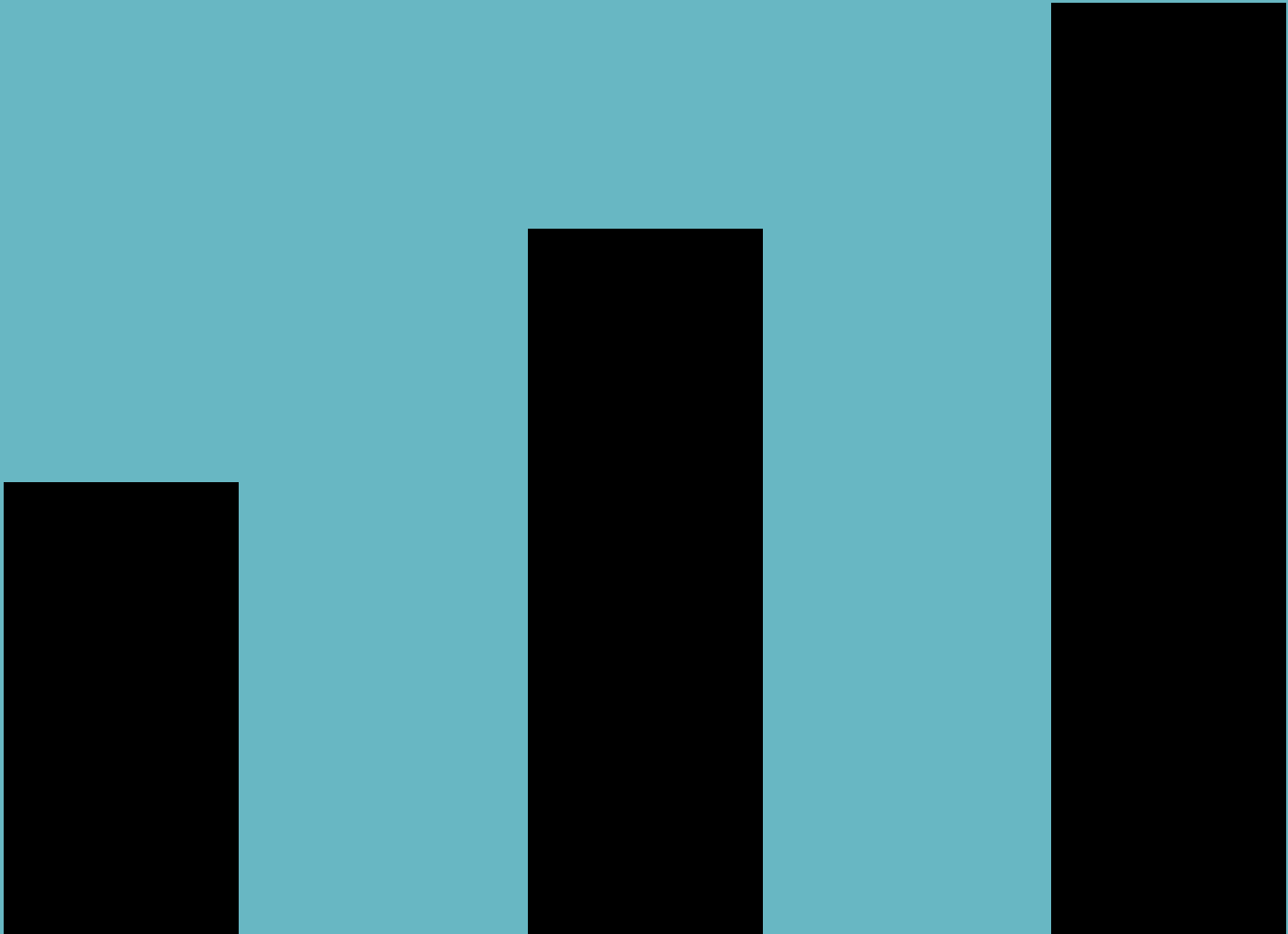


NTP Development Holdings Limited
Greenhouse Gas Emissions for Pound Road
Development, Christchurch
EAC20644



Document Control

Version	Date	Description	Prepared by	Reviewed by	Approved by
0.1	23/08/2024	Draft Report for Internal review	Paul Farrelly	George Gray	
1.0	23/08/2024	First issue to client	Paul Farrelly	George Gray	Paul Farrelly
2.0	29/06/2025	Final Report	Paul Farrelly	George Gray	George Gray

Project Information

Project info	Description
Name	Greenhouse Gas Emissions Advisory for Pound Road Industrial Development
Client	NTP Development Holdings Limited
Job #	EAC20644
File location	G:\Shared drives_EAC\Projects\In Progress\20644 NTP Holdings - Pound Road GHG Advisory

Disclaimer

The information contained in this document was produced by Lumen Ltd and is solely for the use of the Client identified on the cover sheet for the purpose for which it was prepared. Lumen Ltd undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

© Lumen 2025

Table of Contents

Executive Summary.....	5
Introduction.....	5
Planning Context.....	5
Overview of proposed development site and location.....	6
Key considerations/observations from an emissions perspective.....	8
Emissions from transportation	11
Employee Travel.....	11
Customer Travel	13
Recommendations and Opportunities.....	14
Concluding Comments.....	15
Appendix 1: Overview of greenhouse gases.....	16
Appendix 2: Greenhouse Gas Emissions Context	17

Glossary

Greenhouse Gas (GHG)	Greenhouse gases (GHG) are gases that influence the way in which the Earth's atmosphere traps heat. Increasing levels of GHGs in the atmosphere are causing the phenomenon of climate change .
Carbon Dioxide Equivalent (CO₂e)	A standard unit for measuring GHG Inventories. The impact of each different GHG is expressed in terms of the global warming potential (GWP) of one unit of carbon dioxide (CO ₂). Typically expressed in kilograms (kg CO ₂ -e) or tonnes (tCO ₂ -e).
Global Warming Potential (GWP)	<p>A measure of a gas's ability to cause radiative forcing in the atmosphere (or climate change) relative to the ability of CO₂.</p> <p>For example, methane has a GWP of 28, thus 1kg of methane emitted is 28 times more potent than 1kg of CO₂.</p>
Emission factor	A metric that converts a specific emission source - such as a litre of diesel - into terms of CO ₂ or CO ₂ -e.
Sequestration	The removal and storage of carbon dioxide from the atmosphere, for example by vegetation (forestry).
Biogenic methane	Biogenic methane is that which is produced by living organisms. In the climate change sense, this means emissions resulting from biological processes in the waste and agriculture sectors.
Upfront carbon emissions	Upfront carbon emissions are from material extraction, manufacturing, transportation to site, and construction (A1-5).
Operational carbon emissions	Operational carbon emissions occur during the use stage of an asset or building's life and are from the energy and other resources used when operating the asset/building (B6-7).
Net zero carbon	Net zero means achieving a balance between the greenhouse gas emissions produced by an entity (company, region or country) and those removed from the atmosphere (via sequestration).

Executive Summary

- 1 The proposed subdivision and industrial development of 60.4ha at the site located at corner of Pound Rd, south of Templeton Golf Course and opposite the Waterloo Business Park will contribute to a reduction in greenhouse gas emissions for the following reasons:
 - The site is strategically located near State Highway 1, State Highway 73, Christchurch International Airport, and Waterloo Business Park – collectively forming a major logistics and employment hub in the South Island. This location enables efficient freight movement and commuter access, minimising travel distances and associated GHG emissions.
 - The site is located near to an existing bus route (#5 Rolleston to New Brighton), and near a major cycleway (South Express). The subdivision layout provides direct access to both networks, enabling workers to commute by public transport or active modes, thereby reducing vehicle emissions.
 - The site is flat, with good ground conditions which means the amount of high carbon materials required in building foundations (such as concrete and steel) can be minimised, especially compared to sites in areas with liquefaction potential.
 - No reticulated LPG infrastructure will be provided for the site.
 - The Industrial General zoning provisions, which the proposal intends to adopt through conditions, allow for complementary services such as food and beverage outlets, ancillary retail, preschools, and gyms. The inclusion of these amenities within the development reduces the need for off-site travel during the workday, further supporting emissions reduction.

Introduction

- 2 This report provides a high-level assessment of greenhouse gas (GHG) emissions considerations, and recommendations, for the proposed subdivision and industrial development located at the corner of Pound Road, south of Templeton Golf Course and opposite the West of Waterloo Business Park, Christchurch.
- 3 The site is identified under Schedule 2 of the Fast Track Approvals Act 2024 as the Pound Road Industrial Development.

Planning Context

- 4 Under section 22 of the Fast-track Approvals Act 2024 (FTAA) for the purpose of defining the "regional or national benefit" of the project the Minister may consider whether the project will
 - (a) "increase the supply of housing, address housing needs, or contribute to a well-functioning urban environment (within the meaning of policy 1 of the National Policy Statement on Urban Development 2020)" (s 22(2)(iii)) and
 - (b) "support climate change mitigation, including the reduction or removal of greenhouse gas emissions" (s 22(2)(vii)).
- 5 Policy 1 of the National Policy Statement on Urban Development 2020 (NPS-UD) describes the attributes of "well-functioning urban environments", one of which is that, as a minimum, they "support reductions in greenhouse gas emissions".

- 6 My understanding is that Policy 1(e) was included in response to the Climate Change Response (Zero Carbon) Amendment Act 2019 to support achievement of New Zealand's GHG emissions targets¹ through the NPS-UD.
- 7 New industrial developments can achieve this in one or more of the following ways:
- Being well located to key transport corridors and logistics hubs;
 - Having good accessibility for workers and/ or visitors;
 - Through subdivision, site and building designs that support reductions in the overall GHG footprint by future occupants / end-users;
 - Through subdivision, site and building designs that minimise emissions associated with infrastructure development.

Overview of proposed development site and location

- 8 The site is located on the corner of Pound Road, south of Templeton Golf Course and is opposite (west of) Waterloo Business Park as shown in the figure below.

¹ Refer to Appendix 2 for further information regarding New Zealand's GHG targets



Figure 1: Location of the site

- 9 The site layout plan shows 74 allotments proposed for industrial development, ranging from 1,000m² up to approximately 4ha.
- 10 Footpaths are proposed on both sides of the roads internally to the site, and pedestrian access is proposed through the Stormwater basin at the southern corner to provide connectivity to the existing bus stop and cycleway on Waterloo Road.
- 11 Approximately 240 trees are proposed to be planted within the site along road corridors, as well as a 5m planted buffer the entire Barter's Rd frontage of the site.

- 12 The centre of the site is approximately 1km from the centre of Waterloo Business Park, about 2.5km to the Templeton residential area and approximately 2.5km to the residential area of Hornby.
- 13 The site is located close to the developing industrial areas of Waterloo Business Park and the Hornby Quadrant.
- 14 The site provides good access to State Highway 1 and State Highway 73, as well as Christchurch International Airport.

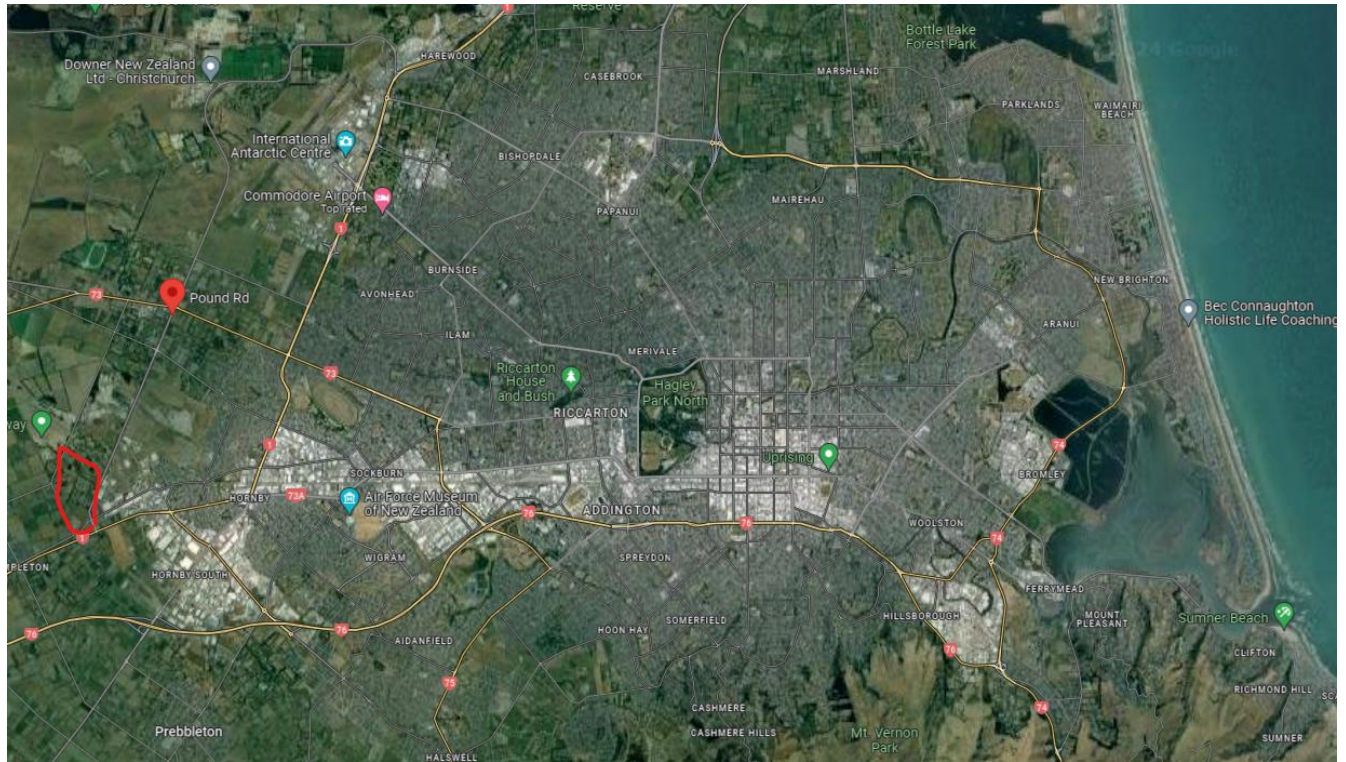


Figure 2: Location of the site, in terms of the Christchurch metro area.

Key considerations/observations from an emissions perspective

- 15 Like any new commercial development, GHG emissions will be emitted during different stages of the project:
 - Construction of the infrastructure required to support the development;
 - Construction of the buildings; and
 - Emissions arising from the operations of the businesses based in the buildings – primarily energy usage.
- 16 Emissions will also arise from travel associated with the businesses that choose to locate in the development – via:
 - Commuting of employees who work at the premises;
 - Travel of customers to and from the sites; and

- The transportation of goods (inbound and outbound) to the premises.
- 17 This subdivision has been designed with features intended to help limit upfront emissions generated during the construction stage, such as:
- A compact and efficient layout that limits infrastructure per lot
 - Use of existing roads to access the site, reducing the need for new external road construction
 - A flat site, minimising earthworks and associated fossil fuel use.
- 18 Additionally;
- The geotechnical report (prepared by KGA and attached as part of the application) has shown high bearing capacity soils underly the topsoil. This will assist in reducing pavement and foundation depths and lowering the amount of imported roading material.
 - Underlying soils are gravel dominant, therefore crushing existing on-site material for use as road metals is possible. Material will be able to be reused for trench backfilling, further limiting the amount of imported material required.
 - The site is geographically close to several quarries; this will assist in limiting trucking distances for imported materials.
 - The site is located within approximately 3.5km of two of major drainage manufacturers (Hynds & Humes) material yards, reducing trucking distances.
 - Groundwater levels on the site are deep (13-15m bgl as set out in the KGA Geotech report) and therefore dewatering for the installation of drainage infrastructure is not expected to be required. This reduces the need for running additional construction machinery and diesel pumps on-site.
 - Underlying soils support soakage to ground of stormwater. This reduces the amount of manufactured stormwater infrastructure required within the development.
 - Local pressure sewer is proposed to service the development. This results in the use of smaller infrastructure (I suspect less manufacturing emissions), less excavation and less importing of drainage metals.
- 19 The second major component of upfront carbon is the emissions associated with materials that are used in the build.
- Examples of high carbon materials are concrete and steel, compared to timber which has comparatively low carbon emissions.
 - There are two main ways of reducing the upfront carbon emissions generated at the product stage in a commercial property: 1) construct the building using lower-carbon materials, 2) reduce the size of the building.
- 20 To minimise these emissions, the developer could encourage or enable the use of lower-carbon materials through design guidelines, promote efficient building footprints that avoid overbuilding,

and consider requiring or recommending embodied carbon assessments² as part of future site development processes.

- 21 When it comes to operational carbon emissions from energy use, the type of activity that the tenant undertakes will largely dictate this.
- 22 The main factors influencing energy emissions are 1) how energy efficient a building is, 2) the type of energy that is used in the building (electricity, LPG), 3) the size of the building and 4) the use of on-site renewables (e.g. solar PV).
- 23 Energy usage emissions can be minimised by encouraging³ energy efficient buildings to be developed.
- 24 No reticulated LPG infrastructure will be provided as part of the subdivision, helping avoid locking into fossil fuel-based heating and reducing long-term operational emissions.
- 25 The site is well suited to solar, as it is a flat site, free of obstructions and unlikely to be built out in the future. The developer could encourage tenants to install solar by way of design guidelines and covenants, including requirements around building orientation and roof design.
- 26 New industrial buildings present a significant opportunity to reduce operational energy use compared to older developments. This is due to the ability to incorporate improved building materials, install energy-efficient lighting and insulation (where appropriate), and orient buildings to maximise solar potential.
- 27 In addition, future buildings can be designed with appropriate electrical infrastructure to support technologies such as rooftop solar and electric vehicle charging. While the developer does not control individual building design, these outcomes can be encouraged through subdivision-level design guidelines and covenants that support energy-efficient and low-emissions development.
- 28 The site is located in proximity to Transpower's Islington Grid Exit Point (GXP), a major electricity substation.
- 29 Therefore, electrical lines losses can be expected to be low. Lines losses refer to the electricity that is lost in the transmission and distribution of electricity from its point of generation to where it is used. Lines losses directly contribute to emissions because a greater amount of electricity must be generated if lines losses are higher. Losses are generally a function of the distance of a user's premises to the high voltage network (i.e. a substation), and this site compares well in this regard.
- 30 The National environmental standards for greenhouse gases from industrial process heat⁴ are also relevant in terms of energy use. This standard requires that:
 - New coal boilers that deliver heat < 300C are prohibited
 - Resource consent is required for any new fossil fuel boilers that emit 500 tonnes and above of CO₂-e per year, per site.

² Embodied carbon assessments include upfront, in-use stage and end of life stage emissions (A1-5, B1-5, C1-4) but exclude operational carbon (B6-7).

³ Rules mandating such requirements are not proposed, however they can be readily encouraged or promoted by the land developer and/or commercial developers.

⁴ <https://environment.govt.nz/acts-and-regulations/national-policy-statements/national-policy-statement-for-greenhouse-gas-emissions-from-industrial-process-heat/>

- An emissions (reduction) plan must be developed and included with the resource consent application.

- 31 This means that any business planning to operate a fossil fuel boiler on the site that emits more than 500 tonnes of CO₂-e per year must obtain specific consent.
- 32 However, given the types of uses provided for under the General Industrial zoning (the framework of which will be adopted as conditions), and the subdivision's location, industries requiring high-temperature fossil-fuel-based process heat are unlikely to locate here.
- 33 Taken together, these factors indicate that operational energy emissions associated with the development are likely to be relatively low – particularly where tenants adopt energy-efficient building practices and make use of on-site renewables.

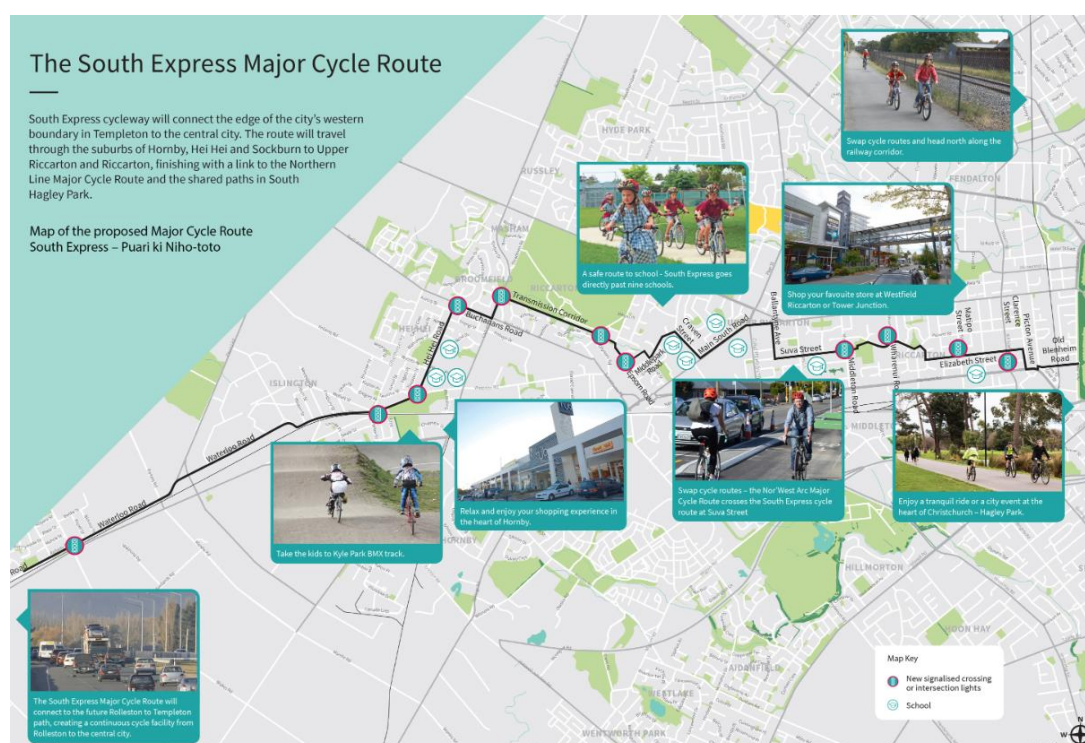
Emissions from transportation

- 34 Emissions from transportation are a function of mode of transport (i.e. vehicle type), distance travelled, and frequency of travel.
- 35 Emissions from transportation primarily arise from trips undertaken in vehicles that use fossil fuels.
- 36 When considering trips to and from an industrial property this will include trips that are undertaken in passenger vehicles (by staff and customers), any trips to and from the site undertaken in commercial vehicles, particularly trucks, and the use of machinery (such as forklifts) for day-to-day operations.
- 37 The need for commercial vehicles on site (such as forklifts) is not unique to the development proposed and would occur regardless of the location of the development.
- 38 However, the fact that the site is likely to have adequate electrical capacity means that there could be expected to be a faster uptake of electric commercial vehicles at this site compared to sites that are electrically constrained (for instance sites in metro areas are often electrically constrained).
- 39 The proposed industrial subdivision will 'adopt' the provisions of the Industrial General zone, of which includes provisions that permit a range of complementary activities, including food and beverage outlets, ancillary retail, gyms, and preschools.
- 40 The developer has indicated a willingness to accommodate these types of services within the site. The inclusion of such amenities within the development can support reduced greenhouse gas emissions by minimising the need for workers to travel off-site to access everyday services. By enabling convenient, walkable access to essential services, the plan promotes a more self-contained employment environment.
- 41 Given the likely nature of businesses that will operate on this site, it is reasonable to expect that the movement of freight to and from the development will be a significant contributor to transport emissions. Freight movement is discussed in more detail below.

Employee Travel

- 42 It is difficult to accurately model or predict the level of travel-related emissions that will arise from employee travel to a proposed development, as we don't know where the staff may reside, nor how they may travel to their workplace.

- 43 However, the site location has some positive attributes that should be expected to result in at least some employees opting to use public transport or cycle to work. Specifically:
- The #5 Rolleston/New Brighton bus service currently runs along Waterloo Road, with a stop located in the Waterloo Business Park, close to Islington Avenue. This bus runs reasonably frequently (every 30 minutes or so).
 - Pedestrian access is planned through the site to facilitate an accessible and direct connection to the existing bus stop at the Waterloo Business Park.
- 44 The nearest residential areas are about 2- 2.5km from the site (Templeton and Islington/West Hornby). This is a distance that could be easily cycled, so some employees could travel by active mode to access their workplace, if they chose to.
- 45 The South Express major cycleway – which runs from Templeton to the central city along Waterloo Road – already connects the central city to the Matatiki Centre in Hornby, with full completion budgeted for mid-2028. In addition, a painted on-road cycle lane currently runs through Waterloo Business Park and past the proposed site. This means cyclists can already travel between the site and the central city via dedicated or partially separated cycling infrastructure for the entire route.



- 46 The planned connection to this cycleway from the site would support workers to travel to the site using active travel modes.
- 47 In all likelihood though, most employee travel to the site is likely to be by private vehicle.
- 48 Over the lifetime of the development, an increasing proportion of passenger trips will be undertaken in electric vehicles (EVs), which have around 90% lower emissions (per km) than equivalent internal combustion engine vehicles. Given this, sufficient EV charging infrastructure at the site should be developed to support employees to use EVs.

Customer Travel

- 49 The nature of the development, being primarily industrial, means that the volume of customers to the site should be low compared to the volume of staff and contractors. Hence, the emissions from customer travel can probably be considered negligible., albeit this travel will most likely be by private vehicle.
- 50 Ensuring that sites provide EV charging facilities for customers could help to reduce these emissions.

Freight

- 51 The site is located close to State Highway 1 and Christchurch International Airport, which could reduce transportation emissions for goods and services, both in and outbound.
- 52 Being near these transport hubs minimises the distance that goods need to travel, potentially reducing GHG emissions associated with logistics.
- 53 The site's strategic location near State Highway 1 (providing excellent access both North and South) and State Highway 73 (Westward access) positions it as an ideal hub for freight transportation. This proximity can reduce transportation emissions by shortening travel distances for goods and services, both inbound and outbound.
- 54 The development site's location is further reinforced by its alignment with the proposed Greater Christchurch Mass Rapid Transit (MRT) corridor, which aims to connect Hornby and Belfast via the city centre.
- 55 The MRT corridor forms a central component of the Greater Christchurch Spatial Plan, which anticipates a population of 700,000 by 2050 and supports growth along transit corridors to reduce transport-related emissions.
- 56 The Pound Road site sits within this broader spatial framework and benefits from proximity to freight corridors identified in regional planning documents, supporting efficient access to SH1 and SH73.
- 57 This alignment reduces travel distances and congestion, which helps lower GHG emissions associated with logistics.
- 58 The development's strategic location therefore enhances operational logistics efficiency while supporting long-term emissions reduction goals, in alignment with national urban growth and transport strategies, including the Greater Christchurch Spatial Plan as recently endorsed in the 30-Year Infrastructure Plan.⁵

⁵ <https://www.newsline.ccc.govt.nz/news/story/mass-rapid-transit-earns-national-nod>

Recommendations and Opportunities

- 59 In additional to having a favourable location from a GHG perspective, this development incorporates several committed measures that support lower greenhouse gas (GHG). In addition, there are several further opportunities for reducing emissions that, while not part of the subdivision plan, could be voluntarily adopted by future residents, builders, or businesses.

Measures committed to as part of the subdivision include the following:

- Enablement of on-site amenities to reduce travel: The subdivision design provides for the potential inclusion of commercial services (e.g. retail or food outlets) that could meet some of the day-to-day needs of workers. While not delivered directly by the developer, this planning provision enables future businesses to establish such services, which could help reduce vehicle trips and associated GHG emissions.
- Support for active and public transport access: The subdivision provides for connections to the local bus network and the South Express cycleway along Waterloo Road, supporting mode shift away from car dependency. In addition, footpaths will be established on both sides of internal roads, enabling safe and convenient pedestrian movement throughout the site.
- Prohibition of reticulated LPG around the site, reducing the lock-in of fossil fuel infrastructure.
- Extensive tree planting – Implementing extensive tree planting throughout the development. This includes planting along the golf course boundary to soften its unusual geometry, creating a reserve area (including the stormwater management area) with integrated greenery, and adding street trees along road corridors.

Additional Opportunities for Emissions Reduction:

- 60 While not proposed as part of this subdivision, the following actions could be encouraged by the developer which would further support emissions reduction if voluntarily adopted:

- Energy-efficient building design: Encourage new industrial buildings to integrate energy-efficient designs and materials from the outset (e.g. high-quality insulation, passive solar orientation, and efficient HVAC systems). This reduces operational energy use and associated emissions.
- Solar energy integration: Incorporate on-site renewable energy generation such as solar panels. For example, carpark structures could be topped with solar panels, a minimum capacity of rooftop solar could be required on large buildings, and even ground-mounted solar arrays could be installed in available open spaces.
- Battery storage facilities: Allow and promote commercial-scale battery storage on-site as a permitted activity. This would enable storage of excess solar energy and enhance the use of renewable power, further reducing dependence on the grid during peak times.
- Minimise use of high carbon materials where practicable: The developer can reduce GHG emissions by designing the subdivision to use lower-carbon materials (such as low-emission concrete mixes or recycled aggregates) where feasible.
- EV charging infrastructure: Provide robust electric vehicle (EV) charging infrastructure across the development. This supports New Zealand's Second Emissions Reduction Plan (ERP2) target of 10,000 public chargers. By ensuring future tenants have access to EV chargers on-site, the development encourages cleaner vehicle use in line with national targets.

- Design guidelines for EV readiness: Incorporate requirements in the design guidelines so that each individual site or facility includes EV charging stations. For instance, mandate a certain number of EV charging points in parking areas and consider placing chargers near any on-site food & beverage or retail centres, as well as in public reserve areas, to maximize convenience and usage.
- Advanced waste management: Design guidelines can include provisions that encourage future occupants to implement recycling and organic waste separation systems. This may include ensuring adequate space and infrastructure for separated waste streams and aligning with available collection services.

Concluding Comments

- 61 For the reasons set out in this document, I conclude that the proposed development will support a reduction in greenhouse gas emissions and does not result in significant adverse effects in this context.
- 62 The site supports a reduction in greenhouse gas emissions for the following reasons:
- The site is strategically located near State Highway 1, State Highway 73, Christchurch International Airport, and Waterloo Business Park – collectively forming a major logistics and employment hub in the South Island. This location enables efficient freight movement and commuter access, minimising travel distances and associated GHG emissions.
 - The site is located near to an existing bus route (#5 Rolleston to New Brighton), and near a major cycleway (South Express). The subdivision layout provides direct access to both networks, enabling workers to commute by public transport or active modes, thereby reducing vehicle emissions.
 - The site is flat, with good ground conditions which means the amount of high carbon materials required in building foundations (such as concrete and steel) is minimised, especially compared to sites in areas with liquefaction potential.
 - No reticulated LPG infrastructure will be provided for the site.
 - The zoning provisions, which the proposal intends to adopt, allow for complementary services such as food and beverage outlets, ancillary retail, preschools, and gyms. The inclusion of these amenities within the development reduces the need for off-site travel during the workday, further supporting emissions reduction.

Appendix 1: Overview of greenhouse gases

- 63 There are several gases that contribute to the problem of global warming, the most prevalent of these being carbon dioxide (CO₂), methane and nitrous oxide.
- 64 Each of these gases has differing abilities to trap extra heat in the atmosphere, and it is the trapping of this heat that leads to global warming.
- 65 When evaluating GHG emissions, it is useful to have a common measure to allow comparisons between gases.
- 66 As CO₂ is by far the most prevalent of the GHGs, it is standard practice when measuring emissions to determine the level of each gas emitted, and then convert these emissions into their carbon dioxide equivalent, or CO₂-e.
- 67 The global warming potential (GWP) of a gas is a measure of its ability to trap extra heat in the atmosphere over time relative to CO₂. This is most often calculated over a 100-year period and is known as the 100-year GWP.
- 68 The GWP of CO₂ is 1.

Appendix 2: Greenhouse Gas Emissions Context

- 69 The Paris Agreement is an international treaty on, adopted by 197 countries in 2015, including New Zealand.
- 70 Its overarching goal is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels.
- 71 It requires countries to commit to interim emissions reduction targets (to 2030) with the aim to ultimately become net zero. Most developed countries have set a target to be net zero by 2050.
- 72 In response, the New Zealand government passed the Climate Change Response (Zero Carbon) Act in late 2019. This act does four key things:
- Sets a series of emissions targets for New Zealand:
 - (a) Net zero emissions for all GHGs (excluding biogenic methane) by 2050.
 - (b) A 24-47% reduction in biogenic methane by 2050.
 - (c) A 10% reduction in biogenic methane emissions by 2030.
 - Establishes a system of 5-year emissions budgets to act as stepping stones towards the long-term 2050 target.
 - Requires the Government to develop and implement policies for climate change adaptation and mitigation.
 - Establishes a new, independent Climate Change Commission to provide expert advice and monitoring to help keep successive governments on track to meeting long-term goals.
- 73 The Interim Committee was superseded and replaced by the independent Climate Change Commission (The Commission) in November 2019.
- 74 In May 2021 they produced a comprehensive report providing advice on how NZ should go about achieving emissions reductions: *Ināia tonu nei: a low emissions future for Aotearoa*⁶ report (June 2021). The report and associated documentation included:
- A comprehensive report detailing recommendations for how NZ should best go about achieving emissions reductions.
 - The development of a “demonstration pathway” that details the Commission’s core scenario/model for developing its recommended emissions budgets.
 - Recommended net emissions budgets for the periods 2022-25, 2026-2030 and 2031-2035.
- 75 Key strategies for achieving the reduction targets, relevant to an urban context include the following:
- increasing the mix of renewables in our electricity generation network;

⁶<https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa>

- conversion of fossil fuelled industrial, manufacturing, and process heat to low emissions energy (electricity or biomass);
- electrification of our vehicle fleet;
- increasing the proportion of (personal) travel undertaken using active travel modes and public transport;
- reducing freight emissions; and
- minimising organic waste.

76 Drawing on this advice, the NZ Government then developed and released a comprehensive Emissions Reduction Plan (ERP)⁷, on 16th May 2022.

- The plan confirmed emissions budgets (total net national emissions) for the budget periods 2022-25, 2026-2030 and 2031-35
- There were only minor differences between the Commissions' recommended budgets and those confirmed by government.

77 This first emissions reduction plan referred to the need for planning and investment in infrastructure to support emissions reductions, as follows (at page 131):

Transport - In our urban areas - where most people live - planning that supports low-emissions urban form - the shape, size, density and configuration of settlements - through more mixed-use, medium- and high-density development close to urban centres creates more accessible, healthy, resilient and vibrant towns and cities.

78 In April 2023, the Commission released an updated demonstration pathway, aligned with the confirmed ERP budgets.

79 In November 2023, the Climate Change Commission provided advice on the direction of policy for the incoming Government's second emissions reduction plan (2026-2030).

80 This advice contained a set of 27 recommendations.

81 The National-led government confirmed that emissions budgets will remain as is for the first three emissions budget periods.

82 This was reiterated in the release of New Zealand's Second Emissions Reduction Plan (ERP2)⁸, in December 2024. This plan now supersedes the first ERP.

83 The second emissions plan allows for higher gross emissions than the first plan, with more emphasis on reducing "net" emissions than "gross" emissions. The new plan has a greater reliance on new technology (particularly in Agriculture) and carbon removals (via carbon capture, utilisation and storage (CCUS)) compared to the initial plan.

⁷<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/>

⁸ <https://environment.govt.nz/publications/new-zealands-second-emissions-reduction-plan/>

- 84 However, there are several key strategies for reducing gross emissions within the second emissions reduction plan, with relevance to urban areas. These include the following:
- Increasing renewable energy by reducing the consenting burden through Electrify NZ
 - Targeting 10,000 public EV chargers by 2030
 - Investing in resource recovery through the Waste Minimisation Fund
 - Improving organic waste and landfill gas capture
 - Supporting public transport in our main cities
 - Enabling heavy vehicle decarbonisation.