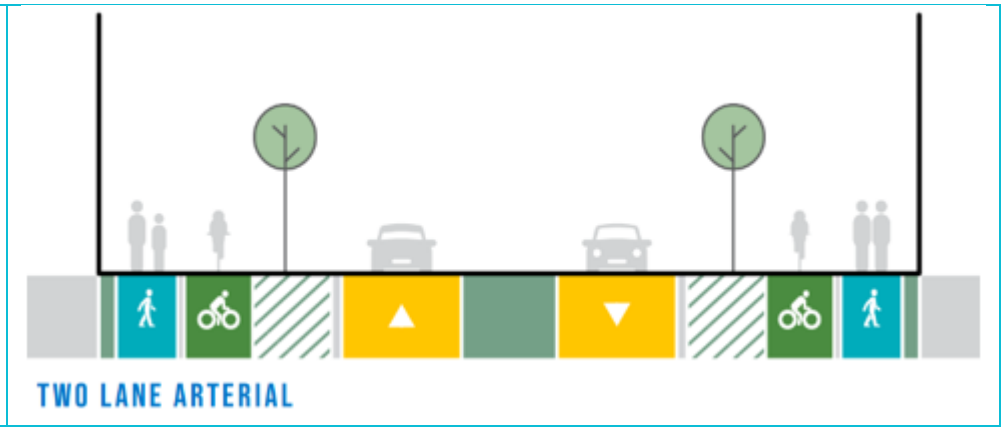
1.3.1 Walters Road project area

As set out in Table 1-6 below, the proposed works within the Walters Road project area include closure of the existing level crossing and replacement with a new grade-separated road crossing (bridge) across the NIMT. The new bridge will accommodate one vehicle lanes in each direction and active mode facilities.

Table 1-6: Overview of Walters Road project area

NoR 2 – Walters Road project area


Key features	
Overview	• Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities. • Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities.
Other structures	• Retaining/abutment walls
Other road closures / cul-de-sac	• None
Speed environment	• 50km/h
Access lanes	• Construction of two access lanes located west of the NIMT (north and south of the Walters Road corridor and looping under the new Walters Road bridge). They accommodate a footpath on the outer edge and bi-directional traffic. The access lane(s) will tie in with the Walters Road corridor and allow access to remaining properties.
Intersections	• Upgrade of the existing Arion Road / Walters Road intersection to provide for footpath upgrades and works to tie into existing Arion Road. • Upgrade of the existing Braeburn Place / Walters Road intersection to provide for footpath upgrades and works to tie into existing Braeburn Place. • Upgrade of the existing Tironui Road / Walters Road intersection to provide for footpath upgrades and works to tie into existing Tironui Road.
Stormwater infrastructure	• Stormwater culvert • Kerb and channel along road edge *Note: NoR has also considered space requirements for future stormwater treatment devices (though subject to future Regional Plan consenting process)*
Typical cross sections	 TWO LANE ARTERIAL BRIDGE



1.4 Report structure

The structure of this report is displayed below in Table 1-7:

Table 1-7: Report structure

Sections	Section number
Introduction – provides an overview of the Project, the background and purpose of the SIA	Section 0
SIA Methodology - an overview of the SIA methodology and definition of social impacts	Section 2
Social Environment – an overview of the existing social environment	Section 3
Social Baseline - an overview of the social area of influence and social indicators	Section 4
Review of Social Impacts of other similar projects	Section 5
Potential Social Impacts and management strategies - a summary of likely social impacts and potential management strategies	Section 6
Conclusion	Section 7

2 SIA Methodology

The process undertaken to complete the SIA scoping process is shown in Figure 2-1. Information sources for the review of other projects and to understand the existing and planned future communities adjacent and nearby the Project are provided in Appendix A References, and Appendix B Summary of Engagement.

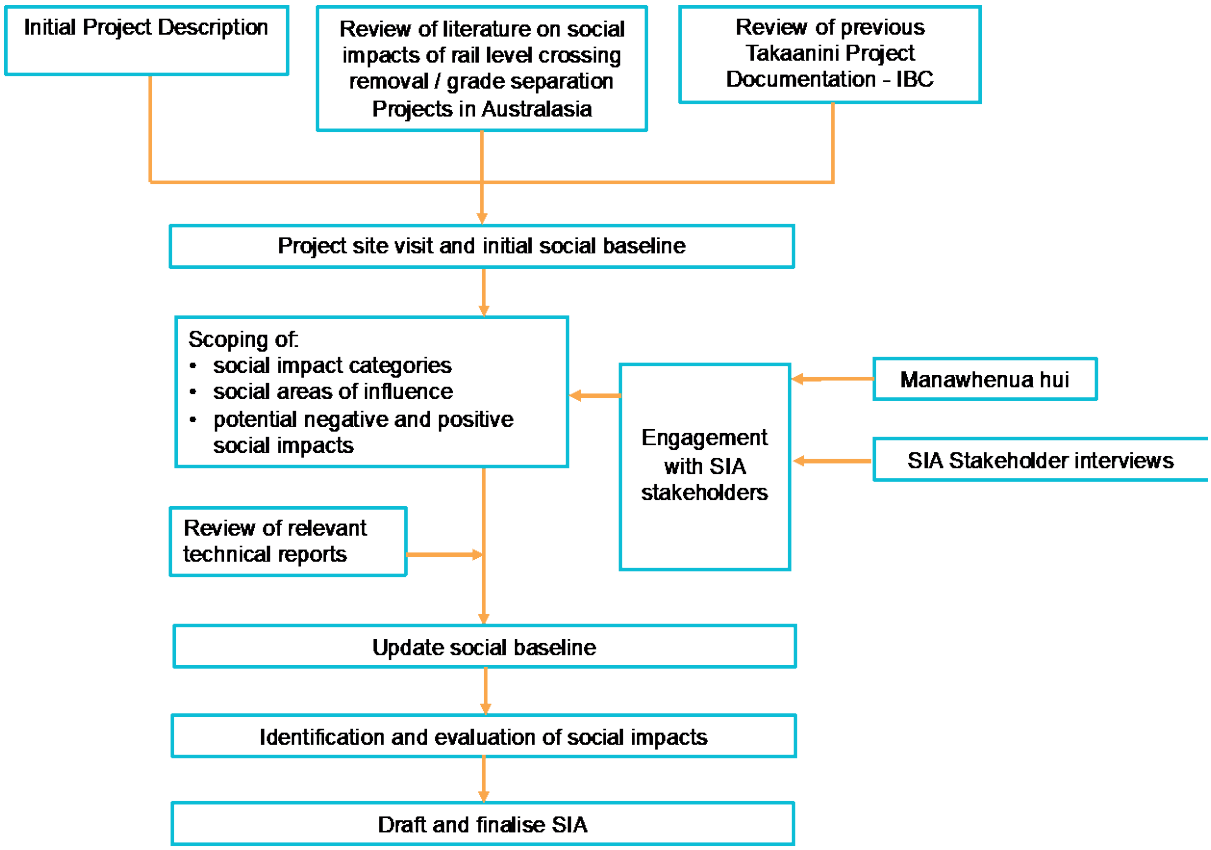


Figure 2-1: Summary of the SIA Methodology

2.1 Definition of Social Impacts

Based on the definition of Social Impact Assessment, the categories of likely impacts used in this report are:

- **Way of life** – including:

  - how people live, for example, how they get around and access to adequate housing
  - how people work, for example, access to adequate employment
  - how people play, for example, access to recreational activities
  - how people access services and facilities, and
  - how people interact with one another on a daily basis.

- **Cultural impacts** – including shared beliefs, customs, values and stories, and connections to land, places and buildings (excluding Māori culture and values which are discussed separately in Cultural Values Assessments or Cultural Impact Assessments undertaken by Manawhenua);

- **Family and community impacts** – including its composition, cohesion, character, how it functions and sense of place;
- **Quality of the environment** – including access to and use of ecosystem services; public safety and security; access to and use of the natural and built environment, and its aesthetics value and/or amenity; the quality of the air and water people use; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation; their physical safety; and their access to and control over resources;
- **Decision making systems** – particularly the extent to which people can have a say in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose;
- **Health and wellbeing** - health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity. It includes psycho-social impacts such as solastalgia (a form of mental or existential distress caused by environmental change);
- **Personal and property rights**, including whether economic livelihoods are affected, and whether people experience personal disadvantage or have their civil liberties affected;
- **Fears and aspirations** - perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children;
- **Equity impacts** – distribution of impacts across the community and generations (intergenerational impacts); and
- **Socio-economic impacts** – including standard of living, level of affluence, economic prosperity and resilience, property values, employment, replacement costs of environmental functions and economic dependency.

2.2 Conceptual model of impact identification

The potential social impacts of the Project were identified using a conceptual model from Slootweg *et al* 2013. The Slootweg *et al* (2013) model shown in Figure 2-2 identifies the pathways by which environmental and social impacts may result from proposed projects. The proposed Project is the 'intervention' in Slootweg's model which biophysical changes and social change processes. Biophysical changes can also create social change. This SIA focusses on the social changes (or social impacts) of the Project as a result of the Project itself as well as the biophysical impacts bought about by the Project.

Biophysical impacts are identified and assessed in other technical assessments for this Project including:

- Construction Noise and Vibration Assessment;
- Traffic Noise Assessment; and
- Landscape and Visual Assessment.

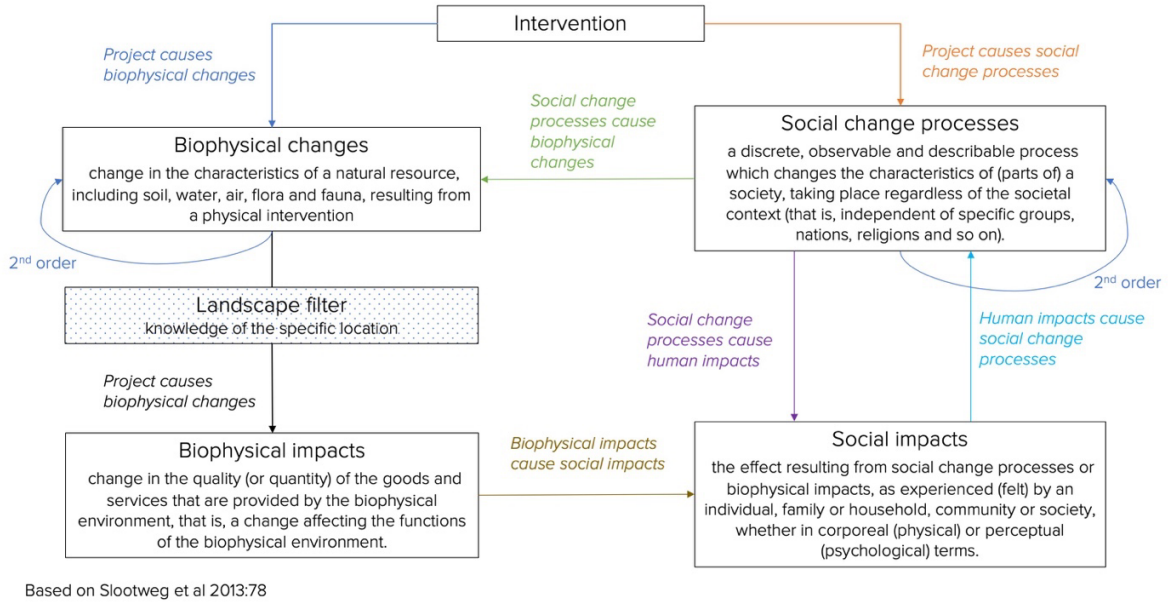


Figure 2-2: Slootweg *et al* (2013) impact identification model

The social risk / opportunity methodology for the Project is based on the methodology outlined in Esteves *et al* (2017)[2]. The work undertaken by Esteves *et al* builds on the IAIA's SIA Guidance and considers the concept of risk and differentiates social risk from business risk, so it conforms with the United Nations Guiding Principles on Business and Human Rights. The methodology is based on a mining project in Canada (Esteves 2020 *pers comms*) and has been tailored to the Project and the social area of influence. This methodology includes drawing upon information from engagement for this Project and experience from other similar projects as part of determining the likelihood of impacts.

Further detail about the significance methodology is provided in Appendix C Significance Methodology.

2.3 Limitations and assumptions

Limitations

There are a number of limitations to this SIA Report as follows:

- Findings of this report are based on the information available at the time of writing this report;
- At the time the Project is anticipated to proceed the social environment will be expected to be different from when the social baseline was undertaken, therefore the social area of influence and potential social impacts may also change;
- Activities undertaken during SIA engagement (Appendix B) are based on the available Project information at the time of the stakeholders' participation; and

[2] Esteves, A. M., Factor, G., Vanclay, F., Götzmann, N. and Moreira, S. (2017) Adapting social impact assessment to address a project's human rights impacts and risks *Environmental Impact Assessment Review* 67 pp. 73-87.

- Not all stakeholders invited to participate in the SIA engagement accepted the invitation to participate or were able to participate due to existing commitments during the engagement timeframe.

Assumptions

There are a number of assumptions that have been made influencing this SIA Report as follows:

- Further development and intensification of residential development may occur before construction of the Project starts. This means the social environment as identified for this SIA will have changed at the time the Project is constructed; and
- The durations of construction for areas along the Project corridor is as per the information presented in the indicative construction staging and programme section of the AEE.

2.4 Legislative context

This assessment is informed by an understanding of the statutory context in which the construction and operation of the Project will occur. This also assists in understanding the likely aspirations of the local, wider and regional communities in regard to what sort of changes they wish to see in their community in the future.

The Resource Management Act 1991

The Resource Management Act 1991 (RMA) requires the decision-making process to include consideration of the actual and potential effects of activities on the environment. The RMA interpretation of the environment in Part 1, Section 2 includes (**emphasis** added):

Environment includes –

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

This interpretation is central to considering the social effects with respect to the environment. This SIA is not limited only to an assessment of actual and potential effects (as defined under the RMA) and instead provides a broader assessment of social impacts. By extension, the SIA includes some conclusions and recommendations which do not fall within the RMA regulatory regime. Refer to the AEE for a summary of those 'impacts' that sit within the RMA.

Other sections of the RMA integral to an assessment of social effects include Section 5 which defines the purpose of the RMA as '*to promote the sustainable management of natural and physical resources*'.

Sustainable management in the RMA means:

> "*Managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for **their social, economic and cultural wellbeing and for their health and safety**…*"

Section 7 Other Matters, states that:

> "*…all persons exercising functions and powers [under the RMA]… shall have particular regard to-*
>
> (c) *the maintenance and enhancement of* ***amenity values****."*

Schedule 4 (7) Matters that Must be Addressed by Assessment of Environmental Effects, states that an assessment of an activity's effects on the environment must address the following:

> *"Any effect on those in the neighbourhood and, where relevant, the wider community,* ***including any social, economic, or cultural effects****."*

Regional and Local Planning Context

The Auckland Plan 2050 (Auckland Plan) provides high level guidance on how issues such as population growth, transport and environmental degradation will be addressed. Key outcomes of the Auckland Plan that are relevant to this assessment are:

- Opportunity and prosperity: Auckland is prosperous with many opportunities and delivers a better standard of living for everyone;
- Transport and access: Aucklanders will be able to get where they want to go more easily, safely and sustainably; and
- Homes and places: Aucklanders live in secure, healthy and affordable homes, and have access to a range of inclusive public places.

The Manurewa Takanini Papakura Integrated Area Plan, developed in 2018 outlines a vision for the development of the three areas over a 30-year period. Outcomes for Takanini relevant to this assessment include:

- Investigate the potential for a grade separated road/rail connection at Walters Road and Taka Street as part of the Supporting Growth Project;
- Investigate options for streetscape improvements around Takanini town centre, along Great South Road, Walters Road Roundabout and pedestrian and cycle connections to the Takaanini Train Station. This may include new pedestrian crossings, footpath upgrades, new cycle lanes, traffic safety improvements and bus shelters; and
- Investigate the feasibility of an additional train station at Tironui as part of the Supporting Growth Project.

The Papakura Local Board Plan 2020 sets out the key focus areas for the Papakura area, one of which relates to a well-connected area that is easy to move around. As part of achieving this outcome, the Local Board Plan identifies separating the rail from the roading network on Takaanini east-west routes as one of the key initiatives.

National Policy Statement on Urban Development

The National Policy Statement on Urban Development (**NPS:UD**) enables higher density dwellings for sites in the vicinity of the Level Crossings. The Auckland Council (**Council**) response to the NPS:UD is set out in Plan Change 78 (**PC78**). From the proposals contained within PC78, we anticipate that:

- Zoning within a walkable catchment of the existing Takaanini station, in between the existing Taka Street and Manuia Street level crossings, will enable at a minimum, apartment buildings of six storeys alongside greater bulk and development standards; and

- Beyond walkable catchments, residential zoning will provide for three dwellings up to three storeys in height (subject to meeting the relevant development standards).

The NPS:UD recognises that the planned urban built environment may involve significant changes to the area.

3 Social Environment

This section describes both the existing social environment and the potential future social environment in which the Project will likely be taking place. Understanding the social context is critical to identifying and assessing the potential social impacts of the Project. Sources of information for this section include the 2018 Census, various plans and research from Council.

3.1 Southern Auckland communities

Takaanini is located in southern Auckland, between Manurewa to the north and Papakura to the south. Manurewa is a prominent suburban and industrial area 25 km south of the Auckland Central Business District (**CBD**), while Papakura is located on the shores of the Pahurehure inlet of the Manukau Harbour, 34 km south of Auckland city and marking the suburban fringe to the rural south.

Historically, the early development of rail lines in the 1860s fostered the growth of settlements to the south of Auckland, forming a largely farming / semi-rural area. Rapid expansion of the motorway network in the 1960s facilitated significant suburban development comprising of predominantly industry and low-cost housing. Later, between 1991 and 2001, significant commercial building consents were issued along the Great South Road corridor in Manukau, Takaanini and Papakura, including clusters of light and heavy industrial activities and residential development accelerated. The "Addison" residential development of approximately 1200 dwellings built between 2003 and 2019 was one of the first large scale planned residential developments in Auckland that sought to accommodate a range of housing typologies and featured narrow roads and rear lanes in an effort to enhance amenity in an area of higher density housing. It was intended as a Transit Oriented Development contingent on the then proposed 'Glenora' train station which has not been constructed. As a result, the development became heavily reliant on private vehicles for access. The development was subject to a review into the experience of living in Addison as a result of concerns expressed by emergency services regarding access into the development and issues relating to crime. A key finding from the review was the importance of ensuring that land use and infrastructure are developed together.[3]

At present, the three growing town centres at Manurewa, Takaanini and Papakura are strung together and defined by the three movement corridors along Great South Road, State Highway 1 (**SH1**), and the southern railway line.

The north-south spines support businesses and community facilities, including libraries, churches, schools, early childhood education (**ECE**) centres, leisure centres, and art galleries. Land use around the Manurewa and Papakura centres comprise largely of single detached homes surrounding town centres and local businesses, and future urban / semi-rural land on the periphery. Between the two centres are clusters of light industrial businesses amongst low-rise residential homes and businesses.

Southern Auckland is the largest urban growth area in Auckland with around 5,300 ha of land identified for urban development. Specifically, as outlined in the Integrated Area Plan[4] the Manurewa and Papakura Local Board areas are facing growth pressures, expected to grow by 26,000 to 40,000 people over the next decade. More specifically, it is predicted that Takaanini's[5] growth will rise by 57% between 2018 and 2043. This growth is anticipated to include an additional 3,060 households which

[3] Auckland Council, 2019, Living in Addison: An investigation into the lived experience of a master planned housing development in Auckland. Technical Report 2019/023.
[4] Auckland Council 2018, Manurewa Takanini Papakura Mahere ā-rohe whakakotahi Integrated Area Plan.
[5] This refers to the Takaanini study area defined for this SIA being the Statistics New Zealand SA2 areas of Takanini North, Industrial, West, South, Central and South East. Populations projections are from StatsNZ.

may be conservative given the government's NPS:UD which anticipates increased intensive residential development which could be more than include in StatsNZ population projections.

Manurewa and Papakura Local Board areas are home to a young and culturally diverse population: Manurewa's median population age is 29.8 while 25% of Papakura's population is 14 and under; 20% of Papakura and 34% of Manurewa's residents were born abroad; and the two areas are home to 16% of Auckland's Pasifika population and 21% of Auckland's Māori population.

Southern Auckland is also home to a significant share of Auckland's employment, and there is no shortage of employment opportunities with several regionally significant employment precincts including Manukau, Manurewa and Papakura. However, the local labour force is not accessing these jobs and rangatahi in southern Auckland have high rates of unemployment and joblessness, according to the Household Labour Force Survey. Rangatahi going to school in Papakura are more likely to leave school with no qualification in order to generate income. Further, Manurewa and Papakura have higher rates of rangatahi becoming 'second chance learners' and studying lower-level qualifications at tertiary institutions.

A young and diverse population, coupled with high deprivation rates (including low wage, high unemployment rates, poor housing quality, and many social and health harms caused by hardship and poverty), bring unique challenges to the area.

3.2 Takaanini community

The Project is located within established residential and commercial areas within the Takaanini suburb, in the Papakura Local Board area.

Figure 3-1 illustrates the Auckland Unitary Plan: Operative in Part (**AUP:OP**) zoning in the Takaanini area within which the Project is located. Broadly, land uses are a mix of light industrial, commercial and low density residential. To the north, the Takanini Industrial area encompasses a mix of light and heavy industrial land uses and serves as an employment node within the community. At the southern end, within Takanini Central and Takanini South is the Takanini Town Centre which anchors the spine of commercial activities following the Great South Road corridor along the western boundary. To the northeast, a large area of land in Takanini North is zoned as Future Urban land.

Figure 3-1: AUP:OP zoning map, land uses and places of social value or importance in the Project area

The number and type of properties impacted for each of the level crossings is shown in Table 3-1. This include both partial and full acquisitions. There is a high number of partial acquisitions as there are numerous situations where multiple 'rear' properties gain access from a single shared accessway, and the accessway is affected by widening.

Table 3-1: Number and type of properties affected for each level crossing

NoR Reference	Project area	Affected parties				
		Private			Public	
		Residential*	Commercial**	Religious	Residential	Open Space
NoR 1	Spartan Road	0	10	0	0	0
	Manuia Road	3	37	0	0	0
	Manuroa Road	7	2	0	1	1
	Taka Street	87	5	1	5	1
NoR 2	Walters Road	14	46	0	0	2

* residential includes care homes
** includes childcare centres

Throughout the Takaanini area, Great South Road, the southern rail line, and SH1 are primary infrastructure connections. Great South Road is a key corridor for commuting, freight and commercial activity providing a strong north-south connection across southern Auckland. Great South Road is classified as Level 1B in AT's freight network – a road of the highest strategic value to freight movement. These key corridors act as a spine for commercial, industrial and residential development in the area.

Takaanini has experienced steady growth since the 1800's following the development of the Great South Road. More recently it has experienced significant residential development which has expanded the Takaanini urban area eastwards within the residential zones. There remains land in Takanini North zoned for light industrial use, between Porchester Road and Takanini School Road in the vicinity of Popes Road, which remains largely undeveloped. Areas north of Manuroa Road and south of Taka Street comprise newer medium density residential developments and subdivisions (both existing and under construction) reflective of the growth in the area over recent years. Takanini South in particular experienced significant growth and development, with the population increasing from 1,485 in 2013 to 4,347 in 2018.

With the Project not currently anticipated to be fully operational for 15 years, meaning active property acquisition and construction activity is anticipated to commence no later than 15 years from approval, the existing social environment can be expected to have changed. Understanding how the social

environment might change is important for understanding what the potential social impacts might be. An outline of how these communities might also change over that period is also presented.

Takaanini Industrial area

The Takaanini Industrial area is the area in the vicinity of Spartan and Manuia Road and Portrush Lanes. This area is dominated by heavy and light industrial activity, bordered by Papakura Stream to the north and SH1 and Great South Road to the west. Spartan Road traverses a predominantly light industrial and commercial environment, including a number of automotive repairs and dealerships, trade suppliers, distribution centres, warehouses and manufacturers. This area experiences high volumes of heavy industrial vehicle traffic.

The light industrial and commercial environment (including a BP service station) continues until Manuia Road. Southward of Manuia Road transitions into an established urban environment comprising residential, community (including early childcare centres and medical centres), and retail uses. There are pockets of open space in the wider vicinity.

Takaanini Commercial and Residential area

The Takaanini commercial and residential areas comprising predominantly residential land uses with some community and commercial land uses and cover the area from Manuia Road Portrush Lane to the southern end of Tironui Road, west into parts of Conifer Grove and east towards Mill Road and Cosgrove Road.

Manuroa Road and Taka Street are both two-lane roads which cross the southern rail line at-grade and connect to Great South Road. Along Manuroa Road, adjacent to the rail corridor and in close proximity to the Takaanini Train Station are a number of early childcare centres including BestStart Manuroa Road and the Rainbow Corner Early Learning Centre. Manuroa Road provides a strong connection to the Takaanini Industrial area, accessed via Oakleigh Avenue.

Taka Street is primarily residential in nature, providing a connection between established and growing new residential areas and Great South Road. It also provides a connection to the Ardmore Aerodrome and further west. The Amber Early Learning Centre is close to the rail corridor and across the road from the Takanini Care Centre which provides aged care living for rest home, hospital, and dementia level care. Further to the east is Takanini School (Years 0 to 8). The concentration of childcare centres to serve the residential community is reflective of young families in this area and a lot of local movement from home to school to work.

The Takanini Hall is located south of Taka Street adjacent to the rail line and is available for booking for range of community uses including performances and large group events and activities. There are several places of workshop in the area which provide for a culturally diverse community, including Church of Nazarene, Trinity Presbyterian Church, Congregation Christian Church of Samoa, Iglesia Ni Cristo, and Gurdwara Sri Kalgidhar Sikh Mosque.

The Takaanini Station is located to the south of Manuroa Road, connecting to two local buses which connect to Manukau, Manurewa and Papakura to provide local movement. However, most people in Takaanini West travel using private vehicles and public transport uptake is relatively low. Nearly 70% stated that they drive a private car, truck, or van to get to work, which is 10% higher than the Auckland average.

Walters Road is a two-lane collector road which runs through a commercial and retail environment to the north and a light industrial, commercial environment to the south. To the north are Southgate Shopping Centre and Takaanini Town Centre on either side of the rail line, which houses retail and commercial activity including some large format retail such as Mitre 10 Mega and the Warehouse. The Takaanini Library and Community Hub, which is open for hire by community groups and businesses for programmes, meetings, conferences or parties. The hub opened in 2021 and is a community facility which forms a part of the Takaanini town centre vision. The Metlifecare Longford Park Retirement Village provide both elderly care for both independent and assisted living options.

There are two ECE centrers on Walters Road in the Takaanini Central area; Go Bananas Childcare Takanini and Learning Adventures Takanini. The 2018 Census indicates half the residents own or partially own a house in this area, and most private dwellings are home to young families with two to three children (Takaanini Central area). More than half the residents are married, with 61.2% of households having one or more children (Takaanini South area).

A Skills Update Training and Education Group campus is situated at the Walters Road and rail intersection. The campus offers a range of training courses to assist youth and adult learners to enter the workforce or continue into higher education and training. This campus is likely to be important to the community given the higher number of second chance learners re-entering education.

To the east is Papakura Normal School (Years 1 to 8) which has a current roll of approximately 645 pupils. Further east is Bruce Pulman Park, a significant regional sporting, recreation and open space area which hosts a number of sports fields, playing courts, an arena and recreation centre. Several sports clubs and community sports clubs run their leagues at Bruce Pulman Park, including Papakura Netball Centre, Ardmore Marist Rugby, Counties Manukau Gymnast Club and Bears Sports.

To the south are a mixture of light industrial (including a cluster of automotive repairs and dealerships) and commercial uses (including Z service station and several food retail stores).

3.3 Potential future social environment

It is assumed that the Project will be constructed and will operate in the existing urban environment or planned environment (i.e. what can be built under the existing AUP:OP live zones). However, further urban residential intensification is anticipated in the residential zones around Te Mahia and Takaanini stations, in line with PC78 and the implementation of the NPS:UD.

PC78, Council's preliminary response to the NPS:UD (still subject to change) for Takaanini, is shown in Figure 3-2. The remaining residential areas will experience an uplift of density through the implementation of the Medium Density Residential Standards through the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021.

The Future Urban Zone (**FUZ**) located between Porchester and Mill Road may experience material change in land use form. As this area is sequenced to be development ready by 2043 to 2047, it is likely that urbanisation in this area will occur after the construction of the Project. However, some potential constraints such as flooding and geotechnical may limit the type of development that occurs.[6]

[6] Auckland Council Future Urban Land Supply Strategy 2017, p 13 footnote regarding Takanini.

Overall, the general assumption is that there will be limited impact from the development of land within the FUZ on the Project but that the Project will be constructed and operate in a more intensified urban environment than exists today.

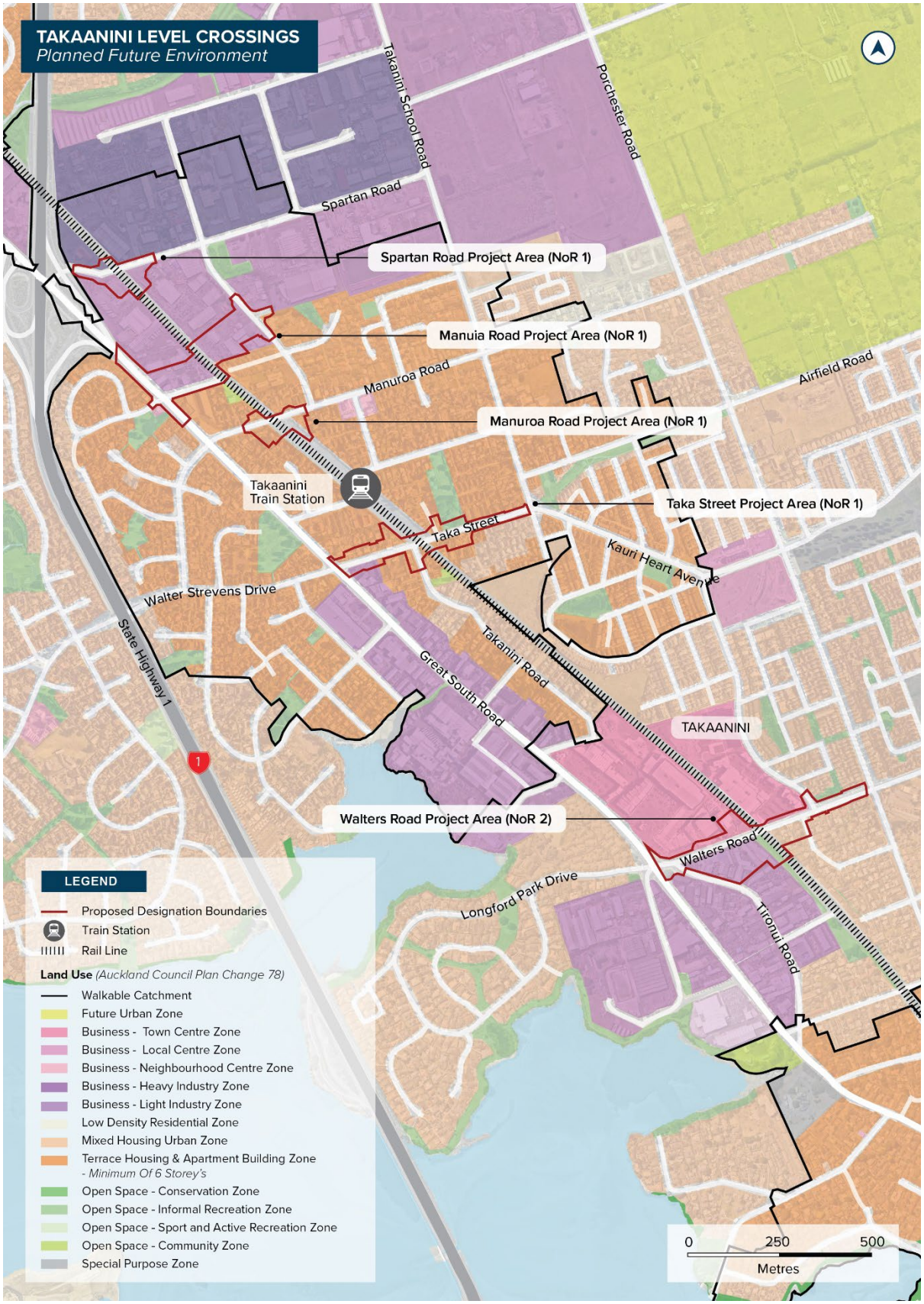


Figure 3-2: Potential future intensification (based on PC78)

4 Social baseline

The Social baseline has two parts:

- A description of the Project's social area of influence; and
- Social indicators and baseline data for each one (refer to Appendix D of this report for details).

4.1 Social area of influence

4.1.1 Different social groups likely to be affected

Based on an understanding of the Project, the existing social environment, desktop research, social groups most likely to be affected by the Project are considered to be:

- Landowners of potentially affected properties;
- Leaseholders, tenants and other occupiers of potentially affected properties;
- Business owners and operators, including light industry businesses;
- People employed in local businesses;
- People living and working in the area;
- Households with children who attend ECE or receive education in the area;
- Elderly residents who live and receive care in the area;
- Surrounding local communities in Takaanini and Papakura;
- People who purchase goods and services from the area;
- People who use community facilities and open space areas within the area;
- People travelling through the area, including commercial road users;
- People in Local Board areas, particularly Papakura; and
- People in the wider Auckland Region.

4.1.2 Places of social value or importance

Places of social value or importance are the built and natural features located on or near the Project site or the surrounding area that have been identified as having social value or importance can be seen above in Figure 3-1. Figure 4-1 and Figure 4-2 display to a greater level of detail places of social value or importance on, near, or surrounding project areas of Spartan Road to Taka Street and Walters Road respectively.

Based on the description of the existing environment and a review of literature including local government planning documents, the built and natural features located near the Project site or surrounding area that have been identified as having social value or importance are listed and described in Table 4-1.

Table 4-1: Socially significant built and natural features

Type of facility or place	Feature	Significance	For who
Education	BestStart Manuroa Road	Childcare facility for children aged 3 months to 6 years.	Families in the Takanini area with pre-school aged children.

Type of facility or place	Feature	Significance	For who
Education	The Rainbow Corner Early Learning Centre	Childcare facility for infants, toddlers, and pre-school children.	Families in the Takanini area with pre-school aged children.
Education	Takanini School	Local school providing education to students from years 0 – 8.	Families in the Takanini area with primary and intermediate school aged children.
Education	Te Kōhanga Reo o Humarie	Provides early childhood education services in Te Reo and Māori culture.	Māori families in the Takanini area with pre-school aged children.
Education	Amber Early Learning Centre	Provides early childhood education services to around 60 children in the Takanini area.	Families in the Takanini area with pre-school aged children.
Education	Go Bananas Childcare Takanini	Provides early childhood education services to children in the Takanini area.	Families in the Takanini area with pre-school aged children.
Education	Learning Adventures Takanini	Provides early childhood education services to around 51 children.	Families in the Takanini area with pre-school aged children.
Education	Skills Update Training & Education Group Papakura	Provides education services in Hospitality, Building & Construction, Youth courses, Electrical engineering, Automotive, Aged care, Horticulture and Sports & Fitness. There are four campuses in Auckland: North Shore, Henderson, Māngere, and Papakura.	Residents of southern Auckland.
Education	Papakura Normal Primary School	Provides education services to around 687 students from Year 5 to Year 13.	Families in the Takanini area with primary and secondary school aged children.
Education	Kauri Flats School	Provides education services to around 291 students from Year 5 to Year 13.	Families in the Takanini area with primary and secondary school aged children.
Community facility	Takanini Hall	Community hall with a stage and kitchen, available for hire for performances and large group events or activities.	Residents of southern Auckland, and visitors who hire facilities.
Community facility	Takanini Library and Community Hub	Local library in Takanini with access to printing, computers, and books. The Community Hub is available for hire, including two smaller meeting and function spaces and one larger, and a kitchenette.	Residents of and visitors to Takanini, and community groups and businesses who hire facilities.

Type of facility or place	Feature	Significance	For who
Sport and recreation	Takanini Reserve	Local park with a playground, small skatepark, and small basketball court. Located near Takanini School.	Families and residents of the Takanini area, and students at Takanini School.
Sport and recreation	Bruce Pulman Park	Large park for sport and informal recreation. The park has a network of walking paths and is home to a number of community sports clubs.	Residents of southern Auckland and visitors or sports teams from other areas attending events or sports games.
Sport and recreation	Pulman Recreation Centre	A multi-use venue in a 4,300sqm purpose-built gymnastics and trampoline facility located in Bruce Pulman Park.	Residents of southern Auckland and visitors or sports teams from other areas attending events or sports games.
Sport and recreation	Pulman Arena	Located in Bruce Pulman Park, a six-court multi-sports facility used for netball, basketball, volleyball, turbo touch, futsal, and other community activities requiring indoor stadium facilities.	Residents of southern Auckland and visitors or sports teams from other areas attending events or sports games.
Sport and recreation	Papakura Netball Centre	Provides a space to play netball competitively and socially. They have around 2,500 registered members with around 263 teams. There are 20 outdoor courts, a large pavilion, offices, conference rooms, and a kitchen. It is a part of Bruce Pulman Park.	Residents of southern Auckland and visitors or sports teams from other areas attending events or sports games.
Sport and recreation	Admore Marist Rugby Club	Provides a space to play rugby competitively. They have around 410 registered junior players which make up 22 teams. They have eight sand-based playing fields and additional training fields. It is a part of Bruce Pulman Park.	Residents of southern Auckland and visitors or sports teams from other areas attending events or sports games.
Sport and recreation	Papakura Cricket Club	Allows students from Year 3 onwards to play. It is a part of the Bruce Pulman Park space.	Residents and children of the Papakura area.
Places of worship	Takanini Gurdwara Sri Kalgidhar Sahib	Spiritual place of assembly and worship; the largest Sikh gurdwara in New Zealand.	Sikhs and visitors primarily from the Papakura area and southern Auckland.
Places of worship	Church of Nazarene	Spiritual place of assembly and worship.	Christians and visitors primarily from the Takanini area.

Type of facility or place	Feature	Significance	For who
Places of worship	Trinity Presbyterian Church	Spiritual place of assembly and worship. Meetings are held on Sunday mornings at Takanini School Hall.	Presbyterians and visitors primarily from the Takanini area.
Places of worship	Congregation Christian Church of Samoa	Spiritual place of assembly and worship.	Christians and visitors primarily from the Takanini area; the Christian Samoan community.
Places of worship	Iglesia Ni Cristo (Church of Christ)	Spiritual place of assembly and worship.	Christians and visitors primarily from the Takanini area; the Christian Filipino community.
Transport interchange	Takanini Station	A bus and train interchange providing connections to Papakura going southwards and Britomart northwards.	People from across Auckland.
Health and medical	Takanini Urgent Pharmacy	Provides medical services for residents in the local area by fulfilling prescriptions.	Residents primarily from the Takanini area.
Health and medical	Takanini Surgery & Weekend Clinic	Local medical centre with doctors providing General Practitioner services.	Residents primarily from the Takanini area.
Health and medical	Conifer Gardens Medical Centre	Local medical centre with doctors providing General Practitioner services.	Residents primarily from the Takanini area.
Health and medical	Veterinary Associates Takanini	Veterinary hospital which provides consulting, medical and surgical services.	Residents primarily from the Takanini area.
Health and medical	Takanini Care Centre	Provides medical services to residents in their aged care facilities.	Elder residents of the care centre.
Health and medical	Local Doctors Takanini Medical Centre	Local medical centre with doctors providing General Practitioner services.	Residents primarily from the Takanini area.
Emergency services	NZ Police Takanini Community Constable	Provide crime solution and prevention at a local level.	Residents primarily from the Takanini area.

Figure 4-1: Places of social value or importance – Spartan Road to Taka Street

Figure 4-2: Places of social value or importance – Walters Road

4.1.3 Geographical social areas of influence

The area of social influence has been determined based on the consideration of:

- The activities to be undertaken, including construction activities;

- The likely scale and extent of potential direct and indirect impacts on the social factors. Indirect impacts are generally less tangible and more commonly relate to matters such as community values, identity and sense of connection to place;
- Cumulative impacts that may impact affected communities as a result of other transport, construction and major urban renewal processes underway within or proximate to the Project or localities;
- The potentially affected built or natural features located on or near the Project area that have social value or importance, and the social characteristics of the areas likely to be affected, as informed by the social baseline study and other technical assessments that inform the AEE; and
- The community and stakeholder groups that would be most likely affected by the direct and indirect impacts, based on stakeholder and community engagement activities, and other available information sources.

Based on the above, the social areas of influence for the Project are defined as the area show in Figure 4-3 and noted as follows:

- Localities, being areas generally within a 400-500m radius of each of the level crossings. This was selected as generally being a walkable catchment for the environment for this Project. It is noted that Council defines a walkable catchment as being a 10-minute walk (around 800 metres) around existing and planned rapid transit stops, such as a train station entrance point. The existing Takaanini Train Station is a rapid transit stop. A 400-500m catchment has been used in this case acknowledging that not all level crossing locations are within this 10-minute walk;
- Suburb, being the area of Takaanini where the spatial extent of social impacts is broader than the locality, but within the general area. This includes the following 2018 NZ Census SA2 areas:
  - Takanini North;
  - Takanini Industrial;
  - Takanini West;
  - Takanini South;
  - Takanini Central;
  - Takanini South East; and
- Southern Auckland. In some instances, the area of social influence will extend beyond the ‘suburb’ and impact the broader southern Auckland area.

These social areas of influence have been determined by considering the different social groups likely to be affected, the places of value or importance and social trends or change. While the Project will have a differential distribution of social impacts (positive and/or negative) on the wider Auckland region it has not been included as a specific social area of influence for the identification and assessment of social impacts. Data for the Auckland Region is shown for some indicators for data comparison only.

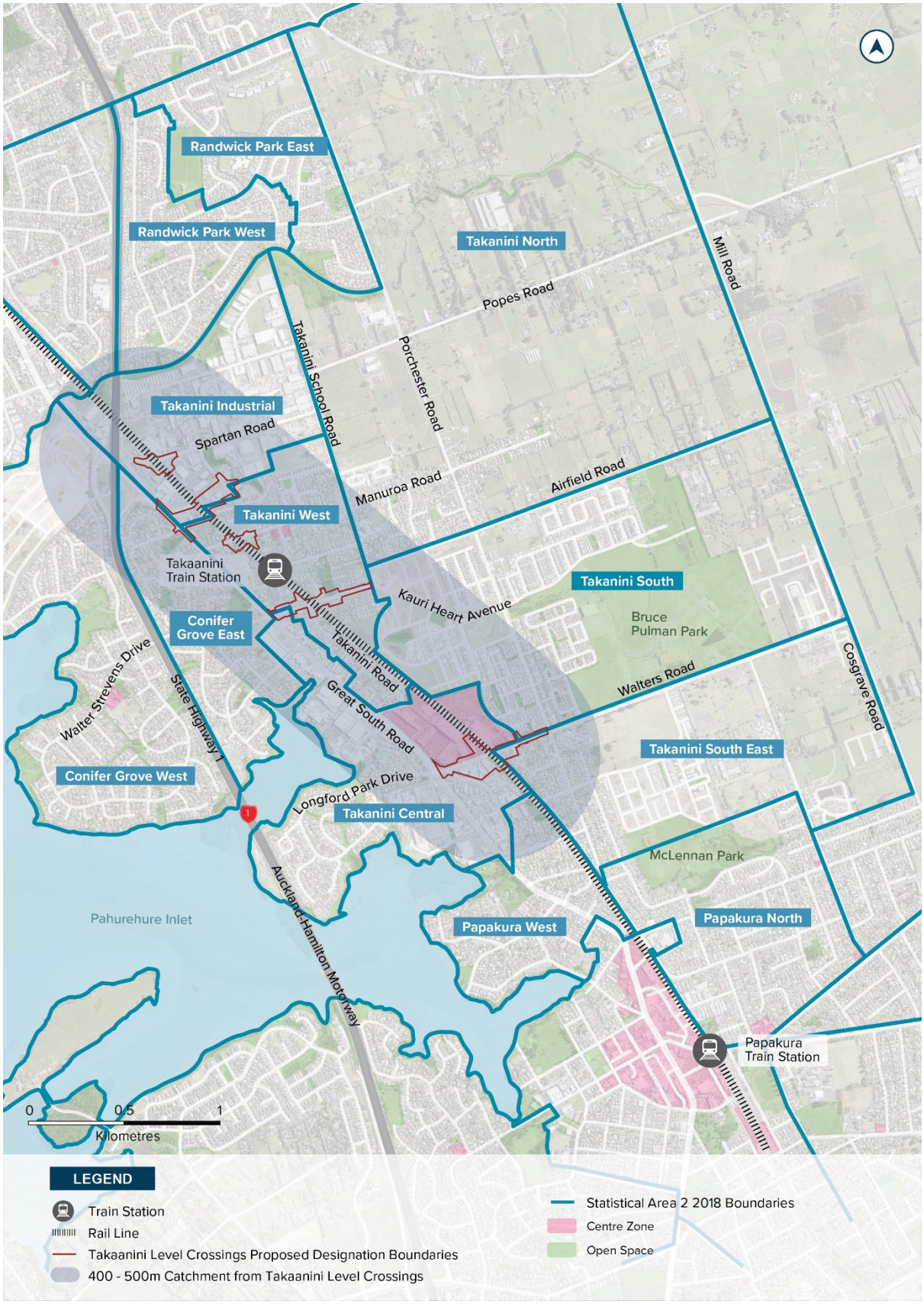


Figure 4-3: Geographical social areas of influence for the Project

4.2 Indicators for social impacts and baseline data

The choice of indicators for each social impact was based on the desired outcomes for the Project, stakeholder engagement, known available data and where possible, the ability for data collection to potentially be repeated in a timely and cost-effective way.

Indicators are shown below in Table 4-2 and presented in more detail in Appendix D of this Report.

Table 4-2: Social indicators

Impact area	Social indicators	Comment
Family and community	Housing and social cohesion Age	The project will reduce delays at road/rail crossing locations by removing level crossings and improve connectivity along the road corridor and potentially to some areas important to the community.
Quality of the environment	Crime	
Health and wellbeing	Physical and mental health	Level crossing removal will eliminate the conflict between trains and people/vehicles thereby improving level crossing safety. Improved footpaths and cycleways as part of the Project provide a safer environment for walking and cycling across the rail corridor which can encourage more active lifestyles which could impact people's physical and mental health.
Socio-economic impacts	Deprivation from the Index of Multiple Deprivation Education	Impacts on service stations and early childhood educational centres can have a negative impact on deprivation indicators in the NZ Index of Multiple Deprivation. Opportunities for employment during construction in particular, and long-led time to project delivery provide the opportunity for education and career pathways to be explored by other agencies. Impacts early childhood educational centres can have a negative impact on education opportunities in the area.

Data for the social baseline was collected from the following sources:

- SIA Engagement (refer to Appendix B of this report);
- Desk based research (references provided in Appendix A of this report); and
- Professional experience of the SIA practitioner.

This section is a summary of the baseline information for each social impact area. Appendix D of this report outlines the indicators and includes more detailed baseline data for indicators with quantitative data sets.

Family and community impacts

Family and community impacts, including its composition, cohesion, character, how it functions, and sense of place can be measured considering the age of the population, insights into housing and measures of neighbourhood character, vitality, variety and relevance.

The age of residents in the area is slightly lower than the Auckland Region. There are younger populations in Takaanini West, Takaanini South and Takaanini South East which have a greater residential population, and older populations in Takaanini Industrial and Takaanini Central which are dominated by industrial and commercial uses and have lower populations.

The lower average age and the concentration of ECE centres around the rail corridor could indicate that many young families live or work around the area. Households are not particularly large as most households have less than 4 children (or no children). This is also reflected in housing typologies, with the majority of homes in the area having between two to four bedrooms.

Quality of the environment

Quality of the environment includes access to and use of ecosystem services; public safety and security; access to and use of the natural and built environment, and its aesthetics value and/or amenity; the quality of the air and water people use; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation; their physical safety; and their access to and control over resources.

Crime in Auckland over the last year has decreased for some offences like sexual assault and abductions, but it has increased for other offences like burglaries and theft.

Health and wellbeing

Health and wellbeing indicators measure physical, mental, social and spiritual wellbeing, as well as disease and disability. It also includes psycho-social impacts such as solastalgia (a form of mental or existential distress caused by environmental change).

As noted in the NZ Health Survey, Māori and Pacific adults are 1.6 and 1.4 times as likely to experience psychological distress compared to non-Māori and non-Pacific adults. With a higher Māori and Pacific people population across the corridor compared to the Auckland Region, psychological impacts of the Project could be greater.

Socio-economic impacts

Socio-economic impacts include deprivation rates, the standard of living, level of affluence, economic prosperity and resilience, property values, employment, replacement costs of environmental functions and economic dependency.

People who live, work and run businesses closest to the Project are more likely to experience negative social impacts. People who might potentially work for or be a supplier to the Project in the future are likely to receive the benefits.

In addition, those who are more deprived tend to be more vulnerable than those from less deprived communities.

Based on NZDep 2018, deprivation rates are relatively higher in the older built-up areas around Takaanini West and Takaanini South East areas closer to the rail corridor. Homes in Takaanini West have higher rates of dampness and mould than the Auckland average.

Census 2018 indicated that income within the localities were within the 'middle-class' income bracket. It is noted that income is one of a number of measures determining deprivation. Other factors such as employment, housing, crime, heath access and education all influence deprivation scores.

Education is a vital pathway that shows the ability for residents to have flexibility in job opportunities. The Takaanini community have similar or higher levels of education as the wider Auckland region, most statistical areas having a greater percentage of people who have attended education compared to the Auckland average.

Despite this, there is a higher percentage of residents who are labourers, machine operators, technicians and trade workers, and a lower percentage of residents who are managers and professionals compared to the Auckland average. This may be reflective of the prevalence youth and adult second chance learners re-entering education and training through the Skills Update Training and Education Group.

5 Review of Social impacts of Rail projects

5.1 Social impacts in other projects

This section provides the findings of a high-level review of publicly available information about level crossing removal and grade separation projects as ground-truth for the predicted social impacts included in this SIA. It should be noted that rigorous, peer reviewed post-construction evaluations of the actual benefits and negative impacts of projects are rare, and some information is sourced from media articles and commentary. This creates a bias in research findings, because there is more information available about negative impacts during construction than positive impacts which accrue over time. In our research, we assume that impacts reported by stakeholders are true.

A description of six relevant projects is below and Table 5-1 notes impacts (positive and negative) identified for each during the review of published information. This is followed by a more detailed discussion of impacts by social impact area, with reference to the broader research base of the literature review (supplied separately to this assessment) and contains impact mitigations and opportunities.

It is possible that the projects reviewed generated additional social impacts, both positive and negative, that have not been reported on publicly and are therefore not part of this review.

List of projects reviewed:

1. Melbourne Level Crossing Removal, Victoria, Australia;
2. Progress Ave, Stouffville Rail Corridor, Toronto, Canada;
3. Baypark to Bayfair Link, Tauranga, New Zealand;
4. Edithvale and Bonbeach Level Crossing Removal Projects, Victoria, Australia;
5. Rosecrans/Marquardt Grade Separation, Los Angeles, California; and
6. North South Rail Line and South West Rail Link Extension, Sydney, Australia (planned).

Melbourne Level Crossing Removal, Victoria, Australia

110 level crossings in Melbourne are being removed to improve safety and congestion by 2030 – the largest project ever of its kind in Victoria. The crossings span several different rail lines. Approximately 66 level crossings have been removed at the time of writing this report. Some level crossings are or will be elevated above the road (rail over road) and others lowered into a trench under the road (rail under road). Figure 5-1 and Figure 5-2 below display a new playground under an elevated rail line in Melbourne and improved cycleways under the Upfield Line respectively.

Figure 5-1: Improved cycleways under the Upfield Line.

Figure 5-2: A new playground under the elevated rail line.

Stouffville Rail Corridor, Progress Avenue grade separation. Toronto, Canada

As part of 17km of grade separations of at grade road-rail crossings planned along the Stouffville Rail Corridor in the City of Toronto, the proposed Progress Avenue road overpass will enable the line to

meet future ridership demand, reduce traffic conflicts along the line and improve service efficiency. Figure 5-3 below displays Progress Avenue prior to and following the grade separation.

Figure 5-3: Progress Avenue crossing before (left) and after (right) grade separation

Baypark to Bayfair Link, Tauranga, New Zealand

The Baypark to Bayfair Link Upgrade (Baylink) involves the upgrade of two major state highway intersections in Tauranga. The upgrade includes the SH2 Bayfair flyover, a 4-lane road over road grade separation to take the state highway over the local road with a walking and cycling underpass, and Te Maunga Interchange, construction of a road over the rail line. Figure 5-4 and Figure 5-5 below display an artstic impression of the bayflair flyover and the construction of the Te Maunga interchange.

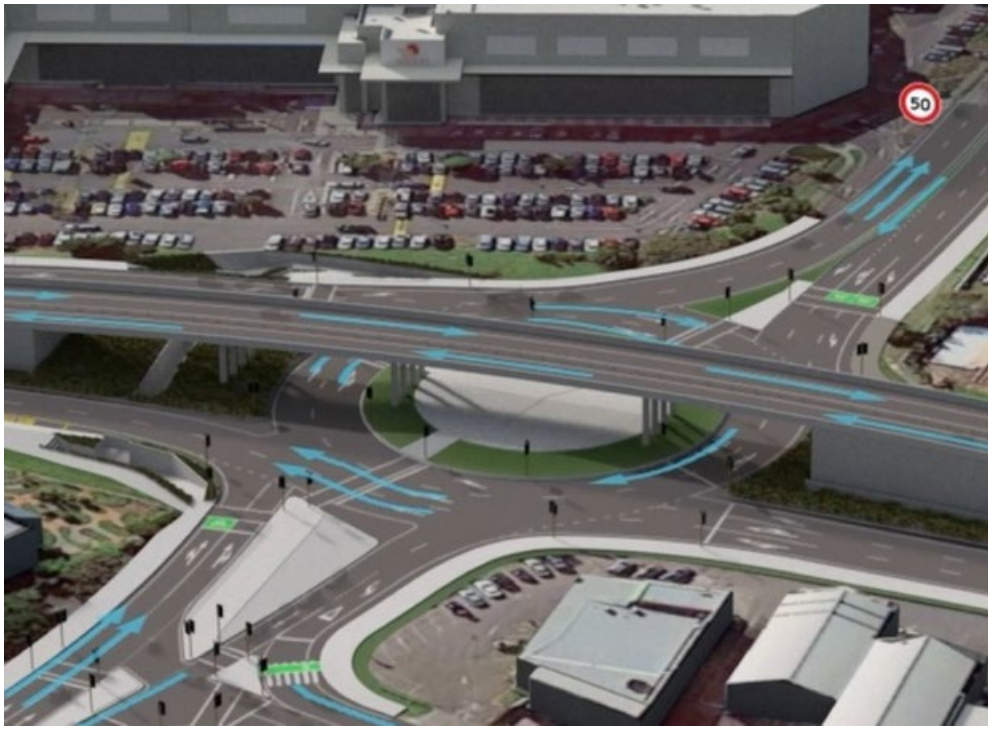


Figure 5-4: Artist impression of Bayfair flyover

Figure 5-5: Te Maunga interchange construction

Edithvale and Bonbeach Level Crossing Removals Project, Victoria, Australia

Part of the Melbourne Level Crossing Removal Project, the Edithvale and Bonbeach level crossing removals created two trenched rail crossings (rail under road). The Edithvale trench is 1300m long, the Bonbeach trench 1200m long. Both trenches will vary in width from 14 to 24 metres wide. Barriers, fencing and screening along the trench at road level prevent access by people or vehicles.

A newly built Edithvale Station has pedestrian access around the rail line and new pedestrian bridges were built for the new Bonbeach Station. Figure 5-6 below displays a snapshot of the construction of a pedestrian bridge at Bonbeach.

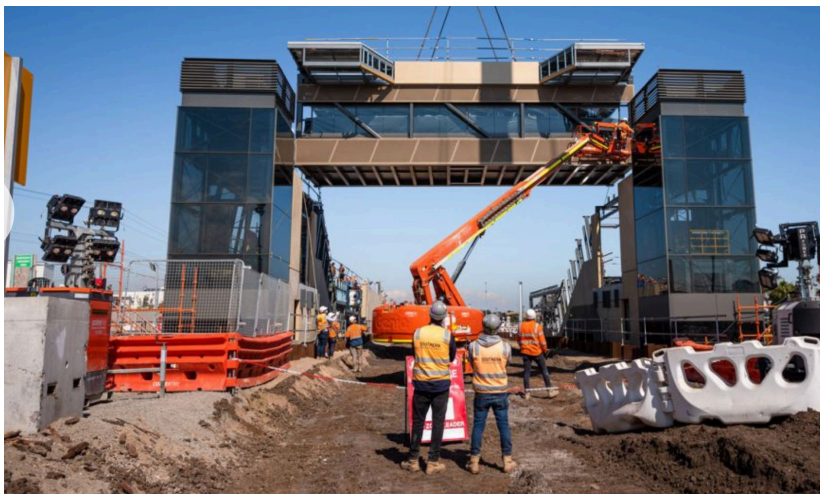


Figure 5-6: Construction of pedestrian bridges at Bonbeach

Rosecrans/Marquardt Grade Separation, Santa Fe Springs, California

The Rosecrans/Marquardt Avenue Grade Separation project is constructing an overpass and rail right-of-way (Road over Rail) along the California high speed rail line. The proposed grade separation aims to substantially enhance the safety and traffic flow on surface streets and improve the efficiency of train movements along the rail corridor. Figure 5-7 below displays an artistic impression of the finished road over rail project. Construction began in early 2022, with the project anticipated to be completed in 2025.

Figure 5-7: Artist impression of the finished road over rail

North South Rail Line and South West Rail Link Extension, Sydney (planned)

The planned North South rail line will connect Sydney's main western and southern rail lines via the Western Sydney Airport. It includes two tunnelled sections with part of the corridor at surface level and co-located where possible with the proposed Outer Sydney Orbital Corridor.

The South West rail extension connects an existing rail line to the Western Sydney Airport to connect with the North South Line. The extension is at surface level.

The route protection process identified likely impacts of construction and operation of the two lines, including possible impacts the project is working to minimise through decisions made in the planning phase.

Table 5-1: Summary of Social Impacts in comparable projects

Social Impacts (Positive and negative)	Rapid Transit Projects					
	Melbourne Level Crossing Removal Project	Stouffville Rail Corridor – Progress Avenue	Baypark to Bayfair Link	Edithvale and Bonbeach Level Crossing Removal Projects	Rosecrans Marquardt Grade Separation	North South and South West Rail (planned)
Project Phase: Planning						
Property acquisition causes loss of homes, loss of community services and facilities.		✓	✓	✓		✓
Loss of business or employment					✓	
Community/property owner stress and uncertainty impacts of project.					✓	✓
Project Phase: Construction						
Noise and vibration	✓	✓		✓		✓
Air quality and/or dust	✓	✓	✓	✓		
Increased traffic congestion	✓	✓	✓	✓		
Reduced vehicle access, parking, and loading spaces	✓	✓	✓	✓		
Disruption to walking and cycling access and throughfare	✓			✓		
Disruption to existing Public Transport services				✓		
Increased risk to personal safety (pedestrian access and trip hazards, lighting, antisocial behaviour around worksites)	✓	✓	✓	✓		
Community disconnection – separation of neighbours or detrimental effect on neighbourhood/community				✓	✓	
Business disruption, including impeded visibility,	✓	✓	✓	✓		

Social Impacts (Positive and negative)	Rapid Transit Projects					
	Melbourne Level Crossing Removal Project	Stouffville Rail Corridor – Progress Avenue	Baypark to Bayfair Link	Edithvale and Bonbeach Level Crossing Removal Projects	Rosecrans Marquardt Grade Separation	North South and South West Rail (planned)
wayfinding, disrupted timing of deliveries						
Loss of business and/or loss of businesses revenue				✓		
Disruption to way of life and daily living routines.	✓	✓	✓	✓		
Project Phase: Operation and maintenance (realised and predicted)						
Increased access to employment, education, and community facilities						✓
Boosted local business activity and visitation						✓
Reduced congestion	✓		✓	✓		
Improved access and safer facilities for pedestrians/cyclists	✓	✓	✓	✓		
Reduced noise from transport system	✓			✓	✓	
Increased walking distance due to the removal or relocation of bus stops		✓				
Increased effort needed from pedestrians and cyclists due to slopes associated with the grade separation		✓				
Improved public realm /increased amenity	✓			✓	✓	
Community or landowner severance					✓	
Noise of operation impacts on neighboring properties						✓
Air quality impacts of future operation						✓
Visual impact of infrastructure	✓	✓				
Lower property values	✓					

Social Impacts (Positive and negative)	Rapid Transit Projects					
	Melbourne Level Crossing Removal Project	Stouffville Rail Corridor – Progress Avenue	Baypark to Bayfair Link	Edithvale and Bonbeach Level Crossing Removal Projects	Rosecrans Marquardt Grade Separation	North South and South West Rail (planned)
Improved personal safety and security	✓		✓	✓		
More efficient/convenient public transport	✓					
Negative impact of maintenance activities eg noise, loss of privacy		✓				

5.2 Impacts of road and rail grade separation

Desk based research focussed on the comparable projects in Table 5-1 above, relevant aspects of other infrastructure projects, and social impact assessment guidelines, manuals and academic reviews to provide deeper understanding of the impacts identified.

Way of Life impacts

Acquisition of property changes where people live, what they have access to and how they get around. Displacement of people from their homes and communities means they may struggle to meet their basic needs if access to food, household goods, health and medical services, childcare and education are compromised. People may be cut off from places of cultural and religious importance. Families and individuals may have to take accommodation that isn't suitable for them.

Lack of affordable housing means families and individuals may struggle to find suitable accommodation or may end up having to live somewhere where they have to travel further and spend more time travelling to work or education.

In San Joaquin Valley the California Bullet Train project[7] paid $10 million USD for a social housing site which turned out to be asbestos contaminated, the cost to dismantle left no funds for replacement housing. This case highlights the necessity for replacement social housing, medical or educational services to be available at the time of displacement, and for compensation or acquisition settlements to be fair and realistic to enable timely replacement or alternatives.

Disruptions to existing transport infrastructure and services can also disrupt people's way of life. Disruptions to the Melbourne rail network during construction made it harder for people to get to work, study, and other destinations. The Stouffville Rail Corridor Project removed roads and direct access to properties and businesses along the route which interrupted local access to bus routes. Rail services were also disrupted by the project.

[7] Bullet train leaves a trail of grief among the disadvantaged of the San Joaquin Valley. Los Angeles Times. 29 October 2021.

Vanclay (2020)[8] found that despite a UN mandate making all projects responsible to respect human rights and avoid harm, projects and their impacts are often misrepresented or distorted, and shortcuts are often taken in managing social issues, with generic engineering mitigations assumed sufficient. The UN recognises that place attachment is fundamental to the human experience and projects are responsible to assist individuals and communities to cope with change using practitioners that are properly resourced and empowered.

Housing and access to basic needs, education, and health services are human rights and projects are required to maintain these. Research suggests an emerging acceptance that good practice includes participatory processes, a commitment to enhancing the lives of the most vulnerable and disadvantaged people and supporting community's capacity to change (Esteves et al, 2012).[9]

Mitigations

- Property acquisition can be minimised through use of existing transport corridors (North South – South West rail line) and site selection criteria that prioritises avoiding displacement of community facilities, impacts on amenity and access to community infrastructure and residences (Edithvale and Bonbeach); and
- Where acquisition is unavoidable, impacts on residents can be minimised through early communication from the project and road management authorities (Edithvale and Bonbeach). Impacts of access changes and transport service changes can be minimised by involving the community early in identifying impacts and mitigations.

Opportunities

- The Edithvale and Bonbeach project designed pedestrian ramps and overpasses to maintain access and connectivity across the rail corridor and improve safety;
- The Rosecrans/Marquardt Grade Separation project found that separating rail operations from other traffic allowed the passenger trains to run more efficiently and provide a more reliable service. Removing conflict points between trains and road traffic increased safety for people driving, walking and cycling;
- Melbourne Level Crossing removals integrated urban design and community facilities in planning, reflecting an evolution in Melbourne's public transport system from a commuter-based system to one that caters for travel throughout the day, increasing access and connectivity between people and places of work, study, leisure, health services, support services and places of cultural and spiritual significance;
- Social impacts can be included in monitoring and maintenance programs in the operational phase so that needed repairs and replacement of infrastructure provide an opportunity to reshape it in response changing social needs over time (NZTA Report 669, 2020);[10] and
- Evaluating magnitude and sensitivity of each potential project impact can help "right size" and target mitigations (Rowan, 2009).[11]

Family and Community impacts

Infrastructure projects can impact the cohesion, character and composition of families and communities during construction and through long term change to the built environment. Vulnerable

[8] Vanclay, F. (2020). *Reflections on social impact assessment in the 21st century.*
[9] Esteves, A M. Franks, D. Vanclay, F. (2012) *Social Impact Assessment: the state of the art.*

[10] NZTA research report 669. (2020). *Transport impacts on wellbeing and liveability: Literature summary.*

[11] Rowan, M. (2009) *Refining the attribution of significance in social impact assessment.*

communities are particularly at risk of negative impacts where change removes support and resources that prevent social stress (Mechanic & Tanner, 2007).[12]

Negative impacts on community cohesion resulting from the physical severance of linear infrastructure were identified in the Melbourne Level Crossing removals project and a desire to minimise these impacts, even with significant cost, factored into decisions to elevate or lower the rail line for separated crossings.

Uplift in property values and urban development as a result of new infrastructure can contribute to gentrification and vulnerable or marginalised parts of a community having to move. The Amsterdam Metro project[13] failed to address fears around loss of neighbourhood identity and gentrification in their strategic and land use planning and this contributed (with other factors) to significant loss of trust in the project by the local community and loss of social license to operate, with the project being forced to halt for a year to be completely re-evaluated.

Mitigations

- The Edithvale and Bonbeach Level Crossing project identified reduced opportunities for community interaction and active lifestyle as a potential social impact of the space taken for construction and sought to avoid this by selecting laydown areas did not disrupt the viability and function of community infrastructure, facilities, and residences, or access to them;
- The Melbourne Level Crossing removal project sought to avoid community severance by grade separating the rail lines in most of the crossings they removed. Where level crossings were removed by road closure, provision was made for walking and cycling access to continue to maintain neighbourhood connection; and
- Identifying the community resources and support that provide community cohesion as a baseline will assist with mitigations as the project progresses.[14]

Opportunities

- Elevating rail lines freed up a huge amount of space at ground level for the Melbourne Level Crossing removals project. This space was used to increase community cohesion, character, and amenity by creating walking and cycling paths, playgrounds, and green spaces, some of which are planted and maintained by neighbourhoods around them. Some residents have guerrilla planted or adopted spaces, landscaping them with plantings and garden ornaments;
- Edithvale and Bonbeach aimed to improve community amenity through design, with trenched rail reducing noise levels. The project improved connections and access to the beach, local shops, businesses, and community infrastructure; and
- Incorporating a health impact assessment approach to planning can help identify opportunities to enhance social cohesion leading to greater community wellbeing.

Quality of the environment impacts

Creation of new infrastructure can negatively impact the environment in both construction and operation. Noise, vibration, compromised air quality and visual impact of both construction and

[12] Mechanic, D. Tanner, J (2007) *Vulnerable People, Groups, And Populations: Societal View.*
[13] Mottee, L K. Arts, J. Vanclay, F. Howitt, R. Miller, F. (2020). *Metro infrastructure planning in Amsterdam: how are social issues managed in the absence of environmental and social impact assessment?.*

[14] Rowan, M. (2009) *Refining the attribution of significance in social impact assessment.*

finished infrastructure can reduce the quality of the environment for people living, working and visiting the area.

Design decisions change the built environment around a project. Melbourne elevated rail (Skyrail) – created negative impacts on nearby homeowners who now have visual impact and lack of privacy from elevated concrete structures running next to their homes. They report that people on trains and maintenance staff are able to see into their back yards and apartments. Skyrail adjacent residents complained of increased noise during hot weather from slower train speeds, unacceptably high electromagnetic radiation readings from the rail line and diesel fumes.

Potential for ground borne noise and vibration was identified in the North South – South West rail extension where sensitive land uses are located over shallow tunnels. The project also identified potential for increased background noise as a result of urban development along the line. Impacts could potentially be experienced by residences, educational facilities, places of worship, aged-care facilities and other community facilities such as areas of open spaced used for recreation.

Construction impacts on the environment are not limited to construction sites. The California Bullet Train construction through San Joaquin Valley[15] acquired land for storage of construction materials and pipes that led to unsightly piles of construction debris which became occupied by homeless 'camps' and antisocial behaviour including drug use and deals. Local businesses suffered from theft, vandalism, and arson. Rural properties acquired were left uncared for leading to a proliferation of pests and weeds that moved into and affected neighbouring properties and farms. A shortage of water and low water pressure for residents resulted from the project's use of water from local natural sources.

Mitigations

- The North South – South West Rail Extension project used trenching and land use controls to separate rail operations from houses and businesses. The project identified that further reduction of noise impacts can be achieved through including appropriate noise mitigations into subdivision patterns, development layout and design;
- Visually sensitive land uses associated with the North South – South West rail project will be mitigated by setback, landscaped buffers, and considered location of roads and public spaces.
- Research supports a range of evidence-based interventions to mitigate environmental impacts on businesses including engineering solutions, place activation, relocation, and communication tools;[16][17] and
- Including business and resident representatives in processes of identifying and mitigating disruption from construction ensures understanding of their operational requirements for appropriate mitigations.

Opportunities

- Use of public space underneath elevated rail can support nearby businesses by creating an attractive and welcoming environment where people want to spend time;
- Elevated structures should be of a height to minimise shadow so space under structures is more welcoming and feels safer, and to help vegetation growing underneath; and

[15] Bullet train leaves a trail of grief among the disadvantaged of the San Joaquin Valley. Los Angeles Times. 29 October 2021.

[16] Mitigating construction impacts on local businesses. (2019). Transportation Research Synthesis. Minnesota Department of Transportation.

[17] Business impact mitigations for transit projects. Oakland Sustainable Neighbourhoods initiative, November 2013.

- North South – South West rail found that co-locating rail lines in existing transport corridors can reduce impact on surrounding environment.

Health and wellbeing impacts

Project impacts can negatively affect people's physical, mental, social, and spiritual wellbeing. Construction noise, vibration, dust, and personal safety around construction sites can affect physical wellbeing. Noise, emissions and changes in the built environment in the operational phase can also impact physical wellbeing. Despite a project pledge to "avoid, minimise, or mitigate disproportionately high human health and environmental effects…" the California Bullet Train reportedly caused serious physical and mental health impacts to people living nearby through dust, shortages of water, and a proliferation of pests that prevented neighbours from going outside. Temporary disruption to walking and cycling paths as a result of the Stouffville Rail Corridor project was reported to reduce residents' activity levels and community interactions during construction.

Projects can also improve people's health and wellbeing. Level crossing removals are an investment in public health[18] where conflict points between cars, people walking and cycling and trains or buses are removed, and where safe and accessible rights of way are provided. Projects that reduce road casualties and injuries improve wellbeing. Projects that improve public transport services facilitate mode shift, with walking and cycling trips to access public transport increasing levels of physical activity and improving air quality. Local residents benefitted from a decrease in noise when the Rosecrans/Marquardt project removed the need for drivers to sound their horns at a level crossing.

Mental health is effected by feelings of control over environment and local resources, and having influence over changes that affect them. The uncertainty experienced by communities in the planning phase of projects can create anxiety, to the detriment of mental health. Construction effects that impact people's ability to get adequate sleep, access basic needs and support, and prevent real or perceived barriers to physical activity affect mental and physical wellbeing. Fear and uncertainty about loss of revenue are often experienced by business owners and operators near construction sites, and the Melbourne, Edithvale-Bonbeach and Stouffville Rail Corridor projects all identified impacts on businesses and implemented mitigation plans to support them.

A Waka Kotahi investigation[19] found that many aspects of the operating transport system contribute to psychological distress through noise pollution, neighbourhood severance, and increasing private car use and commuting stress. Lack of access to transport and inaccessible environments are likely to be a source of psychological distress for low-income households and people living with disability. Fortunately, transport systems can also be designed to protect mental health. Improving neighbourhood walkability, reducing long commutes, increasing active commuting, and reducing the cost and improving the comfort of public transport are key opportunities to improve urban mental health in Aotearoa.

<u>Mitigations</u>

- Maintaining safe walking and cycling access and throughfare;
- Support packages for businesses impacted that include financial support, business outreach and technical assistance, and incentives for contractors to work with businesses to minimise disruption;[20]

[18] The Conservation. (2021). *Level crossing removals: a case study in why major projects must also be investments in health*

[19] NZTA research report 675. (2021). *The relationship between transport and mental health in Aotearoa New Zealand*

[20] Business impact mitigations for transit projects. Oakland Sustainable Neighbourhoods initiative, November 2013.

- Light and noise pollution during construction and as part of operations and maintenance.
- Beautifying and activating public space around construction sites;
- Involving communities in identifying and planning mitigations for construction and operation impacts to give them control and influence; and
- Regular, relevant communication with affected residents and businesses to remove some of the uncertainty.

Opportunities

- Projects can identify and plan for opportunities to design and implement transport initiatives in close collaboration with the communities in which they will be placed.[21]
- A Health Impact Assessment approach is recommended for evaluation, using consultation and modelling to understand opportunities and threats to public health arising from a proposed project. Liveability impacts are also important.

Equity impacts

Inequities can arise from transport infrastructure when people affected are not involved in decisions about the project. Inequities can be exacerbated by transport projects when some stakeholders have more power to influence a project than others. This was illustrated when a section of the California Bullet Train line through the affluent Silicon Valley was cancelled due to a community lawsuit. In comparison, the low socio-economic San Joaquin Valley, residents and business owners were not fully informed about the scale and impact of the project and did not have resources or opportunity to influence decisions. As a result, properties and businesses were acquired unfairly and owners did not receive full and fair value for them. This power imbalance leads to inequitable decision-making processes which can make existing inequities worse.

Inequities can also arise when the benefits and negative impacts are not fairly shared. Projects that increase public transport and active mode use have a significant positive impact upon wellbeing at a population level, but benefits may be shared unequally at local level. Where private vehicle use is disincentivised, some may be forced to take public transport, even if it is less than adequate, because they cannot afford a car. Public and active transport have major benefits, but only if they enable people to get where they need to go in an affordable, safe and comfortable manner.[22] Often new transport infrastructure leads to increased property values. Tenants can become displaced through increased rents and leases, whereas property owners become wealthier through no action or effort of their own.

Mitigations

- The North South and South West Rail Extension identified that landowners of affected properties may not be able to sell the property. The project planned the routes to minimise property acquisition requirements and used an existing transport corridor where possible. They propose a transparent and equitable process to manage and communicate the property acquisition process;
- Melbourne investigated a “betterment tax” on properties that benefitted from the level crossing removals;
- Involving the community in assessing mitigations and potential residual impacts after mitigations is important. The Rosecrans/Marquardt grade separation project did not engage community in

[21] NZTA research report 669. (2020). *Transport impacts on wellbeing and liveability: Literature summary.*
[22] NZTA research report 669. (2020). *Transport impacts on wellbeing and liveability: Literature summary.*

identifying social impacts and mitigations in planning, and incorrectly assumed there would be no impact with mitigations measures in place; and
- Ensuring transport disadvantaged people will benefit most from mode shift policies is important for achieving equitable mode shift, including those on low incomes, Māori and Pasifika, women, youth, older adults, disabled people, ethnic minorities, and those living in high deprivation, rural, or peripheral areas. [23]

Opportunities

- Projects can reduce transport inequities by allocating the costs of mode shift to those with most transport resources at present, as these groups take many more trips and utilise more problematic modes (e.g. private car, air travel);
- Large scale public transport projects can address overconsumption of travel at a societal level. Those who travel long distances by car are subsidized because they do not pay the full social costs, often at the expense of local transport investment. If mobility patterns of the most advantaged are not also addressed, the gap between the most and least advantaged will deepen; and
- In operation, distributional inequities of mode shift can be reduced through fares.

Socio-economic impacts

Businesses, residents, and property owners can benefit or be disadvantaged socio-economically by projects. Construction impacts tend to have negative effects, but these can be mitigated. The socio-economic benefits of a project most often come in the long term, so the businesses and residents that benefit from the project are those that endure the construction period.

Property acquisition means business owners and operators may lose their premises and find it difficult or impossible to find an appropriate place to relocate to. Construction impacts previously discussed often result in loss of revenue for businesses neighbouring sites, as compromised access, visual impacts, dust and noise of construction may push customers to shop elsewhere. Loss of revenue was reported by Edithvale and Bonbeach neighbouring businesses during construction with businesses fearing they would have to relocate or close.

For businesses that survive the construction period, the new infrastructure can boost their revenue. New transport systems can bring more customers to them more easily and redevelopment or public realm improvements can draw more people to visit the area and encourage them to stay longer. New commercial spaces within train or bus stations can conflict with what is already there. While many businesses near the Edithvale and Bonbeach project benefitted from development, some retail and hospitality businesses reported increased competition from new businesses bought into the area by commercial development associated with the project.

Residents can be affected by property acquisition in the same way as businesses – if they have to relocate, they may be economically disadvantaged by having to live further away from their places of work, study, social networks, or pay increased accommodation costs to find a comparable home nearby.

[23] NZTA research report 666. (2020). *Social impact assessment of mode shift*.

The uplift in property value that often follows from large scale transport and urban development projects disadvantages renters, who may find they cannot afford to live in their neighbourhood. Property owners often benefit from increased capital through property uplift.

Mitigations

- Understanding the operational needs and logistics of businesses affected by construction and involving them in identifying mitigations can make them more effective, for example, limiting work hours or use of noisy machinery to suitable times of day;
- Early and regular communication to affected residents, businesses and property owners about the project and likely impacts can remove uncertainty and help them prepare;
- A Traffic Control and Management Plan was developed by the Stouffville Rail Corridor project to communicate how the project would maintain reasonable access through work zones and provide appropriate wayfinding to maintain foot traffic for businesses;
- Rent subsidies or rates breaks during the construction period can mitigate a loss of revenue for businesses;
- Where appropriate, businesses can be temporarily relocated, for example to a retail pop-up shop, or a café to a coffee cart;
- Business support during construction can include grants, mentoring to find new opportunities, and training for owners to better market or manage their business;
- Work with agencies, low cost and social housing providers to ensure affordable housing will continue to be available in the area; and
- Engage with housing providers and resident's associations to help identify mitigations for increasing accommodation costs.

Opportunities

- Work with businesses and property owners to understand their growth and development plans and identify places where the project can align with or support these;
- Engage with businesses prior to planning construction so the timing and staging of can be managed to minimise impacts; and
- Involve existing business associations in planning the business mix of commercial developments to complement the current offering and enhance the destination, not compete with what's already there.

6 Potential social impacts and management strategies

A summary of the potential social impacts (positive and negative) is provided below for the planning, construction and operation stages with a full assessment of impacts provided in Appendix E of this report. Note that property acquisition is included in the planning stage of the project as it is an activity that can occur over a number of years and needs to be complete before construction can commence. The planning stage therefore also includes pre-construction activity.

Potential social impacts of the Project are based on data from the following sources:

- SIA Engagement (refer Appendix B of this report);
- Desk based research (refer Section 5); and
- Professional experience of the SIA practitioner.

6.1 Potential impacts of doing nothing

As well as considering the potential impacts of the Project, it is important to consider the potential impacts of the Project not proceeding.

- Increased journey time as a result of level crossing barrier arms being down for longer periods;
- Increasing safety concerns associated with the level crossings including near misses and DSI's;
- Increased stress associated with car travel in congestion;
- Detrimental impact on the environment due to increased air and noise pollution;
- Household budget impacts as a result of fuel costs impacting on disposable incomes and lack of viable transport alternatives;
- Reduced growth in land values due to access difficulties; and
- Loss of appeal for different localities as a desirable places to live, work or visit as a result of access difficulties.

6.2 Planning Stage: Potential social impacts

6.2.1 Positive

Positive social impacts during the planning phase relate primarily to people's fears and aspirations and positive impacts on personal and property rights. Designation of land for the Project can impact aspirations and provide confidence in future investment in the area as well as the area of impact of the Project. Some businesses and landowners may then be able to undertake their own planning for their future enabling them to realise aspirations. It also signals future investment in the transport network which can support more intensive development. In some areas that could trigger development, especially in the vacant industrial areas in Takaanini.

6.2.2 Negative

There will be changes to people's way of life, for those living and working in the area and those who access services and businesses. As properties are acquired for the Project, people may move away from the area, and businesses will close and potentially be lost to the area if alternative sites cannot

be found. Within the area a number of businesses important to the community will potentially be lost, including:

- A number of ECE centres across the Project area;
- Skills Update Training and Education Centre on Walters Road; and
- The BP Service Station on Great South road providing fuel, including heavy vehicle refuelling, small vehicle cleaning and retail activity.

These businesses are considered important to the community as they are included in the access indicator for social deprivation in the NZDep dataset. Other businesses which will potentially be lost of the community include vehicle and tyre servicing outlets, house moving, car dealerships, marine retail and servicing, and food retail services.

A loss of some businesses within the area will mean changes to routines and convenience for some residents. They will then need to access those same goods and services from other businesses, potentially from other areas.

The Project will impact on ECE facilities that are currently located within the Takaanini community. It is anticipated that ECEs located within or partially within the project areas will be temporarily or permanently impacted during construction and/or the operation of the final infrastructure. The loss of multiple ECE's is likely to have a significant impact on the local and wider community. Most of the centres impacted are at capacity with waiting lists for enrolments, and with ongoing residential development in the area there will only be an increasing demand for these services.

ECEs are located within three of the project areas at Manuroa Road, Taka Street and Walters Road. Three ECE facilities are entirely within the project area boundaries and will need to be removed to facilitate construction. Another three ECE facilities are situated on a single site that is partially within the project area boundaries. In this case, the project area encroaches into a portion of the onsite parking and manoeuvring space, but none of the buildings. The impacted facilities along with nearby facilities are shown in Figure 6-1. There are a number of ECE facilities within proximity to the impacted sites, both on the eastern and western sides of the rail corridor.

Where ECE facilities are no longer able to operate on their current site(s) due to the impact of the Project, ECE operators may want to relocate but still be within the Takaanini community. An assessment has been undertaken into the Opportunities for ECE facilities in the Takaanini community. This is included in Appendix **F** of this this report and notes there are low barriers to re-establish these facilities within the area with this activity being permitted in most land use zones within the AUP:OP.

Alongside resource consent from Council, a licence from the Ministry of Education is required. It is understood their licencing requirements changed in February 2023 and there may be a greater level of assessment required in order to gain a licence. Further conversations with the Ministry of Education are recommended in order to more fully understand their licencing requirements and therefore the ability of impacted ECE's to relocate within the Takaanini community should they wish to.

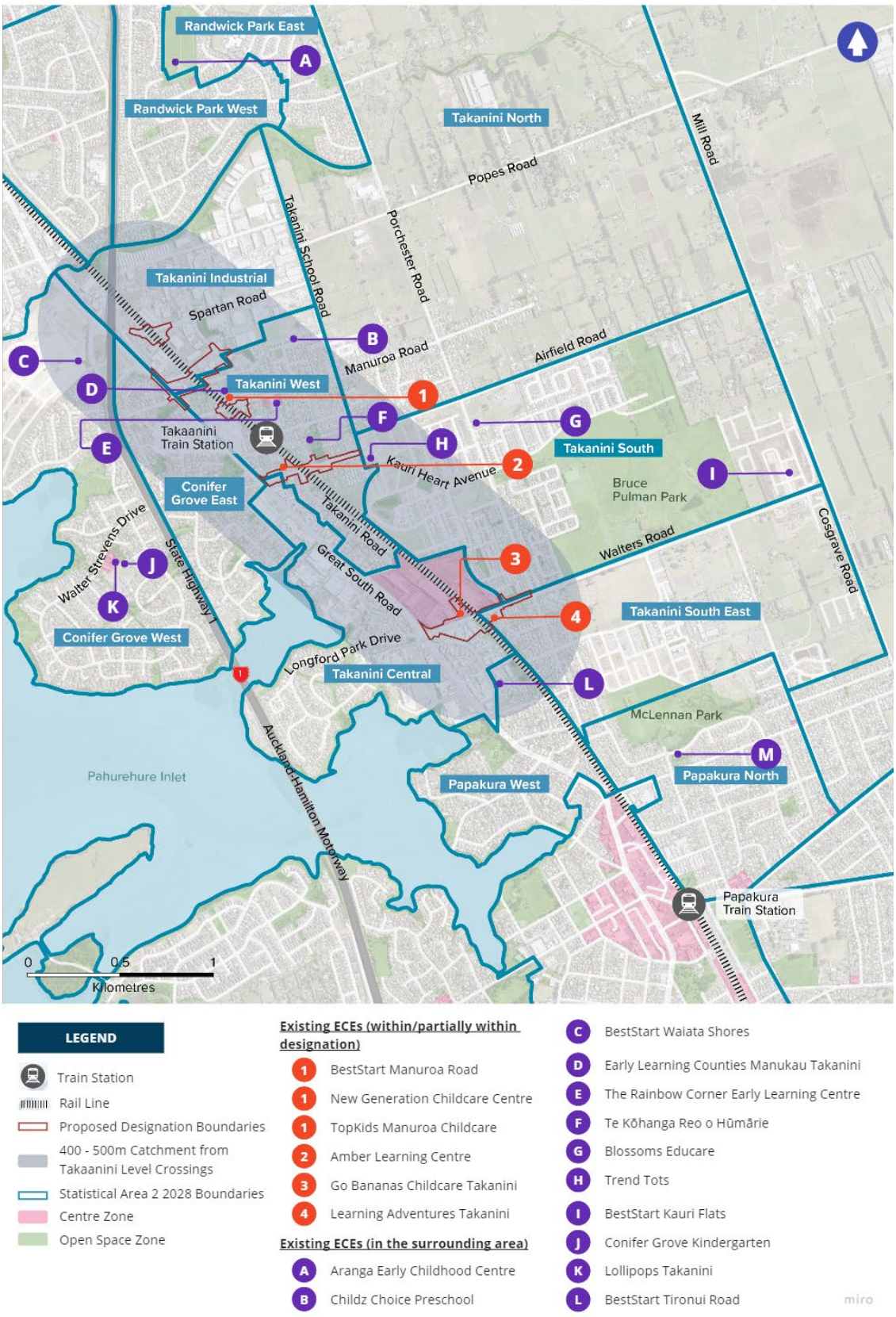


Figure 6-1: Map of ECE facilities

As noted earlier, access to services stations is one of the indicators for social deprivation in the NZDep dataset. The Project impacts three service stations, two partially and one fully. The BP Service Station at 102 Great South Road, shown as '2' on Figure 6-2, is fully impacted. Locations '1' and '2' on Figure 6-2 are partially impacted. Allied Petroleum on Spartan Road (location '1') and the BP on Great South Road (location '2') both provide fuelling services to heavy vehicles.

There are a number of alternative services stations in the vicinity, however, most do not accommodate heavy vehicle refuelling. The impact on the Allied Petroleum site is limited to the entranceway. There is no impact to the operational part of their site.

Figure 6-2: Location of Service Stations

Some businesses are more reliant on ‘exposure’ being ‘visible’ and have prominent locations on or in the vicinity of (and are visible from) Great South Road as a major arterial road. These include service stations and large footprint retail focussed businesses such as vehicle and marine retailers. The ability of these businesses to relocate within the wider Takaanini area and achieve the same visibility or exposure is very limited. There is no vacant commercial land along Great South Road which might facilitate easy relocation.

Impacts on industrial properties in the vicinity of Spartan Road will reduce the available land for current operation on these sites, in particular the Halls group freight operations. With their operations also split between sites along Spartan Road separated by the rail corridor, the closure of the level crossing in this location will also impact their operations. This is noted further within Section 6.4 Construction Impacts.

There are impacts to residential properties on Walters Road, Taka Street and Manuroa Road. Most are older single level homes with some being used for commercial purposes. While there are smaller numbers of residential properties affected compared to commercial, social change will occur in each of the areas as these homes are acquired, vacated and in some cases removed from site prior to construction. Given the more commercial nature of Walters Road and Manuroa Road, these impacts are likely to be less than those experienced at Taka Street which is more residential in character.

The Council managed Takanini Hall is located on Takanini Road. It’s used by a range of community groups and is booked most evenings and weekends, along with Monday, Wednesday and Thursday mornings. With the closure of the intersection of Taka St and Takanini Road, vehicle access to the hall will need to be gained from the eastern end of Takanini Road or Beach Road, both of which intersect with Great South Road. While this is unlikely to impact many coming from Great South Road, it will mean those wanting to access the hall from east of the rail lines will need to travel further, across the rail corridor to Great South Road before being able to access Takanini Road or Beach Road. The General Traffic – Accessibility section of the Transport Assessment further discusses impacts on access to Takanini Hall.

As properties are acquired, which could occur anytime in the years leading up to construction, some properties might remain vacant and/or buildings empty. Vacant buildings in particular can attract anti-social behaviour which can adversely affect people’s perceptions of personal safety. There is potential for some commercial properties to be vacated much earlier than construction commences as businesses find alternative properties to relocate to. There are higher numbers of commercial properties impacted in the vicinity of the new crossing point at Manuia Road and on the southwestern side of Walters Road.

People’s health and wellbeing will potentially be affected with potential for increases in stress and anxiety for landowners and occupiers, business owners and operators and those employed by directly affected businesses. Because the planning phase for the Project is long (around 10 years) and includes the period just prior to construction when properties are acquired it can result in considerable stress and anxiety related to uncertainty for many in the community. For those within the community that are not directly affected, including businesses, not knowing or understanding what to expect during construction can create anxiety. For businesses in particular it can be expected there will be high levels of stress and anxiety in the period of active property acquisition as it signals that construction is close and they may not at that stage have an understanding of what construction might mean for them or an ability to relocate and remain in the area.

There may also be increased stress and anxiety for landowners, both commercial and residential during active acquisition as they are uncertain whether they can remain within the community or have to leave.

Because of the long period before directly affected properties need to be purchased, property owners and occupiers, including business owners and operators, are encouraged to remain on the properties. Having a designation on a property does place some restrictions on how the property can be used, particularly in relation to changes or improvements. This could feel to some landowners as an impact on their personal and property rights. This feeling might also be present during the active acquisition stage, especially should some properties have to be compulsorily acquired. Residential homeowners in particular often have strong emotional ties to properties and the thought of losing all or part of their property in the future can result in considerable mental anguish with feelings of loss of autonomy over their own properties and an uncertain future. For business owners and occupiers there could be feelings of uncertainty, helplessness and anxiety as livelihoods are threatened, especially if there are not viable opportunities for these businesses to relocate. As businesses close and leave the area it will also result in a loss of employment and livelihood for people working within those businesses, unless the businesses are able to relocate and retain their existing staff. Some commercial property owners tend to have less emotional attachments to property as they are investments.

Conversely, for some the certainty can be positive, knowing they can plan for the future.

6.3 Planning: Recommended management strategies

Given the expected time between the completion of this assessment and the time at which the Project is anticipated to proceed the community will undoubtedly have changed. People will have moved out of the area, new people will have moved in, businesses will have changed, more intensive residential development is likely to have occurred in some places. It is therefore suggested that closer to the time of detailed design and active property acquisition it will be important to review the current social baseline, review the proposed management strategies and develop more detailed social impact management strategies that address social impacts in what is likely to be a different social environment.

Strategies to manage social impacts (positive and negative) during the planning phase include:

- Stakeholder and Community Engagement Plan;
- Development Response Plan;
- Community Health and Wellbeing Strategy; and
- Providing to potentially impacted ECE providers a technical assessment of the opportunity for ECE's within the Takaanini community.

There are some businesses within the Project area which are likely to be at their current location because they are highly visible sites with a lot of passing traffic, such as the BP Service Station on Great South Road and South Auckland Marine on the corner of Walters and Tironui Roads. The long designation lapse period and the anticipated period between confirming the designation and active property acquisition commencing does provide an opportunity for these, and other, businesses to continue to operate from the existing site for the foreseeable future and undertake their own long term business planning. Some businesses might seek to remain in the local area and others may relocate to other areas. This is also relevant for the ECE's, of which a number are impacted by the Project. The ability of such activities to re-establish within the area with limited restrictions within the AUP:OP

(as outlined in the assessment included in Appendix F of this report) along with the long lapse time and anticipated period between confirming the designation and active property acquisition commencing enables these businesses to undertake their own business planning processes. It is recommended a summary of the assessment undertaken be provided to the impacted ECE facilities for their information and reference.

Stakeholder and Community Engagement Plan

Engagement with stakeholders and community is an important component to managing and monitoring the potential social impacts and opportunities of the Project. During times of change, effective communication and engagement with communities enhances their understanding and builds resilience. Awareness of changes that might arise as a result of the Project can also reduce fear and uncertainty.

A plan for communication and engagement is also essential to understand the different groups that will interact with the Project and to establish how and when they will be engaged, and by whom.

Ongoing engagement should continue during the planning stage of the Project to continue to maintain and build relationships with the community and provide an opportunity for those new to the area to find out about the Project. Access to information for directly affected landowners about how they can continue to use their properties prior to active acquisition might help reassure and reduce anxiety for some.

It is recommended a Stakeholder and Community Engagement Plan be developed in consultation with the Papakura Local Board and Takanini Business Association (or equivalents at the time) and implemented for the Project that includes strategies that focus on:

- Maintaining the current good relationships between AT and Waka Kotahi and the community, particularly directly affected landowners, business owners and operators;
- Establishing contact with community members and landowners and community stakeholders as new issues arise;
- Disseminating information to, and having discussions with, the community and stakeholders on issues raised;
- Identifying and responding to issues and concerns of directly affected landowners, the community and all stakeholders;
- Addressing specific concerns of the community and various stakeholders on an ongoing basis;
- How the business community is going to be engaged during the active acquisition phase to understand businesses and help get them ready for construction;
- Identifies all project activities that potentially impact on community and business operations, and provides for a well-coordinated communication and engagement processes;
- Consults with and addresses needs of vulnerable groups that would be impacted by the project such as the elderly, socio-economically disadvantaged groups and children;
- Consults with and addresses needs of community facilities impacted by the project, and in particular educational facilities such as the ECE's and trade training centre, and aged care facilities;
- Sets out processes and measures to provide advanced notice to key stakeholders and other potentially affected stakeholders of construction activities (including any staged works, early works, main works, or out of hours works), significant milestones, changed traffic conditions, interruptions to utility services, changed access and parking conditions, periods of predicted high noise and vibration activities, including contact details for enquiries/complaints;

- Provides for any interested stakeholder to register their contact details to ensure they are automatically advised of planned construction activities, project progress, mitigation measures and intended reinstatement measures where applicable; and
- Documents a complaints management process (including processes and measures for registering, managing and resolving complaints) consistent with Australian Standard AS/NZS 10002: 2014 Guidelines for Complaint Management in Organisations.

The Plan should be developed in consultation with stakeholders and community groups and organisations and identify appropriate methods to ensure people are informed about the Project, it's timeframes, potential impacts and where they can find more information. It should also include methods to facilitate the ongoing involvement of stakeholders and community groups and organisations in the development of potential mitigation strategies.

During the ongoing planning phase of the Project, it is recommended information about the Project should be available for the community, in particular affected landowners. A Project webpage on the AT website could be an appropriate means for this. It is recommended the Project website it is regularly updated and include information for landowners as well as business owners and operators.

Development Response Plan

Development Response is the coordinated planning and implementation of tools to mitigate the impacts of large-scale development and cumulative impact of construction activity on people, in particular businesses. The Development Response Plan is prepared during the planning stage prior to construction and implemented just prior to and during construction. It is agile and evolves during implementation to respond to what is happening at the time.

Development Response Frameworks have been applied in several projects in Auckland and in Queenstown. While applied within urban commercial environments, many of the strategies can be applied in residential areas as well, especially those related to communications, site management, and way finding.

The frameworks start with great communications and engagement and operations planning and bring together in a coordinated way specific strategies such as business advisory services, wayfinding, cleanliness, noise monitoring, placemaking, pedestrian access and improvements to building frontages. This can also include partnerships with local businesses, education providers and community groups in the design of public art and use of space during construction.

Council has a Development Response Framework and AT is developing their own approach at present. It is expected that by the time the Project proceeds to detailed design and active property acquisition a few years prior to construction, that AT will have a well developed and tested approach to Development Response the Project can build upon.

Based on research undertaken there are key features of successful strategies for the management impacts of infrastructure construction on businesses. As part of preparing a Development Response Plan for the Project in accordance with AT's Development Response Framework (in the period 18 months to two years prior to construction, i.e. in the pre-implementation phase), the following should be taken into consideration:

- Appropriate assistance

An assistance package is important to support businesses affected by projects both to help them manage impacts of construction and to help them maximise the opportunities the project presents. There are many ways in which assistance can be provided, it should however be specific to the Project. The more successful packages are administered by a committee/steering group comprised of members of the business community as well as the Project team. This is likely to be most relevant to some of the businesses in the Southgate centre along Walters Road.

- Outreach in advance / early planning

  Early engagement is required, 18 months – 2 years before construction activity starts. Planning well in advance can help ensure the right support can provided at the right time in the project lifecycle. Early planning would include analysis of businesses to establish a baseline, early business engagement and early landlord engagement in order to work collaboratively in preparing the Development Response Plan. Business Associations are key to this activity and the Project should also work closely alongside them in both development and implementation of the Development Response Plan.

- Easy access / constant communications / agility

  Provide early information and make it easy to access. Businesses will then know what to expect and when and have easy seamless access to information. Consistent and timely information is also important. Businesses can also advise which forms of communication are preferred. The business support programme, including the assistance package needs to be agile and able to make changes quickly to improve the experience for businesses. Easy access to information and constant communications can assist with this.

- Business technical assistance

  Provide proactive assistance to businesses to help them take advantage of other assistance programs that are put in place, as well as strengthen the business overall to prepare them for long term changes ahead.

- Strong advocacy

  Advocacy from the business community and other community-based organisations and community development organisations on behalf of the business community who look to them for support enables the Project to work with a range of organisations to provide consistent information and support to businesses. Those organisations can also then develop information for businesses.

- Leadership and commitment

  AT as the requiring authority will support the development of appropriate strategies and commit to resourcing the development and implementation, including funding. Suitably qualified and experienced engagement and stakeholder management personnel will be engaged 18 months to two years prior to construction to develop, implement and monitor the Development Response Plan.

- Coordination

  In some areas of the Project there could be other construction activity underway. A coordinated response, joined with other projects in the same are or nearby will provide single points of contact and consistent and coordinated information about all projects to businesses.

- Health and wellbeing

  Recognise the impacts on the health and wellbeing of business owners and operators and establish appropriate support.

Community Health and Wellbeing Strategy

A community health and wellbeing strategy can increase resilience and reduce anxiety and frustration during the period between designations being in place and construction starting. It can include a specific focus for landowners and occupiers and business owners and operators of land which is designated.

The strategy can include initiatives that ensure those directly affected by the Project know where and how to access information about the project and who to go to in order to get the information they need.

Property Management Strategy

A Property Management Strategy will outline the processes for managing properties that are acquired and vacated prior to construction to reduce the potential for anti-social behaviour. This could include maintaining residential and commercial tenancies or removing buildings and enabling the land to be used by the community or others for another temporary purpose that maintains activity on the site.

Detailed design and construction planning

Detailed design enables opportunities to realise potential positive social impacts such as increasing connectivity between the Takaanini Reserve and the surrounding area, reducing social severance across existing road corridors and improving urban amenity and connectivity in areas where new bridges are proposed. Ongoing engagement with Council Parks about mitigation for the loss of the skatepark from the reserve as part of detailed design will identify the appropriate mitigation.

Construction staging, as requested by the Papakura Local Board to build the new Manuia Road overbridge and connection before closing the Spartan and Manuroa Road level crossings will enable heavy vehicles to avoid existing residential areas such as Taka Street.

While there will be a change in vehicle access to the Takanini Hall, mitigation measures recommended in the Transport Assessment, including active mode connections and wayfinding signage on Taka Street will reduce the impact of the reduction in vehicle access to this community facility. The Transport Assessment also notes there is also an opportunity at the time of implementation to provide a connection for pedestrians and cyclists between the northern end of Takanini Road and the Taka Street bridge via stairs/ ramp.

6.4 Construction: Potential social impacts

6.4.1 Positive

The most significant positive impact of the Project during construction is the employment opportunities for people from within the local community, wider southern Auckland area and beyond. There are opportunities for training and education pathways to be identified during the planning stage of the Project to enable people to gain relevant qualifications and training to enable them to gain employment in the Project. Local education providers have the opportunity to review their curriculums and provide education and training opportunities that would align with project needs. Notwithstanding the existing trade training centre is directly impacted by the Project, in the period leading to property

acquisition there is the opportunity for the centre to align training with future potential employment in the Project.

Construction to some is exciting and is the realisation of their aspirations associated with investment and positive transformation of areas. It can result in excitement and anticipation of improved access across the rail corridor, particularly to and from existing industrial and retail areas.

With construction activity there are generally more people in the area. This can result in an increase in people's perception of personal safety as a result of less anti-social behaviour due to the presence of construction activity.

Some businesses can also benefit from construction activity becoming suppliers to the Project or benefiting from increased business activity as a result of the construction workforce, particularly cafés and food businesses.

6.4.2 Negative

Construction activity can impact people's way of life as a result of changes to access routes for both road users and pedestrians and cyclists. Streets that do not usually have a lot of activity may be used as temporary detours which could affect both the amenity of those streets, but also the ability for those residents / businesses to undertake their usual activities. On-street parking in some areas will be affected and access to some businesses or facilities that are important to the community will be affected. On-street parking impacts will be particularly evident in Taka Street and access to businesses will be particularly evident in the Walters Road area within the busy Southgate shopping centre which includes a number of small and medium sized retailers.

The 90-bed aged care facility on Taka Street in particular will be sensitive to the impacts of construction activity. The facility also has one of the only dementia wards in southern Auckland. The impacts to the daily routine for residents will be different depending on the needs and abilities of individual residents. It is highly likely that sleep and rest patterns will be disrupted during the day when active construction activity is taking place.

Visitors frequently come and go and while there is visitor parking on site, for new residents during the settling in period and those experiencing end of life care, visits are more frequent and there are more visitors – this means on-street parking is used more frequently. Visitors, staff and some residents (those assessed as being able to make their own decisions - around 40% of residents) access the Takanini Train station. Safe and convenient pedestrian access to the train station will be very important during construction and the mobility needs/limitations of aged care residents in particular will need to be considered.

Access to the Takanini Reserve from Taka Street will be restricted during construction. While access from Station Road will be maintained, the lack of 'throughfare' of this reserve during construction could create isolated and less visible areas within the reserve leading to anti-social behaviour and feelings of being less safe for people in the area. The consideration of CPTED both in the final design and also in the management of construction activity will be important in this and other areas.

There will be a sense of disruption to the daily lives of people living and working in proximity of each of the Project, especially as construction activity affects routes people usually take and the ways in which they access many activities. While detail regarding construction staging is not available, the Traffic Assessment does suggest a number of considerations for mitigation, including Construction Temporary Traffic Management Plans and Site-Specific Traffic Management Plans.

With the closure of the Spartan Road and Manuroa Road crossings, traffic, including vehicle traffic will potentially need to divert via residential areas. Staging of works at each of the level crossings will need to be considered to avoid potential significant adverse effects of amenity in residential areas, especially Taka St. It is noted the Papakura Local Board has requested a specific stating sequence.

Construction activity changes the environment and as well as changing the way people move around an area, it can also change sightlines and restrict access to some areas. People living and working in areas can feel less safe, especially at night. Changes to access and sightlines as a result of hoardings, etc can reduce access to and the visibility of businesses leading to a potential loss of business for some.

Access to shopping areas and services will be temporarily impacted during construction. Some access to both the Southgate retail area, the Gateway Takanini retail/service area, and the Takanini Town Centre will be impacted. There are multiple access points to all of these areas with many remaining unchanged. Existing multiple access points from Great South Road to the Gateway Takanini and Southgate shopping areas will remain unaffected. Access to the Takanini Town Centre from multiple points along Arion Road will remain unaffected. Further information regarding impacts on these accesses is discussed in corridor-specific operational effects section of the Transport Assessment.

Noise, dust and vibration can also reduce the amenity of an area, especially community facilities and open spaces. Construction of the Taka Street and bridge in particular is likely to reduce the amenity of the area, including Takanini Reserve and construction activity for the new Manuia Road bridge may reduce the amenity the Portrush Lane residential area. Construction of both these bridges is expected to impact the amenity for neighbouring residents with potential impacts on privacy as a result of workers working at heights. Those neighbouring residents on Portrush Lane closest to the rail corridor in particular are in much closer proximity to the bridge which will be at considerable height. Properties on Taka St, especially the southern side, including the aged care facility are likely to experience a loss of privacy and shading with the structure being built on or close to their northern boundary.

6.5 Construction: Recommended management strategies

Development Response

Implementation, monitoring, reporting on, and updating the Development Response Plan.

Community and Stakeholder Engagement Strategy

Implementation, monitoring, reporting on, and updating the Community and Stakeholder Engagement Strategy.

Good neighbour policy

Alongside other Project policies developed by the contractor, a Good Neighbour Policy will focus on the role of the workforce as guests in the community and how the Project can support communities to thrive around the construction sites, and to minimise disruption to people's daily lives. The Policy can be developed using the Waka Kotahi Being Good Neighbours Guide.

Recreational facilities

Work with Council Parks to identify appropriate management measures including provision of alternative access to the Takanini Reserve for the period of disruption.

Other management plans

Proposed conditions regarding an Urban and Landscape Design Management Plan, a Construction Traffic Management Plan and a Construction Noise and Vibration Management Plan include requirements regarding considerations for detailed design to take into account impacts on privacy on adjacent properties from a raised structure, along with requirements for the management of impacts on amenity from noise and vibration and temporary traffic management. The Construction Traffic Management Plan will address access to all properties during construction, including businesses.

6.6 Operation: Potential social impacts

6.6.1 Positive

Following completion of the Project there will be:

- Safer and more efficient access across the rail corridor with removal of level crossings - improving access to commercial areas, areas of employment, education, recreation and services;
- Improved pedestrian facilities and new cycling facilities will provide an opportunity to improve health and wellbeing with increased access to active transport modes leading to healthier lifestyles;
- Direct access between the Takaanini Industrial area and the wider freight network;
- Improved amenity in adjacent areas with the removal of level crossing barrier arms warning bells; and
- Potential for long term employment for those who have developed skills on the Project which led to further employment on other Projects.

As stated in the Assessment of Transport Effects, the Project could save 0.14 railway crossing related injury crashes per year. In relation to system-wide crashes, the Project could save 1.1 deaths and serious injuries per year, 78 total crashes per year and $1.18m of social crash costs per year. The Project saves an estimated 36 DSIs over 40 years compared to the Do-Nothing scenario.

The Assessment of Transport Effects (General Traffic – Network performance section) also states there will be an increase in both demand for east-west trips with ongoing development in Takaanini, and increased capacity of the east-west connections with removal of the level crossings. Removal of the level crossing delays will also mean quicker trips with some travel time savings. The new Manuia Road connection will provide direct access between the Takaanini Industrial area and the wider freight network with the removal of the delays at level crossings.

As stated in the Assessment of Transport Effects (Walking and Cycling section), the provision of quality active mode connections is anticipated to result in an increase of 220 active mode trips daily in the 2048+ network. The provision of quality active mode connections, and the connection of these into the Takaanini Train Station in particular, increase multi-modal integration in the area. As stated in the Urban Design Evaluation, the Project accommodates the universal design approach and accessibility

to all parts of user journeys. Universal design is design that's usable by all people, to the greatest extent possible, meaning it is as accessible as it can be, without specialised design features.

The Operational Noise Assessment states the removal of barrier arm warning bells removes an 86db LAFmax noise source, which is assessed as having a positive overall effect on the locations closest to the crossings.

For some, there may also be long term employment for people who have been employed in the construction and developed skills and experience enabling them to gain other employment within infrastructure and construction.

There is also the potential for positive urban design outcomes at Walters Road with increased connections across the **road** corridor. These will have been identified during the detailed design stage (within the Planning Stage of the Project) but only be realised once the Projects are operational.

6.6.2 Negative

There will be permanent changes to access for some properties and some intersections along the route as a result of level crossing closures, etc. There is likely to also be a perception of increased community severance in some locations as a result of raised bridge structures particularly those properties on Taka St closer to the rail corridor where the bridge structure will be at higher elevations. It is however acknowledged that with its proximity to the Takaanini Train Station the area may have already undergone significant change with an intensification of residential activity which would reduce the impact.

Concerns regarding potential severance have also been raised by landowners in the vicinity of the Walters Road level crossing.

Depending on the method by which level crossing grade separation is achieved, severance can result in a number of different ways. In the case of raising or lowering the road via an overbridge or underpass, the severance is both across the rail corridor 'at grade' meaning the ability to cross the rail corridor at the same level is removed and people and vehicles have to either go over or under the rail corridor. There is also severance created between areas on either side of the road with an underpass or overbridge impacting the ability to get across the road corridor. Detailed design of either option can reduce perceptions of severance.

Some areas may also experience an increase in noise with new bridges. A range of mitigation measures are recommended in the Traffic Noise Assessment including low noise road surfacing and barriers.

Changes in access to some areas will also be experienced as discussed in the Traffic Assessment. The Traffic Assessment notes these changes are not considered significant.

6.7 Operation: Recommended management strategies

Detailed design, undertaken during the planning stage, will be realised during the operation. Detailed design will consider, among other things, mitigation of potential severance and impacts on privacy.

Maintenance of all assets within the final area of designation.

6.8 Significant social impacts

In accordance with the methodology in Appendix C of this report, social risk/opportunity ratings were assigned to each of the identified social impacts based on the assessed significance (gravity, extent, vulnerability and remediability/opportunity) and likelihood. The ratings were assigned to allow for prioritisation of the identified social impacts for mitigation and management. It should be noted that ranking a social impact as high or extreme indicates that due consideration should be given to opportunities to apply mitigation (for negative impacts) or enhancement measures (for positive impacts).

The key social impacts that were assessed as the highest priority (all negative and positive impacts with a priority 1 or 2 rating) are outlined in detail in Appendix E Impact Assessment.

In almost all cases, the mitigation measures recommended reduce the priority rating. There are impacts that remain priority 1 or 2, which are generally negative impacts associated with loss of homes and businesses and associated employment, sense of community and psychological impacts. Significant positive social impacts are related to increased employment opportunities.

7 Conclusions

Both positive and negative social impacts will be experienced whether the Project proceeds or not. The social impacts experienced will depend on location, relationship to the Project (e.g. as a directly impacted landowner or business operator, near neighbour, employee, wider community member, etc.), and the mitigation applied.

Some areas through which the Project traverses are anticipated to experience change in the period between designation and construction. Planned development and intensification can be expected as a result of anticipated changes to the AUP:OP, particularly in the Manuroa Road and Taka Street areas adjacent to the existing Takaanini Train Station. The environment in which this SIA has been undertaken is therefore expected to be very different to the environment which will exist at the time of construction. A review and update to baseline data, along with stakeholder engagement to understand the community as it exists at the time mitigations are developed prior to procurement and construction will be an important step in ensuring recommended mitigations are relevant and therefore more effective at the time.

There are a number of recommended strategies to manage potential social impacts and it is expected that some will be best included with organisational policy and procedures and some in conditions. Table 7-1 provides a summary of the recommended strategies and how they might be achieved.

Table 7-1: Recommended management strategies and suggested implementation

Potential social impacts	Recommended mitigation strategies	Proposed implementation method via proposed designation conditions
RMA Mitigation		
Planning		
Potential increases in stress and anxiety for landowners and occupiers, business owners and operators and those employed by directly affected businesses (due to long planning phase causing uncertainty).	The Social Impact Assessment recommends various strategies and plans to address potential impacts arising during the pre-implementation/planning phase: **Communication and Stakeholder Engagement Strategy –** An engagement strategy which seeks to maintain current good relations between AT and Waka Kotahi and the community, disseminate information to and respond to issues of the community and stakeholders. **Community and Stakeholder Engagement Management Plan –** A Plan that identifies all project activities that potentially impact on community and business operations and provides for a well-coordinated communication and engagement process. **Development Response Plan –** A plan that identifies tools to mitigate the impacts of large-scale development and cumulative impact of construction activity on people. It should include consideration of appropriate assistance, access to information, early engagement, and health and wellbeing. **Community Health and Wellbeing Strategy –** A strategy to ensure those directly affected by the Project know where and how to access information about the Project and who to go to in order to get the information they need. **Property Management Strategy –** A strategy that outlines the processes for managing properties that are acquired and vacated prior to construction to reduce the potential for anti-social behaviour.	Between now and detailed design there is a project information condition to keep landowners, occupiers, businesses and those directly affected by the Project informed via a **Project Information condition.** The proposed designation conditions include various management plan requirements which have a similar purpose to those identified in the SIA. These conditions apply at different parts of the Project implementation phase. At the pre-implementation/planning phase, a project information condition has been included in each NoR to ensure landowners, occupiers, business owners and operators/employers are informed of any Project developments. A subscription service is also available via the website so that affected parties can obtain regular project updates. Once detailed design commences, the Stakeholder Communication and Engagement Management Plan (**SCEMP**) will be implemented to keep those directly affected informed.
Construction		
Disruption to access and parking and changes to routine due to detour routes. This could affect amenity as well as the ability for	The Social Impact Assessment recommends various strategies and plans to address these potential impacts:	Construction Traffic Management Plan (**CTMP**). A core aspect of a CTMP is to

residents/businesses to undertake their usual activities (leading to a sense of disruption). On street parking impacts are particularly evident at Taka Street and Walters Road (Southgate).	**Development Response Plan –** A plan that identifies tools to mitigate the impacts of large-scale development and cumulative impact of construction activity on people. It should include consideration of appropriate assistance, access to information, early engagement, and health and wellbeing. **Community and Stakeholder Engagement Strategy (as noted above)** **Good Neighour Policy:** The policy will focus on the role of the workforce in the community and how the Project can support communities to thrive around construction sites and minimise disruption to people's daily lives. Other measures recommended in the SIA include: **Recreational facilities:** Work with Auckland Council Parks team to identify appropriate management measures including alternative access to the Takanini Reserve during the period of disruption. **Consideration of CPTED** in the management of construction activity.	manage disruption to property access, detours and on-street parking. Stakeholder Communication and Engagement Management Plan (SCEMP). The SCEMP is intended to provide early engagement as Project moves from planning to construction phase including for communities, parks etc. Construction Environment Management Plan (CEMP). The CEMP manages the impact of construction activities on affected receivers' together with CTMP and CNVMP.
Impacts on the aged care facility at Taka Street – - Potential for sleep and rest patterns to be disrupted by construction activity during the day - Impacts to on-street parking relied on by facility Safe and convenient pedestrian access to the train station will be important during construction, with consideration of the mobility needs/limitations of aged care residents.		Construction Noise and Vibration Management Plan (**CNVMP**) and Schedules as appropriate. Construction Traffic Management Plan (CTMP) will manage parking (discussed above). Stakeholder Communication and Engagement Management Plan (SCEMP) (as discussed above).
Restricted access to Takanini Reserve from Taka Stret during construction – lack of thoroughfare could lead to anti-social behaviour / safety concerns.		Urban and Landscape Design Management Plan (**ULDMP**) - which will include consideration of CPTED. Construction Traffic Management Plan (CTMP) will manage access as discussed above. Stakeholder Communication and Engagement Management Plan (SCEMP) (specifically covers parks). Other opportunities: Work with Auckland Council Parks on design considerations to improve connectivity of the Takaanini Reserve to the surrounding area – See ULDMP – integration with Open Space is required as part of final design – covers Parks.

Safety concerns due to the changing environment and changes in way people move around due to access restrictions and changed sightlines.		Construction Environmental Management Plan (CEMP) – will set out information regarding screening, staging approach etc. Construction Traffic Management Plan (CTMP) will manage access as discussed above. Stakeholder Communication and Engagement Management Plan (SCEMP).
Noise, dust and vibration impacts which can reduce the amenity of an area.		Construction Noise and Vibration Management Plan (CNVMP) – will manage noise and vibration. Construction Environmental Management Plan (CEMP) – will manage dust. Stakeholder Communication and Engagement Management Plan (SCEMP).
Construction of Taka St bridge and the Manuia Road construction yard area are likely to reduce amenity of these areas. There will also be potential impacts on privacy as a result of workers working at heights (particularly for residents on Portrush Lane). Properties at Taka Street may also experience a loss of privacy and shading.		Construction Environmental Management Plan (CEMP) – will manage screening of construction areas.
Operation		
Permanent changes to access for properties and some intersections and roads	Design consideration: Design solutions implemented during the planning and construction phases.	Potential impacts to be managed via urban design outcomes identified in the ULDMP. AT will provide safe alternative access to private properties that have existing accessways onto the designated corridors. These requirements are captured through conditions as well as the PWA. In terms of conditions for access, the CTMP condition (discussed above) will address this. Post-construction, the conditions provide that where existing vehicle access is altered by the

		Projects, the Outline Plan will demonstrate that safe alternative access will be provided for those properties following consultation with affected parties. The condition ensures a replacement access outcome is secured but also provides flexibility given the current level of design.
Potential community severance and amenity impacts as a result of bridge structures including at Walters Road and Taka Street.	Opportunity for Auckland Council and/or the Local Board to lead a process of collaboration between the local community, AT, KiwiRail and others to develop a broader development plan for the area. If this is undertaken prior to detailed design, the design of the Project can be undertaken within the context of this Plan.	Potential impacts to be managed via urban design outcomes identified in the ULDMP. As noted in this report, there is also an opportunity to develop a broader plan for area in conjunction with others i.e., Local Board. This opportunity sits with Council and Local Board not AT
Increased anti-social behaviour under over bridges.	Opportunity for strong urban design outcomes: Design solutions implemented during the planning and construction phases to be addressed through an Urban and Landscape Design Management Plan (ULDMP).	Potential impacts to be managed via urban design outcomes identified in the ULDMP.
Nuisance from lighting and traffic noise from bridge.	No specific mitigation measures identified in this report – deferred to other technical experts.	Low Noise Road Surface condition and associated traffic noise conditions. Lighting is managed via AT Design Manual.
Potential social impacts	**Recommended mitigation strategies**	**Other opportunities**
Other opportunities		
Planning		
Limited ability for some businesses to relocate with same visibility / exposure. For industrial properties near Spartan Road in particular the Project will reduce land available for operations on these sites.	The Social Impact Assessment recommends various strategies and plans to address potential impacts arising during pre-implementation/planning: **Communication and Stakeholder Engagement Strategy –** An engagement strategy which seeks to maintain current good relations between AT and Waka Kotahi and the community, disseminate information to and respond to issues of the community and stakeholders. **Community and Stakeholder Engagement Management Plan –** A Plan that identifies all project activities that potentially impact on community and business operations and provides for a well-coordinated communication and engagement process.	Property matter to be addressed as part of a separate PWA process. Note also requirement under ULDMP to integrate permanent works with adjacent land uses.
Vacant/empty sites needed for construction of the Project may attract anti-social behaviour.		Adopt proactive property management approaches via Auckland Transport's internal policies, which should include processes for managing properties that are acquired and

	Development Response Plan – A plan that identifies tools to mitigate the impacts of large-scale development and cumulative impact of construction activity on people. It should include consideration of appropriate assistance, access to information, early engagement, and health and wellbeing. **Community Health and Wellbeing Strategy –** A strategy to ensure those directly affected by the Project know where and how to access information about the Project and who to go to in order to get the information they need. **Property Management Strategy –** A strategy that outlines the processes for managing properties that are acquired and vacated prior to construction to reduce the potential for anti-social behaviour.	vacated prior to construction, to reduce the potential for anti-social behaviour.
Potential increases in stress and anxiety for landowners and occupiers, business owners and operators and those employed by directly affected businesses (due to long planning phase causing uncertainty).		Implement an internal landowner engagement guide or policy which includes a framework for providing support to landowners.
Loss of locally significant businesses and services including ECE's. This will mean changes to routines and convenience for some residents.	Provide planning assessment to assist relocation.	Nil.
Construction		
Reduced business activity and customers due to changes to access and visibility of businesses.	The Social Impact Assessment recommends various strategies and plans to address these potential impacts: **Development Response Plan (as noted above)** **Community and Stakeholder Engagement Strategy (as noted above)** **Good Neighbour Policy:** The policy will focus on the role of the workforce in the community and how the Project can support communities to thrive around construction sites and minimise disruption to people's daily lives. Other measures recommended in the SIA include: **Recreational facilities:** Work with Auckland Council Parks team to identify appropriate management measures including alternative access to the Takanini Reserve during the period of disruption. **Consideration of CPTED** in the management of construction activity.	This is addressed via CEMP/CTMP – refer commentary above.

1 Appendix A – Reference list

Auckland Airport (no publication date) Annual Aircraft Noise Contours (2021) available from https://aklairport.maps.arcgis.com/apps/webappviewer/index.html?id=dc5d137c07684421915324095d2f05b1

Auckland Airport (no publication date) Airport of the future available from https://corporate.aucklandairport.co.nz/-/media/Files/Corporate/Airport-of-the-future-masterplan.ashx?la=en&hash=F43FA86F2E9F1C6EE7E707495DFF5159EF56DA79

Auckland Airport (2019) New Park & Ride service to connect Southern travellers available from https://corporate.aucklandairport.co.nz/news/latest-media/2019/new-park-and-ride-service-to-connect-southern-travellers

Auckland Airport (no publication date) Second runway available fromhttps://corporate.aucklandairport.co.nz/airport-of-the-future/building-the-future/second-runway

Auckland City Rail Link, Social Impact and Business Disruption Delivery Work Plan, Connectus Document Ref 650-Y002-2719, Rev 07, 11 July 2017 accessed at: https://d3n8a8pro7vhmx.cloudfront.net/nationalparty/pages/12310/attachments/original/1561430653/Social_Impact_and_Business_Disruption_Plan_Rev7_11072017_%281%29.pdf?1561430653

Auckland City Rail Link, Te Wai Horotiu Station (Aotea) Social Impact and Business Disruption Delivery Work Plan, 2021 – 2022 Annual Report (DRAFT for CLG Review), 15 July 2022 access at: https://mcusercontent.com/2fcff43b6db35f950e5102892/files/0ea7bdcb-848e-e89e-96c6-d4b86b19ed3f/Te_Wai_Horotiu_Aotea_SIBD_Annual_Report_2021_2022_Draft_July_2022_002_.pdf

Auckland Council (no publication date) Howick Local Board (2020) Plan available from https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/local-boards/all-local-boards/howick-local-board/Pages/howick-plans-agreements-reports.aspx

Auckland Council (no publication date) Ōtara-Papatoetoe Local Board (2020) Plan available fromhttps://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/local-boards/all-local-boards/otara-papatoetoe-local-board/Pages/otara-papatoetoe-plans-agreements-reports.aspx

Auckland Transport (no publication date) Manukau Bus Station available from https://at.govt.nz/projects-roadworks/manukau-bus-station/

Auckland Transport (updated December 2020) Puhinui Station available from https://at.govt.nz/projects-roadworks/airport-to-botany-rapid-transit/puhinui-station/

Australia New Zealand Infrastructure Pipeline. (n.d.). Auckland Airport Expansion – Second Runway. https://infrastructurepipeline.org/project/auckland-airport-expansion-second-runway

Brisbane Cross River Rail Project, Tunnel, Stations and Development Package (TSD) Social Amenity Management Plan, 14 September 2020, Rev 2, accessed at: https://s3-ap-southeast-2.amazonaws.com/cross-river-rail/wp-content/uploads/2020/09/18153530/Social-Amenity-MP_R02_redacted.pdf

Brisbane Cross River Rail Project, Monthly Environmental Report, May 2022 accessed at: https://cross-river-rail.s3.ap-southeast-2.amazonaws.com/wp-content/uploads/2022/07/12160341/Att-2.-Monthly-Environmental-Report-May-2022.pdf

Browne, Geoffrey and Lowe, Melanie. 22 Jane 2021 Level-crossing removals: a case study in why major projects must also be investments in health, The Conversation, https://findanexpert.unimelb.edu.au/news/14113-level-crossing-removals--a-case-study-in-why-major-projects-must-also-be-investments-in-health

Burdge, Rabel J. 2004 A Community Guide to Social Impact Assessment 3rd Edition (Social Ecology Press

CTC & Associated LLC, Mitigating Construction Impacts on Local Businesses, Minnesota Department of Transportation, Transportation Research Synthesis TRS 1901, March 2019, accessed at https://dot.state.mn.us/research/TRS/2019/TRS1901.pdf

EHINZ (accessed March-June 2022) 2018 Socioeconomic deprivation profile.https://ehinz.ac.nz/indicators/population-vulnerability/socioeconomic-deprivation-profile/

Eke Panuku Development Auckland (no publication date) The plans guiding Manukau's transformation available fromhttps://www.panuku.co.nz/projects/manukau/chapter/the-plans-guiding-manukaus-transformation

Eke Panuku Development Auckland (no publication date) What's coming up available fromhttps://www.panuku.co.nz/manukau/chapter/whats-coming-up

Esteves, A. M., Factor, G., Vanclay, F., Götzmann, N. and Moreira, S. (2017) Adapting social impact assessment to address a project's human rights impacts and risks Environmental Impact Assessment Review 67 pp. 73-87

Lara K. Mottee, Jos Arts, Frank Vanclay, Fiona Miller & Richard Howitt (2020): Reflecting on How Social Impacts are Considered in Transport Infrastructure Project Planning: Looking beyond the Claimed Success of Sydney's South West Rail Link, Urban Policy and Research, DOI: 10.1080/08111146.2020.1730787 (https://doi.org/10.1080/08111146.2020.1730787)

Langston C and Crowley C, Evaluation of Transportation Infrastructure: A Case Study of Gold Coast Light Rail Stage 1 & 2, Construction Economics and Building, Vol 21, No.4, December 2021. accessed at https://www.researchgate.net/publication/357176938_Evaluation_of_Transportation_Infrastructure_A_Case_Study_of_Gold_Coast_Light_Rail_Stage_12/link/61c07a5ea6251b553ad07fef/download

Los Angeles Times, 31 October 2021, https://www.latimes.com/california/story/2021-10-29/california-bullet-train-impacts-disadvantaged-communities-san-joaquin-valley

NSW Government Customer Service Commission, Impacts of new government infrastructure on small business Review Report, February 2019 accessed at https://www.treasury.nsw.gov.au/sites/default/files/2019-12/Impacts%20of%20new%20government%20infrastructure%20on%20small%20business%20review%20report%20-%20Final.pdf

Pearse, A (2021) How a tornado brought a South Auckland community together available fromhttps://www.nzherald.co.nz/nz/how-a-tornado-brought-south-aucklands-papatoetoe-community-together/Y2XKYNPFWVXSFARSDAEOL7QW7I/

Statistics New Zealand (accessed March-June 2022) 2018 New Zealand Census Place Summaries for the Community Profile available from https://www.stats.govt.nz/tools/2018-census-place-summaries/

Vanclay, F., Esteves, A.M., Aucamp, I. & Franks, D. 2015 Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. Fargo ND: International Association for Impact Assessment available from https://www.iaia.org/uploads/pdf/SIA_Guidance_Document_IAIA.pdf

Western Australia Government, Small Business Development Corporation, Supporting small business during works projects: A guide for local governments.