



The Green Triangle Freight Action Plan

2026 Refresh

October 2026



Government of South Australia
Department for Infrastructure
and Transport



Department
of Transport
and Planning



We acknowledge the Traditional Custodians of the Country throughout South Australia and Victoria and recognise their continuing connection to land and waters.

We pay our respects to the diversity of cultures, significance of contributions and to Elders past, present and emerging.

Build. Move. Connect.

by Jaylene Ware

Wirangu, Kokatha and Antakirinja
Matu-Yankurytjatjara Artist



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Executive summary

The Green Triangle spans the south-east of South Australia and the south-west of Victoria and remains one of Australia's most productive and strategically important freight regions. Timber continues to be the dominant industry, accounting for around half of the volume through the Port of Portland. However, the region also supports a diverse and expanding economic base, including agriculture, renewable energy, mineral sands and emerging critical minerals.

Since the 2016 Plan Refresh, the region has secured close to over half a billion dollars in Commonwealth and State government funding for road upgrades. Along with a \$150 million Commonwealth commitment to upgrade the Portland–Maroona rail line.

These investments have improved the capacity and safety of the transport network, particularly along the four key timber road freight routes identified in the previous plan. Although, ongoing improvements are still required to meet increasing freight demand and maintain network resilience.

Extensive stakeholder engagement undertaken for this 2026 Refresh, supported by updated timber-flow modelling, confirms that freight volumes continue to grow across the region, especially along the primary corridors linking production areas to the Port of Portland.

Demand for housing across Australia is further driving timber harvesting and haulage needs, and the region's freight task is set to expand significantly over the next five to ten years as new and emerging industries mature.

Renewable energy developments, mineral sands operations, and future critical minerals projects, are expected to generate substantial new freight movements. This growth will be accompanied by continued increases in grain, dairy and fertiliser transport across the region.

To support this growth, coordinated action across State and Local governments, industry, transport operators and regional communities will be essential. Continued improvements to the capacity of key freight routes are necessary to ensure efficient and resilient supply chains that will support community safety, business investment, export growth and the roll-out of new modern heavy vehicles and other technologies.

Introduction



The Green Triangle Freight Action Plan is a collaboration between the South Australian and Victorian governments, local governments, industry, and other key stakeholders, providing a coordinated approach to freight efficiency and safety to support economic growth in the region. This refresh builds on previous foundations to address evolving demands in forestry, processed timber, and regional supply chains, ensuring long-term competitiveness and resilience.

The Green Triangle Freight Action Plan Group

The Freight Action Plan Group brings together representatives from major industry stakeholders including the Port of Portland, South Australian and Victorian government agencies, local government, and the Green Triangle Forest Industries Hub. This collaborative forum ensures that planning and delivery are aligned across jurisdictions and sectors, enabling a unified approach to freight challenges and opportunities.



Purpose

This refresh will set priorities for infrastructure investment and policy action that will support the efficient movement of freight within and beyond the Green Triangle. It aims to build on productivity gains achieved since 2016, address current constraints, and position the region to meet future demand. This will be achieved through increased High Productivity Vehicle (HPV) access, and enhanced connectivity to markets, key production and logistics facilities while improving road safety.

The refreshed plan will be used to:

- Help prioritise future investment by clearly identifying the region's most critical freight needs and opportunities and inform planning, including business case development.
- Guide agencies and industry, supporting consistent decision making and coordinated action across both states.
- Identify the adoption of regulatory reforms and new technologies that will boost productivity and improve supply chain management in the timber industry.



Previous plans

The first Green Triangle Freight Action Plan was released in 2009, with a major refresh in 2016 (Green Triangle Region Freight Action Plan Update, 2016). These two plans have guided significant investment in freight corridors (both road and rail), intersection upgrades, and HPV route gazettal. They have delivered improvements in productivity and safety, supporting the region's role as a national leader in plantation forestry and timber processing.



Scope and overview of the region – contribution to national economy

The Green Triangle is one of Australia's most productive regional economies, spanning South Australia's Limestone Coast and Victoria's western districts. It is nationally recognised as the country's largest plantation forestry region, supplying approximately 35% of house framing timber, 48% of packaging timber, 60% of poles and posts, and 25% of particleboard (Source: Green Triangle Forest Industries Hub). This output underpins critical sectors such as housing construction, packaging, and infrastructure, contributing billions of dollars annually to the national economy and supporting thousands of jobs.

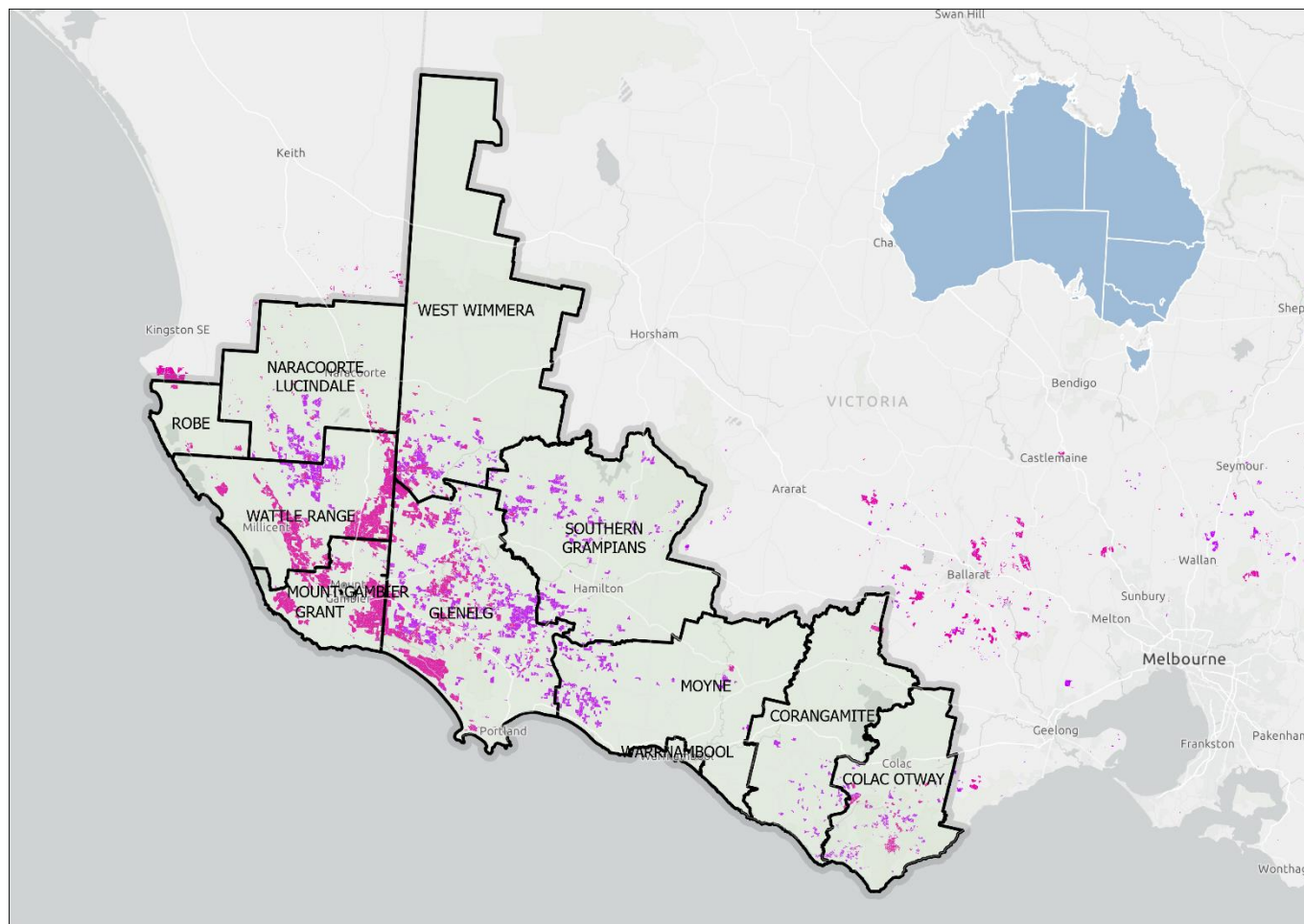


Figure 1: Forestry plantations in Western Victoria and South Australia's Limestone Coast

Beyond forestry, the region has a strong agricultural base, including livestock, dairy, and cropping enterprises, complemented by food processing and export operations. Tourism is another key contributor, with attractions such as the Great Ocean Road, Limestone Coast, Coonawarra wine region, and Mount Gambier's Blue Lake drawing visitors from across Australia and overseas.

Although mineral sands extraction does not occur within the Green Triangle, the region is increasingly influenced and affected by the growth of mineral sands and critical minerals activity in the broader Murray Basin, particularly in northwest Victoria.

The Portland - Maroona rail line provides a direct connection between the Port of Portland and these current and proposed mining operations. This positions the Green Triangle as a key logistics gateway for exports of zircon and titanium minerals used in ceramics, paints and advanced technologies and are increasingly linked to supply chains for renewable energy and electric vehicles.

South Australia's Critical Minerals Strategy highlights opportunities for the Limestone Coast to support national priorities for rare earths and battery minerals.

Together, these developments signal that the Green Triangle will play an expanding role in servicing emerging mineral supply chains, with implications for freight demand, infrastructure planning and long-term economic resilience across the region.

Renewable energy investment is growing in Victoria and South Australia, with wind farms and solar projects established in Western Victoria and in the Limestone Coast. Wind farm componentry will also be transported through the region via Port of Portland more broadly to locations throughout regional Victoria and South Australia. These developments support the transition to clean energy across both States, supporting national emissions reduction targets whilst creating jobs during the construction phase and ongoing maintenance roles.

Together, forestry, agriculture, mineral sands, renewable energy, and tourism form a diverse and resilient regional economy. Efficient freight networks are essential to move timber, agricultural products, mineral resources, and energy infrastructure, while enabling visitor access. Maintaining and improving these networks is critical to sustaining the Green Triangle's contribution to Australia's economy and future growth.



Developments since the 2016 plan

Since the last plan (Green Triangle Region Freight Action Plan Update, 2016), the Green Triangle has continued to evolve, with freight demand shaped by changing industry patterns, new investment opportunities and shifts in regional transport needs. The region is experiencing growing pressures on key corridors, increasing supply chain complexity, and rising expectations for safer, more resilient and better coordinated freight networks. These developments highlight the need for a refreshed understanding of the freight task and the strategic responses required to support future growth.

Forest Industry Advisory Council of South Australia

The Forest Industry Advisory Council of South Australia (FIACSA) was established in December 2018 to strengthen collaboration between industry and government on priority issues affecting the forestry sector. FIACSA provides a structured forum for engagement across the full value chain. Supporting coordinated advice to the Minister on emerging challenges, workforce needs, infrastructure and transport requirements, and strategic policy settings.

Its work program identifies opportunities to improve productivity, address cross-border issues, enhance resilience, and align investment with long-term industry growth objectives. FIACSA's recommendations contribute directly to initiatives such as the Wood Fibre and Timber Industry Master Plan, helping ensure the sector remains competitive, future-focused, and positioned to capture new economic opportunities.

Low and zero emission trial network

The South Australian Low and Zero Emission Heavy Vehicle (LZEHV) trial scheme was publicly announced on 29 September 2023, following consultation between the South Australian Department for Infrastructure and Transport, industry (including Fennell Forestry) and vehicle manufacturers.

The LZEHV trial scheme was the first of its kind in Australia, providing extensive access to South Australia's road network under six access network maps created by the Department for Infrastructure and Transport.

Fennell Forestry operated an electric B-double truck in a forestry application for a period of one year, in 2024 and 2025, to test the performance and value of operating an electric truck in a forestry application.

The Fennell Forestry electric truck travelled over 100,000 kilometres which equated to the avoidance of over 70 000 litres of diesel and over 180 tonnes of carbon emissions.

The South Australian Government has contributed \$200 000 to the trial through the Department of Primary Industries and Regions (PIRSA) under the South Australian Wood Fibre and Timber Industry Master Plan.

Decarbonising Forest Freight

In July 2025, the South Australian Government announced a \$200 000 investment in the 'Decarbonising the Freight Task: Driving to Net Zero' project, a joint initiative between South Australia Forest Products Association and Tabeel Trading.

The funding, also provided through the Department of Primary Industries and Regions South Australia (PIRSA) under the South Australian Wood Fibre and Timber Industry Master Plan, supports a vision of decarbonising forest freight to further reduce carbon emissions across one of the hardest-to-abate sectors, heavy freight transport.

Funding will support Stage 1 of the project by developing:

- An evidence-based decarbonisation roadmap for South Australia's forest freight fleet.
- Detailed cost-benefit analysis of alternative freight technologies including the modelling of emission reductions.
- A freight logistics and charging/refuelling infrastructure blueprint.
- Policy, regulatory, and investment recommendations aligned with State and national climate targets and Master Plan priorities.

Stage 1 was completed in mid-2026. The scope of a potential Stage 2 will be informed to the outcomes of Stage 1 and is subject to future funding decisions.

A 'Modern transport system for agriculture' program

During the period of 2015-2020, the South Australian Department for Infrastructure and Transport and PIRSA worked in partnership with Primary Producers SA to complete the 'A Modern Transport System for Agriculture' program.

This program undertook multiple surveys with transport industry sectors and operators to determine issues of concern that prevented the effective movement of goods and services within South Australia.

The Program resulted in provision of dedicated funding used for infrastructure improvements for restricted access vehicle network expansions to improve road transport operations.

In the Limestone Coast region, this resulted in the expansion of the Performance Based Standards Scheme on the following roads.

- PBSL3A (36.5 metre road train routes) along Riddoch Highway, Dukes Highway and Princes Highway (Mount Gambier to SA/VIC border).
- PBSL2B (30 metre road train) routes on Princes Highway and Wimmera Highway, and
- PBSL2A (26 metres B-double) routes on multiple roads including Tower Road (to Casterton) and Naracoorte Road.

Portland-Maroona Rail upgrade

In May 2024, the Commonwealth Government committed \$150 million to upgrade Victoria's Maroona to Portland rail line, approximately 172 kilometres. The rail line will provide a link to the deep-water port at Portland.

Currently, only grain trains run on the Maroona to Portland rail line. However, the upgrade which includes replacement of timber sleepers with new concrete sleepers, will improve efficiencies by increasing the axle load from a maximum 19 tonne axle load to a maximum 23 tonne axle load and increasing the track speed to a maximum 80 km/h. The improved efficiencies are expected to attract an increased volume of grain to rail as well as provide the catalyst for mineral sands projects. This will have the benefit of reducing supply-chain costs and reducing the number of trucks on the road transporting grain to port.

Mineral Sands and Critical Minerals

The Victorian Government released its first Critical Minerals Roadmap ([Victorian-Critical-Minerals-Roadmap.pdf](#)) in December 2024. A significant portion of the demonstrated resources are in the western portion of Victoria. Portland is well positioned to handle mineral sands from western Victoria, with the Port of Portland already having a dedicated mineral sand storage and export facility with opportunity to expand depending on market conditions and the needs of mining companies.

Renewable energy opportunities

The [2025 Victorian Transmission Plan](#) has identified six proposed renewable energy zones (REZ), locations that are identified as the best places to host wind, solar and battery projects. The south-west REZ is approximately 50 - 100 kilometres from Port of Portland, meaning the Port of Portland is a critical location for the import of renewable energy related infrastructure.

Providing the necessary infrastructure, including roads, to enable safe and efficient transport of the infrastructure required to construct renewable energy infrastructure is important to ensure Victoria has the energy it needs.

Portland has been an important gateway for windfarm tower components for over a decade. Demand for onshore wind is expected to increase as well as offshore wind project opportunities, with a declared Southern Ocean Region Offshore Wind area located just 45 kilometres west of the Port of Portland. The Port of Portland is well positioned to support developments in Offshore Wind off the southern coast of Victoria.

Establishment of Cross Border Commissioners

The Green Triangle region straddles the Victorian and South Australian borders and therefore cross-border cooperation is crucial to ensuring collaboration between the two state governments, industry and the local government sector occurs.

The primary objective of the Cross Border Commissioners in relation to the Green Triangle is to identify barriers for economic development so businesses can effectively operate near and across state jurisdictions.

The Cross Border Commissioner role was established in Victoria in 2018, and South Australia established the role in 2023. Mr Brett Davis was appointed to the role of Victorian Cross Border Commissioner in January 2024, whilst Ms Kelly-Anne Saffin was appointed to the role of South Australian Cross Border Commissioner in October 2024.

The Green Triangle Region, and the cross-border co-operation makes the Green Triangle region ideally suited to trials including regulatory harmonisation, de-carbonisation trials, permitting harmonisation and co-ordination of state-based upgrades along key freight routes.

Road Network Improvements

Since 2016, significant investments have delivered intersection upgrades, pavement strengthening and resurfacing, bridge strengthening, and the gazettal of multiple HPV routes. These improvements have enhanced freight efficiency and safety. However, further upgrades are required to meet growing demand and support emerging industries.

The South Australian Government has invested \$55 million, and the Australian Government has invested \$225 million in South Australian road improvements in the Limestone Coast region between 2017 and 2026.

The Victorian Government has invested approximately \$226 million and the Australian Government has invested \$95 million on road improvements across the Victorian local government areas which form part of the Green Triangle region between 2017 and 2026.

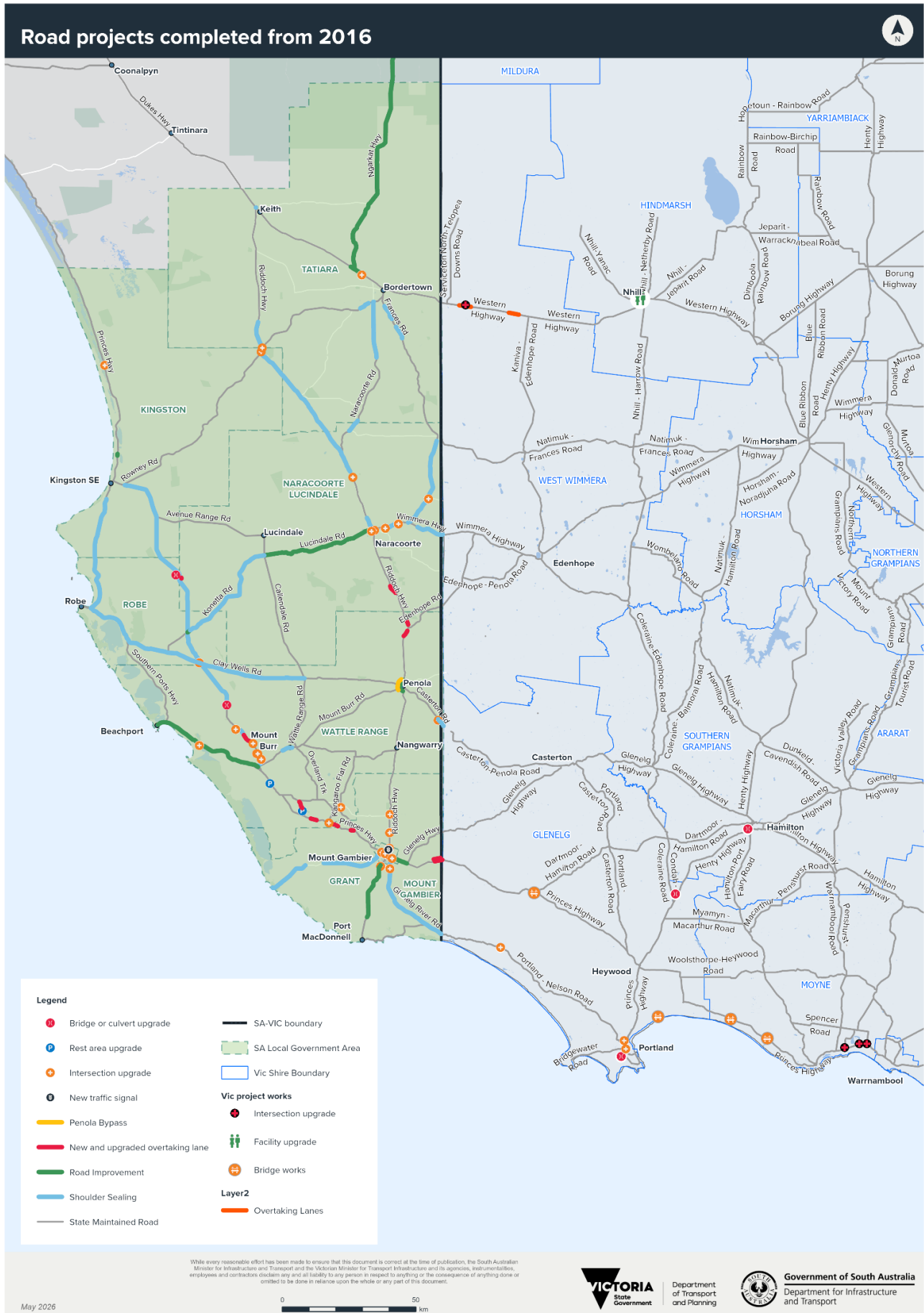


Figure 2: Road projects completed in Western Victoria and the South Australian Limestone Coast Region since 2016

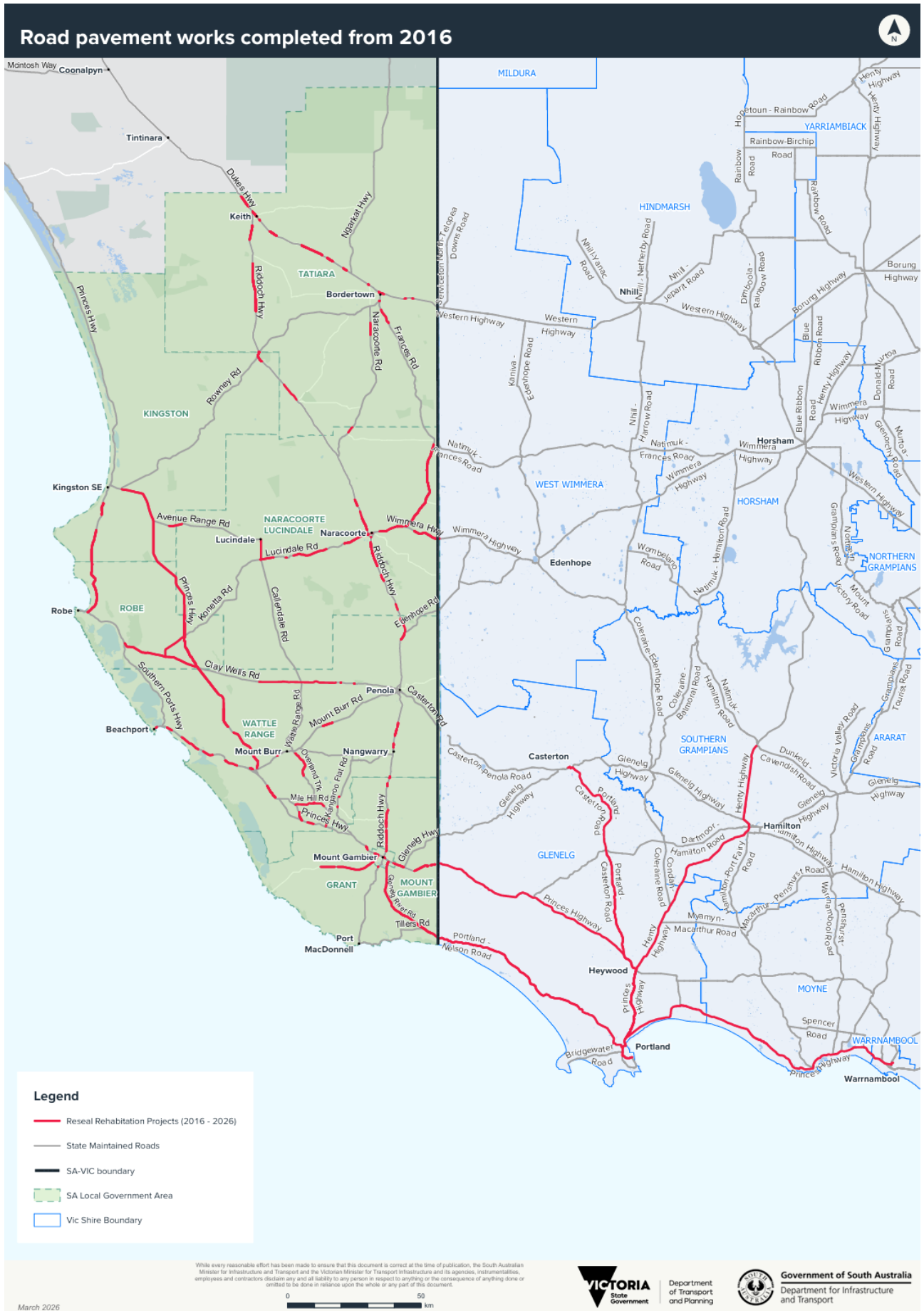


Figure 3: Road pavement works completed in Western Victoria and South Australia Limestone Coast Region since 2016

HPV route access improvements in South Australia (Limestone Coast Region) since 2016

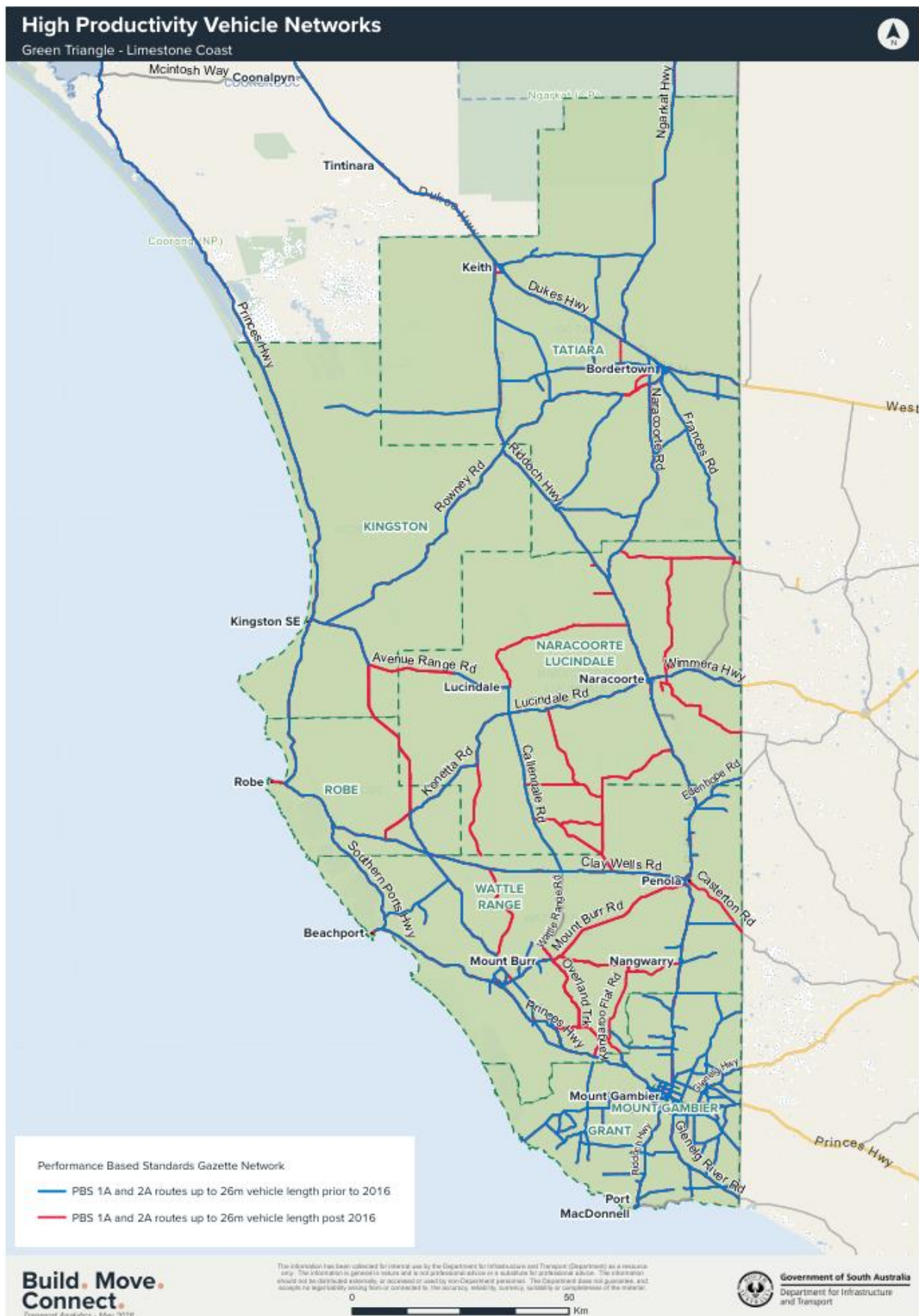


Figure 4: HPV route access improvements in South Australia Limestone Coast Region since 2016

Strategic Outcomes



Economic growth and productivity

The network will enable industry to move goods efficiently and cost-effectively, supporting growth. Improving access for High Productivity Vehicles and reducing bottlenecks. The network will strengthen the region's role in national supply chains and contribute to Australia's economic prosperity.



Safe and connected networks

Safety is central to the freight task. This Plan will deliver a network that connects plantations, processing facilities, ports, and communities while reducing crash risk and improving reliability. Ensure freight movements are safe and compatible with local traffic and tourism.



Resilience and redundancy

The network must withstand disruptions from extreme weather, bushfires, and seasonal pressures. Building redundancy through alternative routes and strengthening pavements and bridges will protect supply chains and maintain access during emergencies, supporting long-term regional sustainability.



Regulation and Policy Harmony

Cross-border consistency in heavy vehicle regulations and route gazettal is essential for seamless freight movement. This Plan promotes harmonisation between South Australia and Victoria, reducing administrative barriers and aligning with national standards for productivity and emissions reduction.



Long-Term Planning

The freight network will be planned for the future - anticipating growth in plantation forestry, engineered timber manufacturing, mineral sands, and renewable energy projects. Investment will focus on corridors, intermodal facilities, and technology to ensure the network remains fit-for-purpose for decades to come.

Stakeholder Consultation

The Victorian and South Australian governments engaged with key stakeholders in late 2025 and early 2026 throughout the Green Triangle Region, including South Australian and Victorian Councils, the South Australian and Victorian Cross Border Commissioners, the South Australian Department of Primary Industries and Regions (PIRSA), Regional Development Australia Limestone Coast, the forestry industry (including plantations), the road freight industry, and the Port of Portland.

Discussions with stakeholders covered a broad range of topics specific to the region, including:

- cross-border harmonisation,
- learnings from COVID border closures,
- impacts of bushfires,
- impacts of the Home Builder Scheme,
- changing global economic conditions,
- developing technologies in forestry logistics,
- de-carbonisation and transport trends,
- renewable energy,
- emerging industries, and
- existing and growing tourism industry.

The feedback from key stakeholders throughout the region has been used to inform this 2026 Action Plan Refresh, including identification of key corridors where wood, and other products, is being transported and the feedback will be used to help inform investment priorities and opportunities with the aim of fostering and supporting industries in the region.



Strategic Context

As part of the 2026 Plan Refresh, the strategic context has been shaped not only by emerging industry trends and national policy settings, but also by extensive engagement across the Green Triangle. Stakeholders from local government, industry, freight operators and regional agencies provided detailed insights into priority routes, operational challenges, regulatory gaps and future opportunities that are influencing freight movements across the region.

This feedback forms an evidence base for understanding how the network is evolving and where investment and policy responses are most needed. The feedback from these discussions has provided essential context for the 2026 Plan Refresh, ensuring that strategic priorities remain grounded in the experiences and expectations of those operating in the region.



Global issues – conflict, trade disruption, global supply chain issues

Global economic uncertainty and geopolitical tensions have reshaped trade flows and freight dynamics. Conflicts and trade restrictions have disrupted traditional export markets, requiring diversification toward alternative destinations such as India and Southeast Asia.

Australia remains a net timber importer, with increased reliance on European supply chains due to global market shifts.

Rising costs for energy, construction, and transport have placed additional pressure on freight operations, reinforcing the need for resilient networks and adaptive planning to maintain competitiveness.



National impacts - COVID-19 border closures, HomeBuilder Scheme

COVID-19 border closures created significant challenges for freight movement and workforce mobility across state boundaries. Inconsistent regulatory requirements and permit systems highlighted the importance of harmonised protocols to ensure continuity during future disruptions.

The HomeBuilder Scheme (2020) stimulated timber demand, increasing freight volumes across the Green Triangle. This growth was constrained by infrastructure limitations and workforce shortages, underscoring the need for investment in freight corridors and skills development to support domestic supply chains.



Regional impacts and opportunities

The Green Triangle region has experienced substantial change since 2016, with freight volumes continuing to grow, primarily driven by the forestry sector along with agriculture and emerging industries such as renewable energy. The dairy industry is an important employer in the region and represents a significant number of vehicle movements.

Mineral sands activity is present in parts of the region and is expected to contribute to freight demand over time. Road conditions, bridge capacity and connectivity gaps remain key challenges, particularly along corridors such as the Riddoch Highway, Princes Highway (Portland - Heywood), and the Casterton - Portland Road. These constraints impact safety and productivity, reinforcing the need for targeted upgrades across the network.

Population Change and Workforce Pressures

Population growth in regional centres such as Mount Gambier has increased demand for housing and services. Workforce shortages, particularly in skilled trades and freight operations, remain a persistent challenge.

Attracting and retaining skilled workers is essential to enable industry expansion and infrastructure delivery.

Emerging Industries and Job Creation

New timber processing facilities, including particleboard and biomass plants, are reshaping freight patterns and increasing domestic demand.

Mineral sands projects near Portland and Hamilton, along with renewable energy developments such as wind farms and battery storage hubs, are creating additional freight tasks, including over-dimensional loads. These sectors present opportunities for job creation and economic diversification, reinforcing the need for a resilient and future-ready freight network.

Forestry

Forestry product export volume increased significantly between 2008 and 2018, which was largely related to maturing of plantations and harvesting of uneconomic plantations. Export volumes have dropped approximately 30-40% since pre-COVID levels, although volumes are forecast to pick up in coming years.

Forestry products represent around half of the Port of Portland volumes and about half of the forestry product is in the form of hardwood chips.

Virtually all timber products are transported by truck with the main destination being Port of Portland.

Mineral Sands and Critical Minerals

Mineral sands and critical minerals are emerging as significant long-term opportunities for the

region, driven by growing global demand for materials essential to renewable energy, advanced manufacturing and the transition to net zero.

The announcement of the Maroona to Portland Rail Line Upgrade in 2024 and upgrades to the rail terminal at Port of Portland will support the transport of mineral sands from sand mines to port.

Grain

Grain remains highly variable, fluctuating from minimal volumes to over 1.5 million tonnes in strong seasons, with improved loading capacity and the Maroona–Portland rail upgrade expected to strengthen competitiveness and reduce road pressure.

Aluminium Smelter

Smelter-related imports of around 0.9 million tonnes per year continue to provide a stable base load for the Portland Aluminium smelter, while fertiliser imports, averaging 350 000 tonnes per annum, remain a reliable input for regional agriculture. Aluminium movements, largely transferred directly from ship to smelter, support one of the region's key industrial employers.

Renewable Energy

Renewable-energy freight is increasing, with onshore wind components and offshore wind offering major future opportunities.

Hydrogen also presents an emerging growth area, with Portland well placed to support production and export as demand for low-carbon fuels expands.

Fertiliser

Fertiliser is imported and transported to either the Incitec Pivot facility or the Wengfu storage facility, both within one kilometre of the Port. It's likely that fertiliser import volumes will increase over the next five years.



Table 1: Port of Portland volumes (tonnes) by commodity (Source: Port of Portland)



Table 2: Port of Portland commodity volumes 2015-2019 (Source: Port of Portland)

Commodity	Tonnes ('000) FY15	Tonnes ('000) FY16	Tonnes ('000) FY17	Tonnes ('000) FY18	Tonnes ('000) FY19
Forestry Products	4,481	4,825	5,652	5,618	5,404
Smelter Products	928	928	652	836	860
Grain	130	82	359	471	-
Fertiliser	343	359	338	375	369
Mineral Sands	488	553	464	265	85
Other	92	178	114	68	161
Total (ktpa)	6,462	6,925	7,579	7,633	6,880

Table 3: Port of Portland commodity volumes 2020-2024 (Source: Port of Portland)

Commodity	Tonnes ('000) FY20	Tonnes ('000) FY21	Tonnes ('000) FY22	Tonnes ('000) FY23	Tonnes ('000) FY24
Forestry Products	3,833	2,711	3,005	3,210	2,599
Smelter Products	770	801	806	864	837
Grain	255	950	1,327	1,467	1,533
Fertiliser	320	405	273	345	344
Mineral Sands	61	134	106	132	101
Other	127	63	92	63	42
Total (ktpa)	5,366	5,063	5,610	6,081	5,456

Emerging Issues and New trends



Climate change, land use and resilience

Climate pressures and forest productivity

Recent seasons have included record-dry conditions across the Green Triangle, with observed pine mortality, growth suppression and elevated pest/disease risk. Single-year growth losses can reduce end-of-rotation yield and propagate supply-chain impacts. These conditions make drought tolerance, genetics, and plantation management a resilience priority.

Land-use economics and estate dynamics

Across Australia, the plantation estate has contracted since its peak in 2009, driven largely by hardwood estate reductions and conversion back to agriculture, with profitability and land values being central drivers. This national trend has implications for the Green Triangle's long-term fibre supply and freight task, reinforcing the need to secure productive land for forestry near mills and the Port of Portland.

Bio-energy developments

Opportunities to utilise forestry waste in the region has significant potential to create renewable energy. Bio-energy opportunities are being explored, which will turn what has historically been a forestry waste product into a green energy source, whilst creating jobs and reducing the reliance on carbon intensive fuels from overseas.

Impacts on primary production and resilience.

Tight competition for land with high agricultural value, workforce constraints, and weather volatility are reshaping regional production.

Weather volatility leads to unpredictable crops, with volumes through Port of Portland fluctuating significantly (up to 500% difference) depending on crop production.



Heavy Vehicle productivity, regulation, and decarbonisation

Productivity and access upgrades

Freight volumes to Portland and regional processors continue to rely on key corridors such as Princes Highway, Portland-Casterton Road, Portland-Nelson Road and the Henty Highway.

Network and regulation integration

Heavy vehicle access mapping for South Australia and Victoria is transitioning to the National Heavy Vehicle Regulator's (NHVR) National Network Map, consolidating gazetted routes, conditional access and restrictions across state borders—supporting route planning for Performance Based Standards (PBS) configurations and higher mass limits.

Decarbonising the heavy freight task

The national policy and research environment is accelerating zero emission heavy vehicles (ZEHVs), with Battery Electric Trucks (BETs) and Hydrogen Fuel Cell Electric Trucks (FCETs) assessed for total cost of ownership and corridor infrastructure needs. Operational barriers remain (vehicle cost, charging power, grid capacity), however government-backed demonstrations and analysis show viable near-term roles for electric heavy vehicles on defined routes.



Technology

Low emission and electric vehicles

Trials of electric heavy vehicles on key freight corridors in Victoria and South Australia demonstrate the feasibility of zero-emission vehicles for specific duty cycles, supported by depot-based charging strategies, fast - charging capability and large-capacity batteries.

While broader adoption of electric vehicles remains limited by infrastructure and operational constraints, technological progress will strengthen the pathway to decarbonisation.

The increasing weight of electric and hydrogen-powered prime movers has implications for pavement design, bridge loading and long-term asset planning, underscoring the need for coordinated investment as the transition accelerates.

Heavy vehicle access

Heavy vehicle access improvements remain essential across the Green Triangle, as both states work to support High Productivity Freight Vehicle movements and address geometric constraints associated with forestry, agricultural freight and the growing volume of Over Size and Over Mass (OSOM) loads - particularly large components for wind energy projects.

South Australia's High Productivity Vehicle Network initiative, including work relating to the Greater Adelaide Freight Bypass, aims to progressively enable access for higher productivity combinations such as PBS Level 4A vehicles. Victoria's ongoing upgrades similarly support increased freight efficiency.

The National Heavy Vehicle Regulator (NHVR) National Network Map continues to centralise access conditions across both states, providing greater certainty for operators and supporting cross border compliance.

Road condition assessment technology

Both South Australia and Victoria use advanced pavement assessment technologies, including Intelligent Pavement Assessment Vehicle (iPAVE) type systems, which capture high speed structural and surface condition data to enable targeted rehabilitation. These tools support more efficient investment planning, with the aim of minimising vehicle operating costs on road freight routes.

Digital Connectivity

Poor 5G network coverage across parts of the region is limiting the uptake and effectiveness of emerging safety and compliance technologies, including:

- GPS based route planning and tracking,
- electronic work diaries for managing work and rest hours,
- driver distraction and fatigue detection systems, and
- vehicle monitoring tools that track rollover risk, fuel use, tyre pressure and engine health.

Improved digital connectivity will be essential to unlock the full benefits of modern heavy vehicle technologies and support safer, more efficient freight operations across the Green Triangle.

Problem Identification



Transport activity forecasts

Freight volumes in the Green Triangle are forecast to grow significantly, driven by forestry, agriculture, mineral sands, and emerging industries. Forestry remains dominant, accounting for more than half of freight flows in the region, primarily by road. Transport costs represent, in general terms, between one third and half of product value, and recent cost increases associated with road transport highlight the need for efficiency improvements. Current infrastructure constraints—such as bridge capacity and poor pavement conditions—limit HPV access, increasing costs and reducing competitiveness.

Woodflow mapping, for future years, was undertaken in 2026 using industry data. The woodflow mapping considered locations of hardwood and softwood plantations, processors, transport routes and destinations. The information will be utilised by government to guide investment decisions.

The Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian Government's agency responsible for scientific research, developed a Transport Network Strategic Investment Tool (TraNSIT) in 2012. Mapping outputs from this tool are shown below.

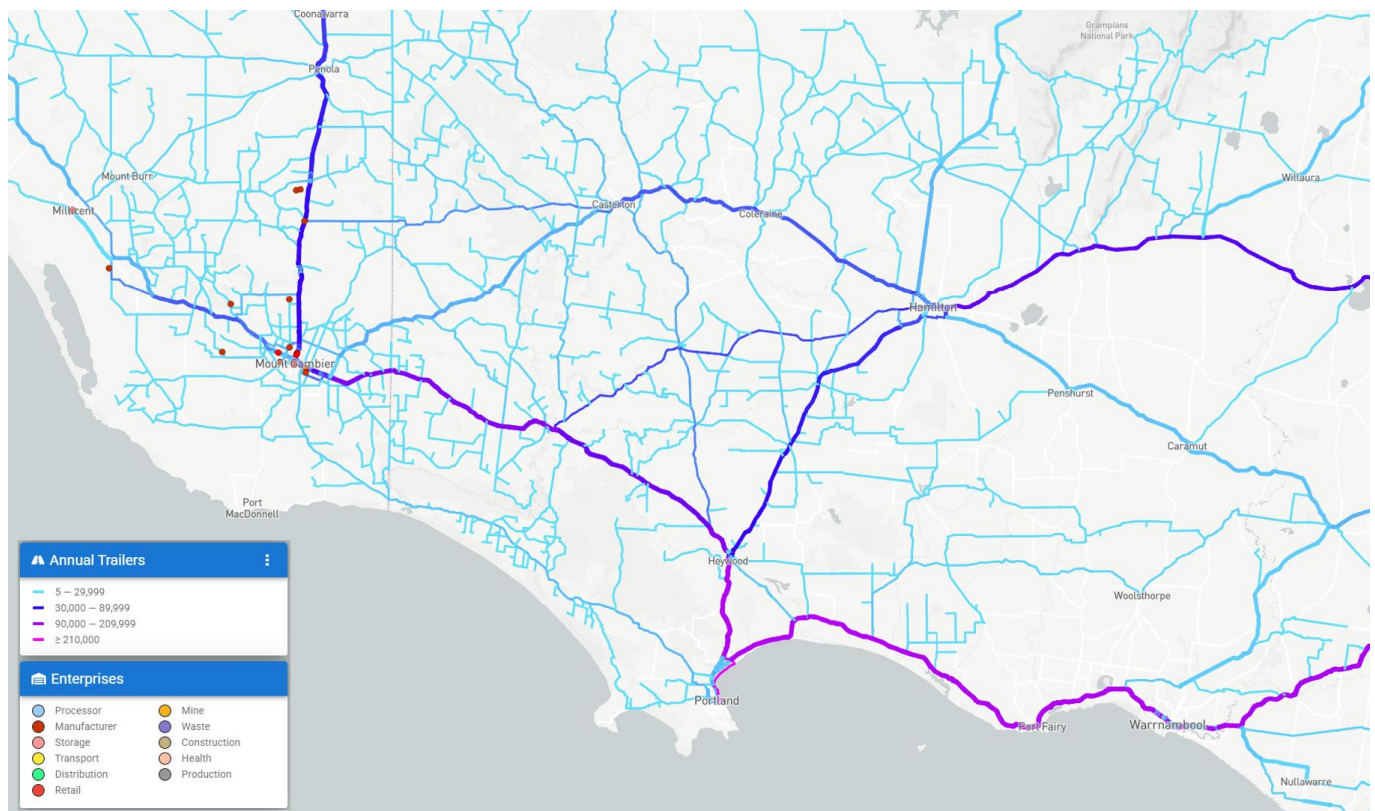


Figure 5: Movement of timber and timber products in the Green Triangle Region (Source: TraNSIT)

Other primary production and processed output supply chains

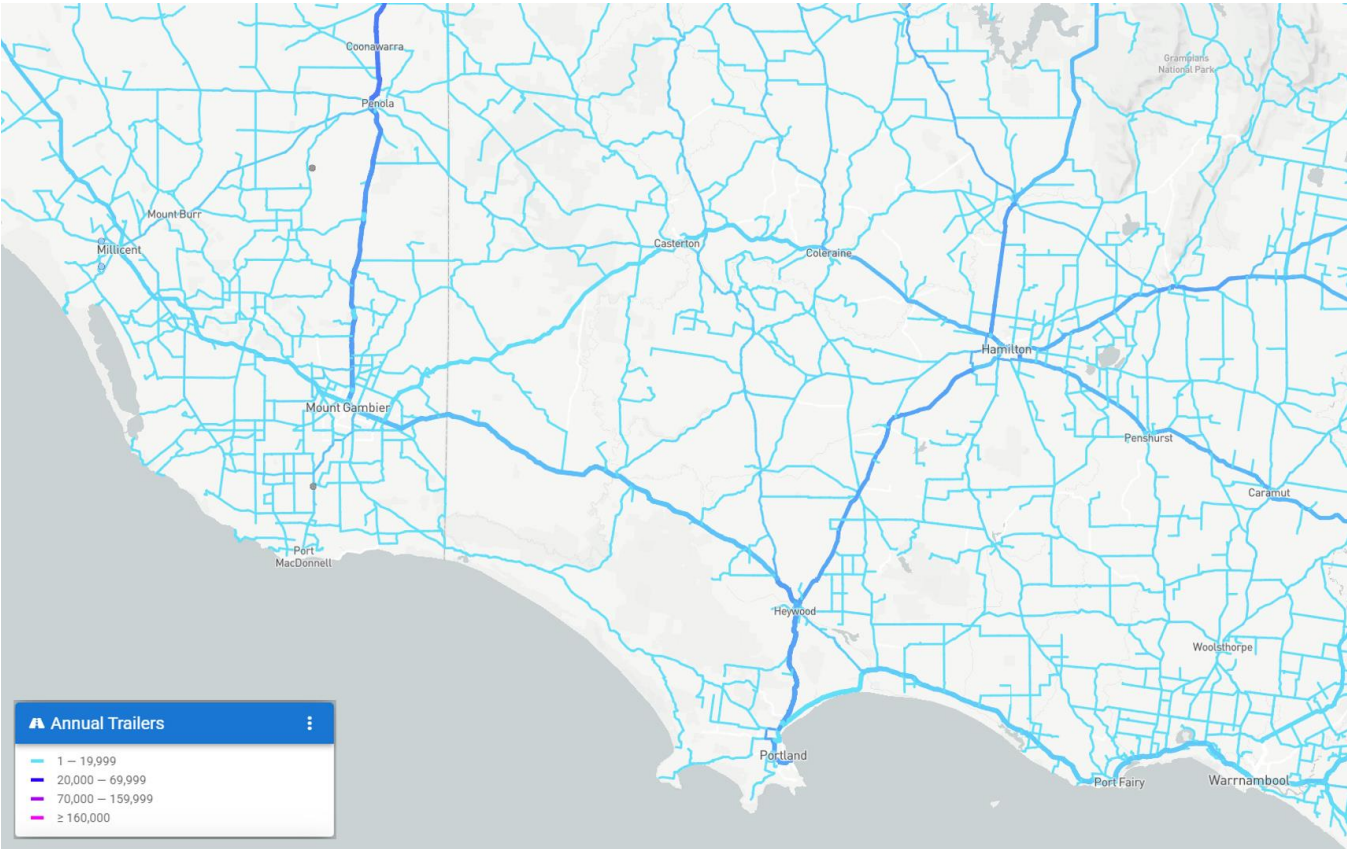


Figure 6: Movement of grain in the Green Triangle Region (Source: TraNSIT)

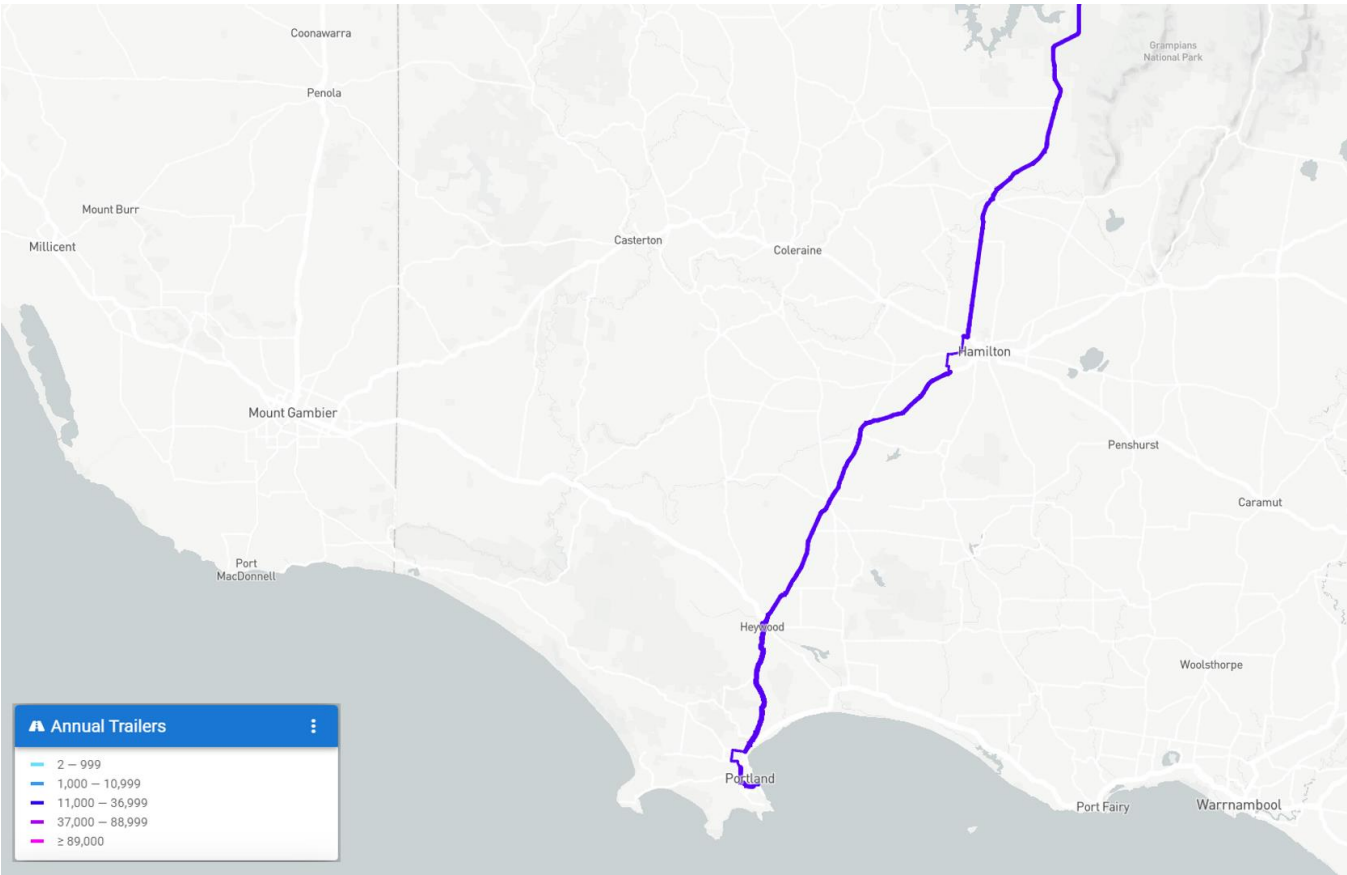


Figure 7: Movement of minerals in the Green Triangle Region (Source: TraNSIT)

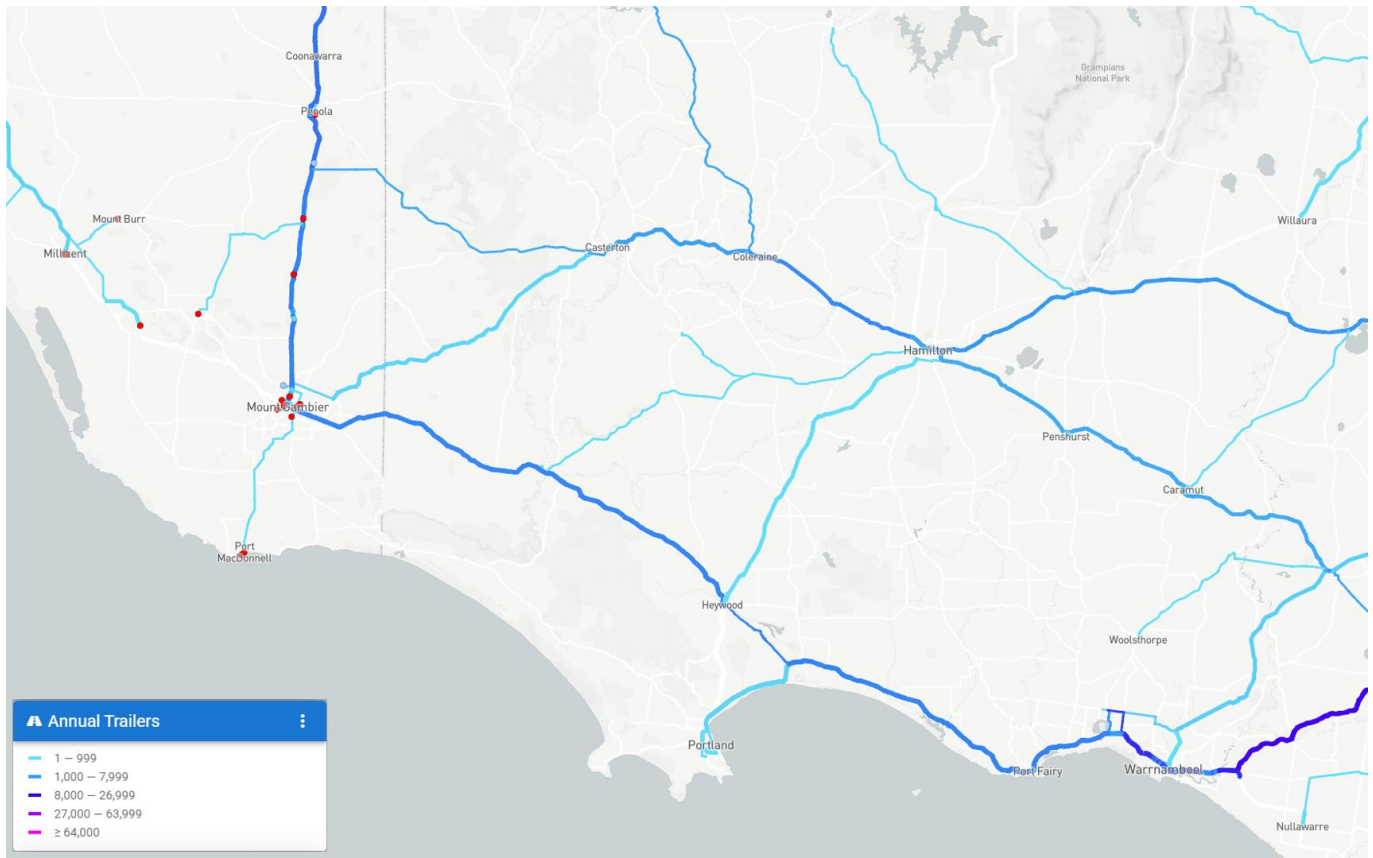


Figure 8: Movement of dairy in the Green Triangle Region (Source: TraNSIT)

Enabling renewable energy developments

Wind farms, battery storage hubs, and potential hydrogen projects are emerging across the region, creating new freight tasks for OSOM components. These movements require route clearances, staging areas, and intersection upgrades. Without proactive planning, renewable energy logistics will compete with timber and primary production haulage for limited corridor capacity, increasing congestion and safety risks.

Tourism in the region

Tourism growth across the Green Triangle and surrounding regions is adding increasing pressure to key regional routes, particularly during peak holiday periods when visitor traffic is highest. Key destinations include the Limestone Coast and Coonawarra in South Australia and the Great Ocean Road, Grampians and Shipwreck Coast in Victoria. These seasonal surges place additional demand on shared corridors that also carry high volumes of freight, contributing to slower travel times and heightened safety risks for all road users.

At the same time, population growth and urban development in centres across the area are reshaping local traffic patterns and may further constrain freight access if not proactively managed. Ensuring future route protection, planning for bypasses where appropriate, and balancing the needs of both visitors and industry will be essential to maintaining a safe and efficient network that supports economic growth.



Decarbonisation of the supply chain

National emissions-reduction targets are accelerating the shift toward lower-emission freight operations, with industry preparing for the broader adoption of electric and hydrogen heavy vehicles. As these technologies progress, continued planning and investment are required to address gaps in charging and refuelling infrastructure and to manage payload and operational impacts. HPV remain an effective way to reduce emissions per tonne-kilometre and improve freight efficiency, provided that supporting upgrades to roads and bridges are delivered.

Work to revitalise rail connections, such as the Portland–Maroona line, also presents opportunities to shift more freight to lower-emission modes. Together, these factors highlight the need for a coordinated, staged approach to decarbonisation that aligns infrastructure investment, technology readiness, and industry capability.



Heavy vehicle trends

Industry is moving toward fewer trips with larger vehicles to improve productivity and carbon efficiency, but inconsistent regulations and practices relating to HPV access constrain productivity. Cross-border harmonisation remains a critical issue, with differing mass limits, permit requirements, and defect rules between South Australia and Victoria. Emerging technologies, such as Euro 6 engines, electric trucks, and advanced telematics, are gaining traction but increase operating costs and require supportive infrastructure.



Road and rail safety

Road and rail safety remain key priorities across the Green Triangle, with continued investment in pavement improvements, critical to support road safety and productivity on key freight routes, such as the Riddoch Highway, Princes Highway (Portland - Heywood) and the Casterton - Portland Road.

Bridge capacity limitations further constrain safe freight movement, particularly as heavier vehicles and emerging technologies increase axle loads.

Rail safety concerns can be amplified at level crossings, where near miss incidents highlight the need for improved sightlines, clearer signage, enhanced compliance measures and targeted upgrades.

Additional factors such as limited overtaking opportunities, addressing roadside drainage and roadside vegetation encroachment can contribute to crash risk on high volume freight corridors.

Providing network resilience, including maintenance of alternate road routes, is important during disruptions and emergency events, such as bushfires.



Transport / haulage impacts on road and structures

HPV deliver substantial economic and environmental benefits by reducing operating costs, emissions and improving overall efficiency. However, increased axle masses and higher frequency haulage accelerate pavement wear and structural fatigue, particularly on routes not originally designed for these load profiles.

The emergence of heavier electric and hydrogen powered prime movers is expected to amplify these pressures unless road and bridge design standards keep pace.

The number of OSOM loads is increasing, especially large wind generation components. This presents geometric challenges at intersections, bridge approaches and constrained corridor sections and accelerates road pavement degradation.

While iPAVE surveys now provide traffic speed structural diagnostics that allow more targeted rehabilitation, integration of these datasets into forward investment planning is still evolving.

Green Triangle Freight Action Plan, 2026

To strengthen the efficiency, safety, and reliability of freight movements across the Green Triangle, targeted investment and coordinated upgrades are required along the region's critical transport corridors and nodes, including:

Key Routes

- Princes Highway
 - Warrnambool to Heywood
 - Heywood to Mount Gambier west
- Riddoch Highway
 - Mount Gambier to Coonawarra
- Portland-Casterton Road
- Glenelg River Road (Mount Gambier to Nelson)
- Mount Gambier West freight route to market
- Henty Highway
 - Ring Road to Portland
 - Condah to Portland

In addition, there are a number of bridges, particularly around Colac, where load restrictions are constraining productivity.

Key Nodes

Port of Portland

The Port of Portland is the major port in the region, a critical node for the export of goods produced in the region, including timber products, as well as the import of goods, such as elements essential for energy production such as wind turbines and fertiliser.

Timber Processing Hubs

Timber processing hubs are located in Mount Gambier, Tarpeena, Portland, and Colac. Road freight productivity in and out of these processing facilities is important to maximise supply chain efficiencies. The addition of 650 000 cubic metres of additional processing in Mount Gambier West, and pending additional expansions, means that the transit of raw product for processing and value-add are changing freight movements.

Relevant Strategies and Plans

National Freight & Supply Chain Strategy (Updated August 2025)

A refreshed national strategy agreed by all jurisdictions, focusing on:

- Productivity (better freight infrastructure investment).
- Resilience (freight network redundancy and disruption planning).
- Decarbonisation (zero-emission freight vehicles, corridor energy planning).
- Data (freight modelling, freight data hub).

This aligns with the Green Triangle's need for upgraded routes, improved HPVs, port integration, and supply-chain decarbonisation (e.g., electric B-doubles trialled between Mount Gambier and Portland).

National Freight Action Plan (2025–2029)

Sitting alongside the national strategy, key national actions relevant to the Green Triangle region include:

- Developing a Freight Infrastructure Investment Framework.
- Modelling current and future national freight networks.
- Developing a National Freight Resilience Plan.

These frameworks influence funding eligibility for upgrades on strategic timber corridors such as the Princes Highway, Henty Highway, and links to the Port of Portland.

South Australia 20-Year Infrastructure Strategy (2025) - Freight Network Priority

South Australia's long-term infrastructure strategy identifies "Building an efficient freight network" as a core priority, with emphasis on strengthening road freight routes, improving productivity and supporting energy-intensive export industries, highly relevant to the Green Triangle timber supply chain.

Other themes that are relevant to the Green Triangle include climate resilience, including the decarbonisation of transport, and digital connectivity.

The Victorian Freight Plan 2025-30: Victoria Delivers

The Victorian Freight Plan 2025-30: Victoria Delivers was released on 6 August 2025. It is the Victorian Government's plan to meet the challenge of higher freight volumes as the state's population continues to grow and our demand for freight continues to increase. The vision for the plan is to protect and strengthen Victoria's competitive advantage, to enhance Victoria's liveability and economic prosperity.

Resilient, productive and sustainable freight connections are essential to the success of Victoria's businesses and communities. The Victorian freight industry employs around 240,000 people and generates more growth and jobs from freight than any other state. Victoria's freight task is expected to increase from around 440 million tonnes in 2020-21 to 908 million tonnes by 2050-51. That growth is being accelerated by an increased momentum for decarbonisation and opportunities to boost supply chain efficiency, safety and connectivity through technological innovation and improved access to data. Victoria Delivers is the roadmap for our freight system. It outlines the high-level objectives, strategic priority areas and the actions that will be taken to deliver on the objectives over the next five years to support thriving freight and supply chains in Victoria.

As a long - term blueprint, it will be used to guide policy development; strengthen protection, planning and delivery practices; embed safety; support innovative technology and decarbonisation pathways; create certainty for investment; ensure fit for purpose infrastructure; improve data availability and research; and foster a skilled and diverse workforce. There is strong alignment between Victoria Delivers and the National Freight and Supply Chain Strategy. Victoria Delivers can be found at:

<https://www.vic.gov.au/freight-victoria>

Limestone Coast Transport Study

The South Australian Department for Infrastructure and Transport will be commencing an area transport study for the Limestone Coast region of the South Australia in the second half of 2026.

The Limestone Coast Transport Study will include the District Council of Robe, along with the local government areas, whole or in part, of Tatiara, Kingston, Naracoorte Lucindale, Wattle Range, Grant, and Mount Gambier.

The study will build a better understanding of the transport network in these regions by considering Council's strategic documents and through engagement with Council representatives. The study will also engage local industry and businesses through relevant industry groups. The study will identify and evaluate key challenges faced by these regional communities, and how best to address future transport demand in line with State's Transport Strategy.

Key focus areas of these studies include freight productivity, connectivity and access for the local community, road safety, network resilience, and sustainability.

The study will provide key recommendations on how to respond to existing and future transport demands, to inform more detailed project planning and ongoing investment in the Limestone Coast region.

South West Victoria Transport Study

The South West Victoria Alliance of Councils are undertaking a study into the transport needs across South West Victoria. The study will be developed with input from each Council, industry and other key stakeholder groups.

The study will assess the transport network across all modes of transport (road, rail, and air) and identify the challenges. It will consider the projected growth and changes in the region that will influence the transport network and investigate options to improve access, connectivity and the movement of freight across the region. The study will provide an integrated transport plan that support the continued growth of the region.

Relevant Projects

Princes Highway Upgrades (Meningie - SA/VIC border)

The project forms part of the \$190 million Princes Highway Corridor Upgrade program, which is jointly funded by the Australian and South Australian governments (80:20).

Includes overtaking lanes, intersection upgrades, shoulder sealing, pavement rehabilitation, and rest-area improvements along the corridor linking directly to Mount Gambier, Heywood, and the Portland hinterland.

Greater Adelaide Freight Bypass

The Greater Adelaide Freight Bypass is a priority project for Stage 1 of the High Productivity Vehicle Network (HPVN) program which is focused on improving freight productivity on existing corridors by moving more with less vehicles, enhancing safety for all road users.

Infrastructure improvements to existing freight routes that connect the South Eastern Freeway and Sturt Highway will be made safer with junction upgrades, rest areas, overtaking lanes, grade separations, road widening, town bypass upgrades and road duplications being investigated.

Intersection Upgrades (Victoria)

Work continues on a number of intersection upgrades at the following locations:

- Portland-Nelson Road and Cashmore Road
- Henty Highway (Portland Ring Road) and Wyatt Street
- Portland-Nelson Road and Winnap-Nelson Road

These intersections upgrades will result in improvements will improve efficiency and safety for Heavy Vehicles (HV) and other road users and aim to unlock the economic potential of the Green Triangle region.

Bridgewater Road Bridge (Portland, Victoria)

The Bridgewater Road bridge currently has a height clearance of 5.2 metres, preventing larger trucks from using this route. Funded through a combination of State Government and Commonwealth contributions, investigation and development is progressing to seek a solution to make it easier and

more efficient for over-dimensional trucks to get to and from the Port of Portland. Engagement with Glenelg Shire Council and local industry groups continues while options are assessed.