



ATTACHMENT 5

Economic Assessment Summary

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Southern Link Logistics Park

Economic Assessment Summary Report

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Southern Link Logistics Park

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Contents

1	INTRODUCTION.....	1
1.1	SCOPE AND DATA SOURCES.....	1
2	PROPOSED MOSGIEL LOGISTICS PARK.....	2
2.1	THE SITE.....	3
2.2	THE FACILITY.....	4
3	DIRECT EFFECTS/OPPORTUNITIES.....	6
3.1	SHORT TERM CONSTRUCTION IMPACTS.....	6
3.2	CONSOLIDATION OF PORT OTAGO'S CONTAINER OPERATIONS.....	8
3.3	CONSOLIDATION OF ICON'S CONTAINER OPERATIONS.....	9
3.4	LONG TERM EMPLOYMENT IMPACTS.....	11
3.5	IMPORT/EXPORT SUPPLY CHAIN BENEFITS.....	12
3.6	TOTAL INITIAL MODE SHIFT EXPECTED.....	17
4	KEY FINDINGS AND CONCLUSIONS.....	20
4.1	ECONOMIC BENEFITS.....	20
4.2	ECONOMIC COSTS.....	23
4.3	OVERALL CONCLUSIONS.....	23



1 Introduction

Savvy Consulting Limited (“Savvy”) has been contracted to deliver an economic assessment of the proposed Southern Link Logistics Park (Inland Port) in Mosgiel, Dunedin City (herein referred to as the “the Logistics Park”). The purpose of this assessment is to examine how, and in what ways, the proposed Logistics Park could transform Dunedin’s transport, logistics and supply chain infrastructure to enable improved economic performance of the container logistics sector and support significant economic benefits for Otago Region, as well as for importers and exporters across the southern South Island.

Specifically, it considers how a substantial shift in the remaining export container freight (not already railed), and nearly all import container freight, from road to rail within Dunedin City would increase the economic efficiency of several industry sectors and Port Otago’s container operations – improving productivity and increasing the resilience of southern South Island export and import supply chains. It also considers the other positive economic outcomes that may be indirectly unlocked by the proposed Logistics Park.

This document is a summary version of the full economic assessment report.

1.1 Scope and Data Sources

The scope of the assessment is primarily focussed on container related freight activity (imports and exports) via Port Chalmers as this is the main role of the proposed Logistics Park. Icon Logistics has the largest market share of the Dunedin container logistics sector after Port Otago, so together with Port Otago, the assessment provides a comprehensive, although not complete picture of truck-based container freight activity in the study area.

Even when focussing on just the operations of Port Otago and Icon Logistics, the customer supply chains are complex and difficult to portray in their entirety and in combination. Quantifying all truck-based freight movements is challenging. A case-study approach has been used to help identify and measure the economic changes enabled by the proposed Logistics Park. The assessment draws on a range of primary and secondary data sources and literature. Savvy has worked closely with Port Otago,¹ Icon Logistics,² and Dynes Transport Group³ to collate relevant business, operational and customer data.

¹ Interviews/correspondence with Kevin Winders (Chief Executive), and Kevin Kearney (Strategics Projects Manager).

² Interviews and correspondence with Mark McGregor (Chief Operating Officer).

³ Interviews and correspondence with Peter Dynes (Managing Director of Dynes Transport Group)



2 Proposed Mosgiel Logistics Park

The proposed Logistics Park is a strategic response to the current operational constraints faced by Port Otago and Icon Logistics (and the Dunedin container-related 3PL⁴ sector generally) as well as anticipated future challenges and opportunities.

Those current operational constraints include (but are not limited to):

- The container terminal at Port Chalmers has reached near its capacity, with adverse impacts on productivity within the terminal increasing. Growing demand for trans-shipped containers is also reducing capacity for export containers.
- The land (including existing reclaimed land) available at Port Chalmers is narrow in shape which restricts the container terminal's scale and operational use. Further reclamation in the coastal marine area is not possible.
- Empty container imports (which are critical for the export dominated port) congest the wharves and storing and servicing empty containers at Port Chalmers takes up space better used for full containers.
- Global shipping schedule reliability has decreased significantly and now averages around 65% (2024) arriving on time. Delays in ship arrivals requires ports to have much greater export container terminal storage capacity (referred to as buffering capacity). The container terminal at Port Chalmers has no meaningful buffering capacity. When the terminal is full with the next voyage's export loadings, the gates to the port are sometimes closed, preventing any receipt of export containers, which has ramifications back through the supply chain and causes leakage of activity to other ports.
- The lease on Port Otago's container depot⁵ in central Dunedin (Strathallan Street) terminates in 2030 with no right of renewal. The Ravensbourne depot is a temporary site providing additional capacity for empty serviced container storage but is wholly truck dependent and faces several access constraints.
- All of Icon's current (and dispersed) warehouses are constrained in some way. The absence of rail sidings/rail access is the key constraint, which requires all container related services to be provided by truck. This limits the efficiency and productivity of

⁴ Third Party Logistics. Refers to companies that provide an integrated freight, warehousing, storage, packing/unpacking and customs/quarantine service to exporters or importers.

⁵ Storage area for empty containers. Also, a location where container servicing occurs.



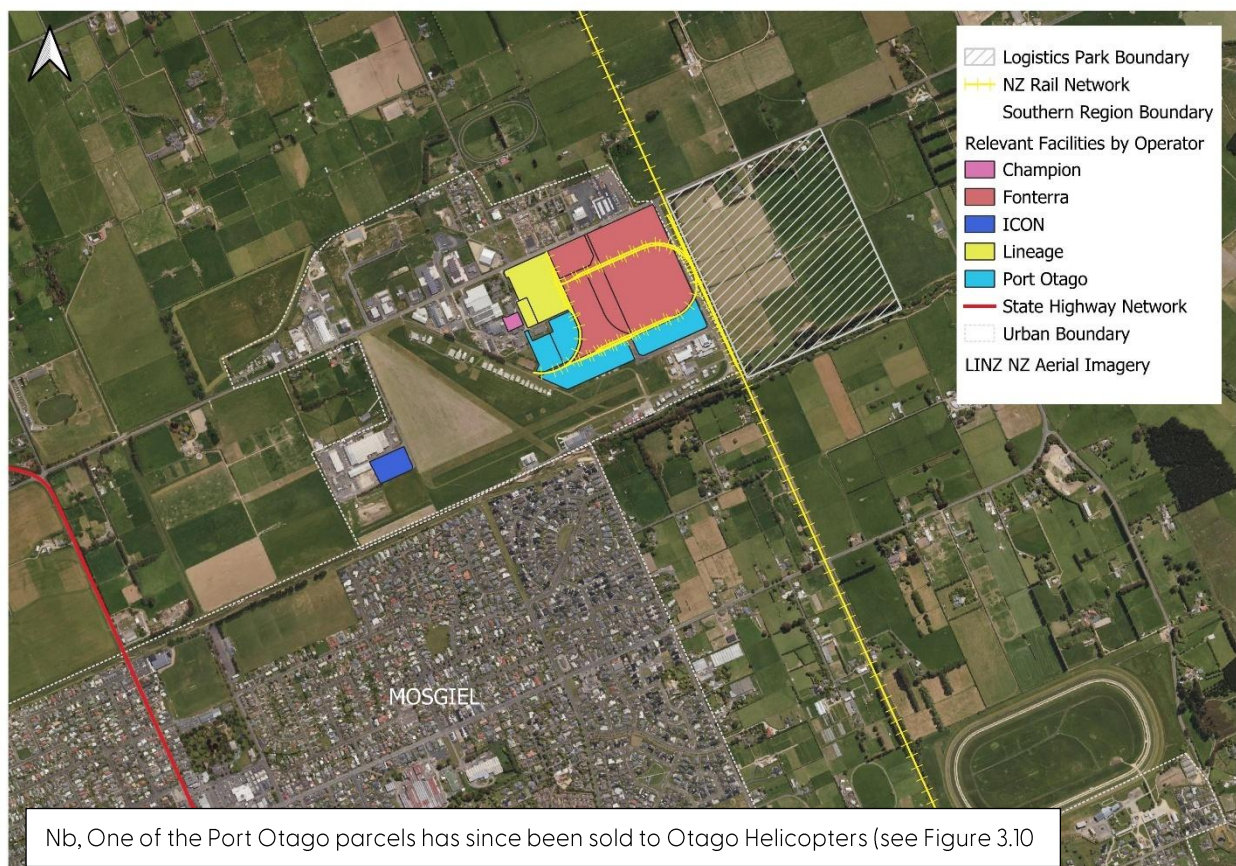
transport services provided to import and export customers, particularly between the edge of the main Dunedin urban area and Port Chalmers. Total reliance on State Highway 88 also means that Icon's road-based services are exposed to natural hazard risk (particularly slips that close the State Highway on occasion).

The aim of the proposed Logistics Park is to secure a sustainable growth future for the Dunedin container logistics sector, maximise the efficiency of existing port and rail infrastructure assets, improve the competitiveness of Port Otago (noting that most major ports already have one or more inland ports), improve the productivity and resilience of import and export supply chains in the southern South Island, help support a low carbon economy in Dunedin City, and facilitate economic growth in Otago Region.

2.1 The Site

The proposed site of the Logistics Park is a 40ha rural property on the corner of Dukes and Stedman Roads, adjoining Mosgiel's industrial zone, and opposite Fonterra's Taieri Distribution Centre (Figure 2.1). The scale of the site is expected to provide a 50 year supply chain solution.

Figure 2.1 – Aerial Image of Proposed Southern Link Logistics Park Site, Mosgiel



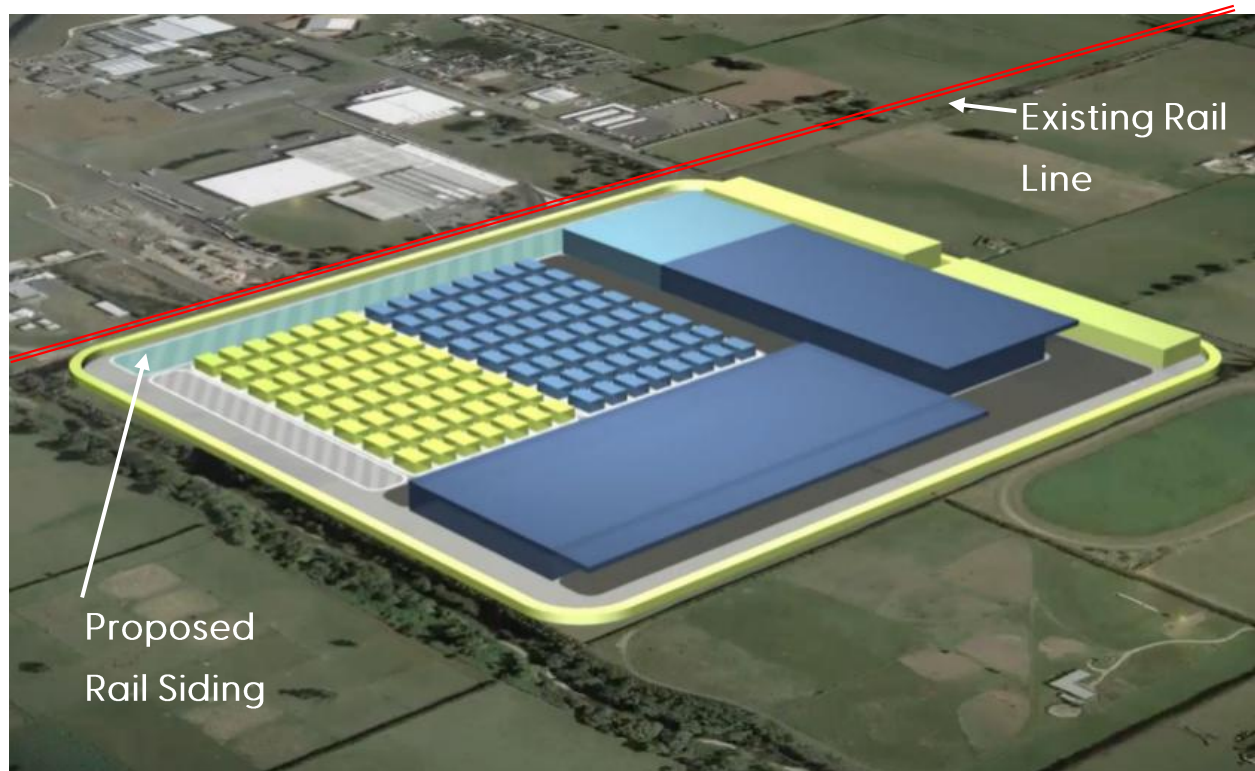


A key benefit of the site is that there are currently only rural land uses on three sides, which means that any further expansion of the site in the long term would not be constrained (other considerations notwithstanding).

2.2 The Facility

Detail on the proposed Logistic Park can be found on a dedicated [website](#). However, the following provides a brief summary of key features of the proposed facility, with reference to Figure 2.2.

Figure 2.2 – Proposed Development – Southern Link Logistics Park



- Five-hectare container terminal for storage of full import and export containers (including plugin services for reefer containers). This would provide capacity for up to 1,000 TEU.
- Four-hectare container depot for maintenance and upgrade of empty containers. While this is a reduction in the combined size of Strathallan and Ravensbourne Depots which the Logistics Park will replace, the shape and rail access of this new depot means that it is significantly more efficient and can store up to 3,100 TEUs from the outset with potential to grow to 4,500 TEU+.



- Around 20,000sqm of initial warehousing configured to 2,500 – 15,000sqm per customer⁶. 11,500sqm delivered first to consolidate Icon's existing diary export customers. Capacity to provide for ambient, chilled, and frozen storage. Buildings equipped with solar panels and sufficient stud height to maximise pallet stacking capacity (five-pallet high). Potential to further increase warehousing up to 40,000sqm-80,000sqm on site as further stages of development.
- Break bulk storage facility for assembly and construction of non-containerised products.
- Truck servicing area including hydrogen fuel depot (future stage), truck & and fork hoist maintenance facility. Over time, the aim is for all containerised and bulk cargo equipment to be powered by renewable energy.
- The site will be MPI and customs-compliant for imports and exports, including the potential for a free trade zone to be developed.

⁶ It is noted that because these warehouses will be purpose built, they are optimised for their intended use, requiring less overall space than the current configurations to achieve the same throughput.



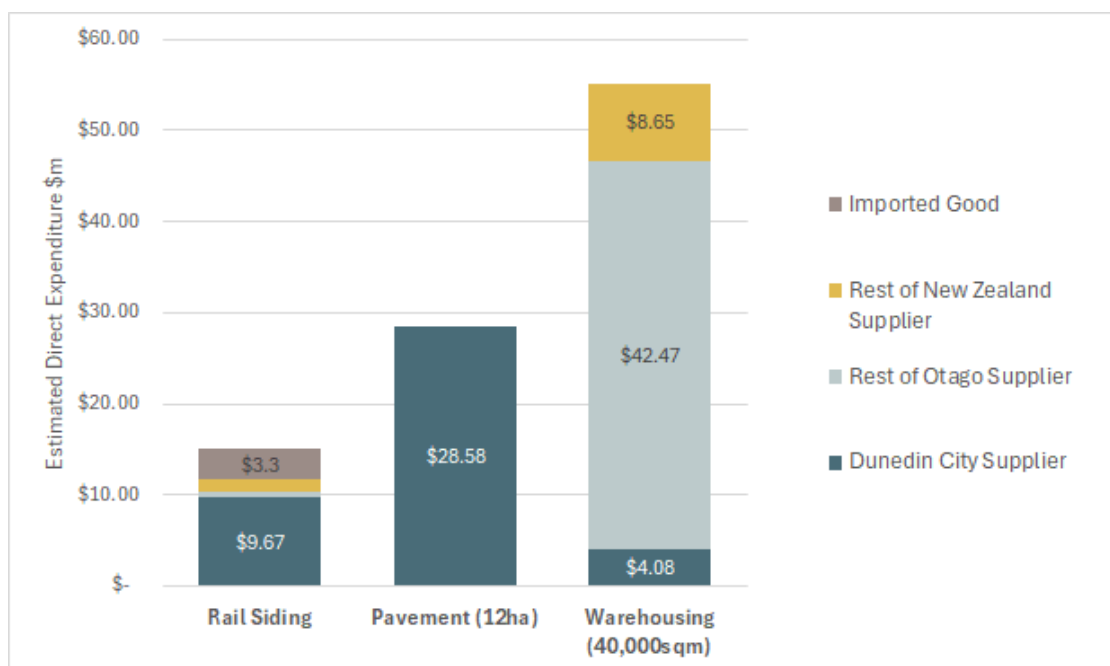
3 Direct Effects/Opportunities

This section discusses the direct positive economic impacts arising from the proposed Logistics Park – for Port Otago’s container operations, the Dunedin container related logistics sector, exporters and importers in the Southern Region, and for the wider Dunedin City community.

3.1 Short Term Construction Impacts

Estimated construction costs for the facility have been supplied to Savvy that cover the rail siding, pavement area for the terminal/depot and bulk storage, and the progressive development of 40,000sqm of warehousing. While this does not cover all costs associated with development of the site and facility (i.e., it does not cover some infrastructure services costs, office construction, fit out, new heavy machinery/equipment purchase or future stages of warehousing), these three components account for the main initial construction costs.

Figure 3.1 – Direct Construction Expenditure (2024 Pricing) by Component and Location



The construction of those components will generate an estimated \$99 million in direct expenditure in the New Zealand economy, with the 40,000sqm of warehousing accounting for 56% of that total (at just over \$55 million). The pavement construction accounts for 29% of the total (just under \$29 million), followed by the rail siding (15% and \$15 million) (Figure 3.1). A



significant share (87% on average) of the direct expenditure (gross output) impact will accrue to Otago Region (just over \$86 million).

Table 3.1 summarises the total direct, indirect and induced (flow-on) GDP and employment impacts sustained throughout the New Zealand economy by the construction of key components of the proposed Logistics Park. The direct expenditure with New Zealand based good and services providers is estimated to stimulate \$79.4 million in total GDP, including \$71.5 million of GDP in Otago Region.

In employment terms, the direct expenditure with New Zealand based good and services providers for the construction period is estimated to sustain 613 FTE jobs, including 551 FTE jobs in Otago Region. This employment (and GDP) impact is spread over a broad range of industries (not limited to the construction sector).

These short term construction impacts would make a valuable contribution to the Dunedin and Otago economy including by sustaining employment. In absolute terms, the construction impacts are considered significant as it would be a large construction project in the context of the Dunedin economy. The construction of the facility is just the start of the long term economic benefits that the facility enables once operational.

Table 3.1 – Direct, Indirect and Induced Economic Impacts of Constructing the Southern Link Logistics Park (Main Components Only)

	Rail Siding	Pavement	Warehousing*	Total Construction
Gross Domestic Product (GDP) \$2020 millions				
Dunedin City	\$ 8.3	\$ 25.1	\$ 3.3	\$ 36.8
Rest of Otago Region	\$ 0.6	\$ -	\$ 34.1	\$ 34.7
Total Otago Region	\$ 8.9	\$ 25.1	\$ 37.4	\$ 71.5
Rest of New Zealand	\$ 1.1	\$ -	\$ 6.8	\$ 7.9
Total New Zealand	\$ 10.0	\$ 25.1	\$ 44.2	\$ 79.4
Total Employment (FTEs) 2020 Equivalents				
Dunedin City	62	192	26	280
Rest of Otago Region	5	-	266	271
Total Otago Region	67	192	293	551
Rest of New Zealand	8	-	53	62
Total New Zealand	75	192	346	613

Source: Port Otago, Savvy. National multipliers supplied by Insight Economics.

* Warehousing GFA is based on 40,000sqm developed over a number of stages. This may be conservative, with potential for 80,000sqm of warehousing feasible on site if there is sufficient demand.



3.2 Consolidation of Port Otago's Container Operations

If approved, the proposed Logistics Park will enable the following key changes in Port Otago's container operations. These are the direct impacts or opportunities provided by the Logistics Park, which has been strategically planned to address the Port's current and future operational constraints and achieve optimal container trade operations.

- Closure and relocation of the Strathallan Depot to the site – noting that the lease expires in 2030.
- Closure and relocation of the Ravensbourne Depot to the site.
- 30-40% of empty dry/ambient container processing at the Port Chalmers Depots will relocate to the site (transported by rail).⁷
- Non-Fonterra warehousing (and associated logistics services) will relocate from Port Chalmers to the site (with surplus warehousing space removed). Export containers will be railed to Port Chalmers once packed.
- Port Otago will direct all full export containers (packed by other 3PL service providers) to arrive by rail, via the Logistics Park (to the extent practical).
- Port Otago will rail all full imported containers to the Park and direct all full imported containers (destined for 3PL service providers for de-vanning) to be collected from the Logistics Park instead of Port Chalmers.
- Port Otago will direct 3PL service providers in Dunedin to return all empty containers to the Logistics Park (avoiding returns to Port Chalmers).⁸

The direct benefits of consolidating these Port Otago activities at the Logistics Park, and the significant mode shift from truck to rail associated with those changes, include:

- Release of high value port land that will allow for increased full container storage capacity at the Port Chalmers container terminal. Land at Port Chalmers is indicatively valued at \$1,500/sqm.⁹ Industrial zoned land in Dunedin central is currently priced between \$600-700/sqm. In Mosgiel, it is priced \$300/sqm. Mosgiel is the more cost-

⁷ Reefer container servicing and storage will remain at Port Chalmers.

⁸ Alternatively, some 3PL service providers may be able to return empty containers to Icon's 95 Parry Street container yard (where they may be flipped for non-food exports, thus avoiding the need for servicing).

⁹ While not likely to be 'sold' on the commercial property market, this is the indicative value that Port Otago works to recover from the land.



effective location to consolidate (and expand) Port Otago's container business outside of Port Chalmers.

- Significant additional full container terminal capacity is created in Mosgiel (indicatively a 28% increase above the status quo).¹⁰ This creates an overall increase in buffering capacity for container exports – improving 'just in time' delivery of export containers which in turn improves the efficiency of container handling at Port Chalmers, the resilience of export supply chains, and avoids potential disruptions to export dairy and meat processing.
- Improved economies of scale for depot activities (improved efficiency and productivity).
- Increased utilisation of KiwiRail infrastructure.
- Significant reductions in heavy vehicle traffic within the main Dunedin urban area, including central Dunedin, along State Highway 88, and in Port Chalmers. Quantification of the reductions in vehicle movements (where practicable) is discussed further below.

3.3 Consolidation of Icon's Container Operations

If approved, the proposed Logistics Park will enable the following key changes in Icon's container logistics operations. These are the direct impacts or opportunities provided by the Logistics Park, which has been strategically planned to address Icon's current and future operational constraints and achieve a more optimised, solution-focussed logistics service.

- Closure of the T-Shed warehouse in central Dunedin (i.e. no renewal of lease). Relocate dairy customer demand to new Logistics Park warehousing.
- Closure of the 88 Parry Street East warehouse in central Dunedin (i.e. no renewal of lease).¹¹ Relocate general goods imports to Sawyers Bay warehouse instead.
- Closure of the Carncross Street warehouse in Mosgiel (i.e. no renewal of lease). Relocate customer demand to new Logistics Park warehousing.

¹⁰ Based on a 5ha container terminal proposed at the site, added to 17.7ha of container terminal and depot space at Port Chalmers currently. Relocation of warehousing and empty containers storage to the Park adds additional capacity.

¹¹ Only if Icon secures more import contracts for the Dunedin Hospital rebuild project will this warehouse be retained given its proximity to the construction site. This would be a temporary delay in closure.



- Change role of the 95 Parry Street East warehouse (i.e. retain lease). Relocate dairy product storage to new Logistics Park warehousing and limit function to non-dairy food-grade imports and exports. Utilise site for a small amount of container de-hires (returns) in the Dunedin Urban area for re-use as domestic or low grade exports.
- Change role of the Sawyers Bay warehouse (i.e. retain lease). Relocate dairy exports (and imports for dairy export customers) and limit function to general goods warehousing.

The direct benefits of consolidating Icon's dairy export (and dairy customer import) warehousing at the Logistics Park, the significant mode shift from truck to rail associated with those changes, and the reduction in Icon's warehousing from 5 sites currently to 3 sites going forward include:

- On the assumption that warehouse lease costs are commensurate with industrial land values (discussed above), a reduction in operational costs per sqm by moving some warehouse space from central Dunedin to Mosgiel.
- Improved economies of scale for warehousing activities on the site (improved efficiency and productivity).
- Significant reductions in heavy vehicle truck movements (and therefore operational costs) within the main Dunedin urban area associated with bulk dairy exports not needing to travel into central Dunedin or Sawyers Bay warehouses for packing (and vice versa for imports). These reductions are in addition to the reductions described above in relation to changes instigated by Port Otago that impact Icon's operations (including a reduction in vehicle movements needed to return and collect empty containers from the Strathallan Street depot and deliver and collect full containers to/from Port Chalmers by road). Having the empty container depot and container terminal co-located with Icon's warehousing at the Logistics Park, will mean a fundamental shift away from Icon's current reliance on truck movements within the Dunedin urban area and will create significant improvements in the efficiency of Icon's logistic services.
- Improved container transport productivity (time savings) by significantly reducing heavy truck movements (and vehicle kilometres) in the main Dunedin urban area where lower speed limits, traffic congestion and more stopping/starting, increases the time of shifting bulk and containerised product.
- Significant growth potential for warehouse capacity (including modern, fit-for purpose warehousing) at the Logistics Park that would not have been achievable given the



high demand for, and limited supply of, industrial land for lease or purchase in Dunedin.¹² The Logistics Park therefore allows for Icon's container logistics operations to expand efficiently and sustainably. The additional warehouse capacity also provides more buffering of warehouse capacity for export supply chains. In a similar way to the benefits of additional container terminal capacity, this also increases the resilience of export supply chains and avoids potential disruptions to export dairy and meat production.

3.4 Long Term Employment Impacts

Table 3.2 sets out informed estimates of staffing at the proposed Logistics Park once operational. Three initial stages of development have been included – an initial stage, and two subsequent expansions. The staging applies to the warehousing space, which is expected to increase to 40,000sqm in three increments by the end of stage 3, but also accounts for expected growth across all of the components of the facility (some of which is driven by the additional warehouse activity). Further warehousing expansions are not included here (potentially up to 80,000sqm), and are likely to support additional jobs than those shown in Table 3.2.

Table 3.2 – Gross and Net Additional Employment at the Proposed Logistics Park (FTEs)

	Stage 1	Stage 2 (additional)	Stage 3 (additional)	Total Permanent Jobs on Site	Transferred Jobs *	Net Additional Jobs Created on Site
Container Terminal	1	1	1	3	-	3
Container Depot	3	3	3	9	2	7
Warehousing **	14	14	27	55	14	41
MPI/Customs Compliance Services	1	1	1	3	1	2
Break Bulk Storage Facility	-	2	2	4	4	-
Truck/Machinery Servicing/Hydrogen Fuel Depot	-	-	2	2	-	2
Total Logistics Park	19	21	36	76	21	55

Source: Port Otago, Icon Logistics/Dynes Group. Staging is indicative and reflects the incremental expansion of warehousing as well as the progressive transfer of container activity otherwise occurring in Port Otago facilities/Port Chalmers.

* As the Logistics Park provides the opportunity to consolidate some of Icon Logistics' and Port Otago's operations in Mosgiel, some jobs/roles will be transferred from other sites within Dunedin City.

** Employment for warehousing is based on 40,000sqm GFA total over stages 1-3. This may be conservative, with potential for up to 80,000sqm GFA of warehousing on the site feasible if there is sufficient demand.

As discussed above, the Logistics Park will allow for some consolidation of Port Otago's and Icon's current operations to the Mosgiel site. As such, permanent employment has been expressed in gross terms, and net terms once staff transferring from facilities that are closed

¹² Dunedin City Council has reported a short term shortfall of industrial zoned capacity.



and relocated are taken into account. The initial workforce on the site is expected to start with 19 permanent staff, with a further 21 to follow, and a further 36 to follow for Stage 3. In total, the number of jobs (workforce) sustained on the site is estimated to reach around 76. Of that total, 21 jobs exist currently and would transfer to the Logistics Park. In total, the Logistics Park is expected to create 55 new jobs in Dunedin City in the short-medium term.

3.5 Import/Export Supply Chain Benefits

The proposed Logistics Park will significantly benefit supply chains in the Southern Region that currently use Port Chalmers and Icon's 3PL services. One case study¹³ is shared below using information provided by Icon, including a brief qualitative description and quantitative assessment to help measure (as accurately as practicable) some of the direct effects associated with shifting logistics services to the Logistics Park in Mosgiel with an associated mode shift to rail.

Three 'transport productivity zones' are defined for the purpose of the case study. The boundaries of these zones (specifically the western boundary of the main Dunedin urban area) have been advised by Icon based on the known point where truck transport productivity changes. The three zones are:

- Open Highway Zone – this is the most productive zone from a truck transport perspective. It contains higher speed limits (i.e. 90km/hour), fewer stops/starts, and little or no congestion. The zone applies to everywhere outside of the Urban Area Zone and includes Mosgiel and through to the end of the Southern Motorway.¹⁴ Icon have advised that average truck costs¹⁵ when travelling in this zone are \$3.50/km and the vehicle travel time rate averages 80km/hour.
- Urban Area Zone – This zone starts where the southern motorway ends and carries through to Port Chalmers along State Highway 88. It is characterised by lower speed limits including 50km/hour within urban streets, congestion in (but not limited to) peak periods, and more stopping/starting (including queuing at intersections/lights). Icon

¹³ The full economic report contains multiple case studies.

¹⁴ While the travel route through central Mosgiel is urban (with associated urban speed limits and congestion etc), the relative impact of this short distance does not materially impact the overall travel cost/time per km.

¹⁵ Based on a fully loaded truck. Applies to container skel truck or curtain-sider truck. Costs cover all costs except administration costs, interest and depreciation (i.e. covers driver wages, fuel costs, maintenance costs, road user charges etc).



have advised that average truck costs¹⁶ when travelling in this zone are \$4.30/km and the vehicle travel time rate averages just under 30km/hour.

- Rail Zone – This zone applies to the rail network. It is generally free of congestion, with minimal stopping/starting. KiwiRail have advised that average shuttle train costs¹⁷ when travelling in this zone could be in the order of \$132/km¹⁸ and the vehicle travel time rate averages just under 40km/hour. For example, it takes approximately 45 minutes to travel the 28km from the proposed Logistics Park rail siding to Port Chalmers.

3.5.1 Customer Case Study – Danone Nutricia

Danone Nutricia is an exporter of infant formula. Their processing plant is located in Clydevale, approximately 21km north-west of Balclutha where it is close to its dairy farm suppliers. The processing plant operates for 11 months of each year, meaning that it generates almost year-round demand for 3PL services and coastal and international shipping. Output from the processing plant is estimated at around 50,000 metric tonnes of specialised infant formula per annum.

Icon sends curtain-sider trucks to the processing plant (from Dunedin) and brings the palletised product back to Dunedin to Port Otago's Sawyers Bay (Danone) warehouse. Empty food-grade dry/ambient containers are brought by Icon's trucks from the container depot in Port Chalmers to the warehouse. The product is packed (by Port Otago) into those containers and then trucked to Port Chalmers by Icon. From there, around 70% of the containers are loaded onto coastal shipping where it is taken to Auckland and transported to an Auckland canning plant. The canned product is then repacked into containers and then exported from Auckland Port. The other 30% of containerised (un-canned) product is exported directly from Port Chalmers.

On occasion, packed containers from the Sawyers Bay (Danone) warehouse are trucked to the KiwiRail CT (container) yard in central Dunedin instead of being taken to Port Chalmers. KiwiRail then rail those containers to Timaru where they are loaded for coastal shipping at Prime Port to Auckland for canning etc. This alternative supply chain occurs when Port Chalmers does not have sufficient capacity in its container terminal.

At the same time, Danone Nutricia imports some ingredients and packaging from overseas and requires pallets and barrels to be brought back from the canning plant in Auckland (via

¹⁶ Ibid.

¹⁷ With all 24 wagons loaded with full containers.

¹⁸ This rate is subject to further commercial assessment and may be subject to change. It is commercially sensitive.



coastal shipping). These import/domestic containers are collected by Icon and de-vanned in Sawyers Bay than taken back to the processing plant by curtain-sider truck (on return trips).¹⁹

This supply chain is vulnerable to floods/slips that impact State Highway 88 between Dunedin Central and Sawyers Bay/Port Chalmers. As an example, in October 2024, SH88 was closed for four days due to slips that blocked the road in multiple places (although notably not the parallel rail line which was unaffected). The slips prevented trucks reaching the Danone warehouse (and Port Chalmers). The detour was not available for heavy vehicles.²⁰

The road closed on Friday and did not open again until 6am on the following Monday. If the road had opened any later than it did, the Danone Nutricia processing plant would have had to cease production (and redirect all raw milk to other plants). This is because the processing plant only has enough storage on site for 2 days of production and an alternative food-grade warehouse (with rail access) was not available. A halt to production was avoided by optimising the site warehouse to its maximum capacity to cope with the backlog, as well as Icon preloading vehicles. Had Danone Nutricia's supply chain instead been able to use the Logistics Park for warehousing and full container transport to Port Chalmers (by rail) at that time, this weather event would not have had any impact on product transport once it got to Dunedin.

In addition to improving the resilience of the Danone Nutricia supply chain, another direct benefit of the Logistics Park will be avoidance of any future leakage of export TEUs to Prime Port. This is because Port Otago will gain a significant increase in full container storage capacity across its Port Chalmers and Logistics Park terminals which will mean it is unlikely to need to 'close the port' in future for export receipts, such as when ships are delayed and the existing terminal reaches capacity.

Table 3.3 quantifies the expected impacts of the proposed Logistics Park on the Danone Nutricia export supply chain. It models only the transportation of the product from the plant in Clydevale through to Port Chalmers (via the Danone Warehouse where it is containerised). That is, it is just a one-way section of the export supply chain.²¹

¹⁹ This is referred to as 'back loading' and makes the most of otherwise empty one-way truck movements.

²⁰ <https://www.nzta.govt.nz/media-releases/state-highway-update-dunedin-otago-as-rain-continues-state-of-emergency-declared-dunedin/>

²¹ Full details, including inputs and assumptions for this modelling, are set out in the full economic report.



Table 3.3 – Summary of Logistics Park Impacts on a Section of the Danone Nutricia Export Supply Chain (One-way Factory to Port Chalmers)

	Annual Change With Logistics Park (n)	Annual Change With Logistics Park (%)
Tonnes Lifted per Annum	50,000	
Kilometers (One Way Factory to Port Chalmers)	8	7%
Tonnes Moved per Annum (Tonne km) (One Way Factory to Port Chalmers)	400,000	7%
Vehicle Kilometers Travelled per Annum (One Way Factory to Port Chalmers)	-28,137	-17%
Indicative Transport Cost per Annum (\$) (One Way Factory to Port Chalmers) **	\$183,000	31%
Vehicle Movements per Annum (One Way Factory to Port Chalmers)	-2,000	-58%
Vehicle Travel Time - Hours per Annum (One Way Factory to Port Chalmers) (applies to transit time only) **	-903	-34%
Indicative Transport Emissions (CO ₂ -e Tonnes per Annum) (One Way Factory to Port Chalmers) **	-115	-18%

Source: Savvy, Port Otago, Icon, Dynes Transport Group, MfE (for Emissions Factors). The change in vehicle type represents the warehouse packing stage of the supply chain.

** Refer assumptions listed in Section 7.3 and/or Appendix C.

Table 3.3 shows that if the same supply chain switched from a truck-dominated 3PL service utilising a Sawyers Bay warehouse for packing to a truck and rail 3PL service utilising the Logistics Park in Mosgiel that the total trip length from factory to Port Chalmers increases slightly by 8km (7%). For that trip, 13% of the distance occurs within the Urban Area Zone under the status quo. Under the 'with Logistics Park scenario' there is no travel by road within the Urban Area Zone (with the entire trip within the Open Highway Zone and Rail Zone).

The total tonne Kms (tonnes moved) per annum increases by 7% in accordance with the increase in distance. However, all other impacts of the Logistics Park create moderate to significant reductions. This includes:



- 17% less vehicle Kms travelled per annum (i.e. a net reduction of 28,137 vehicle Kms, which includes a reduction of 23,118 vehicle Kms travelled within the Urban Area Zone per annum).
- 31% more transport costs per annum (i.e. a net increase of around \$183,000 per annum). While the modelling shows that rail from the Logistics Park may be more costly than using trucks under status quo warehousing arrangements, exporters such as Danone Nutricia will not be looking at this metric in isolation of the other supply chain benefits for them (and the wider community).
- 58% less vehicle movements (i.e. a net reduction of 2,000 vehicle movements per annum. This reduction is all container skel truck movements. Under the status quo supply chain, 1,471 curtain-sider truck trips are required per annum (to move the product in bulk form) plus 2,000 container skel truck trips (to move the product once containerised). With the Logistics Park, this becomes 1,471 curtain-sider truck trips (ending at Mosgiel) and the equivalent of 83 full shuttle train trips from the Logistics Park to Port Chalmers).
- 34% less hours per annum spent transporting Danone Nutricia's product to Port Chalmers (excluding the time at the warehouse). This is 903 less hours spent in transit and represents a significant increase in the productivity of the supply chain (same tonnes exported in less time).
- 18% less tonnes of CO₂e emissions per annum (i.e. a net reduction of 115 tonnes of CO₂e) on account of the emissions reductions associated with rail freight compared to road freight. This is made up of a 26 tonne reduction in CO₂e emissions per annum in the Open Highway Zone (caused by the Logistics Park being closer to the plant than the current Sawyers Bay warehouse), and a 127 tonne reduction in CO₂e emissions per annum in the Urban Area Zone, although transport within the Rail Zone (which will generate an estimated 38 tonnes of CO₂e emissions per annum) does pass through the urban environment of Dunedin, so the net reduction in emissions in the urban environment is 89 tonnes CO₂e per annum (-70%).
- This is relevant because while emissions that impact on air quality have not been modelled (e.g. particulates²² from diesel combustion that have health impacts), they would be expected to reduce broadly commensurate with the reductions in CO₂e emissions. As such, there would be an estimated net 70% reduction in harmful pollutants per annum in the total urban environment from this one-way section of the

²² Nitrogen Oxide, particulate matter and sulphur dioxide.



Nutricia Danone supply chain between the factory and Port Chalmers under the ‘with Logistics Park’ scenario.

The above reductions (benefits) for this case study are conservative in that they do not capture all of the transport components of Danone Nutricia’s export and import supply chain that would be impacted by the Logistics Park (including the movement of empty containers). However, the above partial analysis shows that it is not necessary to capture all of the transport detail in the Danone Nutricia container supply chains to conclude that the Logistics Park would have significant positive effects each year for:

- Danone Nutricia (in terms of likely supply chain resilience and reduced carbon footprint),
- the 3PL service providers (in terms of improvements in productivity and efficiency),
- the Dunedin community (in terms of reduced urban traffic congestion and road damage and improved urban air quality linked to freight transport emissions), and
- NZTA (in terms of reduced road maintenance on state highways through the main Dunedin urban area to Port Chalmers).

3.6 Total Initial Mode Shift Expected

This section provides an overview of the total anticipated initial mode shift (from truck to rail) for full container imports and exports enabled by the proposed Logistics Park. The case study above forms only a portion of this expected total.

On the assumption of business as usual export and import volumes at the time the Logistics Park could be operational (if approved), total TEU movements between Port Chalmers and the Logistics Park estimated for stage 1 of the development is expected at around 34,000 TEUs per annum.²³ This equates to around 17,000 wagon movements (based on 2 TEUs per wagon) or the equivalent of 708 full shuttle train movements per annum.²⁴ This new rail activity²⁵ is indicatively made up of:

- around 13,000 full imported TEUs moving from Port Chalmers to the Logistics Park. This is close to 100% of the estimated number of full import TEUs currently departing Port

²³ Stage 1 relates to the initial amount of warehousing GFA that will be developed.

²⁴ Planned rail transfer of imported empty containers to the Logistics Park would be expected to be back-loaded on rail shuttle trips.

²⁵ It is understood that KiwiRail have the capacity (including rolling stock and staff) to cater for the increased demand.



Chalmers by Road. This includes the majority²⁶ of the estimated 12,500 TEU full containers currently collected by 3PL service providers and 500 TEUs currently de-vanned by Port Otago at Port Chalmers warehouses that would instead be de-vanned at the warehousing at the Logistics Park.

- around 21,000 full export TEUs moving from the Logistics Park to Port Chalmers. Approximately 16,380 export TEUs currently arrive at Port Chalmers by truck that are already containerised (some containerised outside of Dunedin but most packed in Dunedin or Mosgiel by Icon and other 3PL service providers) and a further 6,230 TEUs currently arrive at Port Chalmers by truck in bulk and are packed into containers by Port Otago at Port Chalmers. This is a total of 22,610 export TEUs currently received at Port Chalmers by road.²⁷ The initial 21,000 TEUs mode shift would account for 90% of containerised exports currently arriving by truck and 100% of the export TEUs being packed at Port Chalmers (which would instead be packed at the warehouses at the Logistics Park).

This initial export mode shift would increase export product (TEUs) arriving by rail to Port Chalmers from 70% (year ending June 2024) to **98%**, with room for this to grow in future stages to get closer to 100%. This represents a significant 93% initial decrease in export TEUs being trucked to Port Chalmers based on YE June 2024 volumes. It equates to taking an estimated 10,260 truck movements off urban Dunedin roads per annum.

The anticipated mode shift for full import TEUs would increase import product (TEUs) departing by rail from Port Chalmers from 10% (year ending June 2024) to close to **100%**. This represents a near 100% decrease in import TEUs being trucked from Port Chalmers. It equates to taking an estimated 6,430 truck movements off urban Dunedin roads per annum.

This is a combined total of nearly 17,000 heavy (one-way) truck movements removed from urban Dunedin Roads per annum (or 34,000 truck movements once return journeys are accounted for) just from the initial stage of the Logistics Park.

While it is not possible to quantify the GHG savings, as the vehicle tonne kilometres associated with these avoided truck movements is too complex to model for all supply chains, every tonne of freight carried by rail delivers a 70% CO₂e emissions saving over road freight using

²⁶ Where more efficient, some imported containers destined for customers within central Dunedin may still be collected by truck from Port Chalmers rather than having to get them from the Logistics Park in Mosgiel and bring them back into central Dunedin.

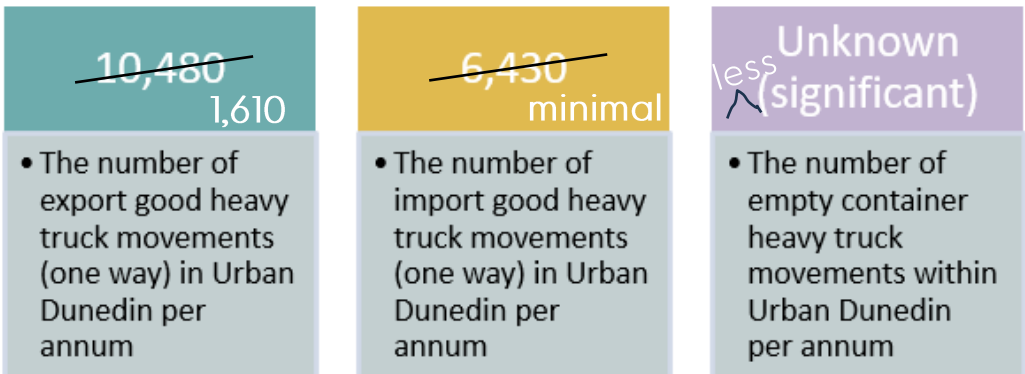
²⁷ This equates to 30% of all export TEUs in the year ending June 2024 arriving by road. The remaining 70% currently arrive by rail.



diesel heavy goods vehicles.²⁸ If case study CO2e reductions²⁹ are scaled up across the total import and export TEUs (34,000) expected to shift to rail in stage 1 of the Logistics Park, the CO2e reduction could be in the order of 1,200–1,250 tonnes per annum across impacted supply chains (and occurring mostly within the main Dunedin urban environment).

Overall, the initial mode shift enabled by the proposed Logistic Park will see a range of immediate and significant benefits for Dunedin City (and Otago Region) compared with a business as usual future. These include reductions in road congestion (including the value of time), GHG emissions and road maintenance costs, and improvements in fuel consumption and air quality. This is in addition to the improved productivity and efficiency of the import and export supply chains – which in aggregate, will be significant for Port Otago, the 3PL sector in Dunedin and importers and exporters in the Southern Region (as evidenced by case studies assessed by Savvy).

Relative to a business as usual future, key initial/stage 1 road transport statistics of a ‘with Logistics Park’ future will change as follows:



The mode shift benefits directly enabled by the Logistics Park are projected to increase above these initial benefits, including as further increments of warehousing space are added to the site.

²⁸ KiwiRail.

²⁹ Not limited to the one case study included in this summary report.



4 Key Findings and Conclusions

4.1 Economic Benefits

Port Chalmers and the Dunedin City 3PL sector are facing a range of operational constraints that have direct impacts on import and export supply chains in the Southern Region. With the Strathallan Street container depot lease soon to expire, some existing warehousing in central Dunedin reaching the end of its building life (and no-longer commercially feasible to maintain for food-grade imports and exports), and Dunedin’s urban population continuing to increase (putting additional pressure on urban area road congestion), a business as usual future is not expected to be a viable option.

The proposed Logistics Park is a strategically located development that could address all of those key constraints. Savvy considers that it will have a transformative impact on Port Otago’s container operations and provide for growth over the long term. The need for the development is already recognised in the Dunedin City Future Development Strategy 2024–2054, with the site in Mosgiel identified in as a future inland port.³⁰ The following provides a summary of key economic benefits of the proposed Logistics Park.

Table 4.1 – Summary of Economic Benefits of the Logistics Park

Economic Benefit	Estimate
Construction Impacts	613 FTE jobs sustained (National) including 551 FTE jobs sustained in Otago Region. \$ ₂₀₂₀ 79.4 million in GDP (National) including \$ ₂₀₂₀ 71.5 million in GDP in Otago Region.
Permanent Jobs Created	21 transferred jobs and 55 net additional high-value jobs (increasing over time)
Increased utilisation of KiwiRail's existing rolling stock and track assets	Initial direct uplift of 17,000 wagon per annum (34,000 TEUs), with projected growth to 25,000, 35,000 and 40,000 wagons per annum between Mosgiel and Port Chalmers (Taieri Line). The Logistics Park could also facilitate greater mode shift of import and export

³⁰ Criteria 22(2)(a)(x) for accepting a referral application under the Fast Track Approvals Act 2024.



	trade from truck to rail north and south of Dunedin City, increasing the freight tonne density of the rail network in the Southern Region (and increasing the return on investment for KiwiRail).
Reduction in heavy truck movements from urban Dunedin roads (based on 2024 container trade)	Minimum of 17,000 one-way or 34,000 return journeys. This mode shift would Improve the wellbeing of communities in the main Dunedin urban area through reduced traffic congestion, improved road safety, improved air quality and reduced road damage. One Heavy truck and trailer is equivalent to 21 cars in terms of road degradation, providing significant cost savings in road maintenance, including for NZTA.
Annual CO2e Avoided (based on 2024 container trade)	1,200-1,250 tonnes/annum (net). GHG emissions from the Transport, Postal and Warehousing industry is a major environmental issue for Dunedin City. In 2023 it was the second highest contribution to GHG emissions.
Improving Supply Chain Productivity and Efficiency	The Logistics Park would support primary industry import and export supply chains across the Southern Region. Assessment shows that it would significantly improve supply chain efficiency and productivity through greater economies of scale, the co-location of container facilities on a single site outside the main Dunedin urban area, and mode shift to rail which lowers freight risk and reduces the time that import and export products are in transit.
Improving Resilience	The Logistics Park would increase container terminal (full container storage) capacity. This is expected to provide critical buffering for export container supply chains when shipping is delayed.



	It would support greater connections and capacity between importers/exporters and logistics warehousing, rail infrastructure and ports in the South Island in the case of major disruptions. It would reduce the risk of natural hazard events impacting import and export supply chains, particularly risks to State Highway 88 to Port Chalmers.
Wider Economic Benefits (Facilitated Effects)	The Logistics Park would (by allowing some of Icon's operations to move as well as the relocation of the Strathallan Depot) free up some industrial land/floorspace in Dunedin's prime industrial location, enabling some much-needed churn in the market. It is expected to reduce existing leakage of export trade to other ports when Port Chalmers had, on occasion, reached capacity for full container storage. The Logistics Park is likely to provide the market conditions needed to attract Otago bound imports back to an Otago port. Savvy considers that it would facilitate growth in Port Otago's annual import and export container volumes (market share) by offering competitive advantages over other ports. It may facilitate growth of new import and export manufacturing/processing businesses in Otago Region and the wider Southern Region due to the supply chain efficiency, productivity and resilience benefits able to be offered. All of these wider/facilitated economic benefits have the potential to generate additional GDP and employment in the



	Otago Region and the wider southern South Island.
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4.2 Economic Costs

Savvy does not consider that the proposed Logistics Park creates any significant economic costs. Those that have been identified (but not quantified within the scope of this report) include:

- Loss of highly productive land on the site precluding the potential for primary production. The site contains LUC 1 land.
- Increased heavy vehicle movements through the main street (a designated State Highway) of Mosgiel township (including congestion, road degradation, road safety and air quality) impacts). The Integrated Transport Assessment undertaken confirms no significant adverse effects for stage 1 of the Logistics Park.

4.3 Overall Conclusions

Based on the comprehensive assessment carried out for this (and the more detailed) report, Savvy concludes that the proposed Inland Port/Logistics Park in Mosgiel, Dunedin City, would deliver significant regional and national economic benefits in the short, medium and long term. Those direct and facilitated economic benefits are widespread and are expected to outweigh any actual or potential economic costs arising from the proposal.