AUSTRALIA'S PRIORITY GRAIN FREIGHT ROUTES:

CRITICAL INFRASTRUCTURE, BOTTLENECKS, AND STRATEGIC INVESTMENT REQUIREMENTS

Grain Growers

CONTENTS

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Cover image: *Lined up for delivery* – Michael Shanhun, WA

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DESIGNED AND PRINTED IN AUSTRALIA

Flat out till the finish line - Alannah Curran, NSW

About GrainGrowers

GrainGrowers is a national organisation working to enhance the profitability and sustainability of Australian grain growers. GrainGrowers achieves this through our focus areas of policy and advocacy, grower engagement, thought leadership and active investment in future focused activities. Australian growers are at the heart of all that GrainGrowers does and the focus of its work.

With thanks

GrainGrowers acknowledges and sincerely thanks the CSIRO for its invaluable contributions to this report. The use of the Transport Network Strategic Investment Tool (TraNSIT) has provided critical insights into Australia's grain freight network, enabling a data-driven approach to identifying infrastructure priorities and freight bottlenecks.

GrainGrowers appreciates the CSIRO's expertise in freight modelling and its commitment to supporting evidence-based decision-making for Australia's agricultural supply chains. This collaboration ensures that grain growers have access to the best available research to inform advocacy and investment in freight infrastructure.

GrainGrowers would also like to thank the growers across the country and the many organisations who took part in consultations for this report.

EXECUTIVE SUMMARY

Australia's grain industry depends on a vast and intricate road freight network to transport millions of tonnes of grain efficiently from farms to market. However, this critical network faces mounting challenges, from ageing infrastructure and inconsistent regulations to increasing climate-related disruptions. Without strategic investment and policy alignment, inefficiencies in the system will continue to drive up costs for growers and threaten Australia's competitiveness on the global stage.

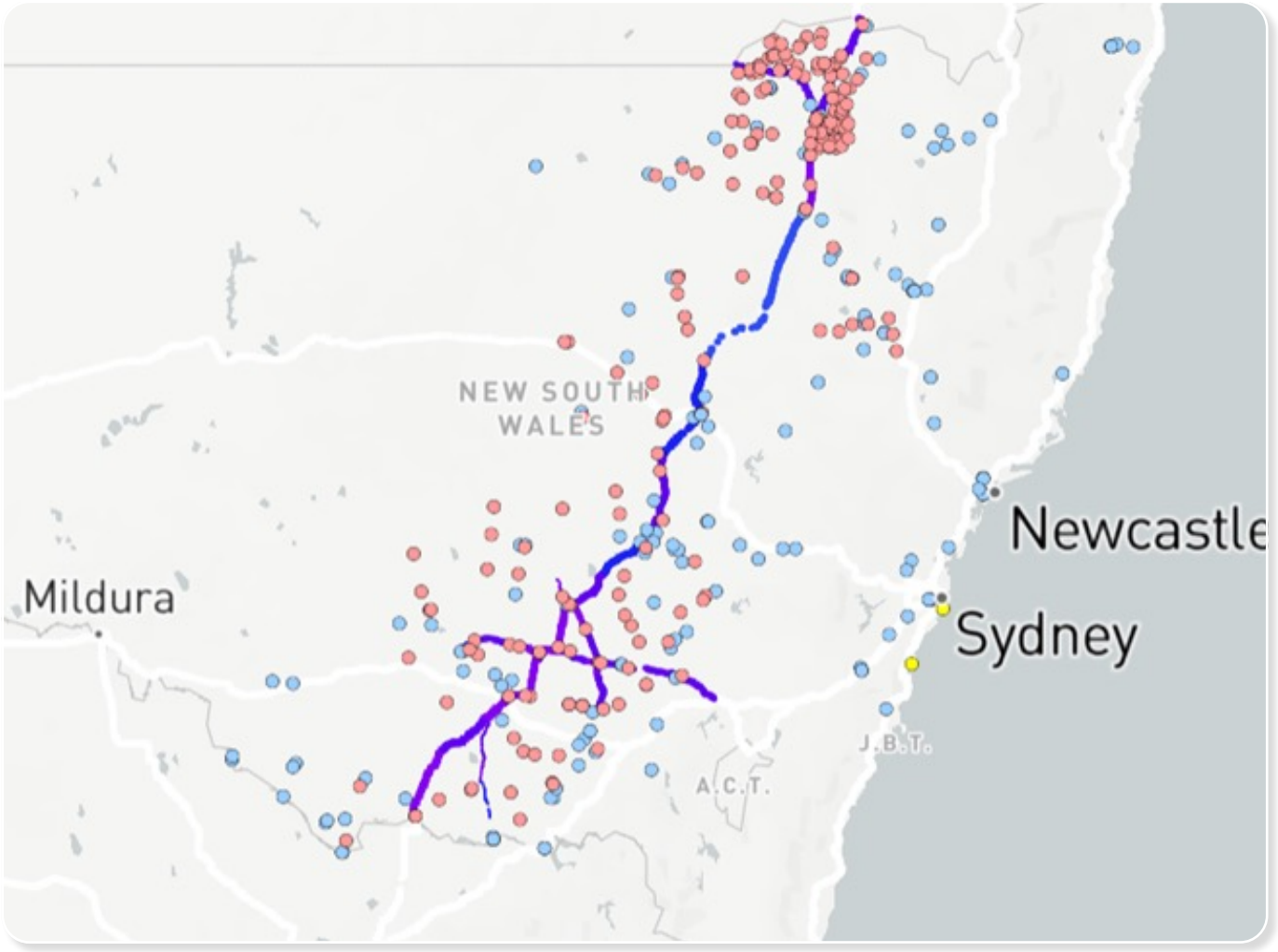
Building on GrainGrowers' previous work including **Connecting the Dots: Improving the Efficiency of the Australian Grain Supply Chain** and the **National Grain Freight Strategy** this report provides a detailed analysis of Australia's priority grain freight routes. By leveraging CSIRO's Transport Network Strategic Investment Tool (TraNSIT) (Higgins et al 2025; www.csiro.au/TraNSIT), it maps high-volume transport corridors, identifies critical infrastructure gaps, and highlights strategic opportunities for improving the efficiency of grain movement.

While each state has distinct, highly localised freight networks, the findings demonstrate that Australia's grain freight network is dependent on a mix of national highways, state-controlled roads and local government routes, many of which require urgent investment to enhance capacity and resilience. The report underscores the importance of targeted upgrades to regional roads, addressing Performance-Based Standards (PBS) network limitations, mitigating flood risks, and improving cross-border harmonisation on the east coast to reduce inefficiencies.

The recommendations outlined in this report provide a roadmap for policymakers and industry stakeholders to drive meaningful improvements in grain freight infrastructure. Strategic investment in key routes will not only lower transport costs but also increase supply chain efficiency.

By prioritising freight routes that deliver the greatest economic and logistical benefits, Australia can future-proof its grain industry and ensure growers have the transport network they need to remain globally competitive. This report serves as a vital tool in shaping policy decisions and guiding investment in the nation's grain freight infrastructure.

New South Wales



Source: CSIRO TraNSIT

Findings

1. Regional Roads play an important role in transporting grain
2. Key freight routes are vulnerable to flood risks
3. Gaps in the New South Wales PBS network are impacting grain freight productivity
4. Ageing bridge infrastructure is inhibiting grain freight efficiency
5. Local road access varies significantly between local government areas

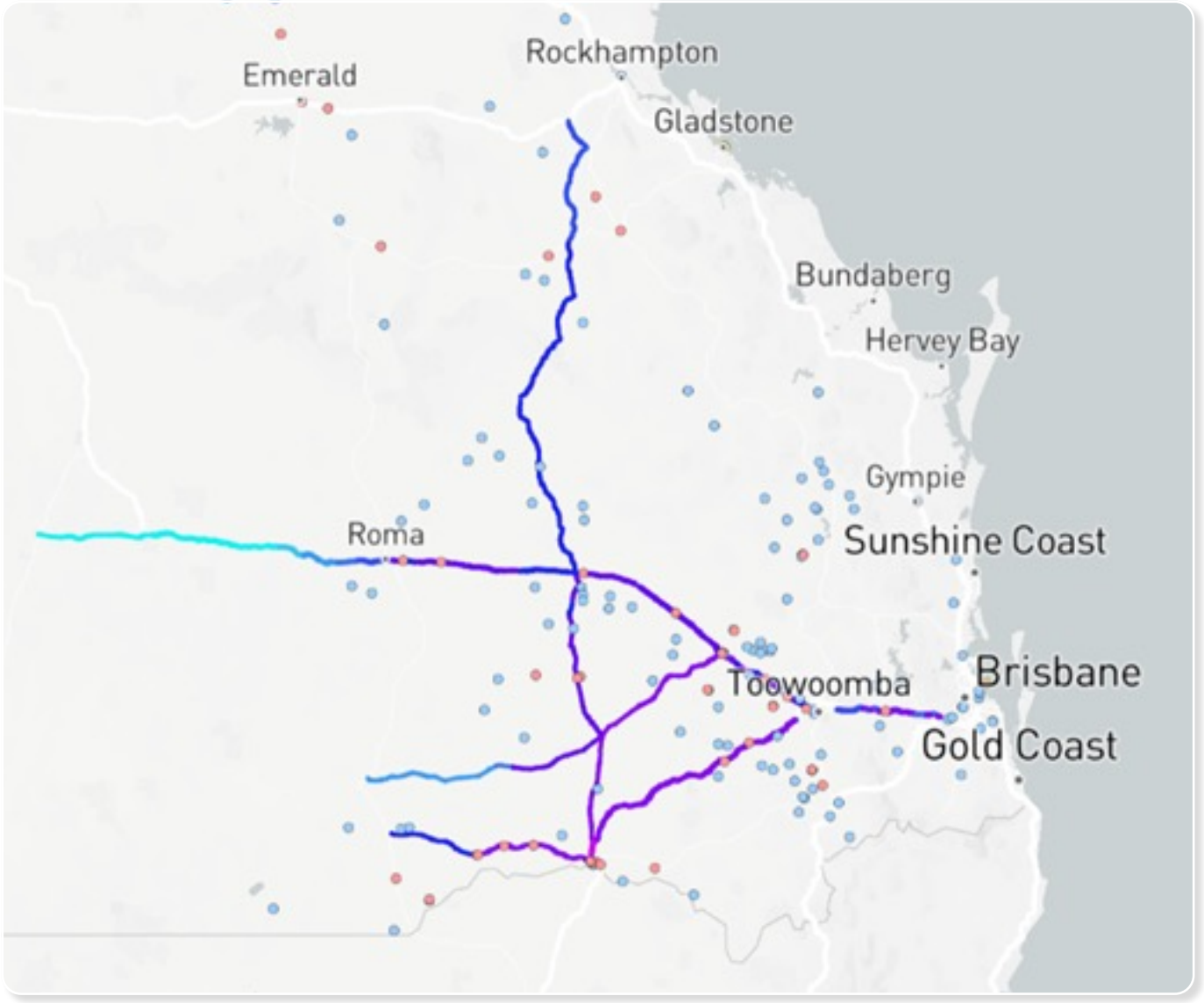
Annual Trailers

1 - 250	5,001 - 10,000
251 - 500	10,001 - 20,000
501 - 1,000	20,001 - 50,000
1,001 - 2,000	50,001 - 100,000
2,001 - 5,000	>100,001

Enterprises

- Processor
- Storage
- Transport

Queensland

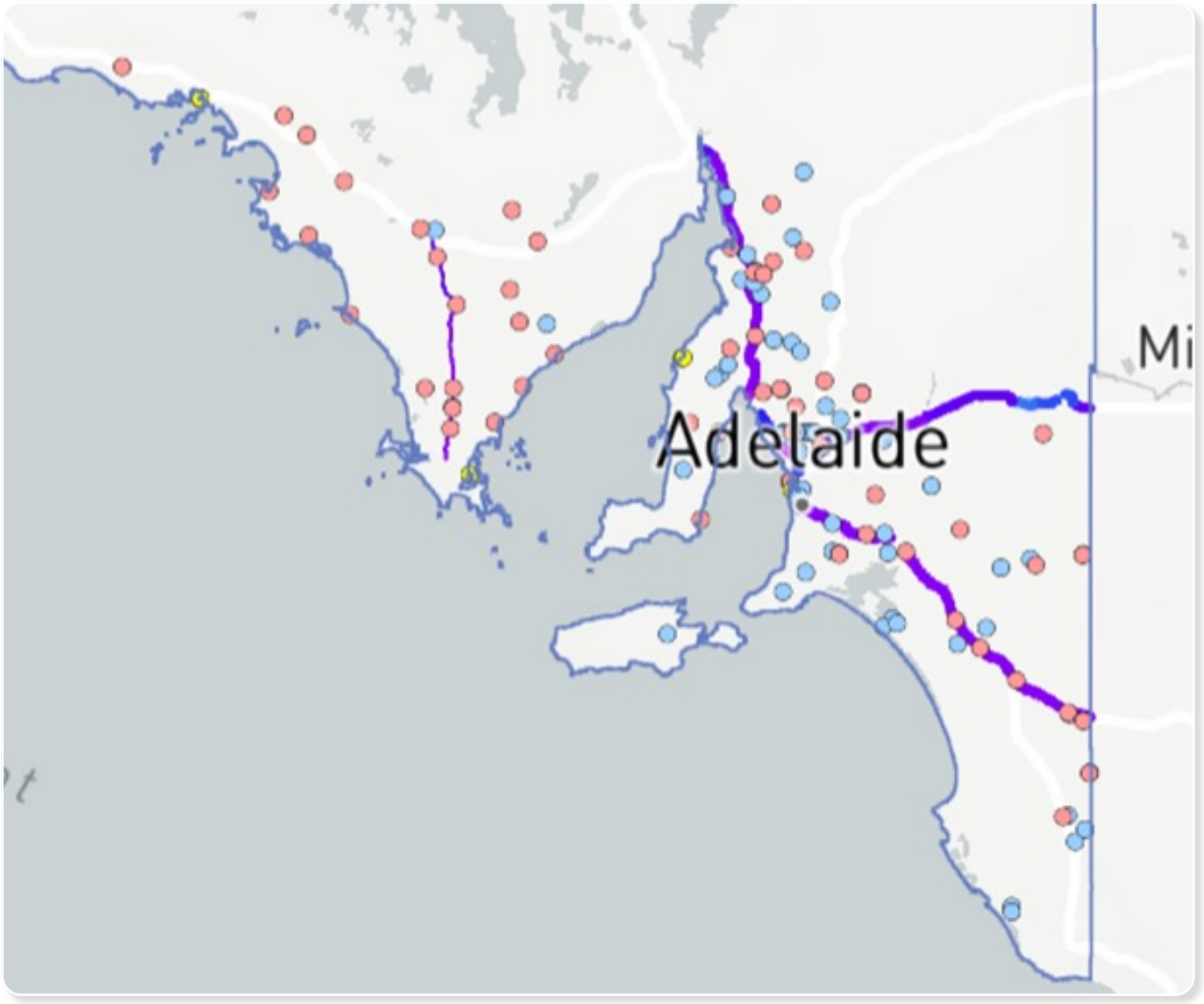


Source: CSIRO TraNSIT

Findings

1. Distinct freight patterns between wheat and chickpea crops
2. Limited PBS A-double network fails to align with grain freight movements
3. Cross-border grain movements from northern New South Wales to Queensland highlight opportunities for harmonisation
4. Many key grain freight routes are high risk for flooding

South Australia



Source: CSIRO TraNSIT

Findings

1. National Land Transport network's role in grain freight transportation in South Australia
2. Local road access varies significantly between local councils
3. Poorly designed roundabouts in peri-urban areas are impacting heavy vehicle movements on key freight routes
4. Ageing bridge infrastructure is inhibiting grain freight efficiency

Annual Trailers

1 - 250	5,001 - 10,000
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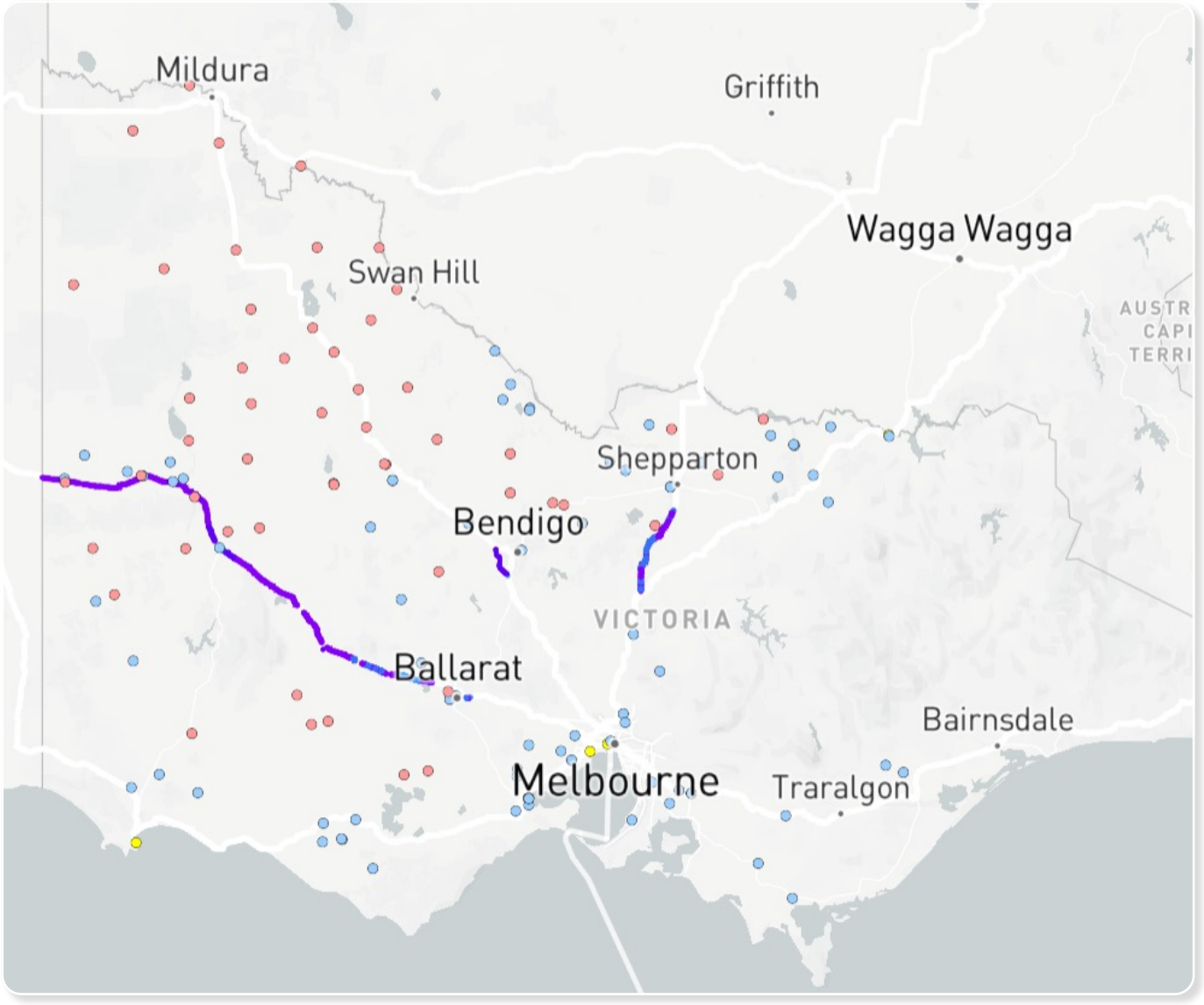
Enterprises

- Processor
- Storage
- Transport

Victoria

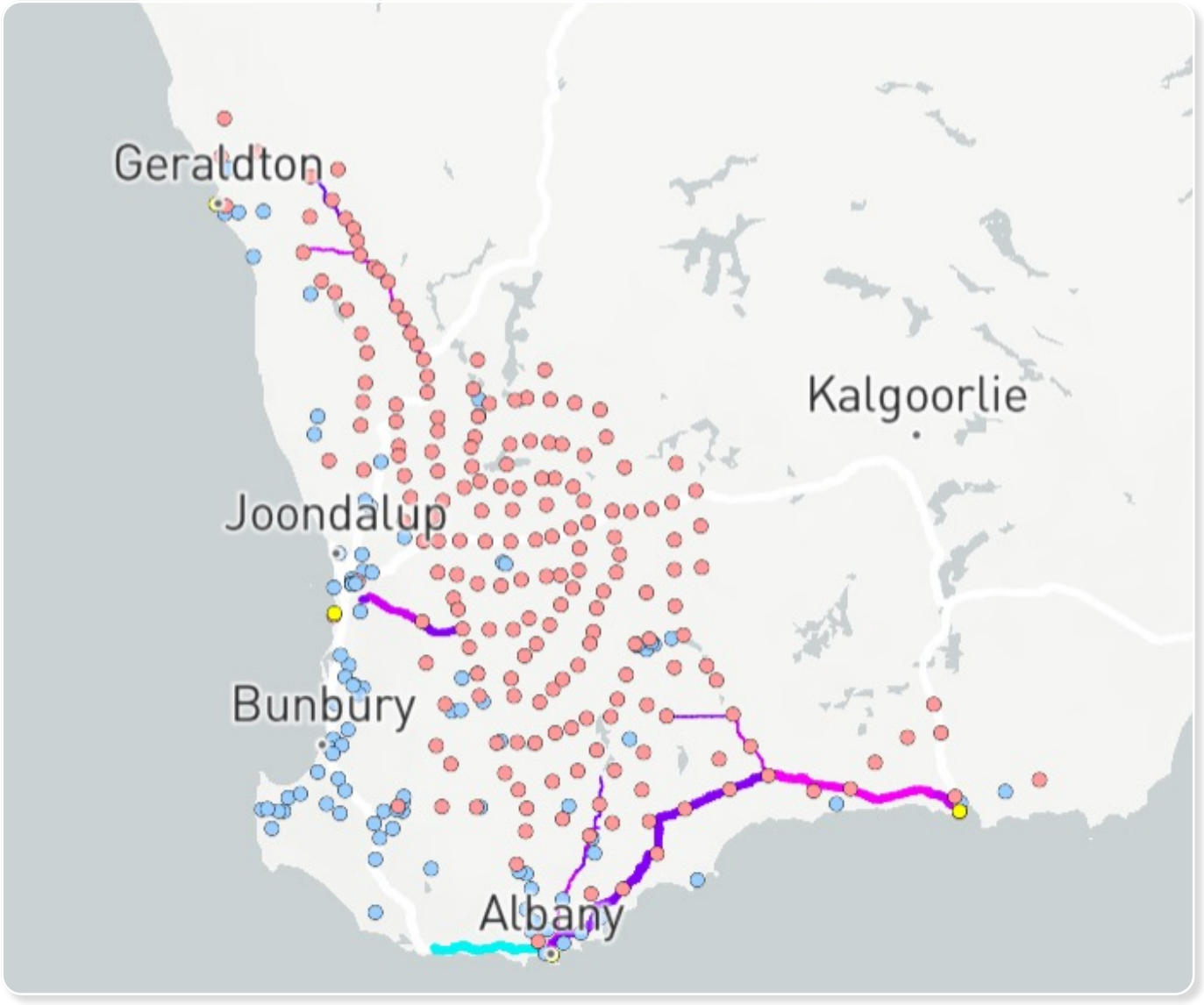


Source: CSIRO TraNSIT

Findings

1. Weight restrictions on bridges are inhibiting productivity on key grain freight routes
2. Rail crossing restrictions add regulatory burden to high productivity movements on key grain freight routes
3. There are significant variations in road access across key grain growing regions in Victoria impacting grain freight efficiency
4. High cross-border movements present opportunities for increased harmonisation to increase productivity

Western Australia



Source: CSIRO TraNSIT

Findings

1. Key freight routes are vulnerable to climatic events
2. Critical gaps in the PBS 3 network are inhibiting grain freight productivity
3. Strategic importance of local government roads

Annual Trailers

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Enterprises

- Processor
- Storage
- Transport

Bunker by night - Meg Tighe, NSW

INTRODUCTION

Background and purpose

Efficient grain freight is vital to the efficiency and profitability of Australia's grain industry. The ability to move grain from farms to domestic markets, processing facilities, and export terminals in a cost-effective and reliable manner is crucial for grower profitability and maintaining competitiveness in both domestic and international markets. However, the Australian grain freight road network faces multiple challenges, including infrastructure limitations, regulatory inconsistencies, and vulnerability to climate-related disruptions.

This report provides a comprehensive analysis of key grain road freight routes across Australia, identifying critical transport corridors, freight volumes, and infrastructure constraints. It highlights priority areas for investment to improve freight efficiency, reduce transport costs, and strengthen supply chain resilience.

Data and methodology

The findings in this report are based on data from CSIRO's Transport Network Strategic Investment Tool (TraNSIT). Since its development in 2012, TraNSIT has been used both nationally and internationally to enhance supply chain efficiency and guide infrastructure investment decisions. Originally designed to reduce the cost of transporting cattle from Northern Australia to market, the model has evolved to cover over 215 commodities, mapping more than 285 million truck trips and 200,000 rail trips annually.

It incorporates insights from over 450 agencies and organisations, making it one of the most comprehensive freight modelling tools in Australia.

For the purposes of this report, TraNSIT has been utilised to analyse grain and oilseed freight movements, with the data reflecting production levels from 2021. By leveraging this extensive dataset, the report provides insights into freight volumes, network performance, and key constraints affecting the efficiency of grain transportation. Further information about TraNSIT can be found at **Transport Network Strategic Investment Tool (TraNSIT) Overview of modelling capability and applications** Higgins et al (2025) or *www.csiro.au/TraNSIT*.

Importance of strategic investment in grain freight

As the Australian grain industry continues to grow and adapt to changing market conditions, strategic investment in freight infrastructure will be essential. This report aims to inform policymakers, industry stakeholders, and infrastructure planners about the most pressing challenges in grain freight transportation and the opportunities for targeted investment to enhance supply chain efficiency. By addressing key infrastructure gaps and aligning policy settings with industry needs, Australia can improve the competitiveness of its grain sector while supporting regional economic growth.

This report uses advanced freight modelling tools such as TraNSIT to provide a data-driven foundation for evidence-based decision-making in transport and infrastructure planning, ensuring that Australia's grain supply chain remains robust, resilient, and globally competitive.

NEW SOUTH WALES

Grain production

New South Wales is typically Australia's second-largest grain-growing state and largest domestic market. High volumes of grain are used for stockfeed, food processing, and export. Grain production is concentrated in an inland belt west of the Great Dividing Range, extending from the rich black alluvial soils near the Queensland border, through the fertile Liverpool Plains and Central West, to the Riverina region in the state's south.

Bulk grain exports are primarily exported through the ports of Newcastle and Port Kembla, while containerised grain exports are predominantly shipped from Port Botany. Significant volumes of grain are also transported interstate to Victoria and Queensland for both export and the domestic market.

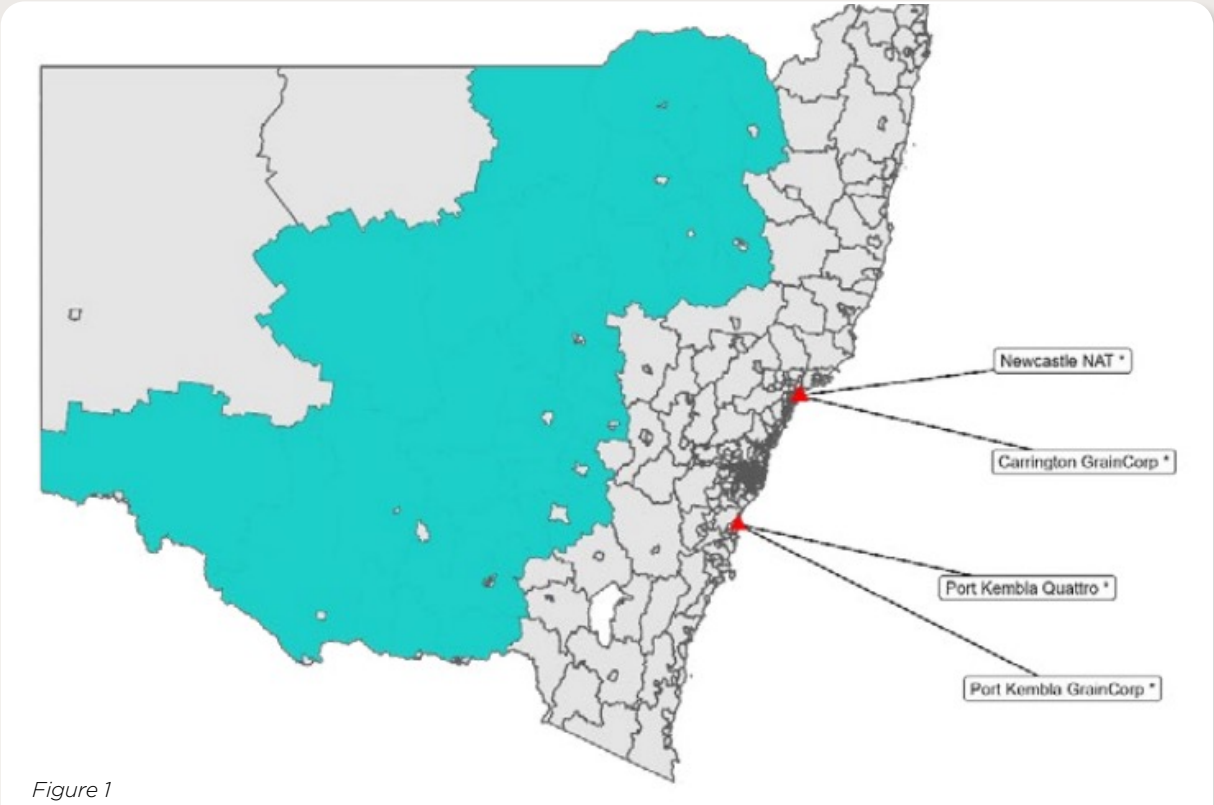

Figure 1

Source: ACCC

Road freight network

CSIRO TraNSIT estimates over 880,000 trailer loads of grain are moved by road annually in New South Wales. Grain freight supply chains are often multi-modal, with grain destined for export typically transported from farms via road to grain receival sites and then transported to port by rail.

Grain road freight movements are largely concentrated in the grain belt, forming a complex and interconnected network that links farms, grain receival sites and processors.

Reflecting the diverse uses of grain, freight routes extend in multiple directions. High-volume corridors move grain eastward to ports and processing hubs, while other routes direct grain westward to livestock producers or across state borders into Victoria and Queensland. This intricate network supports both domestic and export markets, ensuring the efficient flow of grain to meet demand.

Although the average grain receival site in New South Wales is 418km from port, CSIRO TraNSIT data shows that grain trailers travel an average distance of just 131km, highlighting the key role rail plays in transporting grain over longer distances to port in New South Wales.

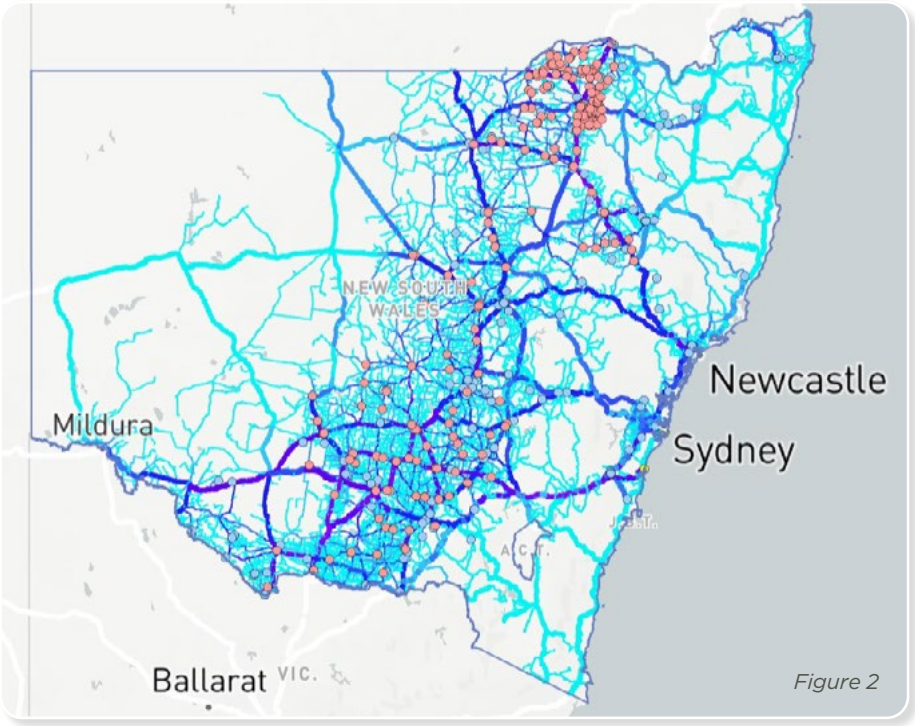

Figure 2

Source: CSIRO TraNSIT

Start of harvest 2024 – Gemma McDermott, NSW

New South Wales top six grain freight routes

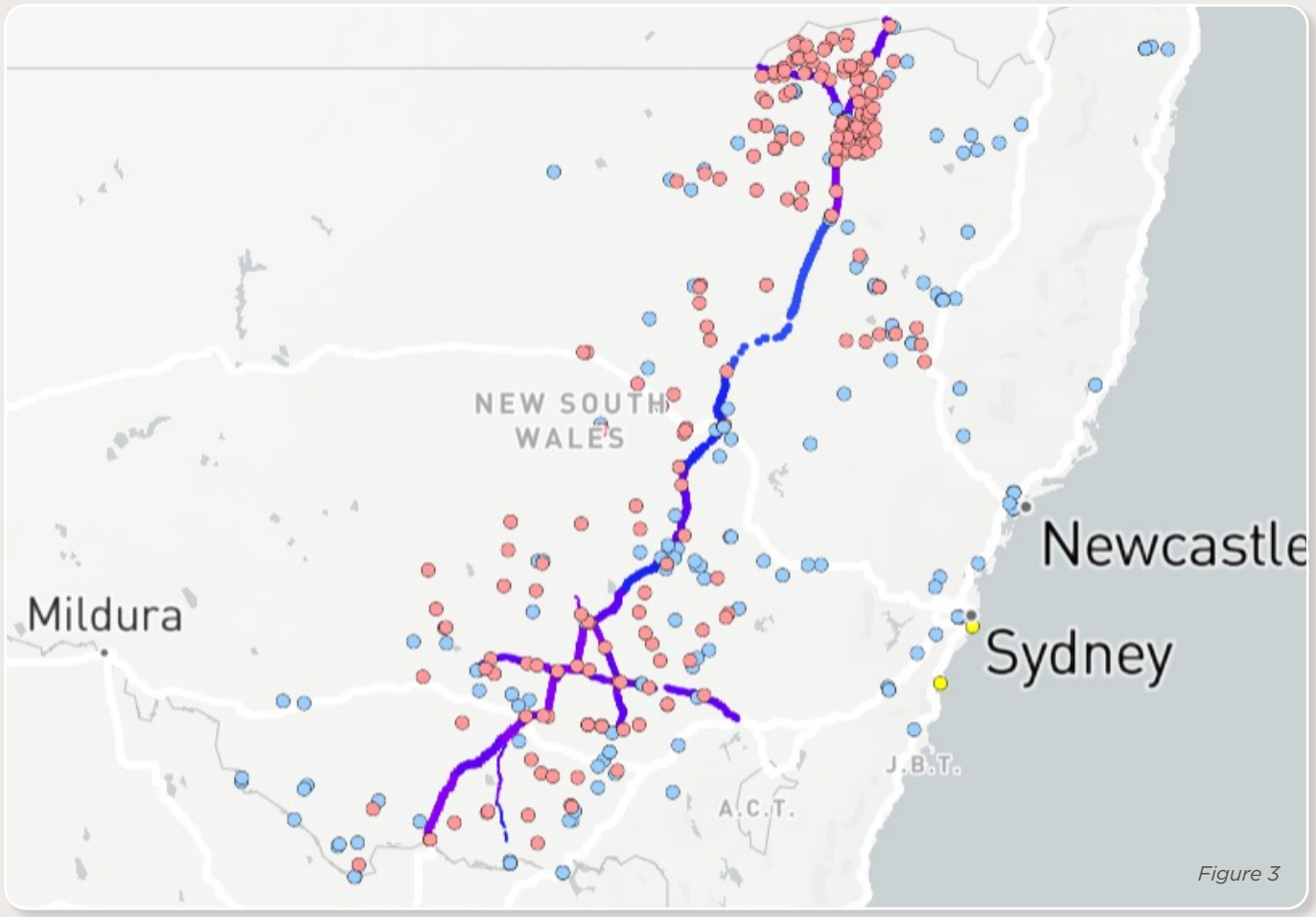

Figure 3

Source: CSIRO TraNSIT

Annual Trailers

1 - 250	5,001 - 10,000
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Enterprises

Processor	Storage
Transport	

Summary:

The top six grain freight routes in New South Wales are concentrated within the state's grain belt, connecting key growing regions in the Central West, Liverpool Plains, and Riverina to receival sites, storage facilities, and domestic markets. Despite the high volume of grain exported from New South Wales, none of the top six routes connect directly to ports due to the state's strong reliance on rail for longer-distance movements. Annual freight volumes on these top corridors range from 360,000 tonnes to more than 500,000 tonnes.

1 West Wyalong - Condobolin Road

The West Wyalong–Condobolin Road connects the large grain-growing regions of the Central West and Northern Riverina.

Despite being designated a 'Regional Road' rather than the traditionally higher traffic volume State Road, the route is the highest volume grain freight route in New South Wales, transporting nearly 545,000 tonnes of grain on average.

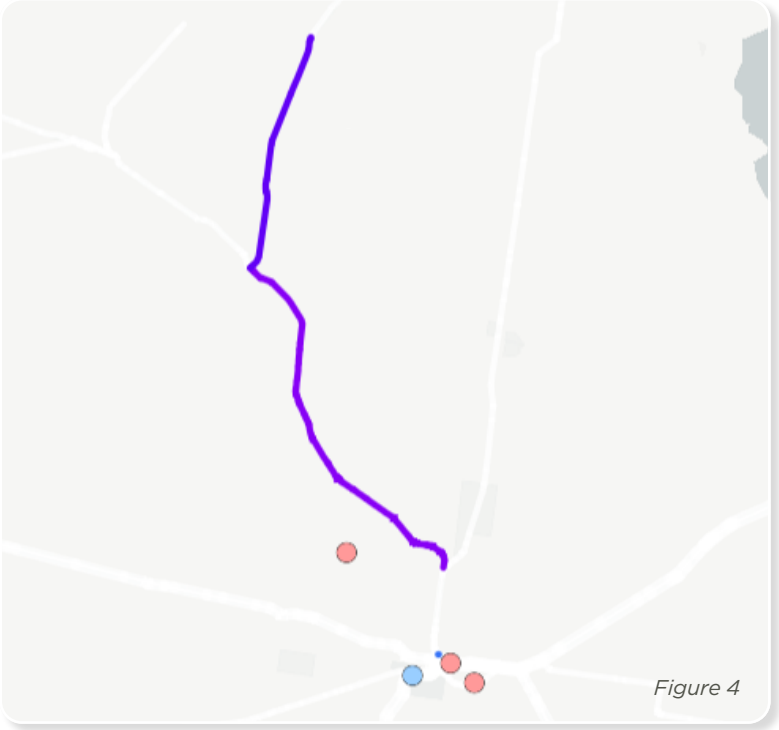


Figure 4

Source: CSIRO TraNSIT

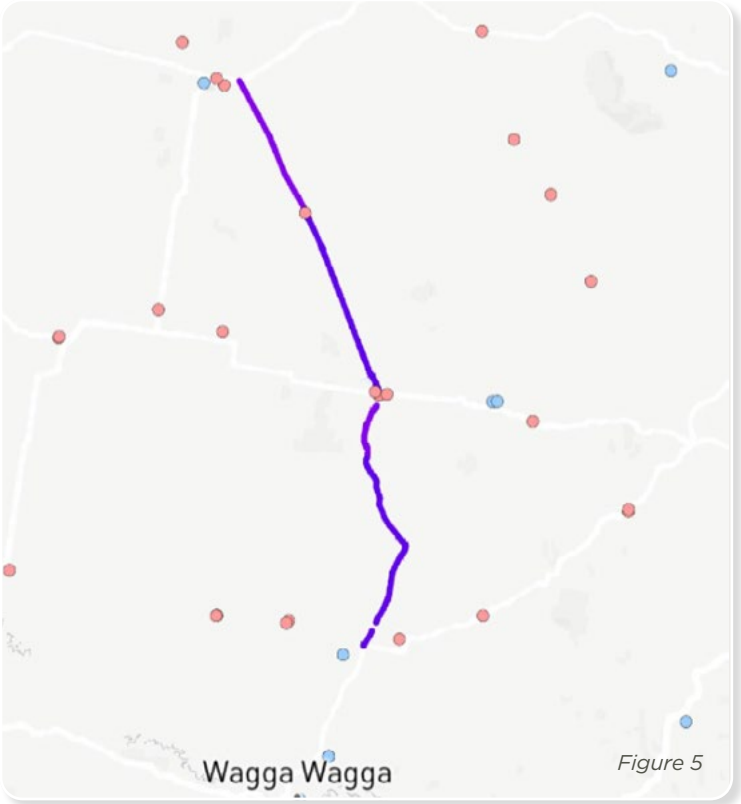


Figure 5

Source: CSIRO TraNSIT

2 Goldfields Way

Goldfields Way is a 116km state road in the Northern Riverina region, linking the grain-growing towns of West Wyalong, Temora, and Junee to the Newell Highway.

An average of 450,000 tonnes of grain is transported along this route.

3 Newell Highway

Running from south-eastern Queensland to Victoria, the Newell Highway is the longest highway in New South Wales and forms part of the National Land Transport network.

Each year, the highway carries approximately 450,000 tonnes of grain, linking growers with the vast number of bulk handlers and processors which are clustered near the highway, as well as interstate markets.

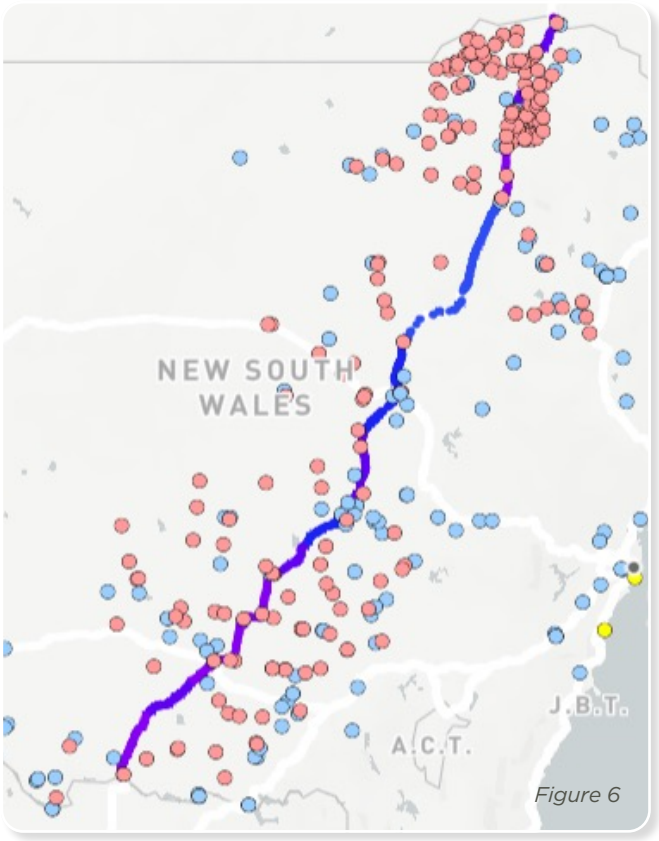


Figure 6

Source: CSIRO TraNSIT

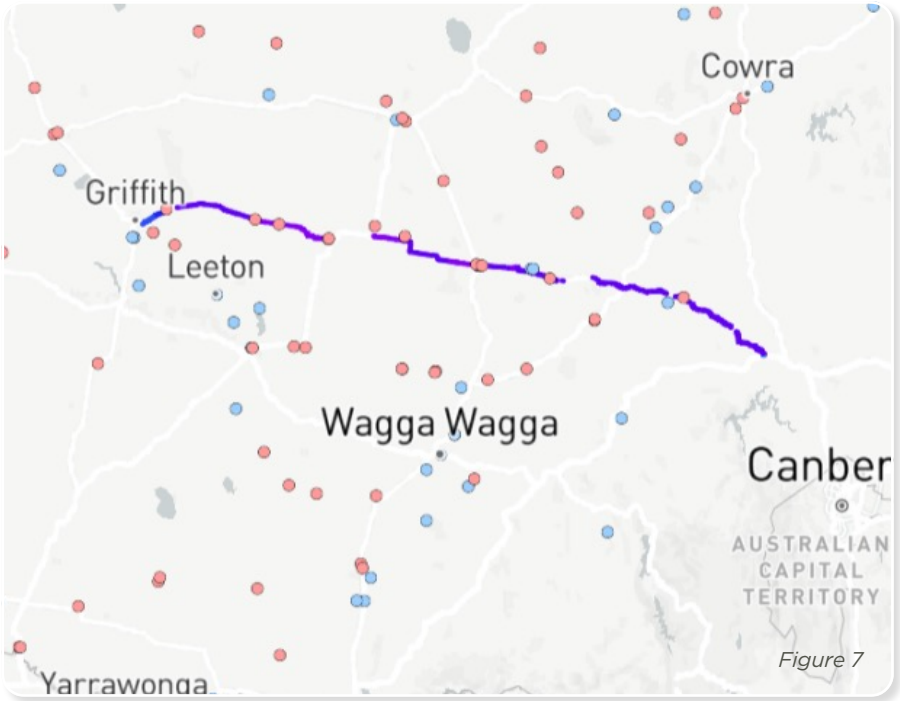


Figure 7

Source: CSIRO TraNSIT

4 Burley Griffin Way

Burley Griffin Way is a State Road in southern New South Wales that runs east-west from Griffith to the Hume Highway. It serves as a critical transport corridor for over 400,000 tonnes of grain produced in the western Riverina and Murrumbidgee regions, linking these key grain-growing areas to Sydney.

5 Carnarvon Highway

The Carnarvon Highway is a State Road stretching from Rolleston in Queensland's Central Highlands to Moree in northern New South Wales. The New South Wales section runs from the Queensland border at Mungindi to the intersection of Gwydir Highway, transporting an average of 390,000 tonnes of grain from farms to bulk handlers, as well as across the border to Queensland.

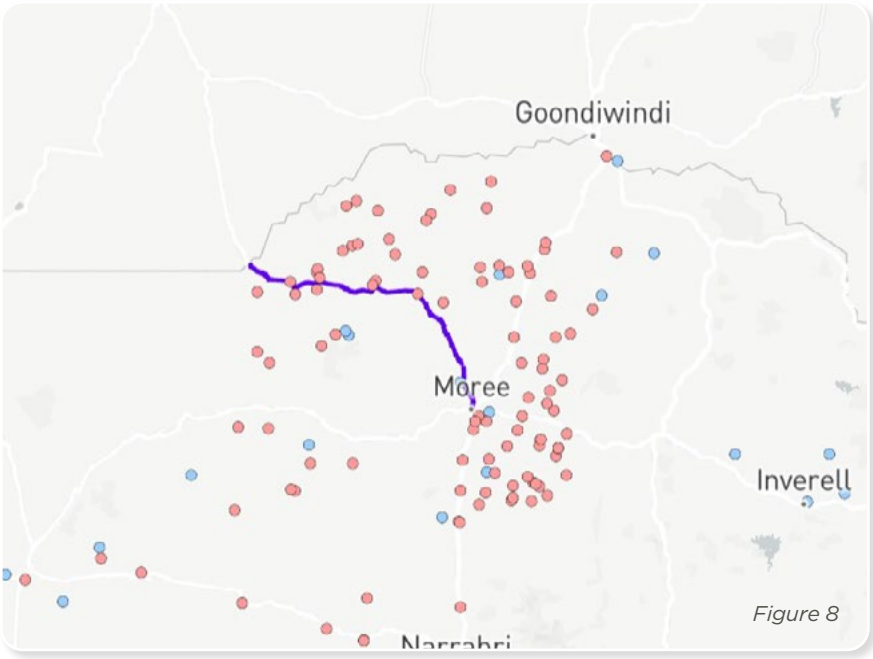


Figure 8

Source: CSIRO TraNSIT

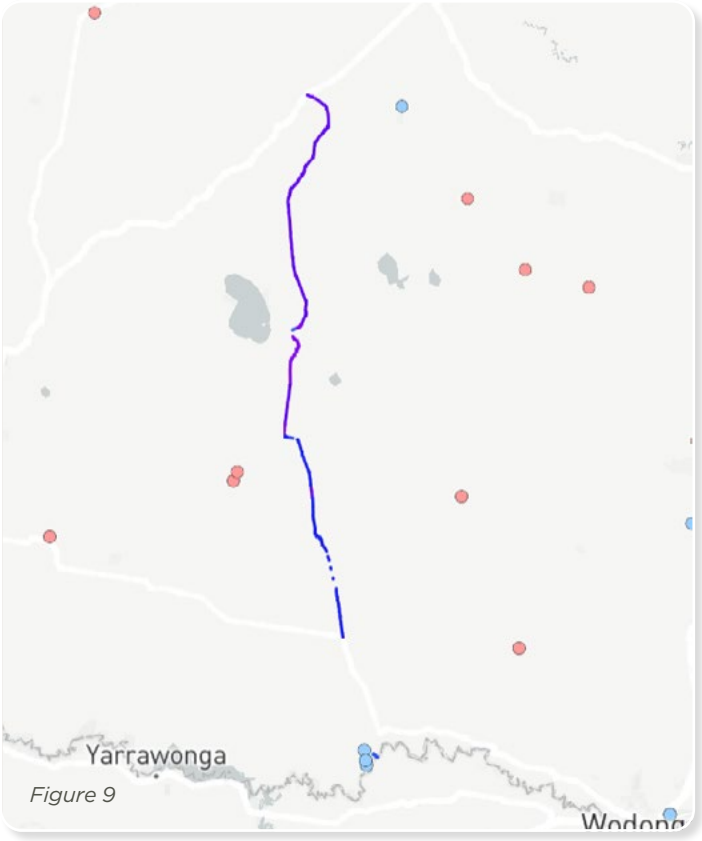


Figure 9

Source: CSIRO TraNSIT

6 Federation Way:

Federation Way is a Regional Road in the Riverina region of New South Wales, connecting growers to grain receival sites.

Running from the Newell Highway to the Riverina Highway in the south, the road transports, on average, over 360,000 tonnes of grain.

KEY FINDINGS

FINDING 1:

Regional Roads play an important role in transporting grain

Under New South Wales' road classification system, Regional Roads serve an intermediate function between the main arterial State Roads and council-controlled Local Roads. Despite their lower traffic volumes and corresponding lower levels of funding, CSIRO TraNSIT mapping highlights that Regional Roads play a strategically important role in the grain freight network.

Indeed, out of the top six New South Wales grain freight routes identified in this report, both the West Wyalong–Condobolin Road and the Federation Highway are Regional Roads rather than higher-volume State Roads.

These routes are essential links within the grain supply chain, facilitating the movement of grain from farms to grain receival sites, processors, and export hubs. Addressing the funding and infrastructure needs of these Regional Roads is vital to improving the efficiency and resilience of the grain freight task across New South Wales.

A pause in harvest after the rain – Georgie Hamilton, NSW

FINDING 2:

Key freight routes are vulnerable to flood risks

Many high-volume grain freight corridors traverse flood-prone areas, where extreme weather events can cause substantial disruptions.

For example, the Newell Highway, one of the state's most important grain freight routes, is highly vulnerable to flooding in the Lachlan catchment area. Between West Wyalong and Forbes, this section of the highway has a documented history of prolonged closures during heavy rainfall. In late 2022, flooding inundated approximately 20km of this route, resulting in a seven-week closure. Similarly, in 2016, severe flooding caused a six-week disruption.

These closures force grain transporters to undertake lengthy detours, increasing costs, delaying deliveries, and disrupting the broader supply chain. The impacts are particularly significant during peak harvest periods, when reliable freight access is crucial to ensure grain quality is not negatively impacted and that grain can be exported during key export windows.

Mitigating flood risks on key grain freight routes is essential to ensure the resilience of New South Wales' grain supply chain. Investments in infrastructure upgrades, such as improved drainage systems, flood-resistant road designs, and alternative routes, would reduce the vulnerability of these critical corridors and support the long-term productivity of the grain industry.

FINDING 3:

Gaps in the New South Wales PBS network are impacting grain freight productivity

While New South Wales' Performance-Based Standards (PBS) network is relatively expansive, critical gaps within the network are hindering the productivity of grain freight. These gaps create inefficiencies on key routes vital to the grain supply chain, limiting the ability of high-productivity vehicles to operate seamlessly.

For instance, despite being the highest-volume grain freight route in the state, the West Wyalong–Condobolin Road remains ungazetted for PBS A-double vehicles. This restricts the use of larger, more efficient freight vehicles, leading to increased costs and logistical challenges for grain transporters.

Similarly, Federation Way is not gazetted for PBS A-double access despite several grants from both the State and Federal Governments to upgrade the road.

Addressing these gaps in the PBS network is essential to unlocking the full potential of high-productivity vehicles, reducing transport costs, and enhancing the efficiency of New South Wales' grain supply chain.

Filling her up at Tantaranna - Kristy Bullen, NSW

FINDING 4:

Ageing bridge infrastructure is inhibiting grain freight efficiency

Ageing bridge structures are increasingly impacting grain freight operations in New South Wales, affecting load capacities and operational efficiency across the region's freight network.

Grain freight efficiency between New South Wales and Victoria is significantly hampered by restrictions on interstate bridges crossing the Murray River. These crossings are critical links for grain transported into Victoria and South Australia, yet of the 30 bridges spanning the river, 13 are restricted for PBS use.

For example, the Mulwala Bridge, a narrow structure built in 1924, connects the twin towns of Mulwala in New South Wales and Yarrawonga in Victoria but is unsuitable for PBS vehicles.

Figure 10 - Mulwala Bridge

Similarly, the Tooleybuc Bridge, a timber Allan truss bridge built in the same year, presents another bottleneck. Despite the Yanga Highway being gazetted for PBS use, the Tooleybuc Bridge's limitations severely restrict the route's efficiency.

Indeed, between Echuca/Moama and Euston/Robinvale (a stretch of nearly 300km) there are no PBS-gazetted bridges, creating significant gaps in connectivity for high-productivity vehicles. These restrictions force grain freight operators to take lengthy detours or transfer loads to smaller vehicles, increasing costs, time, and logistical complexity.

Similarly, an ageing rail crossing on Industrial Drive in Newcastle requires PBS vehicles to divert from the less congested industrial area and take an alternative route through the heart of Newcastle to access the port terminals. This detour passes by schools and a university, resulting in restricted travel times between 8:00–9:30 AM and 3:30–5:30 PM, Monday to Friday.

Infrastructure upgrades to these critical crossings would address these constraints, improving freight efficiency, reducing costs, and supporting the growth of the grain industry.

FINDING 5:

Local road access varies significantly between local government areas

Significant variations in local road access across key grain-growing regions in New South Wales affect grain freight movement efficiency.

Road access policies differ widely between local government areas (LGAs). Some shires, such as Moree Plains, Federation, and Coonamble automatically gazette their entire road networks for B-double access, providing seamless connectivity for freight operators. Others, such as Temora and Gunnedah provide conditional access, where approval is subject to requirements like avoiding travel during wet weather. In contrast, councils like Edward River and Wagga Wagga have very few local roads gazetted for B-double access, creating significant limitations.

This inconsistency poses challenges for growers and transport operators, particularly those traveling across multiple shires with varying policies. In LGAs with restricted B-double access, such as parts of the Central West and Riverina, freight operators are often forced to use smaller combinations or take longer, less direct routes to comply with local restrictions. This increases transport costs, reduces efficiency, and impacts the competitiveness of growers in these areas. Conversely, regions with more comprehensive B-double access, such as parts of the Northern Plains, benefit from fewer trips, lower costs, and enhanced transport efficiency.

These disparities also hinder interstate grain movements, with limited B-double access on critical routes to Victoria and Queensland further compounding logistical challenges. Addressing this inconsistency through improved coordination and policy alignment across councils would enhance the efficiency of grain freight, reduce costs for growers, and strengthen the state's grain supply chain by ensuring all regions have equitable access to high-capacity vehicle networks.

Growing our future breaky – Lynette LaBlack, NSW

A quick stop for dinner – Nicole Fragar, NSW

QUEENSLAND

Grain production

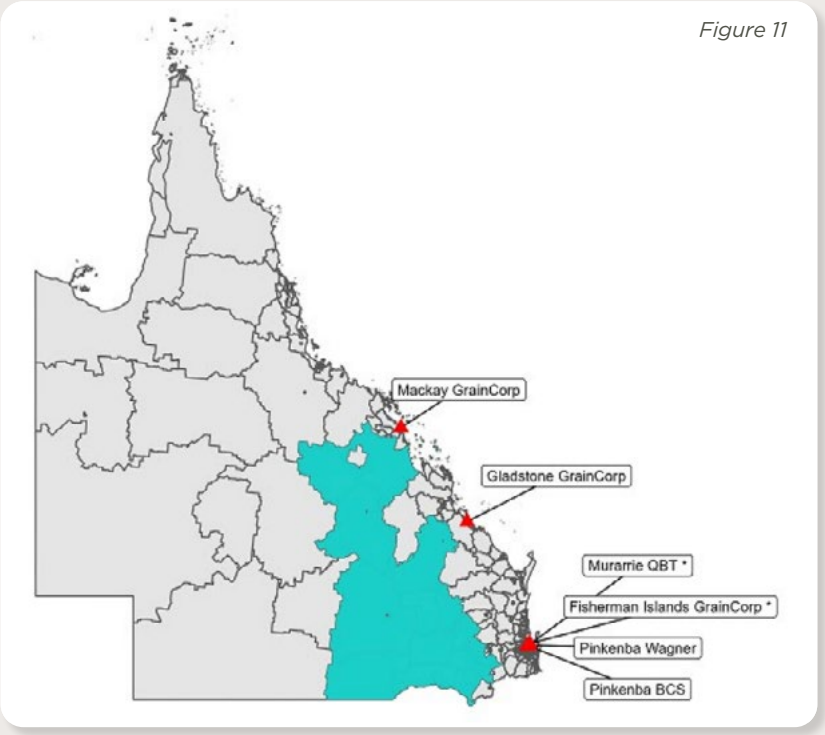
Queensland grain production stretches from the Western Downs on the New South Wales/Queensland border to Central Queensland, growing approximately 3 million tonnes of grain annually.

On average, 70% of Queensland's grain is consumed domestically, driven largely by the state's significant livestock industries. The Darling Downs region, in particular, serves as a critical hub for both grain production and grain consumption, with 42% of Australia's national feedlot occupancy located within a 200-kilometre radius of Dalby.

Export volumes, while variable and tied to production levels, are notable for chickpeas and sorghum. During peak seasons, Queensland contributes 91% of Australia's chickpea exports and 68% of its bulk sorghum exports, reinforcing its importance to both domestic and international markets.

Bulk grain exports are exported from Brisbane, Gladstone and Mackay, while containerised grain exports are primarily exported from the Port of Brisbane, with smaller volumes exported from Gladstone and Townsville.

Figure 11



Source: ACCC

Road freight network

Queensland's grain road freight movements reflect the state's large domestic market. The state's grain freight network is multidirectional with grain moving inland and north to support the state's large livestock industries, as well as east for export.

There are over 325,000 trailer movements each year, travelling an average distance of 173km. CSIRO estimates that this costs over $250m a year.

The highest volumes of freight movements are concentrated around the Western and Southern Darling Downs, connecting grain production areas with major feedlot clusters.

There are also significant movements of grain from the Central Queensland region to the ports at Mackay and Gladstone.

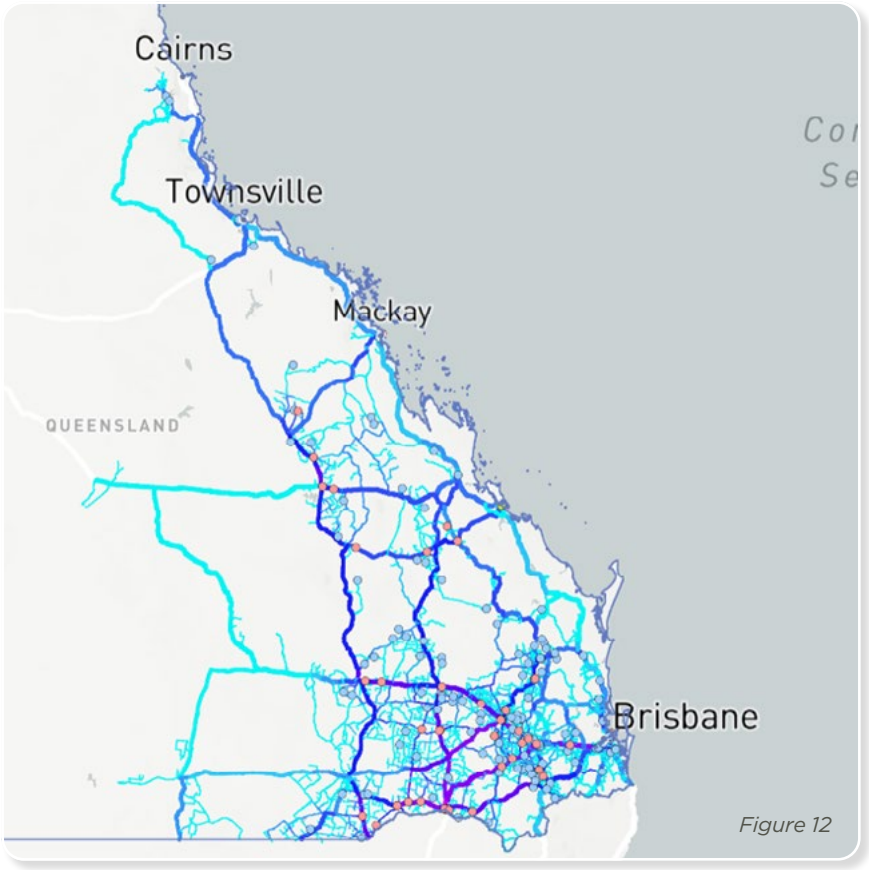
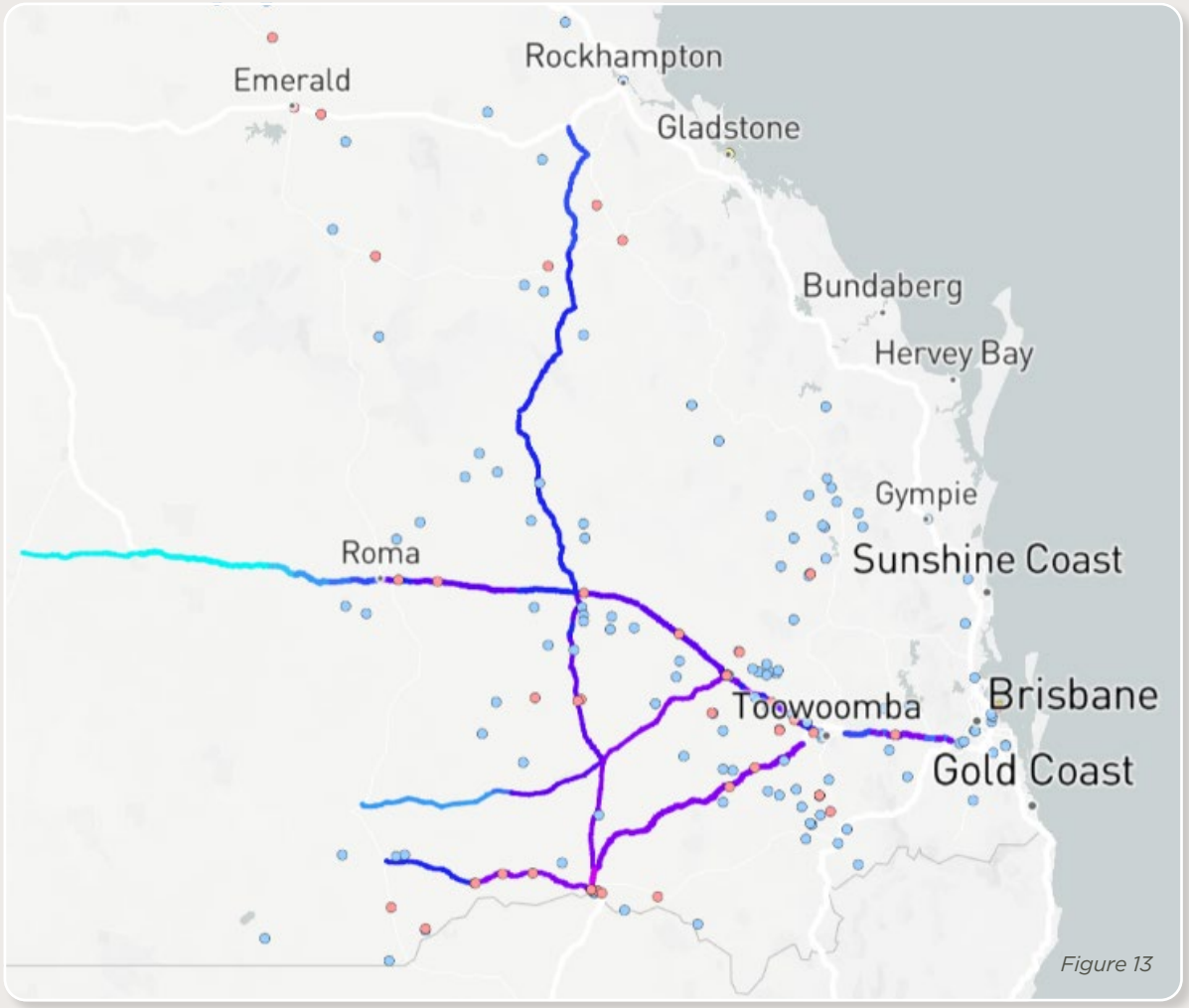


Figure 12

Source: CSIRO TraNSIT

Header lost in chickpea dust – Scott Muller, QLD

Queenland's top six grain freight routes



Source: CSIRO TraNSIT

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2,001 - 5,000	>100,001

Enterprises

Processor
Storage
Transport

Summary:

The top six grain freight routes in Queensland are centred around the Western and Southern Darling Downs, reflecting the region's high concentration of both grain production and feedlots. Several of these top six routes connect directly to the New South Wales border, highlighting the significant volumes of grain transported across the border. Across the top six routes, annual grain freight volumes range from more than 800,000 tonnes to around 200,000 tonnes.

1 Gore Highway

Running between Toowoomba and Goondiwindi, the Gore Highway forms part of the National Land Transport network and is Queensland's busiest grain freight route, handling over 33,000 trailer loads carrying approximately 827,000 tonnes of grain annually.

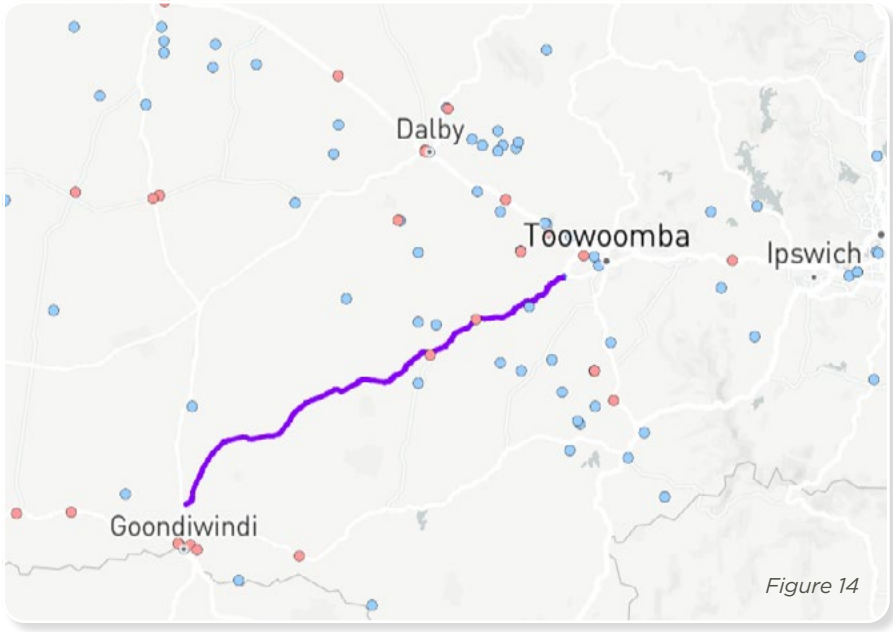


Figure 14

Source: CSIRO TraNSIT

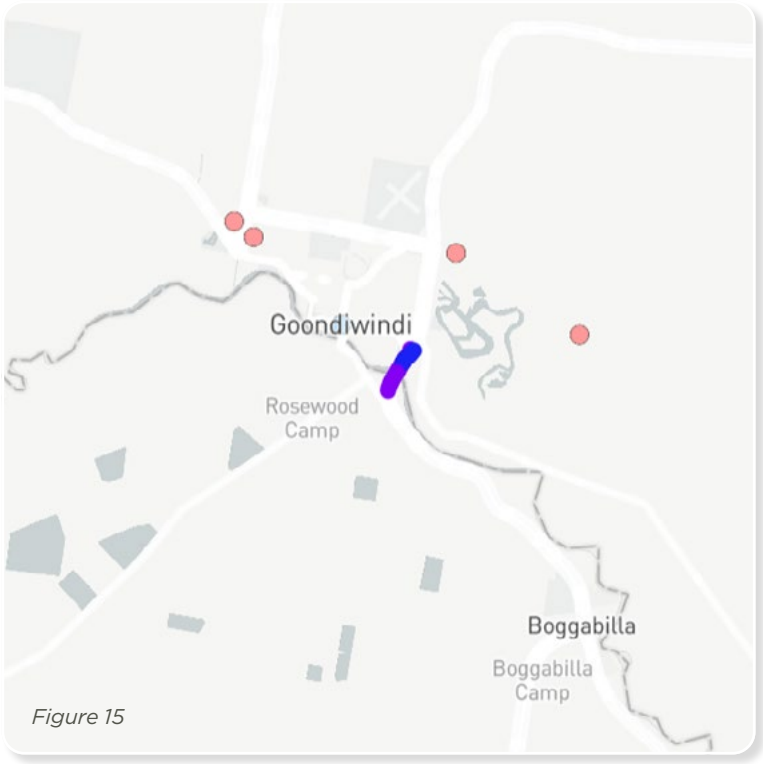


Figure 15

Source: CSIRO TraNSIT

2 Newell Highway

Despite being just 1.4km long, the Queensland section of the Newell Highway, which forms part of the National Land Transport network, crossing the New South Wales/Queensland border into Goondiwindi, carries the second-highest volume of grain freight in Queensland.

Spanning over 1,060km from Victoria through New South Wales to Goondiwindi, the Queensland section of the freight route facilitates the transport of over 597,000 tonnes of grain annually in Queensland alone, underscoring the significant volumes moved from New South Wales into the state.

3 Barwon Highway

The Barwon Highway serves as a critical freight corridor, connecting the key grain-producing regions of Talwood and Thallon to the major processing and storage hub in Goondiwindi.

Spanning 153.7km, this state-owned highway facilitates the movement of over 425,000 tonnes of grain annually.

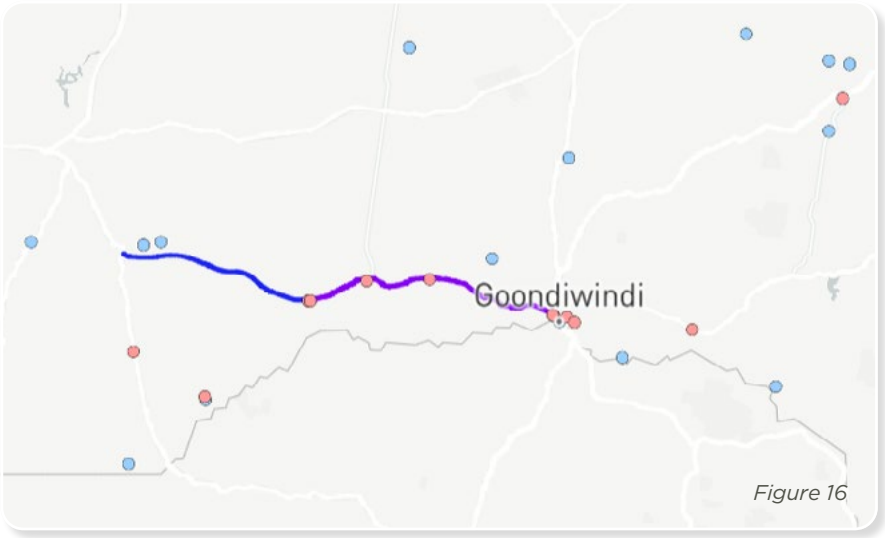


Figure 16

Source: CSIRO TraNSIT

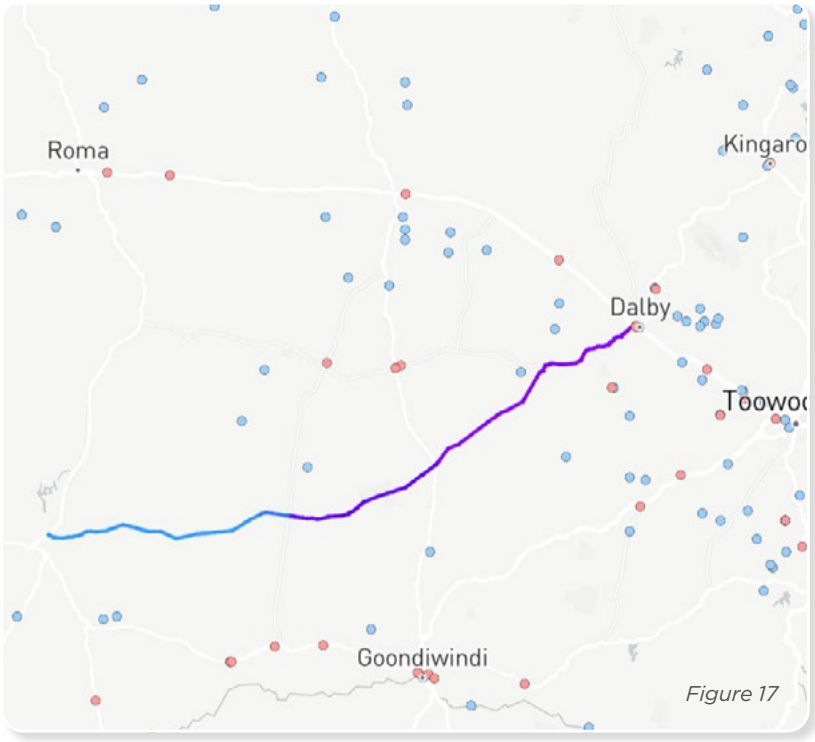


Figure 17

Source: CSIRO TraNSIT

4 Moonie Highway

The Moonie Highway is a state-owned transport route which connects the grain-producing regions of the Western Downs to key destinations, including feedlots in Dalby and the Port of Brisbane.

Spanning 290.9km, this vital corridor facilitates the efficient movement of over 307,000 tonnes of grain annually, which is critical in linking regional production with processing, domestic markets, and export facilities.

5 Leichhardt Highway

The Leichhardt Highway is a state-controlled strategic road in Queensland, spanning nearly 600km from Goondiwindi at the New South Wales/Queensland border to Westwood near Rockhampton in Central Queensland.

The highway facilitates the movement of over 271,000 tonnes of grain annually connecting grain-producing regions to major markets and export facilities.

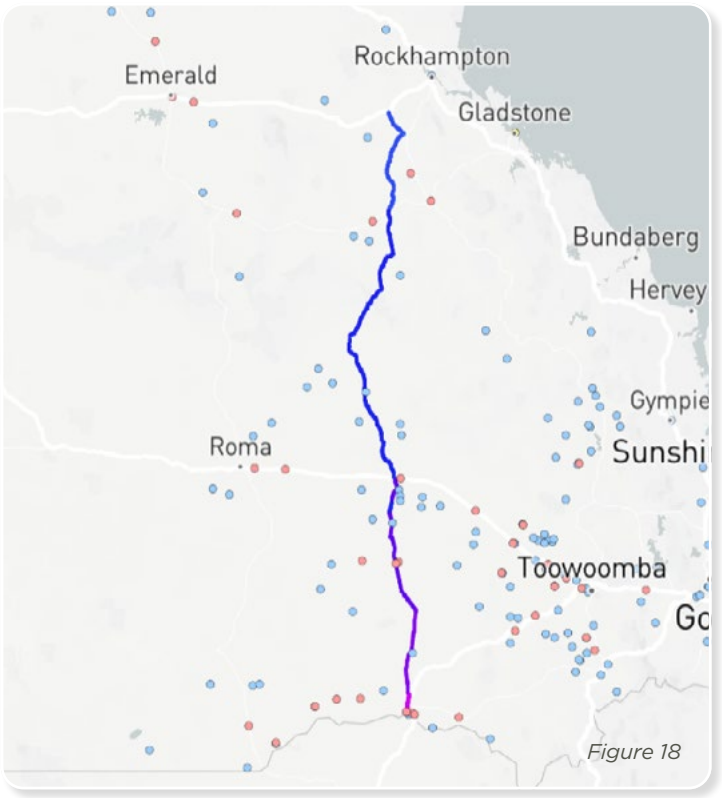


Figure 18

Source: CSIRO TraNSIT

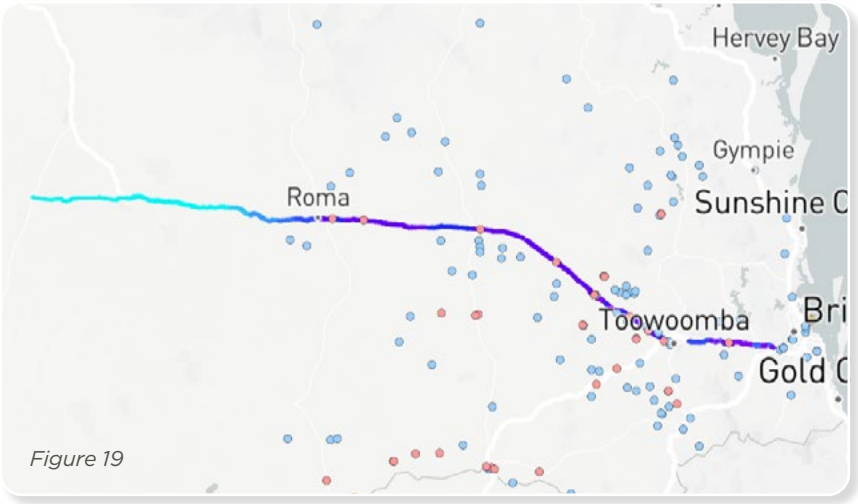


Figure 19

Source: CSIRO TraNSIT

6 Warrego Highway

Part of the National Land Transport network, the Warrego Highway serves as Queensland's primary east-west freight route, running through southern Queensland from Charleville to Ipswich. Spanning 756km, the highway facilitates the movement of over 211,000 tonnes of grain annually.

As the primary link between grain production in the Darling Downs and the Port of Brisbane, the Warrego Highway is a critical corridor for the grain supply chain.

KEY FINDINGS

FINDING 1:

Distinct freight patterns between wheat and chickpeas

The CSIRO TraNSIT tool highlights the different transport movements between the traditionally largest crop, wheat and chickpeas.

While wheat is traditionally used for the domestic feed markets, chickpeas are typically destined for the export market as Figure 20 highlights.

Wheat is transported in large volumes north for use in the livestock industry. In contrast, chickpeas have very concentrated supply chains, typically delivered by growers to container packing facilities and transported to the Port of Brisbane, although there are growing volumes of bulk exports.

Wheat vs chickpea freight movements

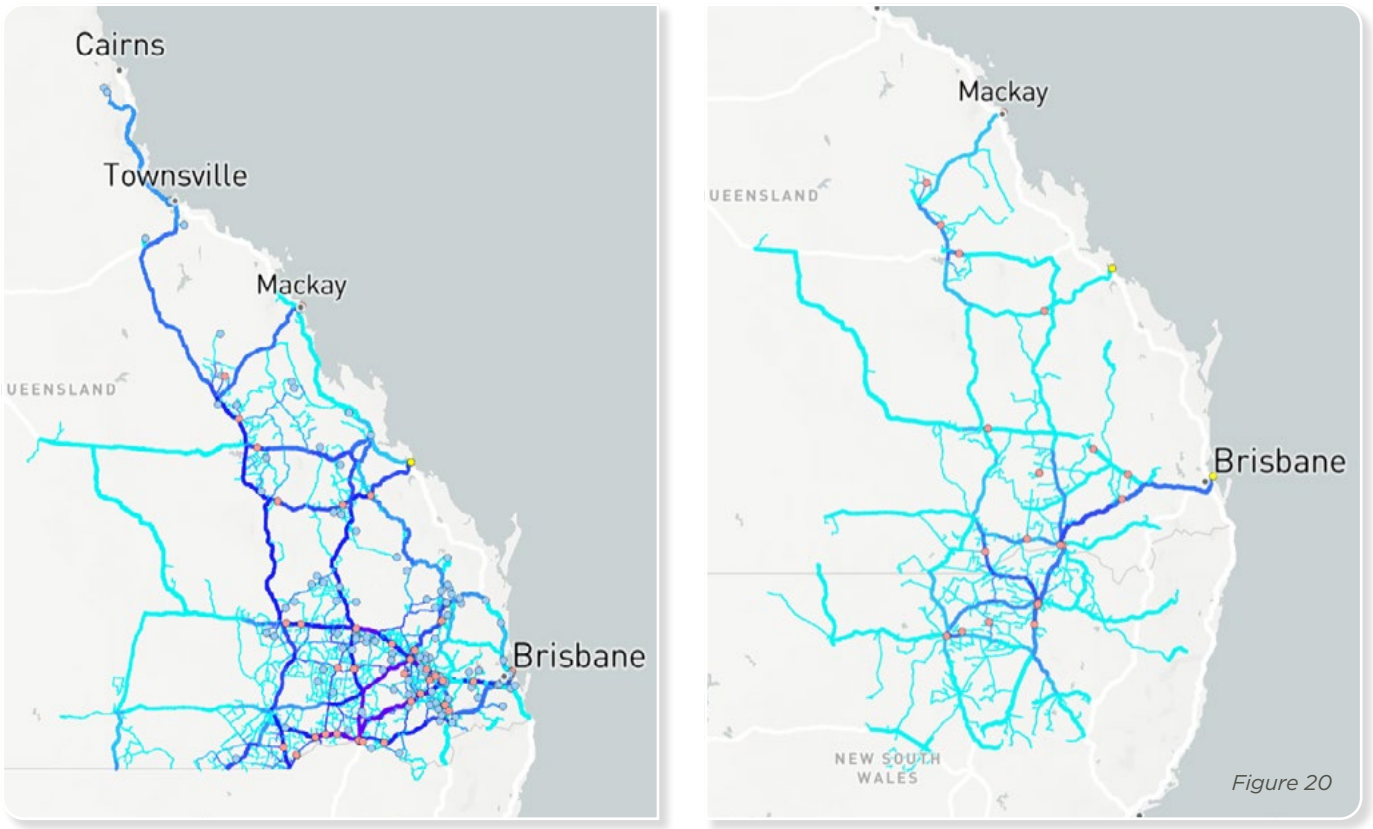


Figure 20

Source: CSIRO TraNSIT

This has significant implications for road managers in years such as the 2024 harvest, which ABARES' September 2024 Crop Report forecast would result in a 129% increase in chickpea production.

FINDING 2:

Limited PBS A-double network fails to align with grain freight movements

The mapping of grain freight routes reveals that Queensland's current PBS A-double network is not fit for purpose to meet the needs of the grain industry. Despite the significant safety and productivity benefits of PBS A-doubles, the gazetted PBS A-double network is very limited compared to New South Wales and Victoria.

The PBS 2B network only extends to Toowoomba and Warwick, limiting its utility for the broader grain supply chain.

Of the top six grain freight routes identified in this report, only the Warrego Highway is gazetted for PBS A-double access and access is still limited by a weight restriction on the westbound side of the Bremer River Crossing at Karalea.

Similarly, while large volumes of grain are transported to the ports of Gladstone and Mackay, there is no gazetted PBS A-double access to these ports, forcing operators to apply for permits or travel in less efficient combinations.

Additionally, while PBS A-double access is available on the Newell Highway to the New South Wales-Queensland border, it does not connect to Queensland's PBS network.

These gaps in network access highlight the need to extend the PBS 2B network for A-doubles to align with grain freight patterns and support industry productivity.

Figure 21

Source: PBS route map

FINDING 3:

Cross-border grain movements from northern New South Wales to Queensland highlight opportunities for harmonisation

CSIRO TraNSIT data reveals significant volumes of grain movement from northern New South Wales into Queensland, highlighting the need for increased harmonisation to improve productivity and streamline freight operations.

Currently, regulatory inconsistencies create challenges for operators transporting grain across borders. For example, the mass limit for 11 and 12-axle A-doubles is capped at 85.0 tonnes in Queensland, compared to 85.5 tonnes for 11-axle PBS A-doubles on the broader network and 91.0 tonnes for 12-axle A-doubles in Victoria. These differences restrict the efficiency of freight movements between states, forcing operators to carry less efficient loads to comply with both states' requirements.

Additionally, another opportunity for harmonisation is adding Queensland's PBS 2B network on the National Heavy Vehicle Regulator (NHVR) National Network Map. Unlike other states under the Heavy Vehicle National Law (HVNL), Queensland's PBS 2B network is not included, creating unnecessary complexity for operators managing cross-border movements. Including the Queensland network on the NHVR map would streamline route planning and permit processes, reducing administrative burdens and enhancing cross-border freight efficiency.

Lined up for delivery – Michael Shanhun, WA

FINDING 4:

Many key grain freight routes are high risk for flooding

Many key grain freight routes in Queensland are located in regions identified as high-risk for riverine flooding by 2030.

This poses significant challenges to the reliability and efficiency of grain transportation, particularly during critical harvest and export periods. Without targeted infrastructure upgrades and flood mitigation measures, these risks could result in increased transport costs, delays, and disruptions to the grain supply chain, with downstream impacts on grower profitability and Australia's global grain competitiveness. Strategic investment is needed to future-proof these routes against climate risks and ensure the resilience of Australia's grain freight network.

The calm, before the storm – Lucy Ronnfeldt, QLD

SOUTH AUSTRALIA

Grain production

South Australia grows an average of 8 million tonnes of grain annually. Production is concentrated in the state's southern regions, stretching from the far west coast to the Murray Mallee and Limestone Coast regions near the Victorian border.

South Australia's grain industry is highly export-oriented, with approximately 80% of grain exported in bulk each year through key ports, including Thevenard, Lucky Bay, Port Lincoln, Port Giles, Wallaroo, Port Pirie, and Port Adelaide.

While bulk grain dominates South Australia's export profile, a smaller containerised grain export industry operates primarily through Port Adelaide.

South Australia also has a small domestic grain market that supports key industries, including livestock, a significant pasta manufacturing sector and a well-established beer industry.

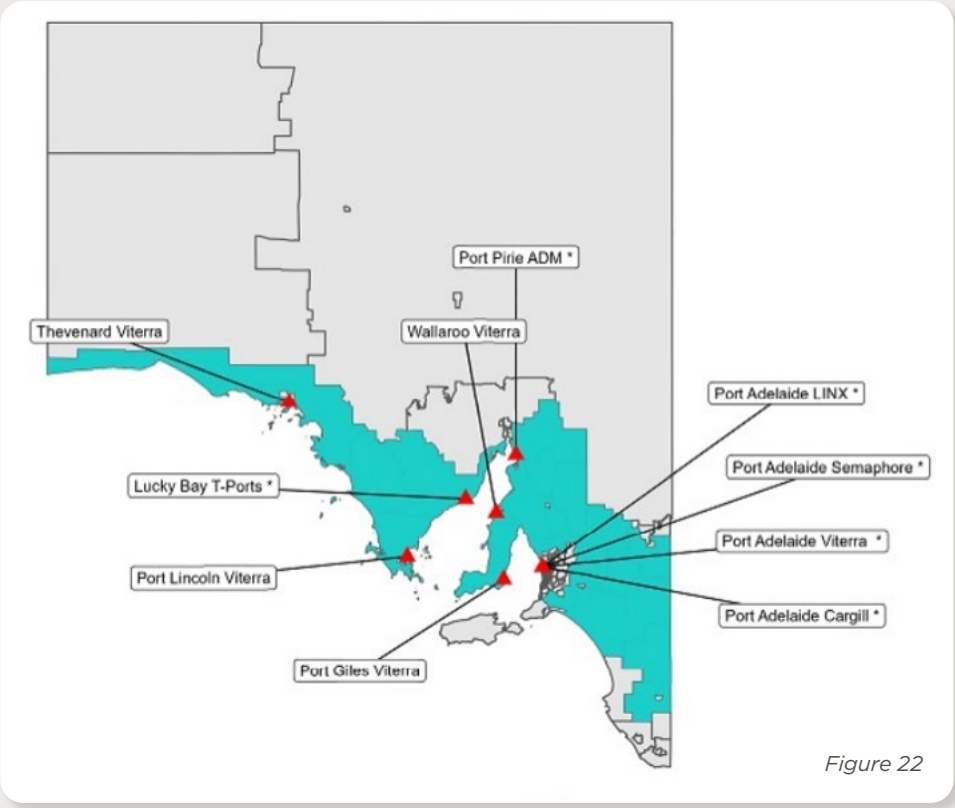


Figure 22

Source: ACCC

Road freight network

CSIRO TraNSIT estimates that nearly 450,000 trailer loads of grain are transported by road annually in South Australia.

Freight movements are concentrated in the state's grain-growing regions, forming a dense network of routes that link farms, bulk handlers, and ports.

Reflecting the export-orientated nature of South Australia's grain industry and limited use of rail, the majority of high-volume roads are primarily focused on connecting grain production areas to South Australia's ports.

Additionally, substantial volumes of grain are transported from Victoria for export or domestic manufacturing.

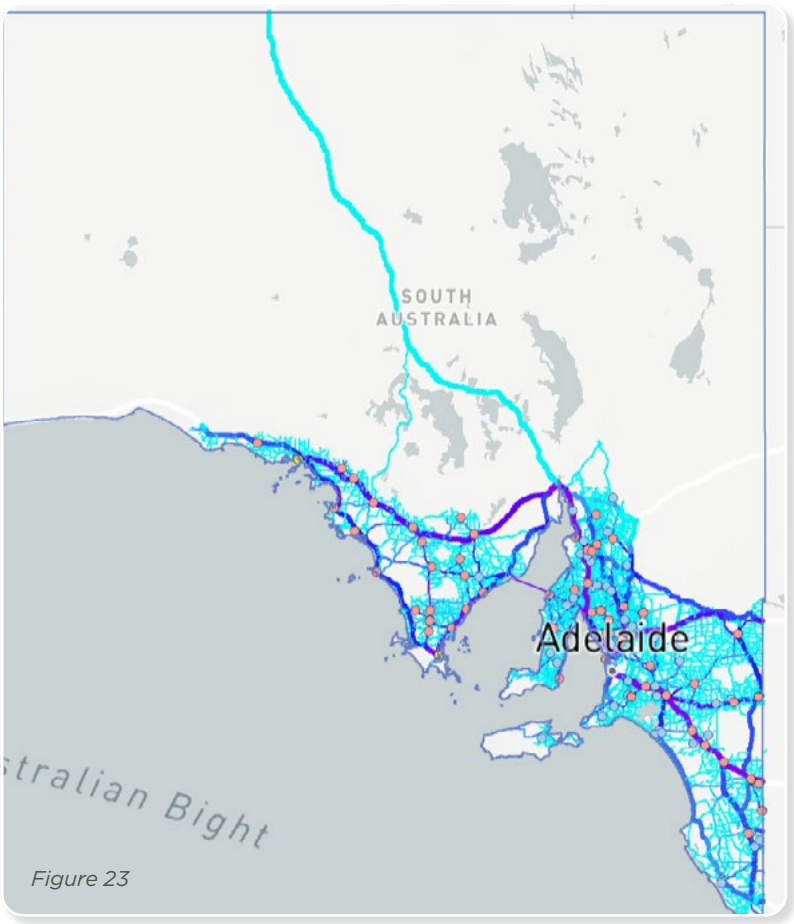


Figure 23

Source: CSIRO TraNSIT

Picking up the barley rows – Damien Sommerville, SA

South Australia's top six grain freight routes

Figure 24

Source: CSIRO TraNSIT

Annual Trailers

1 - 250	5,001 - 10,000
251 - 500	10,001 - 20,000
501 - 1,000	20,001 - 50,000
1,001 - 2,000	50,001 - 100,000
2,001 - 5,000	>100,001

Enterprises

Processor
Storage
Transport

Summary:

The top six grain freight routes in South Australia are concentrated across the state's key growing regions, linking the Eyre Peninsula, Yorke Peninsula, Mid North, Limestone Coast, and Murray Mallee with major export ports. Several of these routes also carry substantial cross-border volumes from western Victoria, adding to the grain delivered to South Australia's ports and processors. Each corridor moves more than half a million tonnes of grain annually, making them some of the highest-volume freight routes in the country.

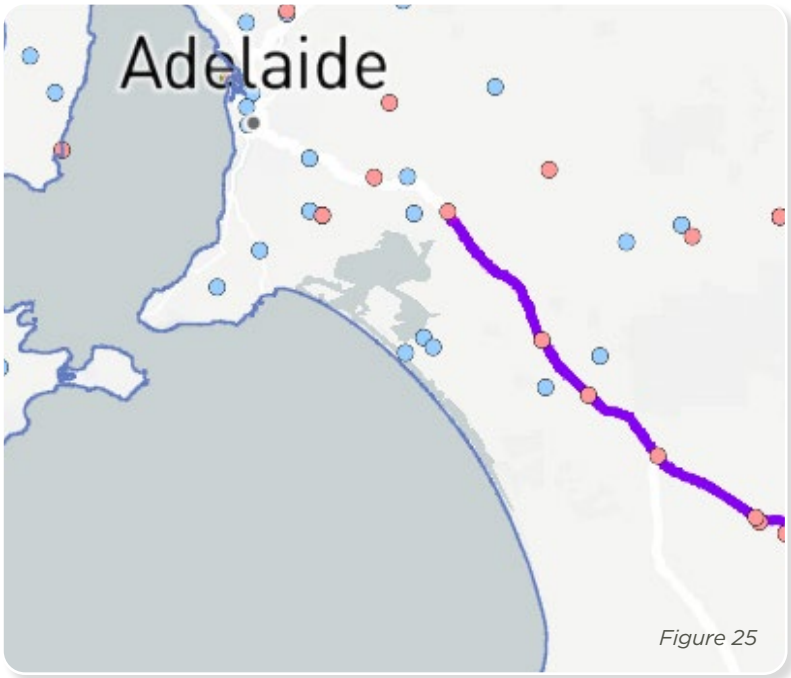


Figure 25

Source: CSIRO TraNSIT

1 Dukes Highway

Dukes Highway forms part of the National Land Transport network, linking Melbourne and Adelaide. Beginning at the intersection with the Princes Highway in Tailem Bend, the highway spans 190km and extends to the Victorian border, where it connects with the Western Highway.

As the highest volume freight route in South Australia, the corridor facilitates the movement of approximately 995,000 tonnes of grain from the Limestone Coast and Western Victoria to export ports and domestic processing facilities.

2 Port Wakefield Highway/Road

Port Wakefield Highway (and its southern section Port Wakefield Road) forms part of the National Highway, connecting Adelaide to the Yorke Peninsula and Port Augusta.

Commencing at the intersection of Augusta and Copper Coast and running through the Mid North grain region, the highway transports nearly 800,000 tonnes of grain a year.

Figure 26

Source: CSIRO TraNSIT

3 The South Eastern Freeway

The South Eastern Freeway is a 73km freeway in South Australia, which forms part of the National Land Transport Network.

Stretching from Murray Bridge to the suburbs of Adelaide, the route connects to the Dukes Highway and transports approximately 775,000 tonnes of grain each year to port, as well as malthouses and stockfeed manufacturing.

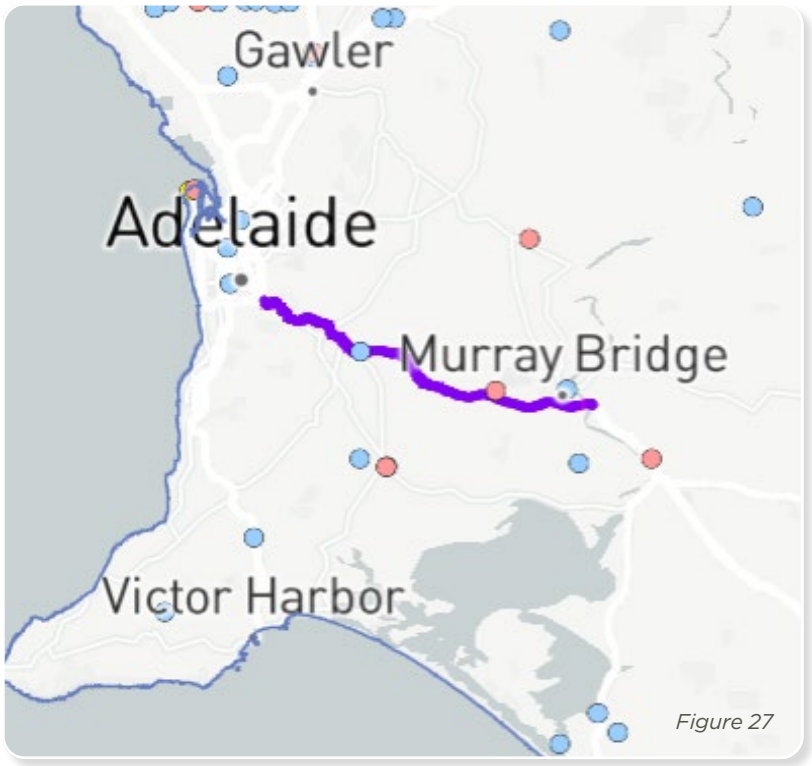


Figure 27

Source: CSIRO TraNSIT

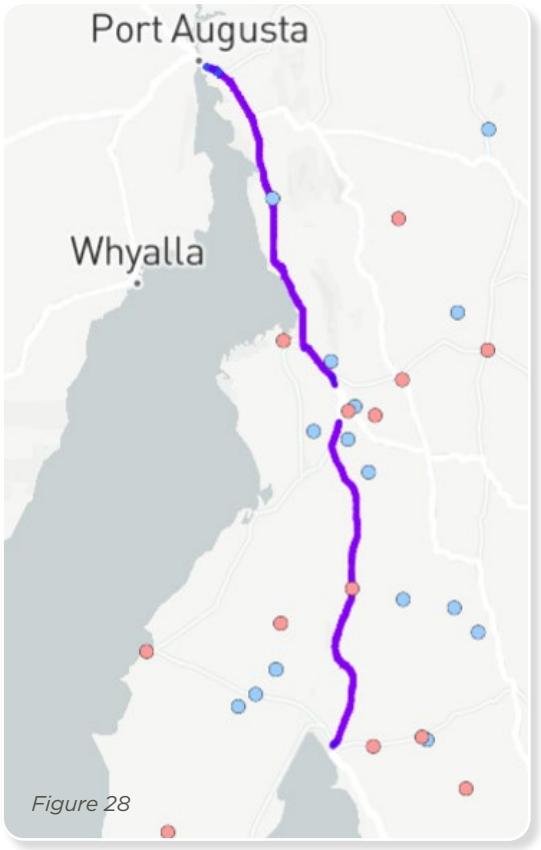


Figure 28

Source: CSIRO TraNSIT

4 Augusta Highway

Forming part of the National Land Transport network, the Augusta Highway connects Port Wakefield and Port Augusta. Starting at the intersection of Eyre and Stuart Highways in Port Augusta West, the highway traverses key grain growing region in the Mid North region.

The highway transports over 570,000 tonnes of grain each year to port as well as feedlots in the Mid North region.

5 Tod Highway

The Tod Highway serves South Australia's Eyre Peninsula. Starting at Eyre Highway at Kyancutta, the Tod Highway runs directly south, through Lock and Cummins to the Flinders Highway.

Stretching 177km, the route transports over 500,000 tonnes of grain each year, connecting grain to bulk handlers and the port.

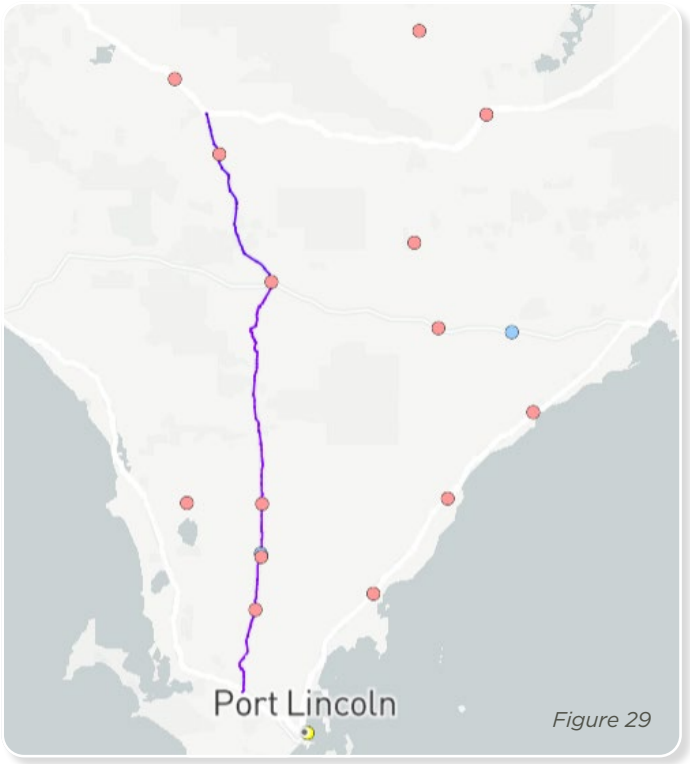


Figure 29

Source: CSIRO TraNSIT

Figure 30

Source: CSIRO TraNSIT

6 Sturt Highway

Sturt Highway is a national highway running through New South Wales, Victoria, and South Australia. The South Australian section runs from the Victorian border near Pinnaroo in the Murray Mallee region to the Gawler Bypass and Northern Expressway at the outskirts of Adelaide.

The highway transports over 360,000 tonnes of grain on average each year, with significant volumes from the Millewa region in North-West Victoria.

KEY FINDINGS

FINDING 1:

National Land Transport network's role in grain freight transportation in South Australia

Analysis of CSIRO TraNSIT data highlights importance of the National Land Transport network for the efficient movement of grain in South Australia.

Five of the top six grain freight routes identified in this report are part of the National Land Transport network. The network comprises nationally important road and rail infrastructure links that are co-funded by the Australian Government on a 50:50 cost-sharing basis. This demonstrates the important role of federal funding in sustaining and optimising grain freight movement throughout the region.

FINDING 2:

Local road access varies significantly between local councils

Local road access is critical for enhancing the efficiency of first and last mile grain movements. Unlike many other sectors that rely on fixed factory or warehouse collection points, grain growers depend on heavy vehicle access to and from all their paddocks to ensure timely deliveries to market.

However, there is significant variation in gazetted B-double access between LGAs across South Australia. While some councils, such as Port Pirie and Northern Areas, have extensive B-double road networks with nearly every road gazetted, these networks often end abruptly at council boundaries.

These limitations in local road access significantly hinder grain freight efficiency. Rather than reducing the necessity for freight movements, the absence of a fully gazetted network forces growers to secure permits, navigate less direct routes, or rely on smaller vehicle combinations. The resulting operational challenges not only increase costs and extend travel times but also reduce overall productivity in the grain supply chain.

Harvesting wheat at Poochera – Ian Turner, SA

FINDING 3:

Poorly designed roundabouts in peri-urban areas are impacting heavy vehicle movements on key freight routes

Recent suburban developments driven by Adelaide's expanding population have led to the installation of roundabouts along major freight routes to provide safe access to new housing areas. However, several high-profile issues have emerged with these intersections, such as the Horrocks Highway in Roseworthy and at Two Wells. Constructed primarily by housing developers, these roundabouts fail to account for the unique operational needs of heavy vehicles, which, due to their high centre of gravity and variable load distribution, require specially tailored designs to ensure safety and efficiency.

It is vital that future roundabout designs incorporate heavy vehicle performance criteria. This should include adjustments in roundabout size, geometry, and approach alignments to ensure that these intersections can effectively support both the growing suburban demand and the efficient movement of freight traffic.

Sunset harvest – Danielle Hamlyn, SA

FINDING 4:

Ageing bridge infrastructure is impeding heavy vehicle efficiency

Ageing bridge structures are increasingly impacting grain freight operations in South Australia, affecting load capacities and operational efficiency across the region's freight network.

For example, the Swanport Bridge on the South Eastern Freeway is limiting productivity. Built in 1979, the bridge spans the Murray River, and links the South Eastern Freeway to the Princes Highway, Dukes Highway and Mallee Highway. Despite its strategic importance, the bridge is still a single carriageway, with nothing to separate oncoming traffic. After several fatalities, the speed has been reduced from 110km/h to 80km/h. This is resulting in lower productivity and increased road safety risks.

Figure 10 - Swanport Bridge

Similarly, weight restrictions on the Hill River Road Bridge near Spalding in the Mid North Council region inhibit grain freight efficiency. Recognised as a road of regional significance for freight in the 2030 Regional Transport Plan and designated as a gazetted B-double Restricted Access Vehicle route, Hill River Road serves as a key link between the highly productive cropping areas of Andrews and Hilltown and the Goyder Highway. Originally constructed in 1891, the bridge has a 44-tonne load limit, and its narrow design restricts the transport of oversize loads.

VICTORIA

Grain production

Victoria produces approximately 7.3 million tonnes of grain annually, with production primarily concentrated in the western and northern regions of the state. Victoria is both a major exporter and consumer of grain. The state has the largest containerised grain export market in Australia and the second-largest domestic grain market.

Domestically, grain is primarily used as stock feed for Victoria's large dairy, intensive chicken and pig industries. It is also a key input for malt barley production, which is used in Victoria's large beer manufacturing industry.

Bulk grain exports are shipped through the ports of Geelong, Portland, and Melbourne, while containerised grain exports are predominantly handled through the Port of Melbourne.

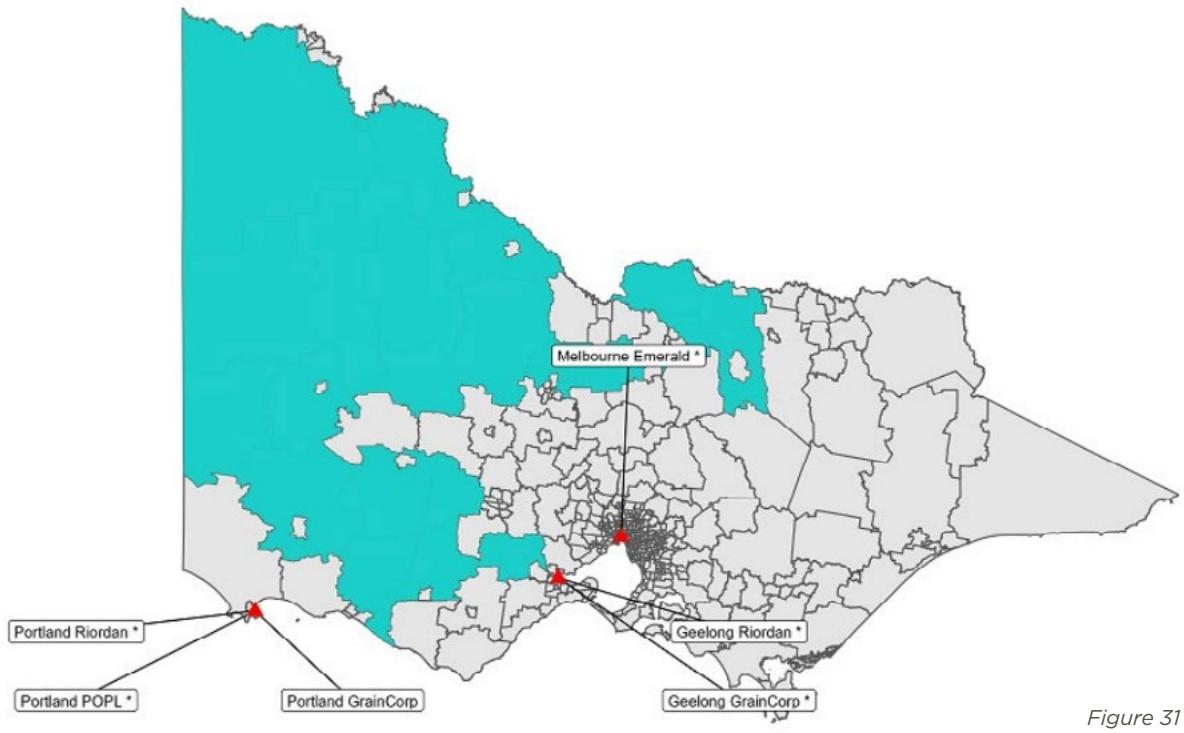


Figure 31

Source: ACCC

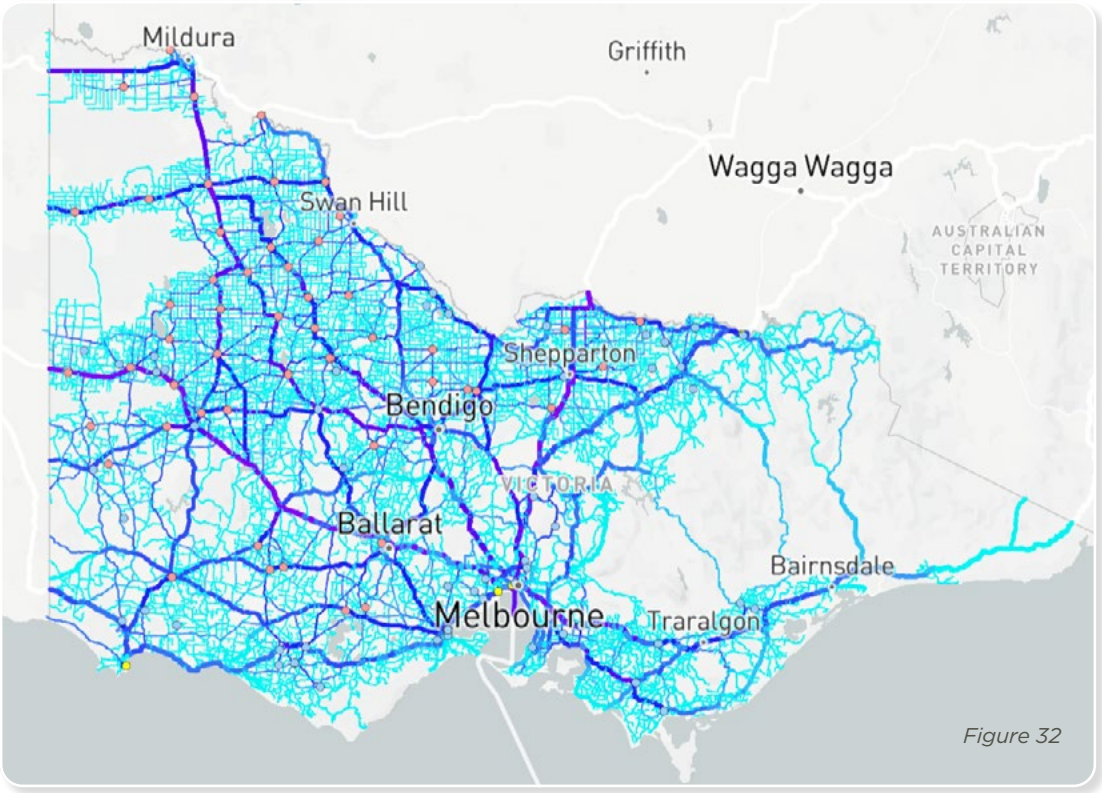
Road freight network

Victoria's grain freight network is complex and multidirectional, reflecting the diverse end uses of Victorian grain.

CSIRO TraNSIT estimates that over 570,000 trailer loads of grain are transported via road each year, travelling an average distance of 176km.

Unlike export-orientated states, where grain primarily flows from farms to ports, Victoria's freight movements span nearly the entire state. Grain is transported not only to major export terminals such as Geelong, Portland, and Melbourne but also to feedmills, farms, piggeries and feedlots across Victoria.

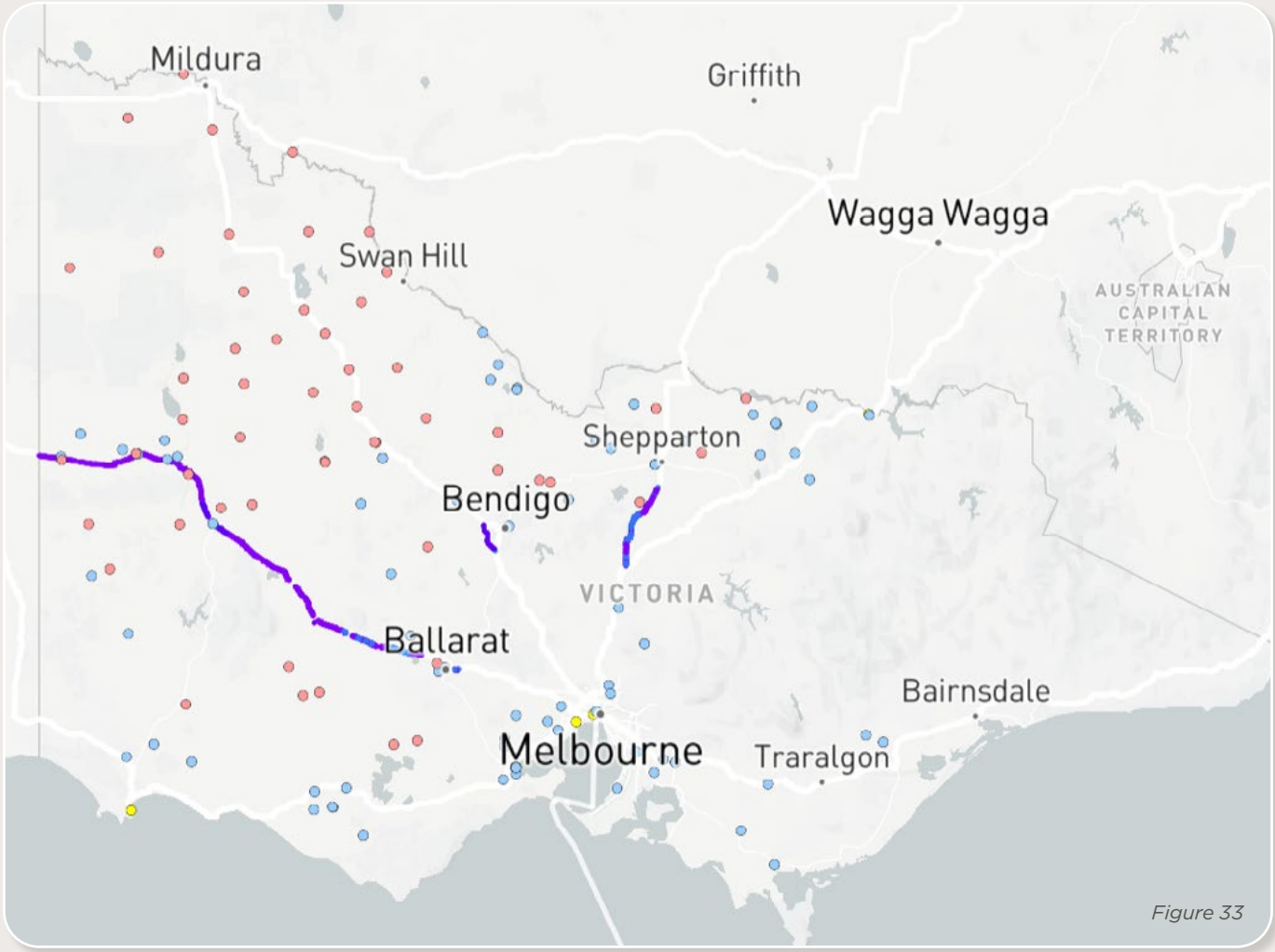
Significant volumes of grain are also moved from New South Wales into Victoria and from Victoria into South Australia.



Source: CSIRO TraNSIT

Full to the brim – Sarah Jackel, VIC

Victoria's top six grain freight routes



Source: CSIRO TraNSIT

Annual Trailers

1 - 250	5,001 - 10,000
251 - 500	10,001 - 20,000
501 - 1,000	20,001 - 50,000
1,001 - 2,000	50,001 - 100,000
2,001 - 5,000	>100,001

Enterprises

Processor	Storage
Transport	

Summary:

The top six grain freight routes in Victoria stretch across the state's western and northern grain-growing regions. The routes include major interstate corridors as well as regional roads, with volumes ranging from over 800,000 tonnes annually on the busiest cross-border links to around 300,000–400,000 tonnes on regional connections, highlighting the mix of domestic and export pathways in Victoria's grain freight task.

1 Dukes Highway

The Victorian/South Australia border crossing where the Western Highway becomes Dukes Highway is the busiest grain freight route in Victoria. The highway is part of the National Land Transport network and carries over 815,000 tonnes of grain annually. The strategic route plays a key role in linking Victorian grain production to South Australia's processing and export facilities.

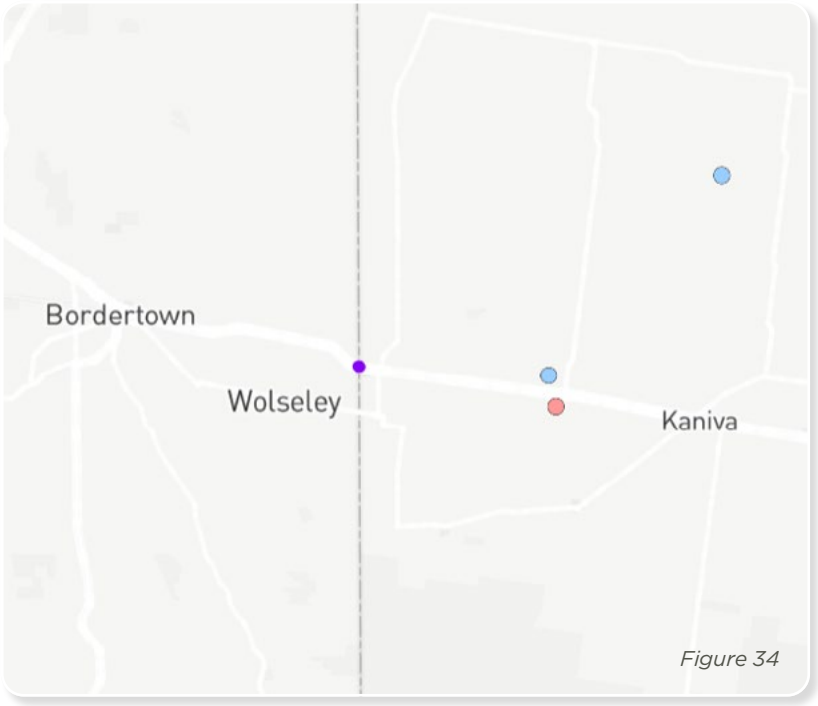


Figure 34

Source: CSIRO TraNSIT

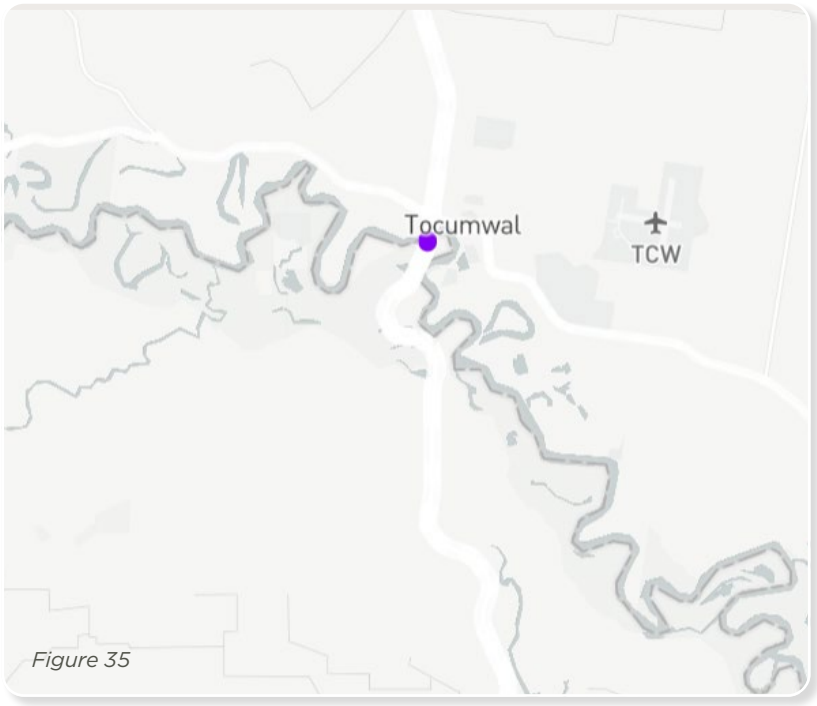


Figure 35

Source: CSIRO TraNSIT

2 Newell Highway

Similarly, the New South Wales/ Victorian border crossing where the Goulburn Valley Highway becomes the Newell Highway is the second-highest volume grain freight corridor, facilitating the transport of over 809,000 tonnes of grain. As part of the National Land Transport network, this route plays a vital role in connecting grain-producing regions in the Riverina region of New South Wales to the Port of Melbourne as well as Victorian feed grain to New South Wales livestock producers during dry seasonal conditions.

3 Western Highway

The Western Highway is the third-highest volume grain freight route in Victoria, facilitating the transport of over 567,000 tonnes of grain. As part of the National Land Transport network, the Western Highway connects the key grain-growing region of the Wimmera to domestic markets and export facilities in South Australia, Melbourne, and Geelong.

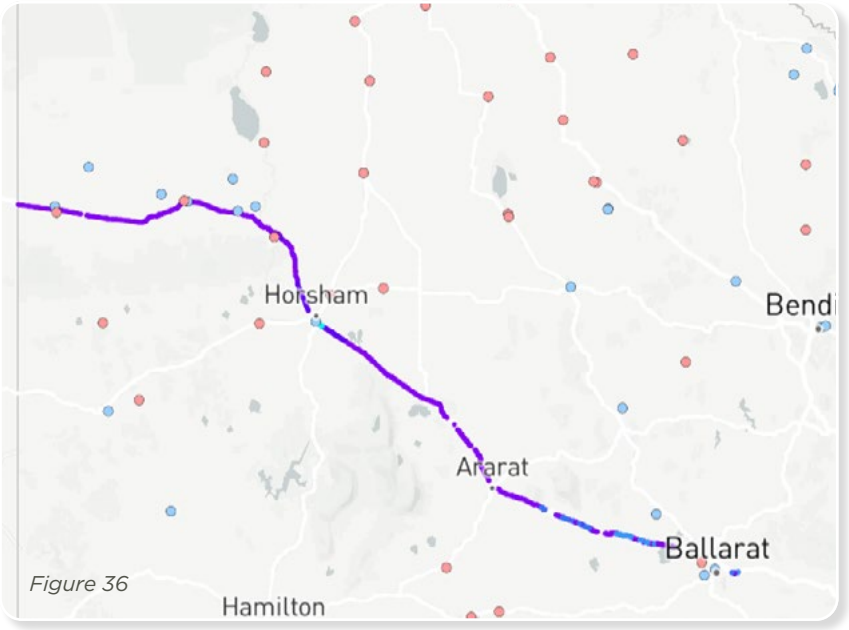


Figure 36

Source: CSIRO TraNSIT

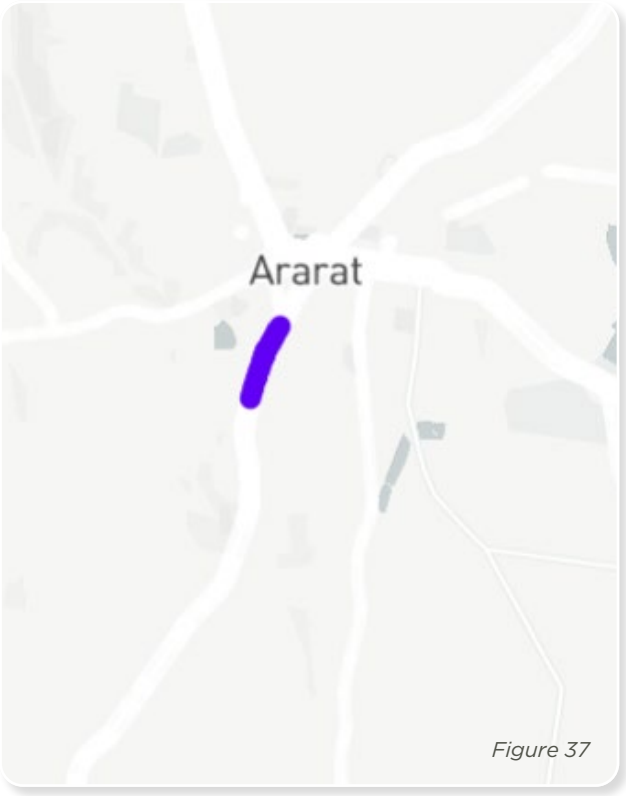


Figure 37

Source: CSIRO TraNSIT

4 Port Fairy Road

The Port Fairy Road and its continuation, the Mortlake-Ararat Road, serve as a key link between grain-producing regions of the Wimmera with stockfeed mills and dairy farms in southwest Victoria. The only non-highway route in the top six, the Port Fairy Road handles approximately 441,000 tonnes of grain annually, transported via over 17,500 trailer loads.

5 Goulburn Valley Freeway

The Goulburn Valley Freeway, a continuation of the Goulburn Valley Highway, runs from Seymour to south of Shepperton in northern Victoria. Part of the National Land Transport network, the freeway transports over 300,000 tonnes of grain annually drawn not only from the region, but also from the Riverina in New South Wales, heading to port, as the route connects to the Newell Highway in New South Wales.

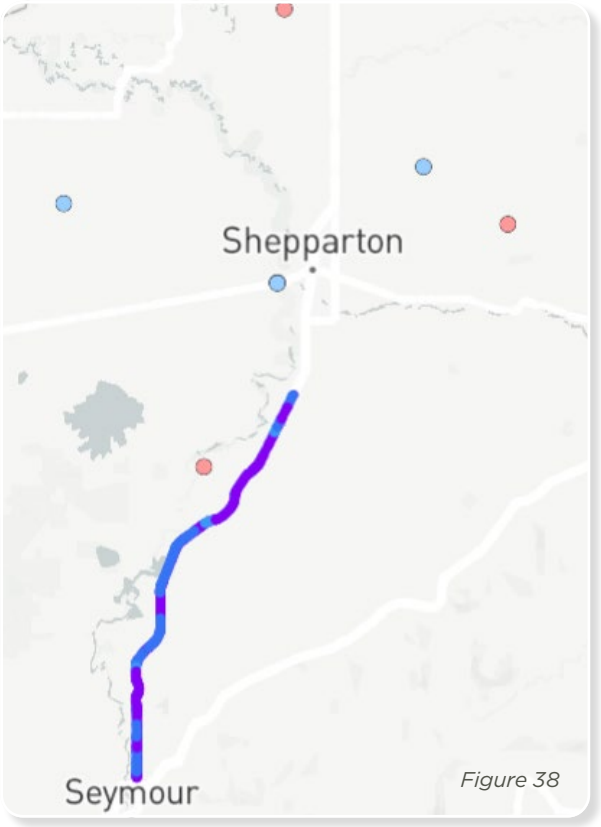


Figure 38

Source: CSIRO TraNSIT

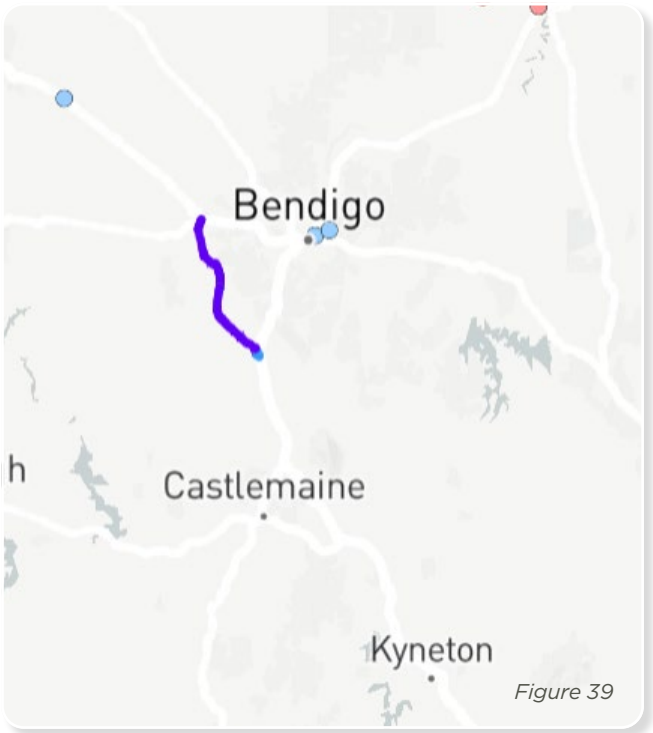


Figure 39

Source: CSIRO TraNSIT

6 Calder Alternative Highway

The Calder Alternative Highway, which bypasses Bendigo and connects the Calder Highway and the Calder Freeway, transports over 12,000 trailers of grain a year. Grain is drawn from the Mallee and Wimmera regions via the Calder Highway and Wimmera Highway and transported to port as well locally as to the region's large pork production industry.

KEY FINDINGS

FINDING 1:

Weight restrictions on bridges are inhibiting productivity on key grain freight routes

While there has been a substantial increase in the gazetted PBS A-double network, the ability for operators to increase productivity continues to be impeded by ageing bridge infrastructure on many key freight routes. Much of Victoria's regional bridge infrastructure was built over 70 years ago and is nearing the end of its useful life. This results in infrastructure owners needing to implement load limits to protect their assets, inhibiting productivity by restricting the total weight a heavy vehicle can carry over the bridge, resulting in the use of smaller and less efficient heavy vehicle combinations to transport grain.

For example, although Goulburn Valley Freeway is gazetted for 85.5 tonnes, a bridge north of Seymour is restricted to 68.5 tonnes, limiting the efficiency of the route.

Similarly, while the Calder Highway and the Calder Alternative Highway are gazetted for 85.5 tonnes, the bridge at Bridgewater on Loddon on the Calder Highway has a 72-tonne weight restriction, restricting the efficiency of A-doubles transporting grain from the Mallee.

Bridgewater Bridge on Loddon

FINDING 2:

Rail crossing restrictions add regulatory burden to high productivity movements on key grain freight routes

Rail crossing restrictions on many of the key grain freight routes are inhibiting productivity on key grain freight routes.

Below is a map of all the railway crossings marked in yellow on the PBS A-double network in Victoria. Operators using these crossings are required to apply for a permit with the Department of Transport and Planning.

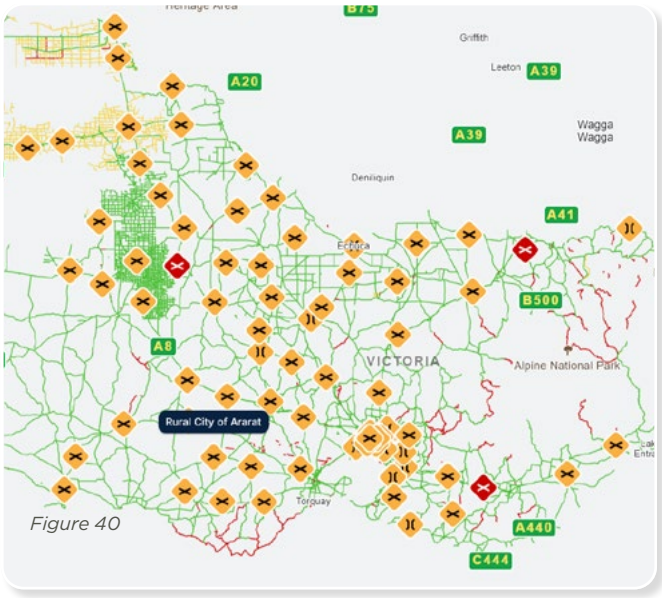


Figure 40

Source: NHVR

It is crucial that transport agencies and third-party rail asset owners explore more efficient technological solutions that can maintain safety while reducing red tape for operators. Current crossing requirements are often labour-intensive and inefficient, such as in western Victoria, where A-double operators are required to have an "Accredited Track Force Protection Coordinator" to be present crossing ARTC owned lines.

The Australian Transport Safety Bureau's Review of Level Crossing Collisions Involving Trains and Heavy Road Vehicles (2024) highlighted the potential for innovative engineering controls to enhance safety at level crossings.

The review found that: "the possibility of the future use of engineering controls which alert road users to a requirement to stop will almost certainly provide an enhanced level of safety at level crossings, by reducing the reliance on road vehicle drivers to attend to and detect the presence of trains." Such advancements could eliminate the need for costly manual interventions, ensuring that heavy vehicles can cross rail lines more efficiently without compromising safety.

FINDING 3:

There are significant variations in road access across key grain growing regions in Victoria impacting grain freight efficiency

Local road access is critical for improving the efficiency of first and last mile grain movements. Unlike many other industries with fixed factory or warehouse collection points, growers require heavy vehicle access to and from all their paddocks to effectively deliver their grain to market.

While many local government areas (LGAs) in north-western Victoria have gazetted A-double access on most of their networks, many local councils in south-western Victoria are still yet to gazette B-double access on most of their road networks.

For example, Mildura Rural City Council, Hindmarsh, and Yarriambiack have extensive gazetted B-double networks, however, this access often abruptly ends at the borders of neighbouring LGAs like Northern Grampians and Ararat, where primarily arterial roads are gazetted.

These limitations significantly hinder grain freight efficiency. Failing to gazette local road access does not eliminate the need for freight movements. Instead, it forces growers to apply for permits, utilise less efficient routes, or use smaller combinations, which increases costs, extends travel times, and reduces overall productivity.

Outstanding in their field - Victoria Parker, VIC

FINDING 4:

High cross-border movements present opportunities for increased harmonisation to increase productivity

CSIRO TraNSIT data demonstrates significant cross-border grain freight activity, highlighting opportunities for increased harmonisation.

For instance, despite the 2019 Grain Harvest Management Schemes (GHMS) Review, the absence of a national GHMS and the existence of varying state-based schemes continue to hinder cross-border movement efficiency. For example, while schemes are broadly aligned, key differences remain. Victoria requires compliance with ADR80 emissions standards, while New South Wales imposes a "nearest silo" delivery requirement.

In contrast, there is no GHMS in South Australia. Instead, it offers year-round grain freight routes with additional mass tolerances.

A harmonised and nationally consistent approach to heavy vehicle regulation would enable seamless cross-border grain movements, improve supply chain efficiency, and strengthen the grain industry's competitiveness.

659 motel moving the goods - Sarah Williams, VIC

WESTERN AUSTRALIA

Grain production

Western Australia is the nation's largest grain-growing state, producing roughly 18 million tonnes of grain annually. In recent years, Western Australia has had a series of record-breaking harvests, topping 26 million tonnes in 2022-23.

Production is concentrated in the south-west corner, extending from the Mid-West and Wheatbelt, to the Great Southern and Esperance regions.

With a relatively small domestic market, the industry is highly focused on global markets, with approximately 80–90% of grain exported each year. In particular, the state has a long-standing reputation for supplying high-quality noodle wheat to key international markets such as Japan, Korea, and Indonesia.

Bulk grain is exported via major ports at Albany, Esperance, Geraldton, Bunbury, and Kwinana, while smaller volumes of containerised grain are shipped through Fremantle.

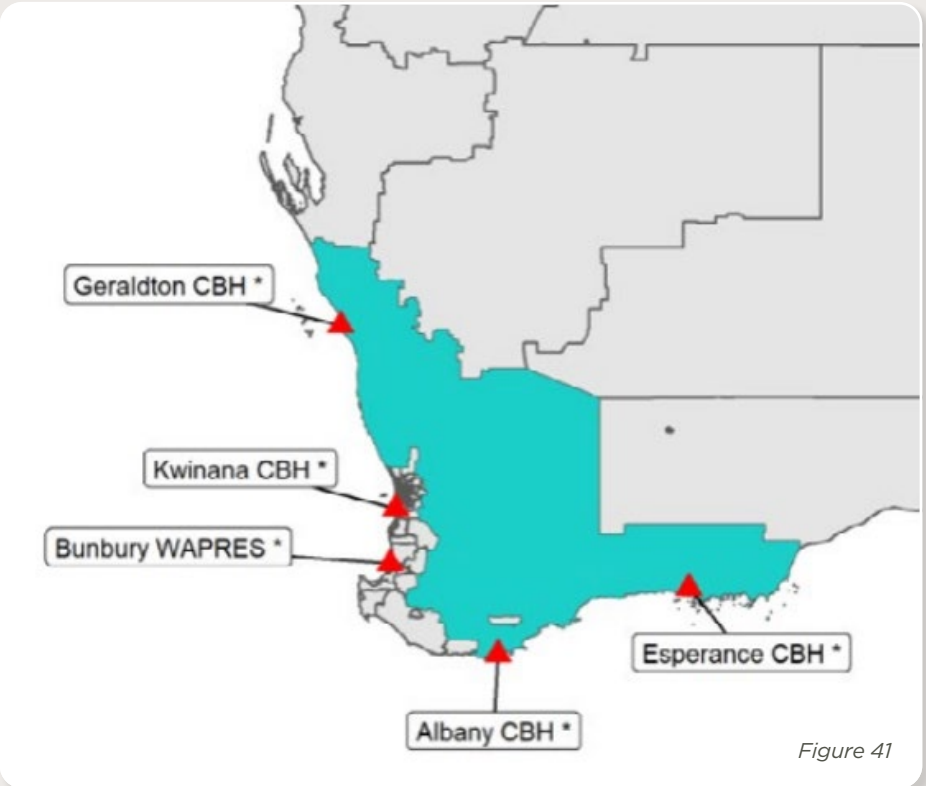


Figure 41

Source: ACCC

Road freight network

CSIRO TraNSIT estimates that over 1.3 million grain trailers are transported annually by road in Western Australia.

Road freight movements are highly concentrated in the grain belt, forming a complex web between farms, grain receival sites and ports.

Similar to New South Wales, rail plays a critical role in moving grain to port, with approximately 60% of grain reaching port by rail, while the remaining 40% is moved by road transport.

Reflecting the export-orientated nature of Western Australia's grain supply chain, the majority of high-volume grain road freight routes are going directly to port or to connect grain to rail to be transported via train for port.

In contrast to the east coast and South Australia, there is very minimal interstate movements, and the average grain road movement is 139km.

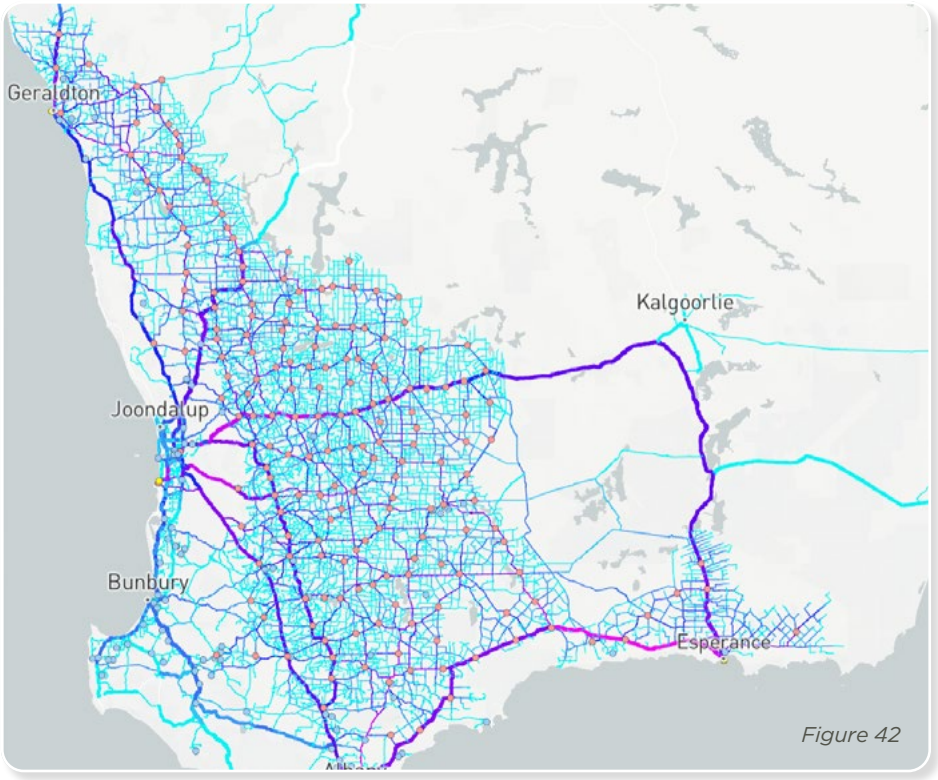
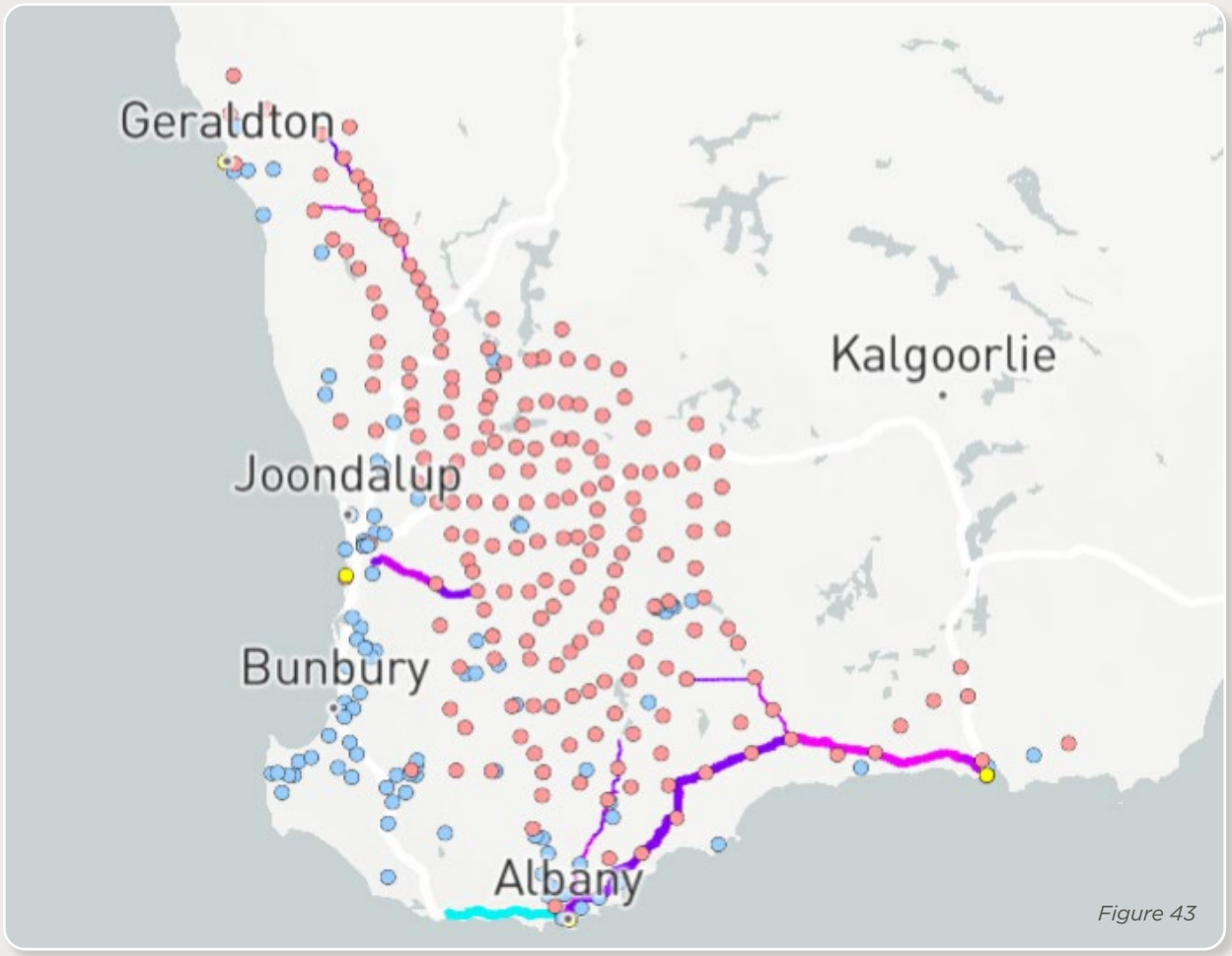


Figure 42

Source: CSIRO TraNSIT

Stormy skies – Debbie Cristinelli, WA

Western Australia's top six grain freight routes



Source: CSIRO TraNSIT

Annual Trailers

1 - 250	5,001 - 10,000
251 - 500	10,001 - 20,000
501 - 1,000	20,001 - 50,000
1,001 - 2,000	50,001 - 100,000
2,001 - 5,000	>100,001

Enterprises

Processor
Storage
Transport

Summary:

The top six grain freight routes in Western Australia are concentrated across the state's Wheatbelt. Reflecting the state's strong export focus, these routes primarily connect growing regions directly to ports or to rail sites. Unlike other states, where the busiest grain freight routes typically carry several hundred thousand tonnes each year, all of Western Australia's top six routes move more than one million tonnes annually, reflecting both the scale of production and the state's strong export orientation.

1 Mingenew-Morawa Road

The Mingenew-Morawa Road is a state road in the Mid West region. Running between the Mingenew and Morawa townships, the narrow road connects nearly 1.3 million tonnes of grain to the port terminal at Geraldton on average each year.

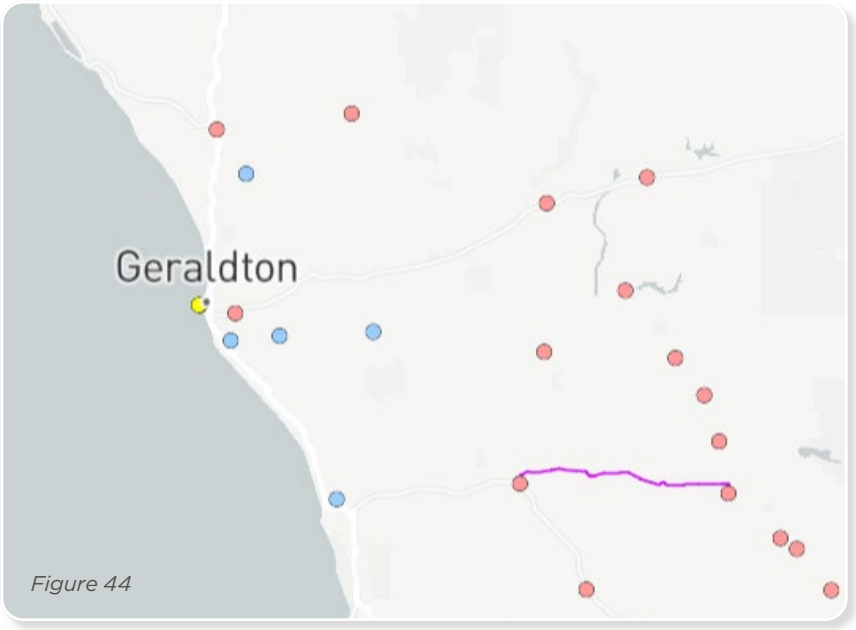


Figure 44

Source: CSIRO TraNSIT

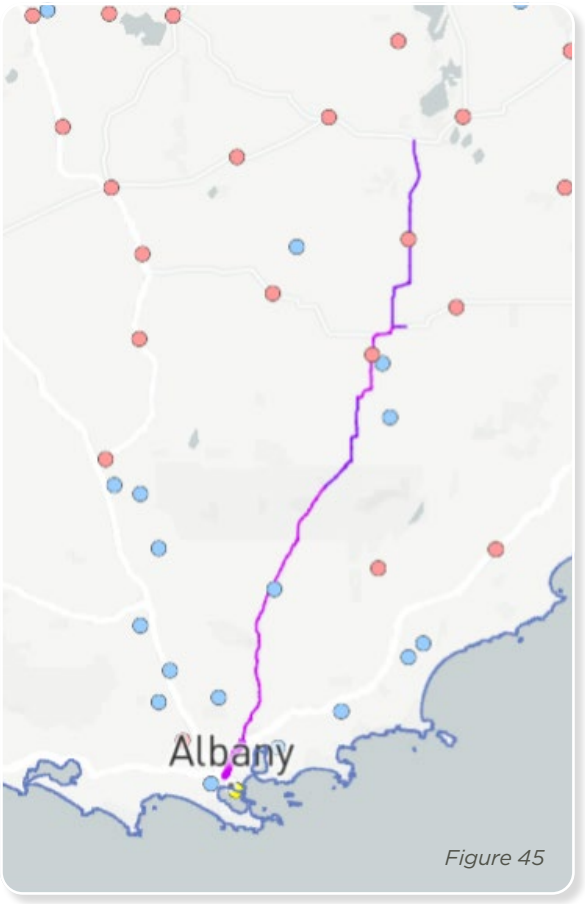


Figure 45

Source: CSIRO TraNSIT

2 Chester Pass Highway

Chester Pass Road is a 163km road running through the Great Southern region of Western Australia.

Stretching from Nyabing to Albany, the road transports over 1.2 million tonnes of grain each year to the port terminal at Albany.

3 Brookton Highway

The Brookton Highway is a 112km state highway, running from the Wheatbelt town of Brookton to the suburbs of Perth. The road forms part of State Route 40 which runs between Perth and Esperance.

It connects grain from the Wheatbelt to the port terminal at Kwinana, transporting over 1.2 million tonnes of grain on average annually.

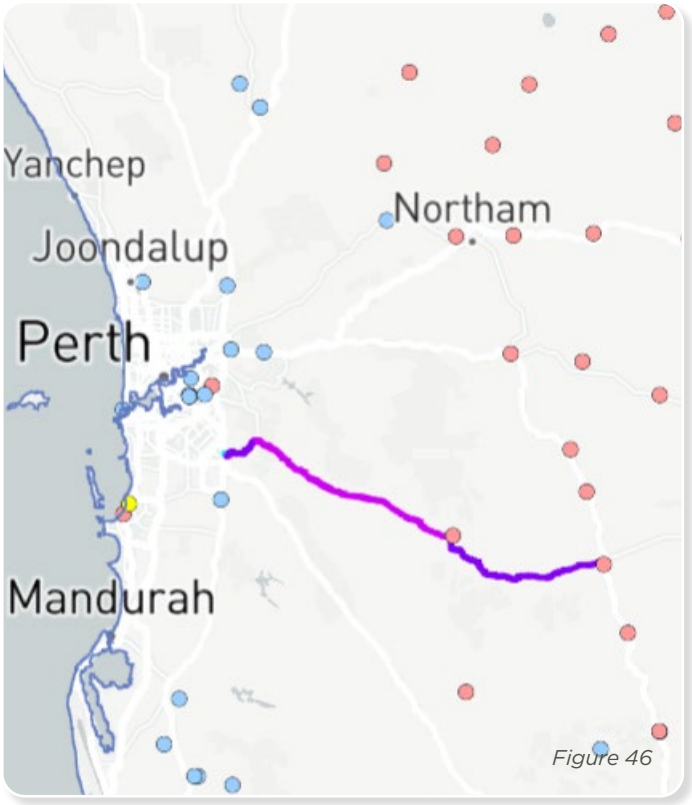


Figure 46

Source: CSIRO TraNSIT

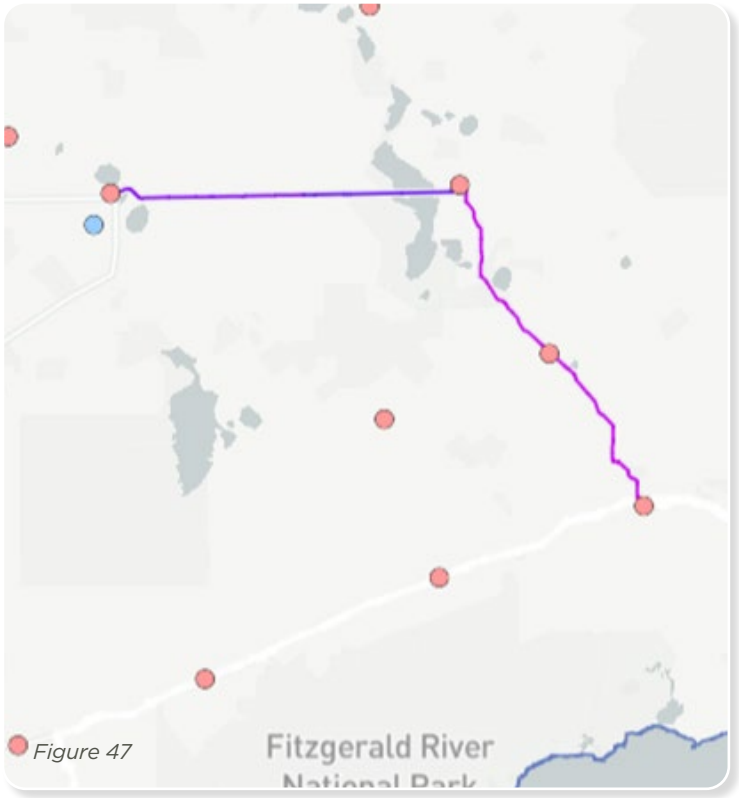


Figure 47

Source: CSIRO TraNSIT

4 Newdgate-Ravensthorpe Road

The Newdgate-Ravensthorpe Road is a state-owned road connecting the Southern Wheatbelt region with the Goldfields-Esperance region.

The road transports nearly 1.2 million tonnes to the port terminal at Esperance for export.

5 South Coast Highway

The South Coast Highway stretches 592km along the south coast of Western Australia.

Running from Walpole to Esperance, the route transports over 1.1 million tonnes of grain to both the Albany and Esperance ports.

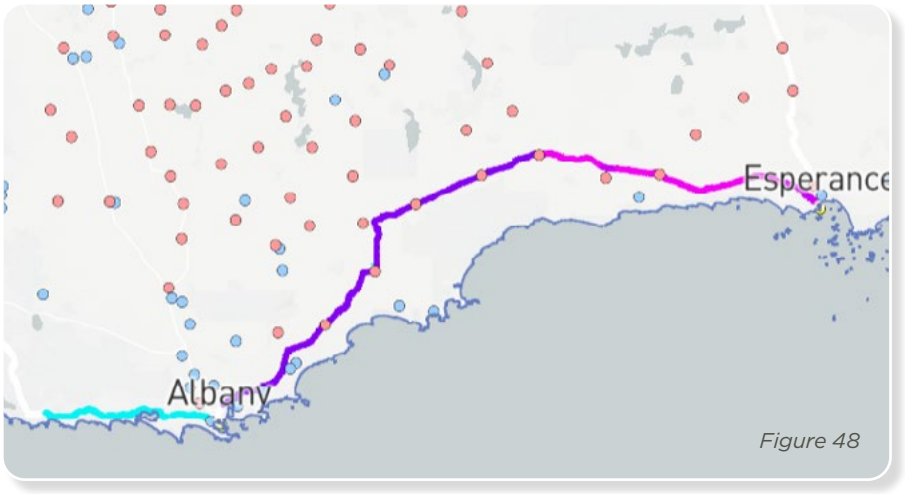


Figure 48

Source: CSIRO TraNSIT

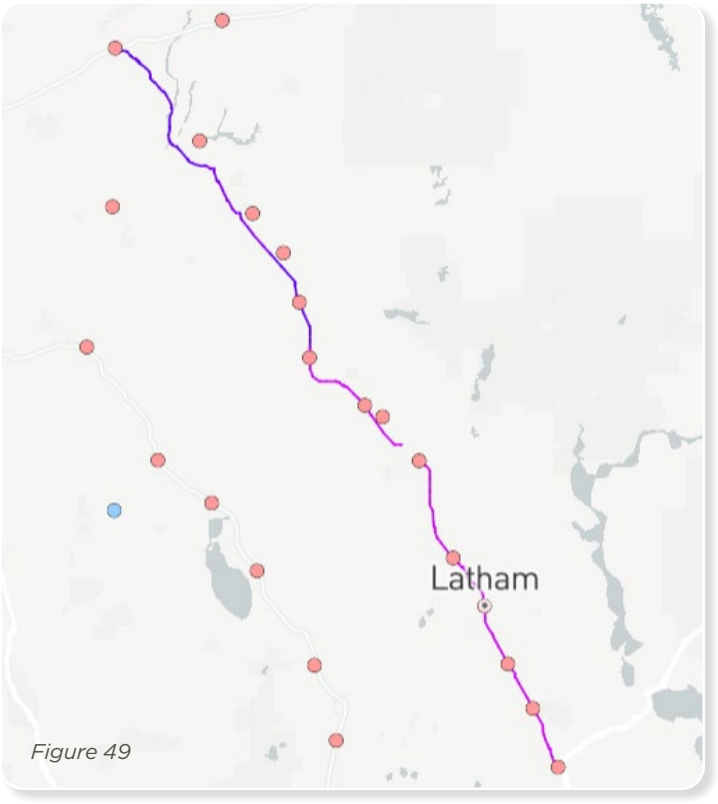


Figure 49

Source: CSIRO TraNSIT

6 Mullewa-Wubin Road

The Mullewa-Wubin Road is a north-south connecting road, traversing the Northern Wheatbelt and Mid-West grain-growing region of Western Australia.

Each year, the route transports over 1 million tonnes of grain, connecting grain to key rail sites as well as the Geraldton Port.

KEY FINDINGS

FINDING 1:

Key freight routes are vulnerable to climatic events

Many of Western Australia's critical grain freight routes are situated in regions that face significant exposure to climatic hazards such as bushfires, flooding, and severe storm events. These climatic events pose an increasing threat to the reliability of the road freight networks essential for maintaining an efficient grain supply chain.

For example, the South Coast Highway has experienced multiple major flooding events in recent years and is projected to face even greater challenges as climate change intensifies. Additionally, parts of the coastal freight network are vulnerable to sea-level rise, further compounding these risks and potentially leading to more frequent and severe disruptions.

Similarly, many roads running through key grain-producing regions lie in bushfire-prone areas. In 2019, bushfires damaged sections of the Great Southern Highway in the Southern Wheatbelt, highlighting the susceptibility of these routes.

Western Australia's extensive network of timber bridges is also at high risk; several bridges have recently sustained extensive damage due to bushfire events, resulting in significant disruptions for local communities and emergency services. Moreover, the state's vast geographic spread means that if a critical route is obstructed, there are often few, if any, viable alternative paths available.

These combined vulnerabilities highlight the urgent need for targeted resilience measures and strategic planning.

It is vital that targeted investment is made in effective drainage systems, such as culverts, to mitigate the impacts of flooding and erosion. The adoption of durable and weather-resistant materials can also significantly extend the lifespan of rural roads.

Without proactive adaptation and mitigation efforts, these climatic hazards have the potential to severely disrupt the movement of grain.

Sunset but not the end – Amber Silinger, WA

FINDING 2:

Critical gaps in the PBS 3 network are inhibiting grain freight productivity

Despite the significant expansion of the PBS 3 network to key grain export ports, critical gaps remain that limit its effectiveness for grain freight.

Notably, many of the top six routes are either not gazetted or only partially gazetted for 42-metre vehicles. For instance, in the Geraldton Port Zone, the Mingenew–Morawa Road is not gazetted, and the section of Mullewa–Wubin Road from Morawa to Mullewa remains ungazetted.

Additionally, limited PBS routes to Kwinana from the east adversely affects growers from the Central and Southern Wheatbelt. State Route 40 is gazetted only up to the township of Brookton, with the Brookton Highway ungazetted, and the Great Eastern Highway designated only until just past Northam, which forces the use of less efficient freight combinations.

Addressing these gaps by upgrading road infrastructure and extending PBS access will be vital to enhancing the productivity and efficiency of grain freight operations.

FINDING 3:

Strategic importance of local government roads

Local roads are essential for first and last mile freight access, linking farmers to grain receival sites and state and national highways.

In Western Australia, the high volume of grain movement means that many local government roads are under considerable pressure. For example, the Merredin–Narembeen Road in the Southern Wheatbelt which is managed by the Merredin and Narembeen local councils, averages over 10,000 grain trailer trips annually, which is higher than some of the top six routes identified in Queensland.

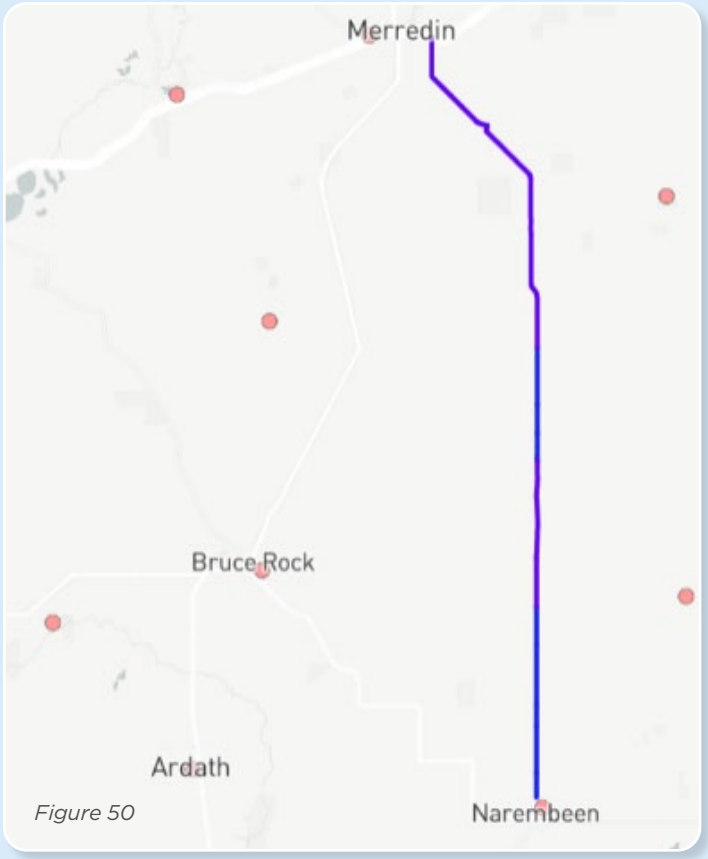


Figure 50

Source: CSIRO TraNSIT

This places significant strain on local government to maintain their road networks. For example, the Western Australian Local Government Association has found that councils in the Wheatbelt South region would need to allocate 105.7% of their total revenue to meet road network preservation needs.

Western Australia's Revitalizing Agricultural Freight Strategy has identified over 110 high-to-medium priority secondary roads requiring upgrades. This underscores the importance of the joint federal and state-funded Wheatbelt Secondary Freight network.

Filling up the truck – Eloise Bagshaw, WA

Silhouette of grain bin at sunset – Lina Varone, WA

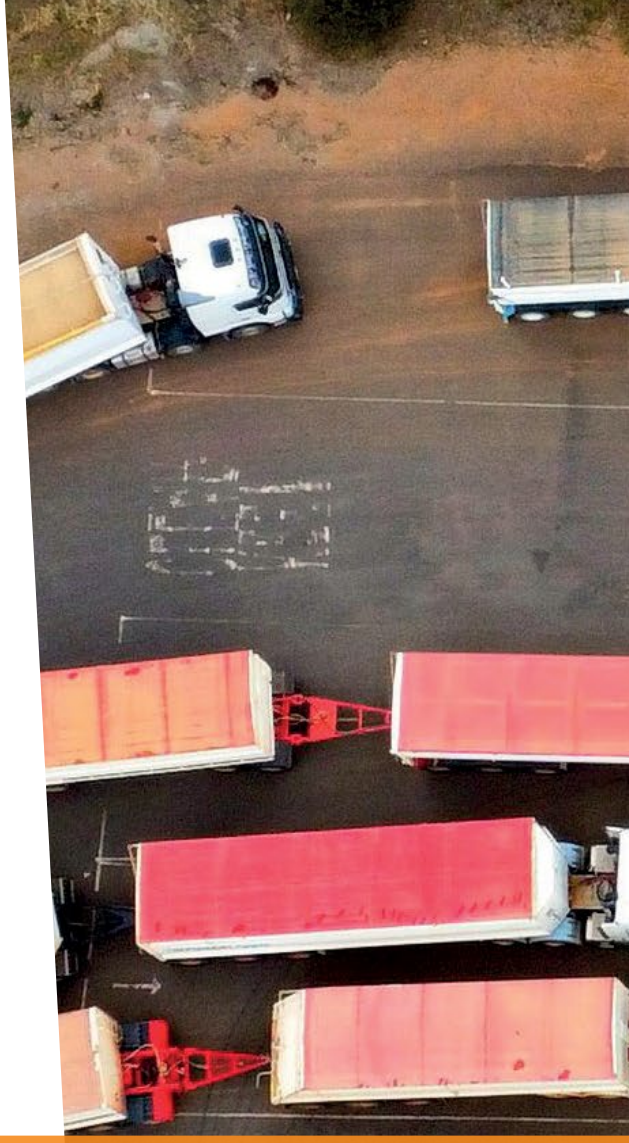
CONCLUSION

A well-functioning grain freight network is essential to the success of Australia's grain industry, yet ageing infrastructure, inconsistent regulations, and climate risks are creating costly inefficiencies. This report highlights the urgent need to address infrastructure bottlenecks, modernise freight routes, and improve supply chain resilience to ensure the industry remains sustainable and profitable.

Strategic investment in priority freight corridors is essential to reducing transport costs and enhancing efficiency. Upgrades to key roads and bridges, expanding PBS network access, and mitigating flood risks will play a crucial role in improving freight reliability. At the same time, greater coordination between federal, state, and local governments is needed to harmonise transport regulations, ensuring seamless grain movements across borders. Addressing inconsistencies in local road access and providing funding for first-and-last-mile connectivity will also be critical in supporting the broader grain supply chain.

Equally important is planning for the long-term resilience of Australia's freight infrastructure. Climate-related disruptions are an increasing challenge, and forward-looking investment must include measures to strengthen the network against extreme weather events.

By integrating data-driven decision-making, industry collaboration, and targeted infrastructure improvements, Australia can build a more efficient and resilient freight network that supports grain growers and regional economies for decades to come.



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