

Riverina And Murray Joint Organisation

Improving Transport Connectivity

Regional Freight Transport Plan

October 2023





Regional Freight Transport Plan

Version	Date
1	March 2016
2	November 2020
3	October 2023

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EXECUTIVE SUMMARY

The Riverina and Murray Joint Organisation (RAMJO) is a voluntary association of 11 local government bodies, located in the Southern Riverina and Murray region of NSW. The region runs from Albury City westward to Murray River Council and north to Carrathool Shire. The members of RAMJO are the Councils of Albury, Berrigan, Carrathool, Edward River, Federation, Murray River, Griffith, Hay, Leeton, Murrumbidgee and Narrandera.

The RAMJO region covers an area of some 82,868 sq km and contains some of NSW's most heavily utilised road and rail transport corridors, including the Hume Highway, Mid-Western Highway, Sturt Highway, Newell Highway, Riverina Highway and Cobb Highway. The principal population centres are Albury and Griffith with a mix of regional centres, medium sized towns and urban shires through to rural shires large in area but small in population.

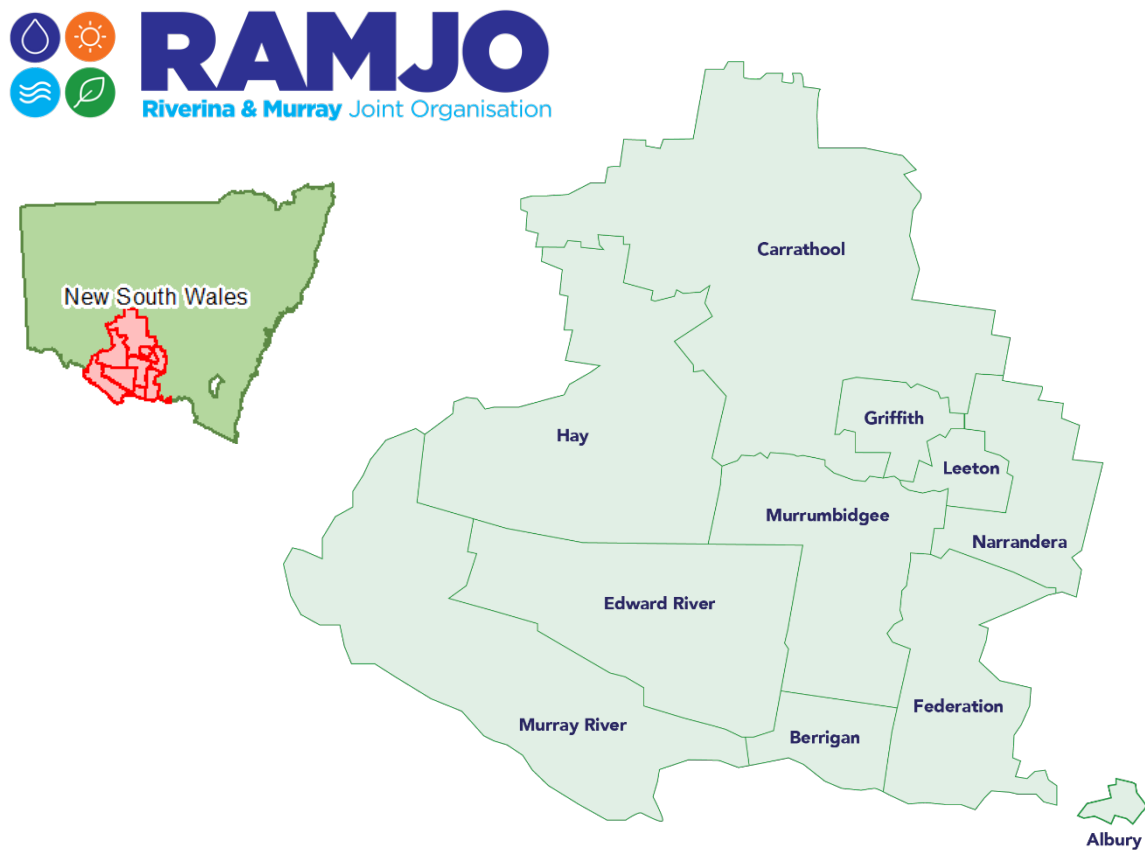


Image (above): The RAMJO region and included local government areas

The Murray and Southern Riverina region is situated along the Murray River. The region is known for its agriculture and food sector, having both rich alluvial soil and leveraging the irrigation opportunities presented by the Murray River. The region produces approximately one third of NSW's grapes, a quarter of its citrus and over half of Australia's rice crop. The region is also home to third largest vegetable growing areas in NSW. Livestock is important to the region as well having a strong presence in manufacturing and retails.

The region encompasses the Murray, Murrumbidgee, and Lachlan Valley Catchment areas. The Regional Freight Transport Plan (the Plan) was initiated by RAMJO to investigate the freight infrastructure network from a regional perspective. The implementation of integrated transport solutions for the region is an overriding goal of the Plan and to that end RAMJO has reviewed both the rail, road and air transport networks that service the region.

During 2016, there was 482 million tonnes of freight moved within New South Wales. This is forecast to increase to 618 million tonnes of freight moved by 2036.¹ Regional NSW accounts for 30 per cent of NSW's Gross State Product (GSP) and 33 per cent of goods manufactured in NSW. Regional NSW's freight task is forecast to grow around 12 per cent by 2036, from 255 million to 286 million tonnes.²

The forecasted growth will add significant pressure to road and rail networks in the RAMJO region. It will also bring opportunities for the growth of logistics based enterprises such as the Ettamogah Rail Hub, WR Connect (Leeton) and the Tocumwal intermodal facility. Constraints on freight corridors hinder growth and inhibit economic activities, costing industry time and money and in some instances acting as a barrier to the establishment of new or expansion of existing industries.

RAMJO's overall aim was to develop a regional approach to transport planning whereby significant road, rail and air freight corridors were mapped and constraints on those corridors were identified consistent with neighbouring Regional Freight Transport Plans. A set of goals and strategies have also been identified that will assist the region realise its full potential in relation to the provision of freight transport solutions.

The project is underpinned by comprehensive on-line mapping of the areas freight routes, its modal point, constraints and pinch points. Users can view and manipulate the mapping layers to discover information about freight transport in the region. <https://ramjo.giscloud.com/>.

Based on this Plan, and during 2021, the RAMJO Group initiated a project to prioritise the regional freight networks and facilities within our region. [RAMJO Freight Priorities Report 2022](#)

RAMJO has utilised this Plan to agree on seven priorities from a regional perspective, acknowledging each member Council will have their own individual local priorities they will pursue.

¹ NSW Freight and Port Plan 2018 – 2023 p18

² Ibid p 36

RAMJO will utilise this document as a strong advocacy tool for lobbying government agencies (state and regional roads) and accessing any available external funding. Identified regional priorities identified include:

- Sturt Highway Corridor;
- Cobb Highway Corridor;
- Federation Way Corridor;
- Kidman Way Corridor;
- Ettamogah Intermodal Hub;
- Tocumwal Intermodal Freight Strategy; and
- WRConnect Intermodal Freight Terminal.

OUR GOALS AND STRATEGIES

RAMJO considered the future directions and the goals that the membership wanted to achieve for freight transport in the region. It was agreed that the following goals and strategies should be adopted to progress the Region's needs:

Goal One: Develop a network of identified freight corridors that facilitate the efficient and effective movement of freight within and through the region.

Strategies:

1. Work with industry and the State Government to identify existing corridors and their constraints.
2. Promote the use of designated regional freight corridors to users and potential users.
3. Develop long term plans to fund improvements for roads that form part of an identified freight corridor.
4. Encourage transport and logistics development on identified corridors through planning and economic development initiatives.

Goal Two: Support the development and implementation of integrated freight transport solutions.

Strategies:

1. Promote the use of multiple transport modes for freight movements.
2. Support the use of branch lines for freight movement.
3. Work with industry, State and Federal agencies to develop and implement integrated transport solutions.

Goal Three: Remove identified transport constraints within the region.

Strategies:

1. Utilise the priority assessment of roads to undertake preliminary costings and seek funding to address identified constraints.
2. Identify and implement initiatives that facilitate councils working collaboratively to address identified constraints.
3. Identify opportunities for councils to work in collaboration with State and Federal governments and agencies to address identified constraints.

Goal Four: Support the growth and development of logistics solutions that improve freight movement.

Strategies:

1. Work collaboratively with industry to identify logistics solutions for the region that improve freight movement
2. Source funding that supports the growth and development of logistics solutions

PART ONE: INTRODUCTION

Freight and logistics are an integral part of the economic well-being of the region. The region contains the main Sydney-Melbourne road corridor, the Hume Highway, the main Southern Rail Line, as well as the main Melbourne, Brisbane road corridors and the Newell Highway. The region also contains the Sturt Highway, which is part of the main Sydney – Adelaide transport corridor.

Murray and Southern Riverina regional towns are strategically placed along Australia's main north-south transport corridor, linking the region to populated markets and business economic centres. Albury is located on the Hume Highway, the main transport corridor between Sydney, Canberra and Melbourne. The east-west transport corridors connect with Adelaide.

Rail, road and air facilities for large-scale movement of goods is vital to access international, national and regional markets. While major towns in the region have relatively good road access to interstate markets the capacity to run B Doubles and High-Performance Vehicles (HPV) on some road is limited and more investment is needed to improve bridge infrastructure. There is an urgent need for the upgrading of certain bridges and roads to enable the use of HPV. This new transport technology increases safety, reduces costs and increases productivity. However, the current state of some roads is restricting the use of these vehicles resulting in reduced competitiveness for transport operator and high transport costs for producers.

In the short term, the rail network remains suboptimal due to inflexible scheduling, structural problems and track damage. The substantial investment in the nation Inland Rail freight rail system between Melbourne and Brisbane and support for the Fast Train proposal are important initiatives designed to relieve stress on a congested road network, enhance productivity and bring benefits to regional centres.

The Murray and Riverina region plays an important role in connecting NSW, Victoria and South Australia due to its strategic transport routes and geographic position.

The region is expected to grow strongly as a centre of production to meet both traditional and emerging markets. For instance, horticulture is becoming more significant as citrus fruits, grapes (table and wine) and nut (almonds and pistachios) production increases so does the level of advanced manufacturing in support of that industry ³

³ Regional Development Australia Murray – Strategic Regional Plan 2022-25

HIGHWAYS

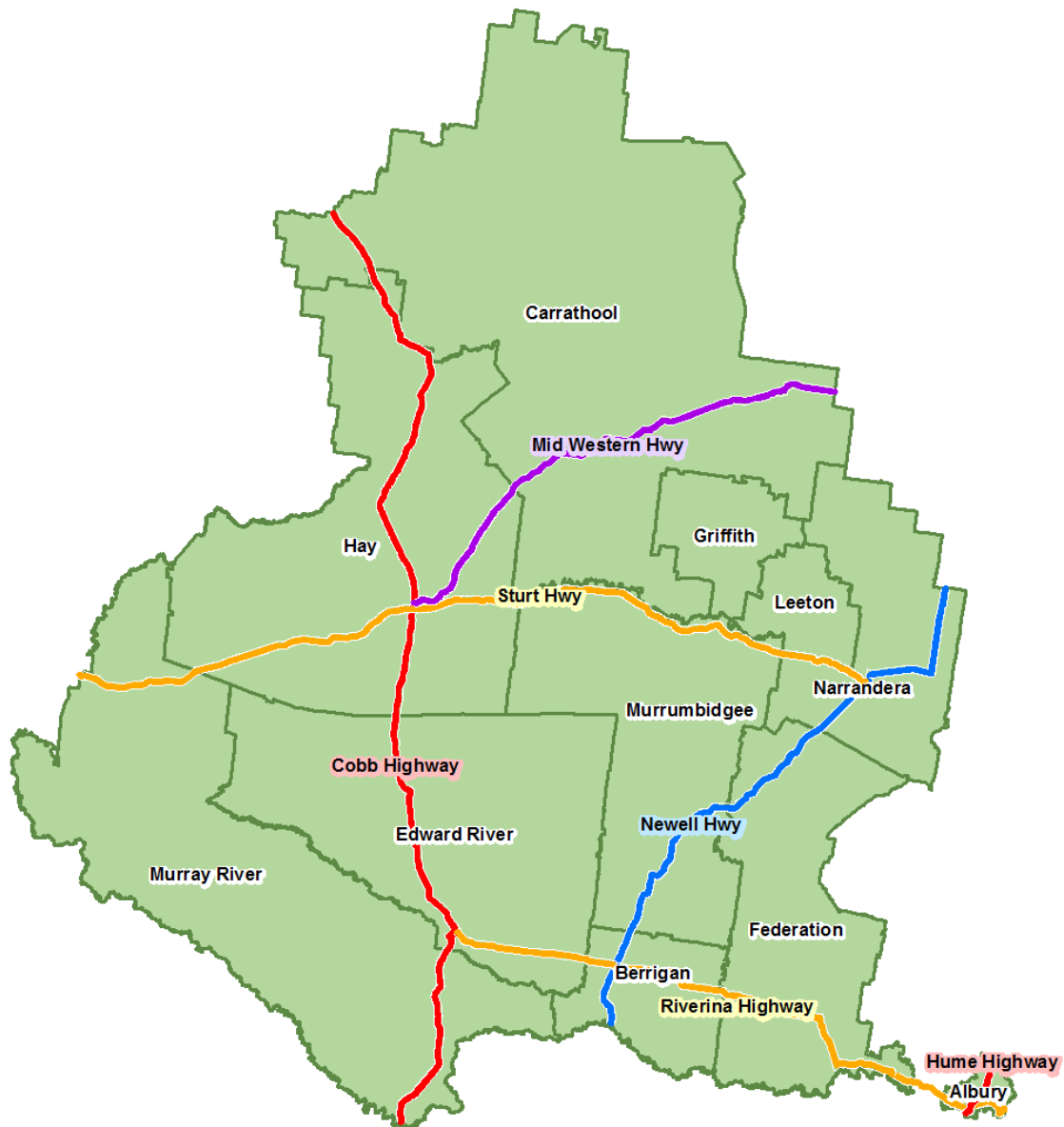


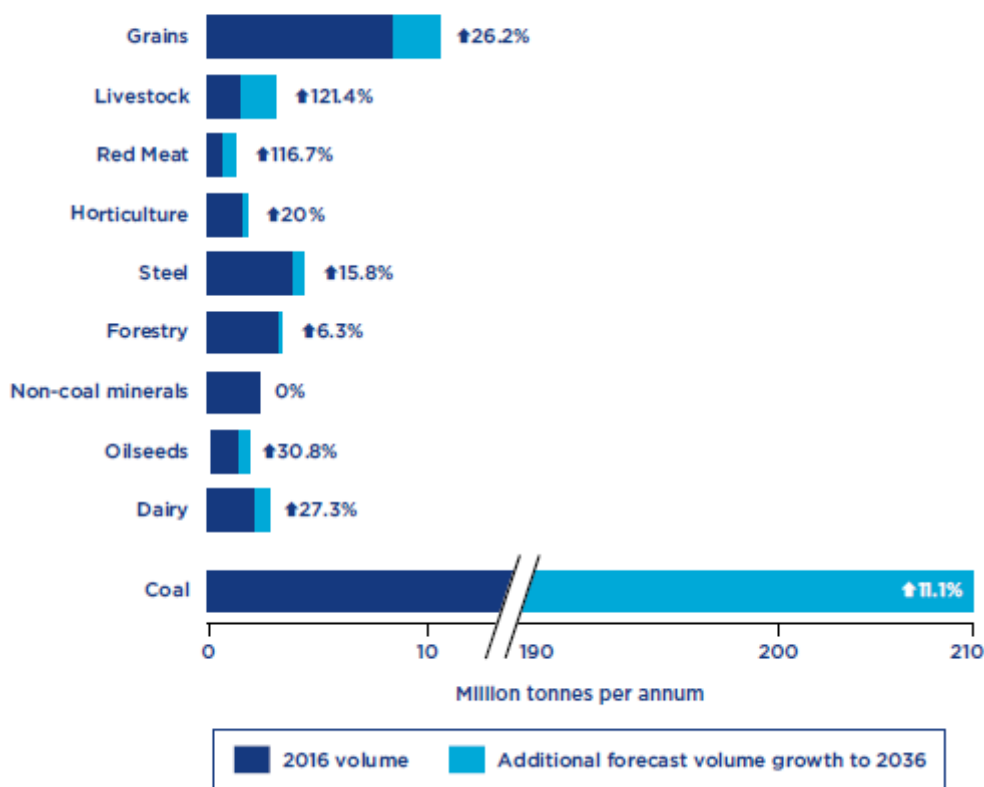
Image (above): Highways in the RAMJO region

The NSW Freight and Ports Plan has estimated that by 2036 the freight task in NSW will increase by 28 percent to 618 million tonnes.⁴ While coal is expected to continue to comprise the largest component of the freight task, all other commodities are forecast to grow.⁵ This growth will impact on transport corridors throughout Murray and Southern Riverina.

Freight supply chains in NSW are currently dominated by the movement of a number of high-volume commodities – this is expected to remain the case to 2036 and beyond. In Greater Sydney, the dominant commodities are manufactured goods, construction materials, consumer goods and waste. In regional NSW, the dominant commodities are coal, grain and steel, forestry and other agricultural produce.

Large numbers of smaller deliveries are equally important to the overall supply chain, such as deliveries between small businesses and consumers that are driven by e-commerce, which is expected to grow significantly.

Selected NSW Commodity Freight Volumes - Regional NSW



⁴ Transport for NSW, NSW Freight and Ports Plan 2018 – 2023 P 119-21

⁵ Ibid

The forecasted growth will add significant pressure to road and rail networks in our region. Rural and Regional Roads are already groaning under the weight of an increasing freight task. The closure of branch rail lines has forced more grain onto roads and this together with the consolidation of grain receival terminals and the creation of mega-storage facilities means that grain movements by road are likely to increase in the future.

Producers in the region are able to choose between transporting produce south to the Port of Melbourne or north to Port Botany. This places the region in a unique position and enhances its prospects for growth in the transport and logistics field. Further opportunities may arise if more freight is shifted to rail once a planned increase in container capacity to and from Port Botany is put into place.

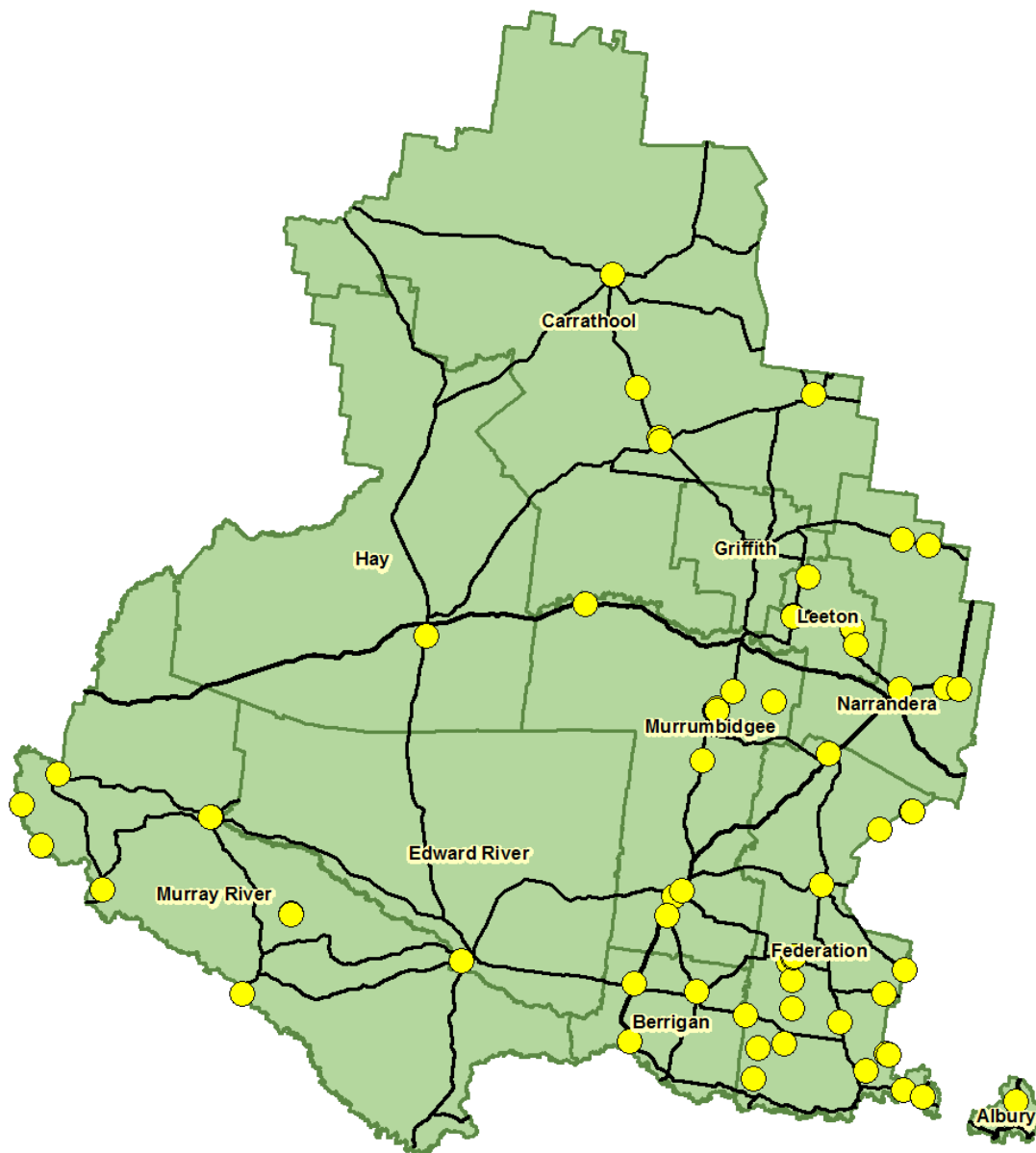
The Regional Development Australia Murray Strategic Region Plan 2022-2025 identifies Connectivity and Infrastructure as one of six key foundations. This incorporates digital connectivity, transport links, and freight and supply chain infrastructure. A key gap identified in this Plan is improving the local road network quality to address access issues (eg. agriculture, softwoods, workforce). Additionally, a priority established within this Plan is to develop multi modal links to drive transport and accelerating the development of intermodal freight hubs.⁶


In the Murray region commercial air services are only available to and from Albury and Mildura. Albury Airport is the fourth busiest airport in regional NSW with more than 250,000 passengers travelling through the terminal per year. There are also numerous smaller aerodromes and landing strips through the region.

The following maps show the major freight transport routes for commodities and their modal points and the HML routes within the Riverina and Murray area.

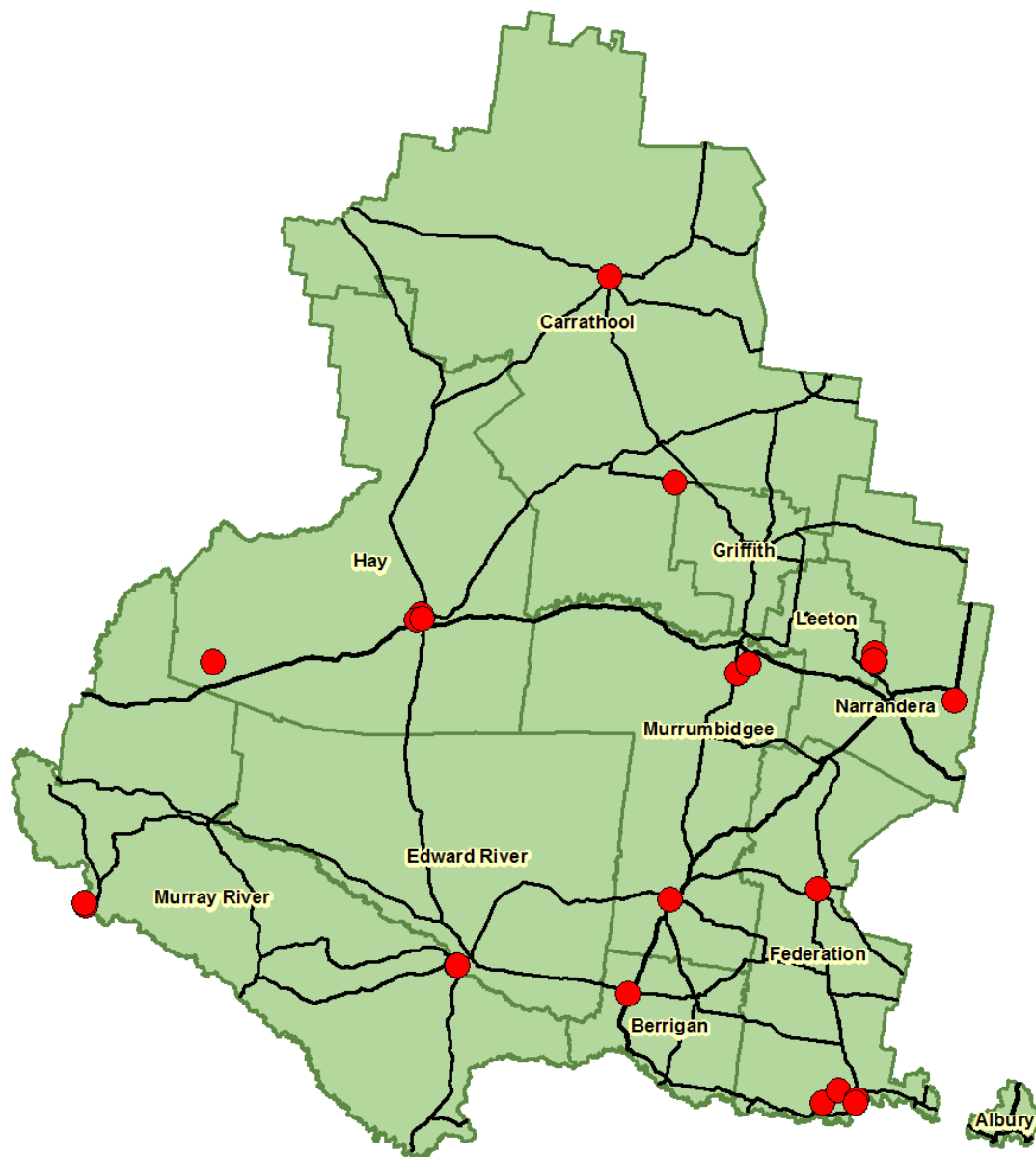
⁶Regional Development Australia Murray Strategic Regional Plan 2022-2025


MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – GRAIN



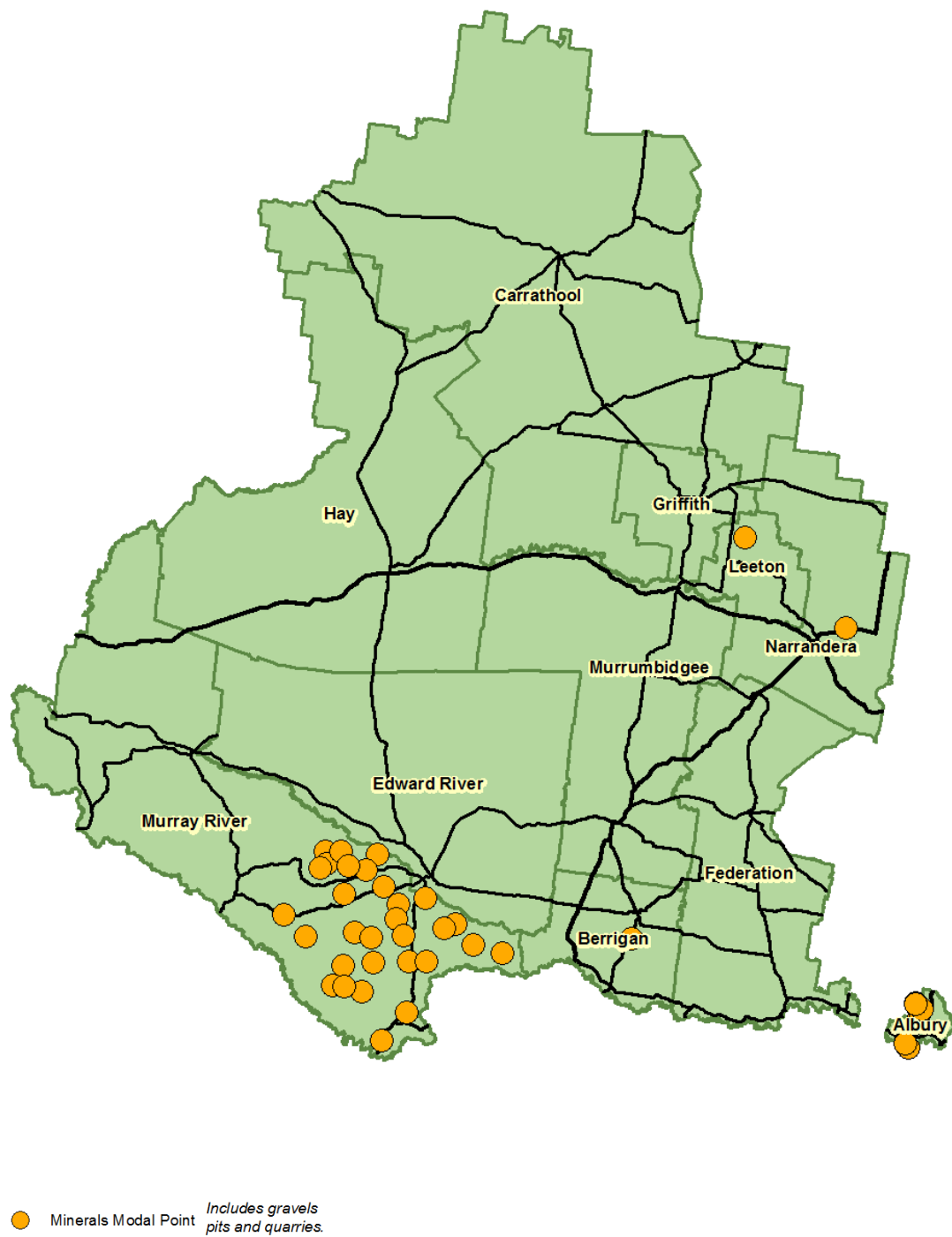
 Grain Modal Point
*Includes silos, bunkers,
 distributors and mills.
 Includes rice.*

MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – LIVESTOCK

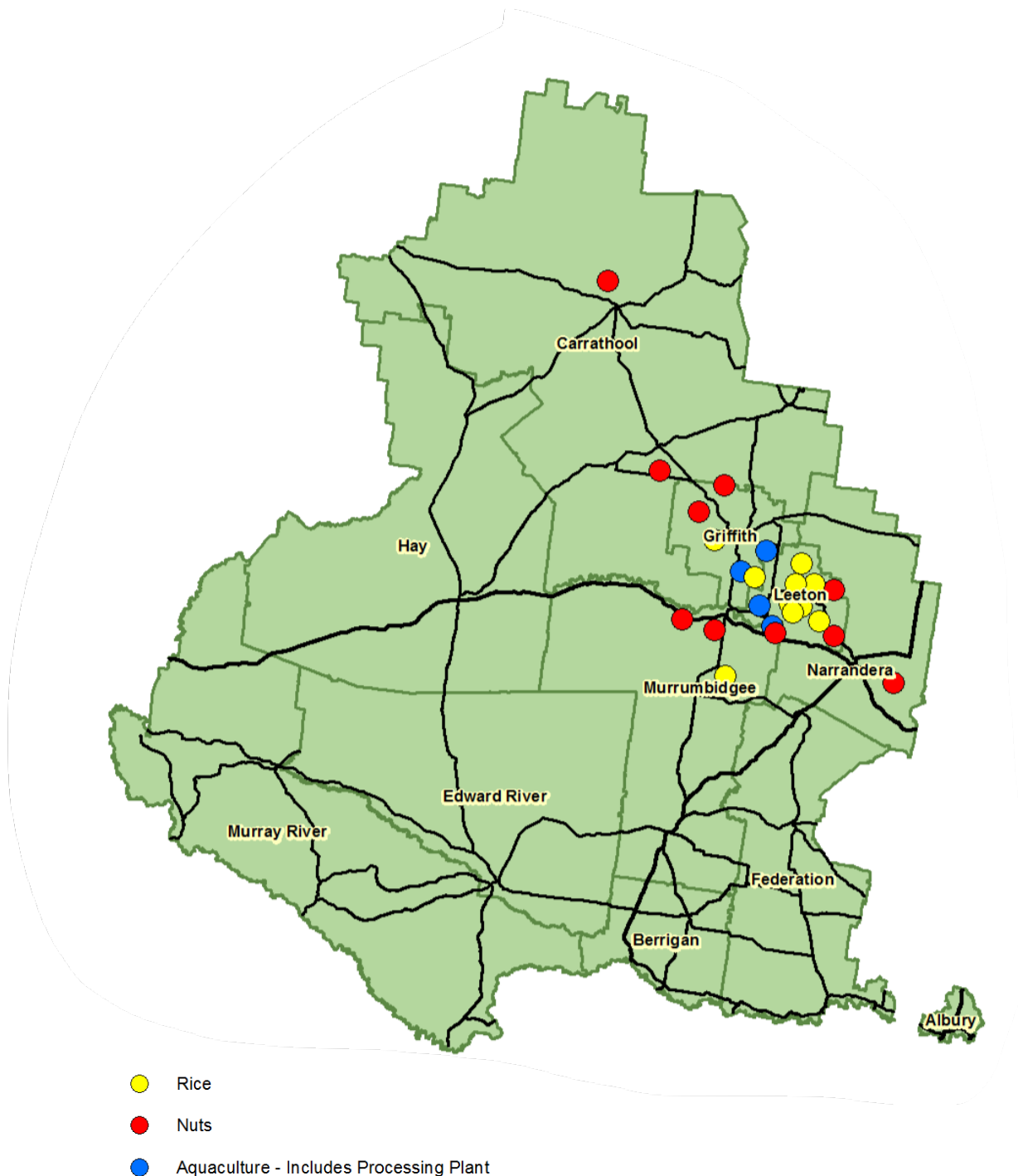


 Livestock Modal Point
Includes feedlots, saleyards, abattoirs and poultry farming.

MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – MINERALS



MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – AQUACULTURE, RICE AND NUTS



MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – COTTON



PART TWO: ABOUT THIS PLAN

This Plan was initiated by RAMJO to investigate the freight infrastructure network from a regional perspective. The implementation of integrated transport solutions for the Region is an overriding goal of the Plan and to that end RAMJO has reviewed both the rail, road and air transport networks that service the Murray and Southern Riverina region.

In the past Council have been concerned with road and rail movements within their own local government boundaries. However, this Plan considers the bigger picture, identifying regional issues that impact on efficient and effective freight movements from within and through the region. To that end a study of the movement of vehicles and infrastructure needs from a regional basis has been undertaken. In undertaking this task RAMJO has identified the Freight Routes of Regional Significance; these routes have been identified in the following categories:

1. National and State Roads
2. Regional Roads
3. Local Roads
4. Railways
5. Airports

In preparing this Plan, RAMJO has consulted extensively with its member councils and has also consulted with industry representatives, and Transport for NSW.

The first stage of the Plan required detailed mapping that linked industry sources to destinations. The infrastructure links were examined to determine blockages or hindrances to the efficient movement of freight, which allowed RAMJO to identify the Region's corridor constraints.

At the outset RAMJO committed to the utilisation of spatial data technologies to map the outcomes of the Plan, consequently the final outcomes are available in report form as well as on-line as maps.

The Plan is intended to identify the significant constraints impacting on the delivery of freight solutions in the region and to that end a matrix of weighted factors was adopted to assist in assessing the overall impact of each corridor constraint (A copy of the matrix is included at Appendix Two). Members utilised the matrix to assess and score each constraint, the score determined the level of priority given by the Plan to the constraint. As a result of this analysis the measure required to alleviate these corridor constraints were then identified.

Members met on a regular basis to prepare the Plan and subsequent reviews and updates.

ASSESSMENT OF ROUTE CONSTRAINTS

RAMJO members developed and agreed to the use of a weighted matrix to assess each of the 68 freight routes identified in the Plan. The intention was to use the matrix and categorise the routes according to the impact of the route's constraint or constraints had on the efficient movement of transport. Where a route traversed more than one LGA the council in each LGA assessed the section of the route as it pertained to their LGA.

Consequently, a route may appear more than once on the Route Constraints Assessment because it traverses more than one LGA and in each of those LGAs there is a constraint that impacts on freight transport. In order to ensure uniformity in the assessment process, each criteria and score was given a descriptor to guide the scoring process. The assessment matrix is reproduced in Appendix Two.

The goal of the assessment is to inform investment decisions in relation to roads in the region. The order presented represents the scoring achieved using the matrix, however all the listed roads are integral to the freight task in the RAMJO region and where an opportunity presents for investment in any of the routes, which will address some or all of its constraints, then RAMJO will pursue that opportunity.

ROADS		COUNCIL		CONSTRAINT	SCORE
NATIONAL & STATE ROADS					
1.	Hume Highway (HW2)	Albury	1.1	Thurgoona Road Interchange.	119
2.	Mid-Western Highway (HW6)	Hay	2.1	Inadequate shoulder width.	176
			2.2	Flood prone.	176
			2.3	Wongalea Road Intersection.	176
			2.4	Murrumbidgee River Road Intersection.	192
		Carrathool	2.5	Intersection of Rankins Springs Road.	
3.	Sturt Highway (HW14)	Hay	3.1	Flood prone.	201
			3.2.1	Glencoe Road Intersection.	208
			3.2.2	Glenhope Road Intersection.	201
			3.2.3	Romani Road Intersection.	212
			3.3	Moama Street – lack of truck parking and interchange area.	265
		Narrandera	3.4	South of Gillenbah – section needs raising.	
			3.5	Poison Creek – section needs raising.	

ROADS		COUNCIL		CONSTRAINT	SCORE
4.	Newell Highway (HW17)	Berrigan	4.1	Insufficient road train facilities.	157
		Narrandera	4.2	Whitton Street Crossing to be upgraded.	
			4.3	Sharp bend near the Mill.	
			4.4	South of Sturt Highway – needs raising.	
			4.5	Not open for road trains from Narrandera to Ardlethan on Newell Highway.	
		Murrumbidgee	4.6	Cnr Conargo Road needs realignment, dedicated southern turning lanes east and west.	
			4.7	Cnr Kidman Way – square intersection, dedicated southern lane, acceleration lanes and clearing of sight lines.	
5.	Riverina Highway (HW20)	Federation	5.1	Road geometry at Honour Avenue.	166
			5.2	Wangamong Creek Bridge.	166
		Albury	5.3	Smollett Street Bridge.	115
6.	Cobb Highway (HW21)	Hay	6.1	Intersections with Corrong Road, Boxyards Road, Daisy Plains Road, Mutherumbung road, Jerilderie Road, Ti Tree Road, West Burrabogie Road and Lara Road, do not permit RAV access to/from local roads.	143
			6.2	Bridge over Murrumbidgee River is not HML rated, restricted access for oversize vehicles.	240
7.	Kidman Way/Irrigation Way/Mackay Avenue (MR80)	Leeton	7.1	Proposed Western Bypass.	
		Griffith	7.2	Proposed Southern Bypass.	202
			7.3	Intersection Mirrool Branch Canal Road.	157
			7.4	Curves at railway crossing (Widgelli Silos).	132
		Carrathool	7.5	Intersection The Springs Road.	
		Narrandera	7.6	Narrow bridge.	
			7.7	Inadequate road train connection.	
		Murrumbidgee	7.8	Irrigation crossing Argoon Channel.	

ROADS		COUNCIL		CONSTRAINT	SCORE
8.	Burley Griffin Way/Mirrool Avenue (MR84)	Griffith	8.1	Intersection Twigg Rd/Beelbanger Road.	157
			8.2	Intersection Twigg Road.	
9.	Corowa Road/Melbourne Street (MR314)	Federation	9.1	Bridge over Mulwala Canal.	116
			9.2	Bridge over Murray River.	116
10.	Tooleybuc Road (MR694)	Murray River	10.1	Bridge over Murray River not HML rated.	155
			10.2	Intersection of Stony Crossing Road – poor visibility Balranald-bound.	
			10.3	Load carrying capacity of Murray Irrigation channels crossing road.	79
REGIONAL ROADS					
11.	Cocketgedong/ Brookong Creek/Urana Rd (MR59)	Federation	11.1	Bridge assessments required.	
			11.2	Deficient pavement strength.	56
			11.3	Urana township intersection and overhead power lines.	
		Murrumbidgee	11.4	Bridge over Colombo Creek – width of bridge a concern for heavy vehicles. Not assess for HML.	133
12.	Balranald Road (MR67)	Murray River	12.1	Load carrying capacity of Murray Irrigation channels crossing road.	79
			12.2	Bridge construction.	163
			12.3	Unsealed roadway.	132
13.	Mossgiel Road (MR80)	Carrathool	13.1	Wooden bridge over Lachlan River at Hillston is not HML rated.	107
			13.2	Insufficient road pavement.	
14.	Wakool Road (MR94)	Murray River	14.1	Insufficient pavement width.	151
			14.2	No HML rating on Wakool Bridge.	151
			14.3	No HML rating on MIL structures.	151
15.	Cobram – Barooga Road (MR226)	Berrigan	15.1	Unrated bridges.	116

ROADS		COUNCIL		CONSTRAINT	SCORE
16.	Pretty Pine Road (MR296)	Edward River	16.1	85km curve not suitable.	152
			16.2	Narrow section of roadway.	152
			16.3	Inadequate bridges/channel crossings.	152
17	Thule Street/Moulamein Road/Maude Road (MR319)	Murray River	17.1	Load carrying capacity of Murray Irrigation channels crossing road.	79
		Hay	17.2	Narrow pavement.	133
			17.3	Narrow culvert structures.	133
			17.4	Significant pavement failures.	133
			17.5	Chainage 2.5km Budgee Creek Bridge 5m wide.	133
			17.6	Chainage 9km Nimmie Creek Bridge 3.6m wide.	133
			17.7	Chainage 10.3 to 11.6km culverts.	133
			17.8	Chainage 19km Bridge 4.5m wide.	133
			17.9	Chainage 20.3km Bridge 4.5m wide.	133
			17.10	Chainage 20.7km Bridge 4.5m wide.	133
			17.11	Chainage 20.9km Bridge 4.5m wide.	133
18.	Berrigan/Oaklands Road (MR323/MR356)	Murrumbidgee	18.1	Inadequate bridge for larger vehicles over Wangamong Creek – no HML rating.	133
19.	The Springs Road (MR368)	Carrathool	19.1	Railway crossing in Hillston.	198
			19.2	Insufficient road pavement.	
20.	Kywong Howlong Road (MR370)	Federation	20.1	Inadequate pavement strength.	93
			20.2	Floodway.	
21.	Federation Way (MR131 and MR385)	Federation	21.1	Bridges over Billabong Creek.	133
			21.2	Pavement strength is deficient.	133
			21.3	Bridge over Urangeline Creek no HML access.	133

ROADS		COUNCIL		CONSTRAINT	SCORE
			21.4	Tight 90° turn in Urana township.	133
			21.5	Power lines in Urana.	133
			21.6	Line marking required.	157
			21.7	Intersection improvement, unsealed roads.	157
22.	Barmah Road (MR391)	Murray River	22.1	Barmah Bridge not HML rated.	153
			22.2	Insufficient pavement width for 4km.	
23.	Swan Hill Road (MR467)	Murray River	23.1	Bridge over Murray River at Swan Hill not HML rated.	
			23.2	Coonamit Bridge not HML rated.	116
			23.3	Not enough room for B-Double sweeping manoeuvre from Swan Hill Road (MR386) to Moulamein Road (MR319).	132
			23.4	Load carrying capacity of Murray Irrigation channels crossing road.	79
24.	Lachlan Valley Way (MR501)	Hay	24.1	Unsealed surface – horticultural freight subject to damage or contamination.	90
			24.2	Unsealed surface – subject to closure after light rain.	
			24.3	Flood prone – road subject to closure for prolonged periods during minor to major flooding of Lachlan River.	
			24.4	Intersection with Hillston/Booligal Road and Booligal Gunbar Road does not permit RAV access.	
		Carrathool	24.5	Insufficient road pavement.	
25.	Oxley Road (MR514)	Hay	25.1	Intersection with Maude/Moulamein Road.	90
			25.2	Narrow pavement.	90
			25.3	Narrow culvert structures.	90
			25.4	Chainage 13.2km narrowing of the road to Chainage 28.1km	90

ROADS		COUNCIL		CONSTRAINT	SCORE
			25.5	Chainage 28.6km to 84.6km – narrow road from 8m to 6m.	90
			25.6	Chainage 60.8km Pimper Creek Bridge 4.5m wide.	90
			25.7	Chainage 84.6km Oxley Bridge 4.8m wide	90
			25.8	Chainage 84.8km Oxley Bridge approach 4.8m wide.	90
26.	Conargo Road (MR552)	Edward River	26.1	School zone.	138
			26.2	Drainage channel bridge Box Creek.	
			26.3	Bridge over Finley Escape Channel.	
			26.4	Forest Creek Bridge.	
			26.5	Culvert over irrigation channel.	147
		Murrumbidgee	26.6	Bridge over Alguderie Creek	133
27.	Barham Road (unclassified Regional Road 7605)	Murray River	27.1	Thule Bridge is not HML rated.	152
			27.2	MIL structures not HML rated.	
		Edward River	27.3	MIL bridge not rated.	
28.	Narrandera Barellan Road (MR7608)	Narrandera	28.1	MR84 and MR7608 intersection does not have required pavement strength and geometry for road.	
LOCAL ROADS					
29.	Euroley Road	Leeton	29.1	Causeway/floodway.	91
			29.2	Bridge over Murrumbidgee River.	86
30.	Canal Street, Poplar Avenue & McQuillan Road (Leeton Bypass)	Leeton	30.1	Leeton HV Bypass – past residential zone.	
31.	Vance Road, Koonadan Road and Colinroobie Road	Leeton	31.1	Murray Irrigation structure over Main Supply Canal.	99
32.	Whitton Stock Road	Leeton	32.1	Upgrade from Irrigation Way to Burley Griffin Way.	

ROADS		COUNCIL		CONSTRAINT	SCORE
33.	Yarmwal Road	Leeton	33.1	Sections of unsealed road, insufficient pavement.	151
34.	Speewa Road	Murray River	34.1	Nyah Bridge over Murray River not HML rated.	132
			34.2	Load carrying capacity of Murray Irrigation channels crossing road.	79
35.	Murrabit Road	Murray River	35.1	Gonn Crossing Bridge over Murray River is not HML rated.	122
			35.2	Load carrying capacity of Murray Irrigation channels crossing road.	79
36.	Carrathool Road	Edward River	36.1	Unsealed/gravel road.	102
			36.2	Drainage channel bridge narrow.	
			36.3	Billabong Creek Bridge	
			36.4	Large box culvert.	
			36.5	Browns Creek Bridge.	
37.	Lakers Road	Edward River	37.1	Bridge over drainage channel Box Creek aged and not HML rated. Chainage 0.625km.	99
38.	Mooney Swamp Road	Edward River	38.1	Gravel/unsealed road.	84
			38.2	Multiple tight S bends and T intersections.	
			38.3	Aged/inadequate bridges/channel crossings.	
			38.4	Bridge structure over Blighty Channel.	102
39.	Tocumwal Road	Edward River	39.1	Gravel/unsealed road. Chainage 24.586km to 32.414km.	96
			39.2	Tight S bend. Chainage 26.843km to 27.465km.	
			39.3	Tuppall 1 Channel culvert aged. Chainage 24.892km.	
40.	Tuppall Road	Edward River	40.1	Intersection close to irrigation crossings.	94
			40.2	Tuppall Creek Bridge.	
			40.3	Aged/inadequate bridges/channel crossings.	

ROADS		COUNCIL		CONSTRAINT	SCORE
41.	Willurah Road	Edward River	41.1	Gravel/unsealed road.	87
			41.2	Multiple narrow stock grids	139
			41.3	Aged/inadequate bridges/channel crossings.	132
42.	Noorong Road	Murray River	42.1	Load carrying capacity of Murray Irrigation channels crossing road.	176
43.	Gerogery Road	Albury	43.1	Wagga Road intersection.	146
			43.2	Insufficient load carrying capacity.	148
44.	Willows Road	Narrandera	44.1	12km unsealed road between Newell Highway and MR7608.	
45.	Erigolia Road	Narrandera	45.1	Insufficient road width for freight traffic.	
		Carrathool	45.2	Insufficient road intersection.	
46.	Brobenah Hall Road	Narrandera	46.1	2.97km of road needs raising at Mirrool Creek.	
47.	Donaldsons Road/ Canal Bridge	Narrandera	47.1	Inadequate pavement strength and drainage, inadequate bridge capacity.	
48.	Raes Lane	Narrandera	48.1	Insufficient pavement strength.	
49.	Cowper Street (Hilston HV Bypass)	Carrathool	49.1	Upgrade of intersection Keats Street.	
			49.2	Upgrade of intersection Hillston HV Bypass.	
50.	Billings Road	Carrathool	50.1	Insufficient pavement construction.	
51.	Boorga Road	Carrathool	51.1	Insufficient pavement construction.	
52.	Murrumbidgee/ Thorne Road	Griffith	52.1	Narrow pavement and unsuitable for HML.	
53.	Boorga and Dickie Roads	Griffith	53.1	Unsealed, dusty, (restricted vision), corrugated road.	
54.	Kurrajong Ave	Griffith	54.1	Narrow pavement, unsuitable for road trains, no turning lanes at intersection.	
55.	Lakes Road	Griffith	55.1	Deformed and narrow pavement.	117
56.	Murrumbidgee River Road	Hay	56.1	Inadequate pavement strength and width.	132

ROADS		COUNCIL		CONSTRAINT	SCORE
57.	Dights Forest Road	Albury	57.1	Insufficient load carrying capacity.	148
58.	Thorne Road	Griffith	58.1	Deformed and narrow pavement, unsuitable for HML and overmass vehicles and no turning lanes at intersections.	
59.	Bringagee Road	Griffith	59.1	Impassable in wet conditions, unsealed pavement, dusty, corrugated in dry conditions, unsuitable for heavy vehicles, HML and overmass vehicles.	
RAILWAY					
60.	Ettamogah Rail Hub	Albury	60.1	Servicing to improve warehousing development.	166
			60.2	Insufficient load carrying capacity of adjacent road network.	181
61.	Tocumwal Intermodal Freight Terminal	Berrigan	61.1	Rail siding capacity and condition of rail bridges.	
			61.2	Access to the grain handling area.	
			61.3	Inconsistent railway line gauges.	
62.	Western Riverina Rail Network	Narrandera	62.1	Restoration of Tocumwal to Narrandera standard gauge rail line and standardisation of the broad gauge Mangalore to Tocumwal rail line.	
63.	WR Connect	Leeton	63.1	Service limitations including electricity, water supply and telecommunications.	
			63.2	Extension and upgrade of rail siding, road linkages along Whitton Stock Route, and ancillary infrastructure (power, gas, roads, drainage, water).	
AIRPORT					
64.	Albury Airport	Albury	64.1	Lack of freight infrastructure.	75
65.	Deniliquin Airport	Edward River	65.1	Length of runway.	
66.	Griffith Airport	Griffith	66.1	Limited freight storage and freight processing infrastructure.	

ROADS		COUNCIL		CONSTRAINT	SCORE
67.	Narrandera – Leeton Airport	Narrandera	67.1	Lack of existing freight storage, safety checking system and freight processing infrastructure.	
			67.2	Insufficient pavement strength and width to support bigger aircraft.	
			67.3	Low intensity runway lighting requires upgrade.	
			67.4	Sealed runway length is too short for larger freight carriers.	
			67.5	Security screening measures required.	
68.	Hay Airport	Hay	68.1	Lack of existing freight storage, safety checking system and freight processing infrastructure.	60
			68.2	Insufficient pavement strength and width to support bigger aircraft.	60
			68.3	Low intensity runway lighting requires upgrade.	60
			68.4	Sealed runway length is too short for larger freight carriers.	60

CONSIDERATION OF THE PLAN AGAINST RELEVANT STATE PLANS

RAMJO recognises that this Plan operates within a wider context of NSW State planning. Therefore, RAMJO has identified the goals within each of the relevant state planning instruments that are captured by this Plan as follows:

NSW State Priorities (NSW 2021)⁷

The following State priorities would be addressed through the implementation of this Plan:

- Rebuild the Economy
- Return Quality Services
- Renovate Infrastructure

Future Transport Strategy 2056 (Future Transport in regional NSW)⁸

The following outcomes would be addressed through the implementation of this Plan:

- Customer focussed
- Successful places
- A strong economy
- Safety and Performance
- Accessible Services
- Sustainability

NSW Freight and Ports Plan⁹

The following Freight and Ports Plan objectives actions would be addressed through the implementation of this Plan:

- Economic Growth
- Efficiency connectivity and access
- Capacity
- Safety
- Sustainability

Riverina Murray Regional Plan¹⁰

The following actions would be addressed through the implementation of this Plan:

- Direction 17: Transform the region into the eastern seaboard's freight and logistics hub
- Director 18: Enhance road and rail freight links
- Direction 19: Support and protect ongoing access to air travel
- Director 20: Identify and protect future transport corridors
- Direction 21: Align and protect utility infrastructure investment

⁷ NSW 2021

⁸ Future Transport Strategy 2056

⁹ NSW Freight and Ports Plan 2018 - 2023

¹⁰ Riverina Murray Regional Plan 2036

PART THREE: GOALS AND STRATEGIES

GOAL ONE:

Develop a network of identified freight corridors that facilitate the efficient and effective movement of freight within and through the region.

The goal aims to direct investment into designated freight corridors, creating routes that provide optimal conditions for road freight.

One of the challenges which all councils are facing as a result of the growth in freight transport on rural roads is that the roads are often unsuited to high level use by heavy vehicles. While much discussion has focused on “last mile” issues councils recognise that narrow roads with poor pavement strength and tight turns also undermine efficient road transport. The region includes a significant number of bridges that have not been assessed for HML use. In addition, the limited knowledge about the capacity of drainage structures on many rural and Regional Roads has the potential to further undermine efficient transport movement when roads become subject to flooding.

The problems have been exacerbated by a growing trend by grain companies to consolidate collection at large sites, which has resulted in grain being transported by road over much longer distances.

In addition, the downgrading of the branch line infrastructure has meant that instead of grain being transported to its closest collection point by road and then to an aggregation point using a branch line, virtually all grain is being transported by road to large consolidation points. This has significantly changed road use profiles, where once country roads were dominated by small transport vehicles, councils are now finding increasing use of HML vehicles on roads that were not designed for them.

It would be highly inefficient for councils and the State to attempt to upgrade every road that is being used. It therefore makes economic sense to develop and promote designated transport corridors where Local, State and Federal Governments can agree to focus investment. The strategies in this area aim to achieve that goal.

STRATEGIES:

1. Work with industry and the State Government to identify existing corridors and their constraints.
2. Promote the use of designated regional freight corridors to users and potential users.
3. Develop long term plans to fund improvements for roads that form part of an identified freight corridor.
4. Encourage transport and logistics development on identified corridors through planning and economic development initiatives.

GOAL TWO:

Support the development and implementation of integrated freight transport solutions.

RAMJO and its member councils are committed to the implementation of integrated freight transport solutions. This means that multiple transport modes should be available and utilised to provide the most effective transportation options. This includes the effective use of branch lines and air transport where appropriate. The strategies that will be pursued are as follows:

STRATEGIES:

1. Promote the use of multiple transport modes for freight movements.
2. Support the use of branch lines for freight movement.
3. Work with industry, State and Federal agencies to develop and implement integrated transport solutions.

GOAL THREE:

Remove identified transport constraints within the region by 2030

In developing this plan, the RAMJO members identified a number of constraints that act as barriers to the efficient transport of freight through and within our region. RAMJO recognises that it is unrealistic for every constraint to be addressed and therefore an assessment matrix was developed with a view to prioritising the constraints so that informed investments could be made. In addition, we believe it will also provide opportunities to address works that can be undertaken on a collaborative basis through resource sharing with other councils, relevant state and federal agencies or through activities such as group tendering.

The assessment matrix considered a number of factors including the history of fatalities, the level of road use, the type of freight transported, impacts on local amenity and regional economic outcomes. The matrix is reproduced at Appendix 2.

STRATEGIES:

1. Utilise the priority assessment of roads to undertake preliminary costing and seek funding to address identified constraints.
2. Identify and implement initiatives that facilitate councils working collaboratively to address identified constraints.
3. Identify opportunities for councils to work in collaboration with State and Federal governments and agencies to address identified constraints.

GOAL FOUR:

Support the growth and development of logistics solutions that improve freight movement.

The RAMJO regions unique geographic location makes it ideal for the development and growth of logistics solutions such as freight hubs, freight forwarding companies and transport businesses.

New and expanding logistics businesses benefit the entire region and therefore it is in the regions interests to facilitate the growth of these enterprises. The strategies that will be pursued are:

STRATEGIES:

1. Work collaboratively with industry logistics solutions for the region that improve freight movement.
2. Source funding that supports the growth and development of logistics solutions.

PART FOUR: REVIEW OF RAIL NETWORKS

The achievement of Goal Two of the Plan, the implementation of integrated transport solutions for the region is significant to achieving efficient and effective freight outcomes. Therefore, it is imperative that rail freight be factored into planning for the region. The following map shows the current operational and non-operational rail lines in the Region.

The main Southern Rail line dissects the region and, in a hub, and spoke fashion it is fed by a number of branch lines.

There is increasing freight travelling by rail to both Port of Melbourne and Port Botany. Port of Melbourne is currently the dominate player for the receipt of rail freight. The Albury, Leeton and Tocumwal hubs are likely to increase the demand for rail freight.

Connections to the Port of Melbourne are critical to the region's economy, and that maintaining connections and access to the port will become increasingly important as agricultural production and output increases into the future.

A mode shift from road to rail could reduce externality costs associated with freight transportation. These costs include additional road maintenance costs, increased congestion related costs including 'pinch points' on particular roads such as the Newell Highway in NSW and Goulburn Valley Highway in Victoria, and environmental costs associated with increased emissions.

Furthermore, the *2010 Melbourne-Brisbane Inland Rail Alignment Study*, prepared by the Australian Rail Track Corporation (ARTC), identified the preferred corridor for inland rail, passing through the region. The fine-scale alignment has been settled and construction commenced.

Inland Rail is a once in a generation project that will enhance supply chains and complete the backbone of the national freight network between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland.

Inland Rail will transform the way we move freight around the country, connect regional Australia to markets more efficiently, drive substantial cost savings for producers and consumers, and deliver significant economic benefits.

Comprising 13 individual projects and spanning more than 1,700 km, Inland Rail is the largest freight rail infrastructure project in Australia and one of the most significant infrastructure projects in the world.

Nevertheless, the region's rail infrastructure is under-utilised, closures of branch lines over the last fifteen years has forced an increasing number of grain trucks onto roads, many of them HML vehicles, including road trains.

These are roads that were never designed to withstand continuous use by heavy vehicles. The result has been an accelerated deterioration of the road network leading to significant inefficiencies in the carriage of freight. In addition as many of the roads that are bearing the increase usage fall within the responsibility of local government the consequence is that the cost of moving freight has been shifted from the rail network (where it could be recouped by users) to the road network where it is met by local government. RAMJO has consistently

argues against the closure of branch lines because of the inefficiencies that are created for the freight task and the cost shift to local government.

The Productivity Commission recognised the cost of heavy vehicles using rural roads in 2006, writing “the cost of heavy trucks using many rural local roads and lightly-used arterials is likely to be well above the network average charge.”¹¹ The Inquiry also noted that some bulk tasks on rail like grain haulage were also subsidised. The Commission also noted the external cost of road freight such as accident costs, environmental impacts, greenhouse gas emissions and congestion were also greater than rail.¹²

A report prepared for the Productivity Commission by CRA International noted that “local roads being constructed generally to a lower standard strength, would be more susceptible than arterial roads to usage-related damage.”¹³

The last significant review of the role of branch lines in the freight task occurred in 2004 as part of the Grain Infrastructure Advisory Committee (GIAC) Report into rail/road options for grain logistics. At that time GIAC estimated that a branch line carried on average 88,000 tonnes of product which equated to 2,300 truckloads. This in turn translated to 4,600 truck movements (assuming that trucks moving grain returned to their point of origin).

¹¹ Productivity Commission Inquiry, *Road and Rail Freight Infrastructure Pricing*, No. 41, December 2006, xxxvi

¹² Ibid., xxxiv

¹³ CRA International, *Two Case Studies on Road v Rail Freight Costs*, 25 May 2006, pg 3.

PART FIVE: REVIEW OF ROAD ROUTES OF REGIONAL SIGNIFICANCE

Within the RAMJO region a large number of silos are located on non-operational railway branch lines. RAMJO has estimated that additional truck movements would have resulted from branch line closures in the region.

Most of the affected road networks are local roads meaning that local government is meeting additional maintenance cost that result from the increase traffic movements. In 2004 GIAC estimated that cost recovery on branch lines was 6 per cent or less and that it would increase to only 9 per cent if branch lines were upgraded. GIAC concluded that branch lines would only be competitive with road if it were subsidised.¹⁴ However, RAMJO members argue that road freight is being subsidised, by councils and ratepayers who are picking up the cost of increased use of local roads for grain freight.

The RAMJO member councils believe that the challenges of moving freight across large geographic regions to port can be best met by the efficient and effective use of rail supported by a series of well-placed intermodal hubs. Operational branch lines are an important part of that solution and therefore should be given higher priority at the State planning level.

¹⁴ Australian Government, Department of Infrastructure, Transport, Regional Development and Local Government, *Road and Rail Freight: Competitors or Complements?*, July 2009.

RAMJO RAILWAYS



Image (above): Railways in the RAMJO region

NATIONAL & STATE ROADS

1. Hume Highway (HW2)

RAMJO LGAs on route: Albury City

Major NSW towns on route: Albury, Gundagai, Goulburn, Sydney

Major Industries serviced: General freight

The Hume Highway is one of the most important transport and freight corridors in Australia, linking Sydney and Melbourne. The Highway is approximately 900kms in length, of which over 80% is dual carriageway or motorway standard. The principal towns include Liverpool, Goulburn, Yass, Gundagai, and Albury in New South Wales and Wodonga, Wangaratta, Benalla and Seymour in Victoria.



CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 1.1. *Albury* – Thurgoona Road Interchange – Congestion and constrained geometry inhibits efficient movement of freight and other vehicles. Primary interchange for access from Hume Highway to transport service centres, industrial estates and the broader region.



Image (above): Constraint 1.1 Albury - Hume Highway/Thurgoona Road interchange. Image from Google Earth

2. Mid-Western Highway (HW6)

RAMJO LGAs on route: Hay, Carrathool

Major NSW towns on route: Bathurst, Cowra, West Wyalong, Hay

Major Industries serviced: Grain, cotton, general freight

From the Great Western Highway at Bathurst, via Blayney, Carcoar, Lyndhurst, Woodstock, Cowra, Grenfell and Caragabal to the Newell Highway at Marsden. Then from the Newell Highway at West Wyalong via Rankins Springs and Goolgowi to the Cobb Highway at Hay.

The Mid-Western Highway is 522kms in length running from Bathurst in the east to Hay in the west. It is the major east-west link for central NSW.



CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 2.1 Hay – Inadequate Shoulder Width – The Highway includes long lengths of road without much shoulder width, making it difficult for vehicles to share the road.
- 2.2 Hay – Flood Prone – Road subject to inundation and potential closure during major floods in Murrumbidgee River for extended periods. Sturt Highway closes at lower flood level and then additional traffic is forced to use the Mid-Western Highway. Remains only east/west link in New South Wales for considerable time during major floods in Murrumbidgee River.
- 2.3 Hay – Wongalea Road Intersection – Intersection with Mid-Western Highway does not permit RAV access to/from the highway to local road.
- 2.4 Hay – Murrumbidgee River Road Intersection – Intersection with Mid-Western Highway does not permit RAV access to/from the highway to local road.

- 2.5 *Carrathool* – Insufficient road intersection at Rankins Spring Road – The access from the Mid-Western Highway is not sufficient nor safe for heavy vehicle movements. This small section needs a revised BAR and BAL, as well as improvement in the vertical alignment to provide safe approach sight distance on Kidman Way when entering and exiting onto the MR321. The MR321 has an average daily traffic count of 401 v/d with 24% heavy vehicles. This intersection is significant to freight movements within the region.



Image (above): Constraint 2.4 Hay - Murrumbidgee River Road Intersection



Image (above): Constraint 2.5 Carrathool – Insufficient road intersection at Rankins Spring Road

3. Sturt Highway (HW14)

RAMJO LGAs on route: Murray River, Hay, Murrumbidgee, Leeton, Narrandera

Major NSW towns on route: Wagga Wagga, Narrandera, Hay, Balranald

Major Industries serviced: General freight

From the Hume Highway approximately 9km north of Tarcutta, via Wagga Wagga and Collingullie, to the Newell Highway (eastern intersection) south of Narrandera; then from the Newell Highway (western intersection) south of Narrandera at Gillenbah, via Waddi, Hay, Balranald, Euston and Buronga to the bridge over the Murray River at Mildura.

The Sturt Highway is 611kms in length running from the Hume Highway east of Wagga Wagga to the New South Wales/Victorian border at Buronga.

It is the major east-west link for all traffic originating or travelling to and from Adelaide, and major regions such as the Barossa and Riverland along the route, for both heavy traffic and tourism.



CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 3.1 **Hay – Flood Prone** – Road subject to inundation and potential closure during minor to major flooding in the Murrumbidgee River. Can be for extended periods due to the slow progress of the flood waters along the lower reaches of the river in New South Wales and the fact the road is located within the flood plain of the river from Wagga Wagga to Buronga.

- 3.2 *Hay – Intersections – There are three intersections in Hay Shire with the Sturt Highway that do not permit RAV access to/from the highway to local roads.*
 - 3.2.1 Intersection with Glencoe Road;
 - 3.2.2 Intersection with Glenhope Road; and
 - 3.2.3 Intersection with Romani Road.
- 3.3 *Hay – Moama Street – Lack of truck parking and interchange area. Trucks have no area to park overnight or change over trailers.*
- 3.4 *Narrandera – South of Gillenbah – section needs raising. The frequent closure of the Sturt Highway due to flooding not only impacts the freight but also business confidence in this region. Several weeks of closure in 2010, 2012 and 2016 are examples to prove that this section must be upgraded to cope with flooding without the necessity to close the Sturt Highway.*
- 3.5 *Narrandera – Poison Creek – section needs raising. Water flows over road in minor flooding forcing to close Sturt Highway or limiting traffic to only heavy traffic. The culvert capacity needs to be increased and road level should be raised adequately. The frequent closure of the Sturt Highway due to flooding has impacted freight and business confidence.*



Image (above): Constraint 3.3 Hay – Moama Street Lack of truck parking and interchange area. Image supplied by Hay Council.

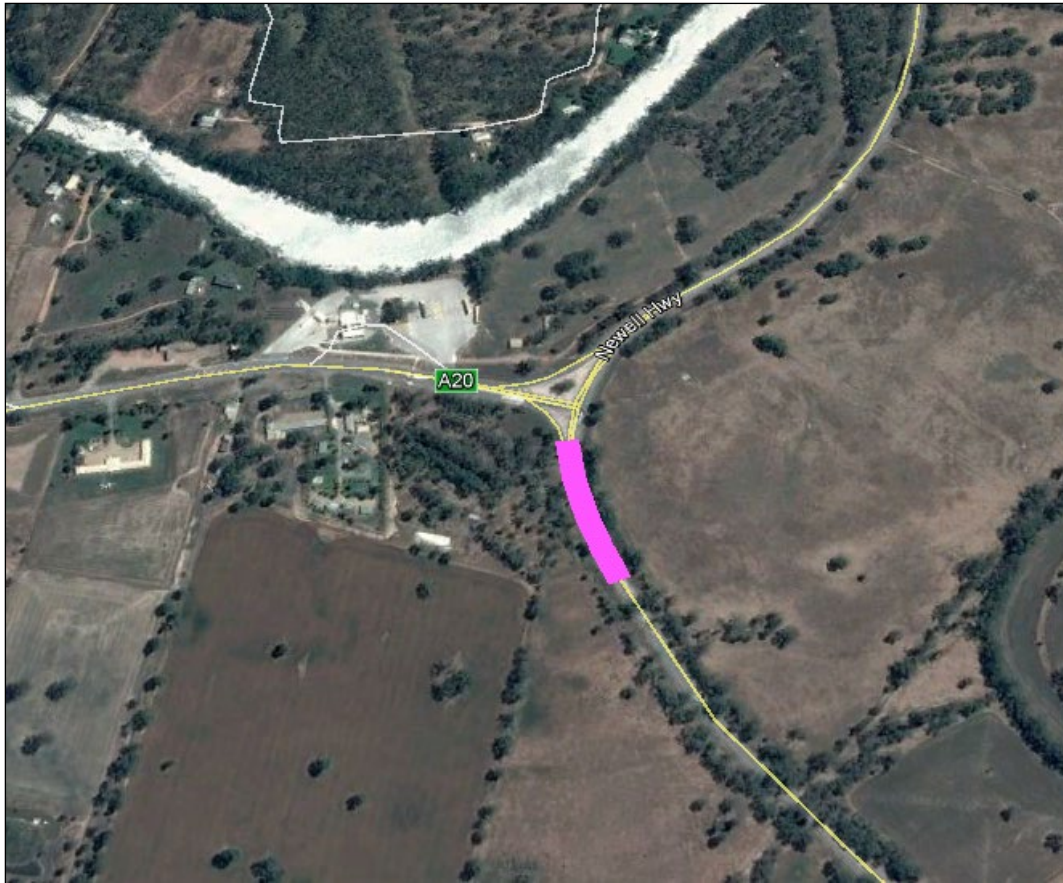


Image (above): Constraint 3.4 Narrandera – Sturt Highway South of Gillenbah. Image from Google Maps

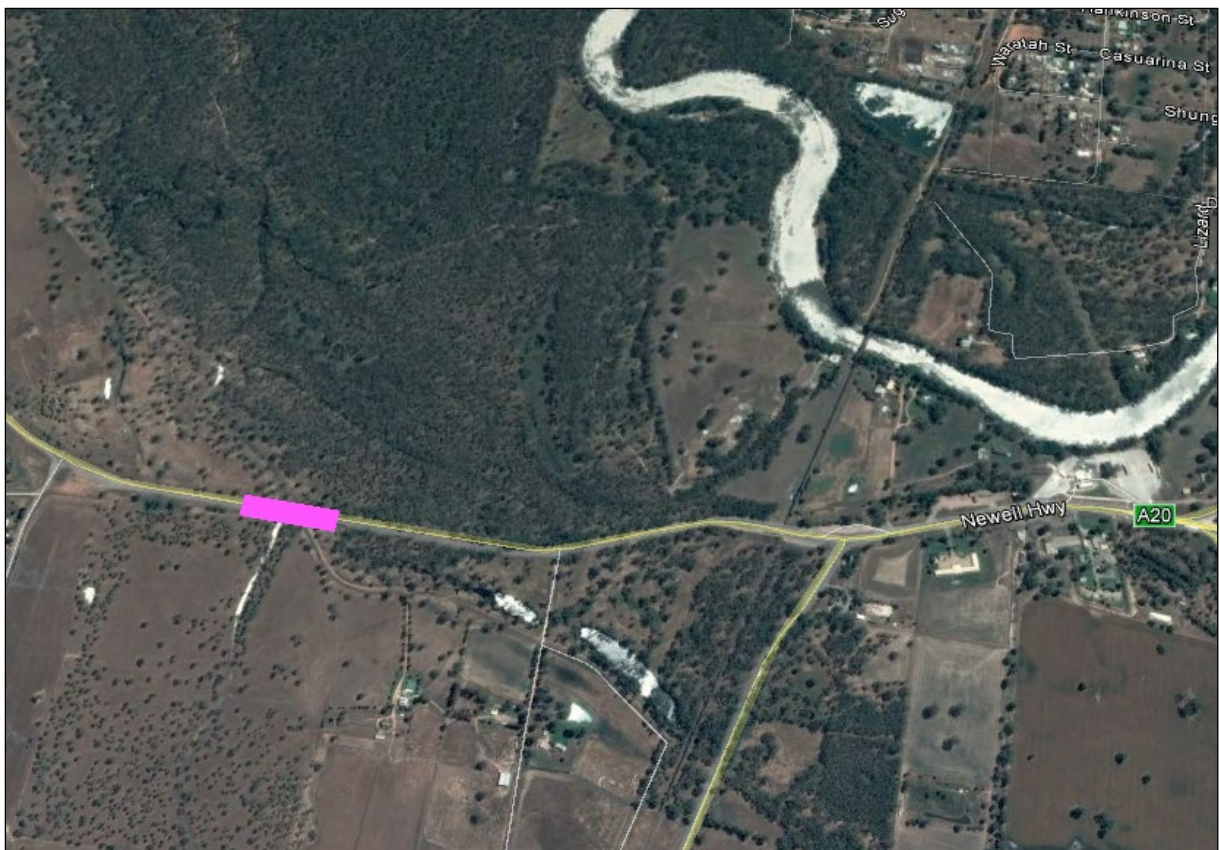


Image (above): Constraint 3.5 Narrandera – Sturt Highway, Poison Creek - Image from Google Maps.

4. Newell Highway (HW17)

RAMJO LGAs on route: Narrandera, Berrigan, Murrumbidgee

Major NSW towns on route: Tocumwal, Finley, Jerilderie, Narrandera, West Wyalong, Parkes, Dubbo, Moree

Major Industries serviced: Trucking Route, Agricultural

From the bridge over the Murray River at Tocumwal via Tocumwal, Finley, Jerilderie, Narrandera, Ardlethan, Mirrool, West Wyalong, Wyalong, Marsden, Forbes, Parkes, Peak Hill, Dubbo, Gilgandra, Coonabarabran, Narrabri, Bellata, Gurley, Moree, Camurra and Boggabilla to the Queensland border at Goondiwindi.

The Newell Highway is the longest highway in NSW, it runs the length of the State from the Victorian border to Queensland. Over 1,000kms in length, the Newell Highway commences at the Murray Valley Highway in Victoria and finishes at Goondiwindi in Queensland.

The Newell Highway is the main inland route for traffic flowing between Queensland and Victoria. Councils in the RAMJO region have reported that there is increasing use of the Olympic Highway – Goldfields Way route to access the Newell Highway. It is believed that this reflects the quality of the Newell Highway between Tocumwal and Narrandera. This route is slower than using the Hume Highway and then the Burley Griffin Way (meeting the Newell Highway just east of Ardlethan) or the Hume Highway and then the Olympic Way and Goldfields Way (meeting the Newell Highway at West Wyalong).



CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 4.1 *Berrigan* – No facilities for trailer interchange/truck parking/servicing – Newell Highway has road train access to Victorian border but no facilities provided for trailer interchange or truck parking/servicing. This results in significant amenity issues for the town of Tocumwal with trucks parking along the Newell Highway within the town and dropping trailers.

- 4.2 *Narrandera – Whitton Street Crossing need to be upgraded. Need a turning lane at this location. Frequently, turning traffic is causing delay in transit of trucks. This section of the Newell Highway occasionally gets congested when turning traffic queues at Whitton Street level crossing, causing delays to commuters. This level crossing is also an important connection between North and South Narrandera, causing additional delays to local traffic. A turning lane at this location will remove the constraint.*
- 4.3 *Narrandera – Sharp bend near the Mill. The 90° degree bend on the Newell Highway at Narrandera. While the road is gazetted for road trains at the moment, additional work is required for safety and efficiency.*
- 4.4 *Narrandera – South of Sturt Highway needs raising. This section gets frequently closed during minor flood events causing enormous freight inefficiencies. The culvert capacity needs to be increased and road pavement needs to be raised.*
- 4.5 *Narrandera – Not open for road train from Narrandera to Ardlethan through Newell Highway. This section of the Newell Highway should be open for better freight efficiency in this region.*
- 4.6 *Murrumbidgee – Corner Newell Highway and Conargo Road. This section needs realignment, dedicated southern turning lanes east and west, with a west to east dedicated lane for through traffic to Conargo Road.*
- 4.7 *Murrumbidgee – Corner Newell Highway and Kidman Way. Square Kidman Way intersection, dedicated southern lane passing Kidman Way intersection, dedicated acceleration lanes and clearing of sight lines both directions.*



Image (above): Constraint 4.1 Berrigan - Newell Highway at Tocumwal - Image from NSWLPI



Image (above): Constraint 4.1 Berrigan - Newell Highway - Dangerous and Illegal parking practices Tocumwal – Image from Berrigan Shire



Image (above): Constraint 4.1 Berrigan - Newell Highway Dangerous and Illegal parking practices, in Tocumwal – Image from Berrigan Shire



Image (above): Constraint 4.1 Berrigan - Newell Highway Dangerous parking practices in Tocumwal – Image from Berrigan Shire



Image (above): Constraint 4.2 Narrandera - Newell Highway Whitton Street Crossing needs to be upgraded. Image from Google Maps.



Image (above): Constraint 4.3 Narrandera - Newell Highway Narrandera - Sharp bend near the Mill. Image from Google Maps.



Image (above): Constraint 4.4 Narrandera - Newell Highway – South of Sturt Highway needs raising. Image from Google Maps.

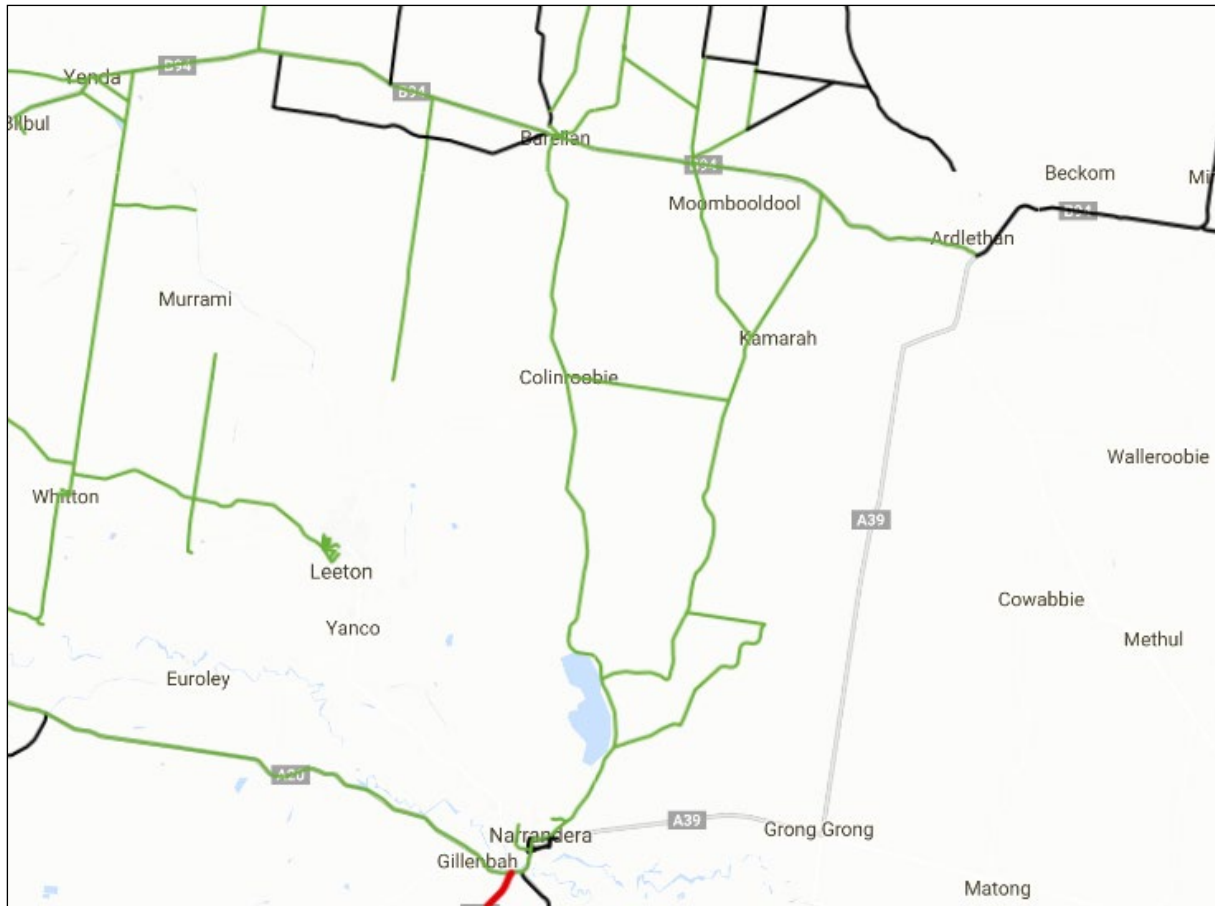


Image (above): Constraint 4.5 Narrandera - Newell Highway. Not open for road trains. Image from Google Maps



Image (above): Constraint 4.6 – Murrumbidgee - Cnr Newell Highway and Kidman Way



Image (above): Constraint 4.7 – Murrumbidgee – Cnr Newell Highway and Kidman Way

5. Riverina Highway (HW20)

RAMJO LGAs on route: Albury, Federation, Berrigan, Edward River

Major NSW towns on route: Albury, Corowa, Berrigan, Finley, Deniliquin

Major Industries serviced: General freight, grain

The Riverina Highway runs from Bethanga Bridge 20kms east of Albury to meet the Cobb Highway at Deniliquin, and is 230kms in length.



CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 5.1. *Federation* – Road Geometry - The Riverina Highway incorporates a 90° bend at the intersection of Riverina Highway and Honour Avenue (MR86) 4km north of Federation Bridge at Corowa. There is a history of heavy vehicles heading south failing to negotiate the intersection, which has resulted in roll-overs. This creates a hazard not only to those heavy vehicles, but also for other road users.
- 5.2. *Federation* – Bridge at Wangamong Creek – The future potential use of the Riverina Highway by B-triples is constrained by a sub-standard bridge on Wangamong Creek, 2km west of Federation Way.
- 5.3. *Albury* – Riverina Highway, Smollett Street and Padman Drive – Narrow bridge and constrained intersection geometry inhibits movement of large vehicles along this state road.



Image (above): Constraint 5.1 Federation - Intersection of Riverina Hwy and Honour Ave, Corowa. Image from Google Earth



Image (right): Constraint 5.2 Federation - Bridge on Riverina Hwy. Image from Google Earth



Image (above): Constraint 5.3 Albury - Bridge on Riverina Hwy at Smollett St/Padman Dr intersection and bridge. Image from NSW LPI.

6. Cobb Highway (HW21)

RAMJO LGAs on route: Murray River, Edward River, Hay, Carrathool

Major NSW towns on route: Moama, Deniliquin, Hay, Ivanhoe, Wilcannia

Major Industries serviced: General freight, livestock, grain, cotton

From the bridge over the Murray River at Moama, via Deniliquin, Wanganella, Hay, One Tree, Booligal and Ivanhoe to the Barrier Highway (HW8) near Wilcannia.

The Cobb Highway commences at Moama and extends generally in a northerly direction for 610km to meet the Barrier Highway approximately 20km east of Wilcannia

This route is the main north south link to/from inland western New South Wales.



CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 6.1 *Hay* – Intersections – In Hay Shire there are eight intersections which do not permit RAV access to/from local roads:
 - 6.1.1 Intersection of Cobb Highway and Corrong Road;
 - 6.1.2 Intersection of Cobb Highway and Boxyards Road;
 - 6.1.3 Intersection of Cobb Highway and Daisy Plains Road;
 - 6.1.4 Intersection of Cobb Highway and Mutherumbung Road;
 - 6.1.5 Intersection of Cobb Highway and Jerilderie Road;
 - 6.1.6 Intersection of Cobb Highway and Ti Tree Road;
 - 6.1.7 Intersection of Cobb Highway and West Burrabogie Road; and

- 6.1.8 Intersection of Cobb Highway and Lara Road.
- 6.2 *Hay* – Bridge over Murrumbidgee River is not HML rated and there is restricted access for oversize vehicles. The Sturt Highway provides a vital strategic access from the Riverina to Melbourne/Victoria for freight and cross border access.

7. Kidman Way/Irrigation Way/Mackay Avenue (MR80/MR321)

RAMJO LGAs on route: Narrandera, Leeton, Griffith, Carrathool, Murrumbidgee

Major NSW towns on route: Coleambally, Darlington Point, Griffith, Hillston

Major Industries serviced: Grain, cotton, wine, poultry, rice, citrus fruit, vegetables, livestock, general freight

Kidman Way is a state road in the western Riverina and western region of New South Wales, Australia. The 644km highway services the Murrumbidgee Irrigation Area and outback communities and links the Newell Highway with the Sturt, Mid-Western, Barrier, Mitchell and Kamilaroi Highways. With its northern terminus at Bourke and its southern terminus at a junction with the Newell Highway, it is situated 16km north of Jerilderie. The Kidman Way is fully sealed and is accessible by two- or four-wheel drive.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 7.1 *Leeton* – Proposed Western Bypass. Redirect heavy traffic away from the CBD and improve industry movement.
- 7.2 *Griffith* – Proposed Griffith Southern Bypass. Portions of road require major upgrades or new construction. Redirect heavy traffic from the CBD and improve industry movement.
- 7.3 *Griffith* – Intersection of Kidman Way and Mirrool Branch Canal Road. Hairpin turn into fast traffic lanes on a large bend.
- 7.4 *Griffith* – Railway crossing has sharp approach and departure bends at Widgelli Silos.
- 7.5 *Carrathool* – Intersection with The Springs Road at Hillston – railway line close to intersection.
- 7.6 *Narrandera* – Narrow bridge, next to a curve, with side roads both approaches of the bridge. There have been 2 fatal crashes here in recent years.
- 7.7 *Narrandera* – Inadequate road train connection. At present there is no connection between Leeton and Narrandera with road trains. Narrow bridges in Irrigation Way, and bridges of inadequate capacity in various irrigation channels are the causes of this discontinuous network. Work should be progressed towards developing a continuous High Productivity Vehicle network between Narrandera and Leeton.
- 7.8 *Murrumbidgee* – Irrigation crossing over Argoon Channel 44.01km west of Newell Highway.



Image (above): Constraint 7.1 Leeton - Proposed Western Bypass.

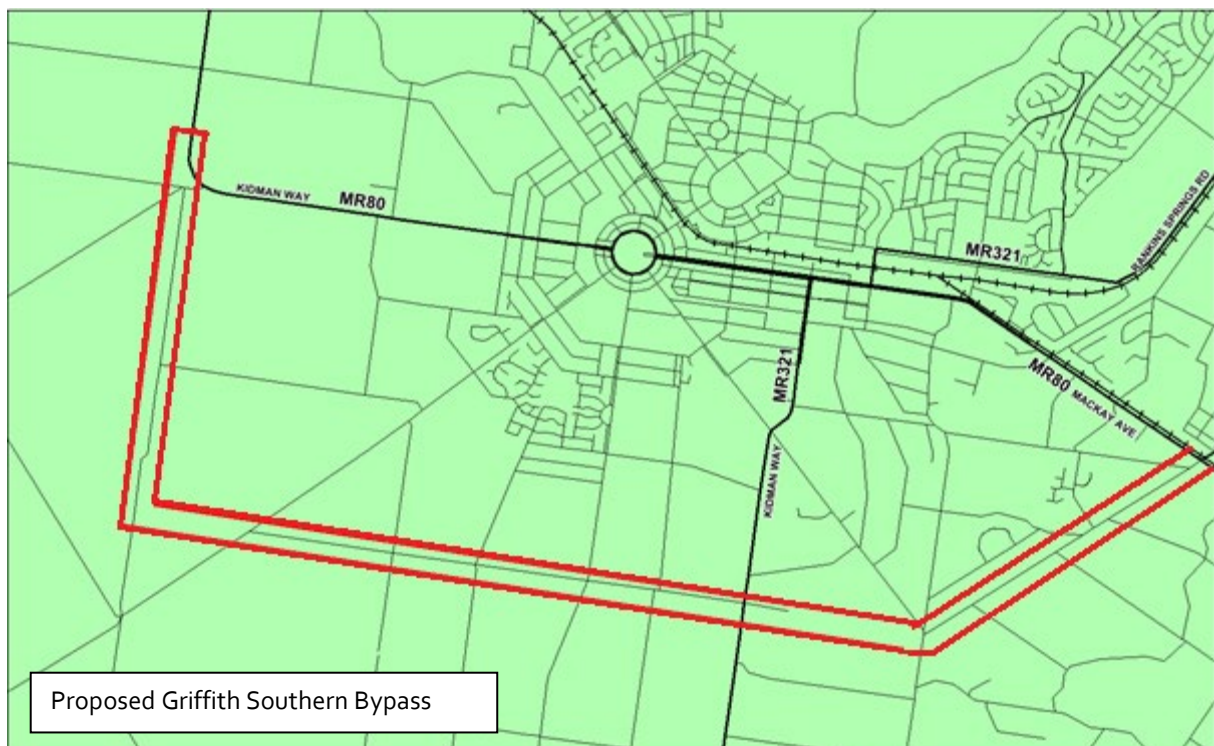


Image (above): Constraint 7.2 Griffith - Proposed Griffith Southern Bypass



Image (above): Constraint 7.3 Griffith - Mirrool Branch Canal Rd intersection presents a sharp turn into fast traffic on a bend. Image from NSW LPI



Image (above): Constraint 7.4 Griffith - Railway crossing has sharp approach and departure bends at Widgelli Silos



Image (above) Constraint 7.5 Carrathool - Intersection of Kidman Way and The Springs Road at Hillston. Image from NSW LPI



Image (above): Constraint 7.6 Narrandera - Narrow bridge on curve on MR80. Image from Google Street view

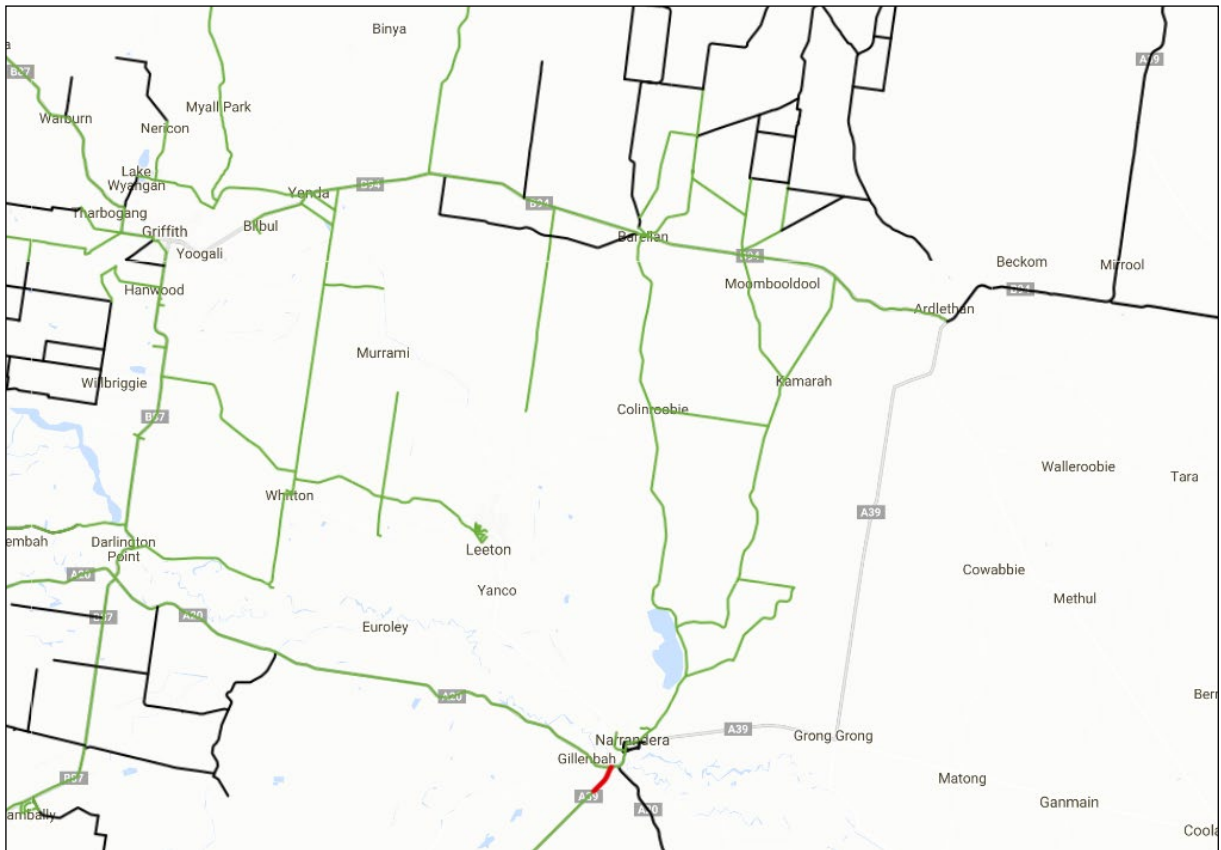


Image (above): Constraint 7.7 Narrandera - Inadequate Road train connection



Image (above): Constraint 7.8 Murrumbidgee - Irrigation crossing over Argoon Channel. Image from Murrumbidgee Council

8. Burley Griffin Way/Mirrool Avenue (MR84)

RAMJO LGAs on route: Griffith, Carrathool, Narrandera

Major NSW towns on route: Griffith

Major Industries serviced: Rice, grain, citrus, livestock, wine, fruit, vegetables

From the Hume Highway (HW2) south of Bowning, via Binalong, Harden, Murrumburrah, Wallendbeen, Stockinbingal, Temora and Aria Park to the Newell Highway near Mirrool, then from the Newell Highway near Ardlethan, via Kamarah, Moombooldool, Barellan, Binya and Yenda to the Leeton-Griffith Road (MR80) at Yoogali, east of Griffith.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 8.1 *Griffith* – Intersection of Twigg Road, Beelbanger Road and Burley Griffin Way (MR84) – Railway line proximity, hairpin turn and intersection road length. To redirect heavy traffic out of narrow residential Railway Street into improved Beelbanger Road.
- 8.2 *Griffith* – Intersection Burley Griffin Way and Twigg Road, Yenda (MR84) – Narrow pavement at intersection, super elevation of road surface, unsuitable for road train or HML vehicles, no turning lanes.



Image (above) Constraint 8.1 Griffith - Intersection of Burley Griffin Way, Twigg Road and Beelbanger Road. Image from NSW LPI



Image (above): Constraint 8.2 Griffith – Intersection Burley Griffin Way & Twigg Rd, Yenda (MR84)

9. Corowa Road/Melbourne Street (MR314)

RAMJO LGAs on route: Federation

Major NSW towns on route: Mulwala

Major Industries serviced: Munitions factory, grain, livestock, general agriculture

From the Corowa-Albury Road (MR86) at Corowa to the Victorian border via Mulwala Bridge over the Murray River, at Mulwala.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 9.1 *Federation* – BN5821 – Bridge over Mulwala Canal HML restricted.
- 9.2 *Federation* – BN5819 – Bridge over Murray River HML restricted. Alternative access via Weir to be unavailable from 2020.



Images (above) Constraint 9.1 and 9.2 Federation - Bridges on MR314. Image from NSW LPI



Image (above) Constraint 9.1 Federation - Bridge over Mulwala Canal. Image from Federation Council



Image (above) Constraint 9.2 Federation - Bridge over Murray River. Image from Federation Shire Council



Image (above) Constraint 9.2 Federation - Bridge over Murray River. Image from Federation Shire Council

10. Tooleybuc Road (MR694)

RAMJO LGAs on route: Murray River

Major NSW towns on route: Tooleybuc

Major Industries serviced: Grain, livestock, mineral sand (Iluka Mine), general freight

State Road from the bridge over the Murray River at Tooleybuc via Kyalite, to the Sturt Highway (HW14) south of Balranald.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 10.1 *Murray River* – Bridge over Murray River at Tooleybuc not HML rated.
- 10.2 *Murray River* – Poor visibility Balranald-bound at intersection with Stony Crossing Road (M67).
- 10.3 *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.



Image (above): Constraint 10.1 Murray River - Bridge over Murray River at Tooleybuc. Image from NSW LPI



Image (above): Constraint 10.1 Murray River - Bridge over Murray River at Tooleybuc. Image from Murray River Council

REGIONAL ROADS

11. Cocketgedong/Brookang Creek/Urana Rd (MR59)

RAMJO LGAs on route: Federation, Murrumbidgee

Major NSW towns on route: Urana

Major Industries serviced: General freight, grain

This road is 142kms long, running from Collingullie to Jerilderie, where it meets the Newell Highway, and provides connectivity between the eastern Riverina and central Victoria.

From the Sturt Highway (HW14) at Collingullie, via Lockhart (via East Street and Reid Street) and Urana to the Newell Highway (HW17) about 10km north of Jerilderie.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 11.1 *Federation* – Multiple bridge assessments required – there are multiple bridges along the route that have not been assessed as suitable for use by HML vehicles.
- 11.2 *Federation* – Pavement strength is deficient – pavement strength does not meet the needs of CML/large vehicles.
- 11.3 *Federation* – Urana township – multiple intersections in urban area, overhead power lines limiting height.
- 11.4 *Murrumbidgee* – Colombo Creek Bridge on Jerilderie/Urana Road. Heavy vehicle route width of bridge a concern for heavy vehicles. Not assessed for HML. Significant route for general freight, livestock and grain transport.



Images (above): Constraint 11.3 Federation - Some of the intersections in Urana township. Images from NSW LPI



Image (above): Constraint 11.4 Murrumbidgee - Bridge over Colombo Creek. Image from Murrumbidgee Shire

12. Balranald Road (MR67)

RAMJO LGAs on route: Murray River

Major NSW towns on route: Ivanhoe

Major Industries serviced: General freight

Balranald Road (MR67) joins the Sturt Highway at Balranald and heads generally northerly via Hatfield, to the Cobb Highway at Ivanhoe.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 12.1 *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.
- 12.2 *Murray River* – Construction of a new bridge required.
- 12.3 *Murray River* – Sealing of unsealed section of roadway.

13. Mossgiel Road (MR80)

RAMJO LGAs on route: Central Darling, Carrathool

Major NSW towns on route: Hillston, Mossgiel

Major Industries serviced: Cotton, grain, livestock

MR80 is a State Road from the Newell Highway (HW17) at Narrandera via Yanco, Leeton, Griffith and Goolgowi to Hillston, and Mossgiel Road is a Regional Road from Hillston to the Cobb Highway (HW21) at Mossgiel.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 13.1 *Carrathool* – Wooden bridge over Lachlan River at Hillston is not HML rated.
- 13.2 *Carrathool* – Insufficient road pavement – upgrade required of road from gravel surface to sealed pavement. Pavement thickness to be increased to carry road trains. Unsealed, dusty (restricted vision), corrugated road access from farm gate of major primary producers to transport hubs. Due to unsealed road, subject to closure after light rain.



Image (above): Constraint 13.1 Carrathool - Bridge over Lachlan River at Hillston. Image from NSW LPI

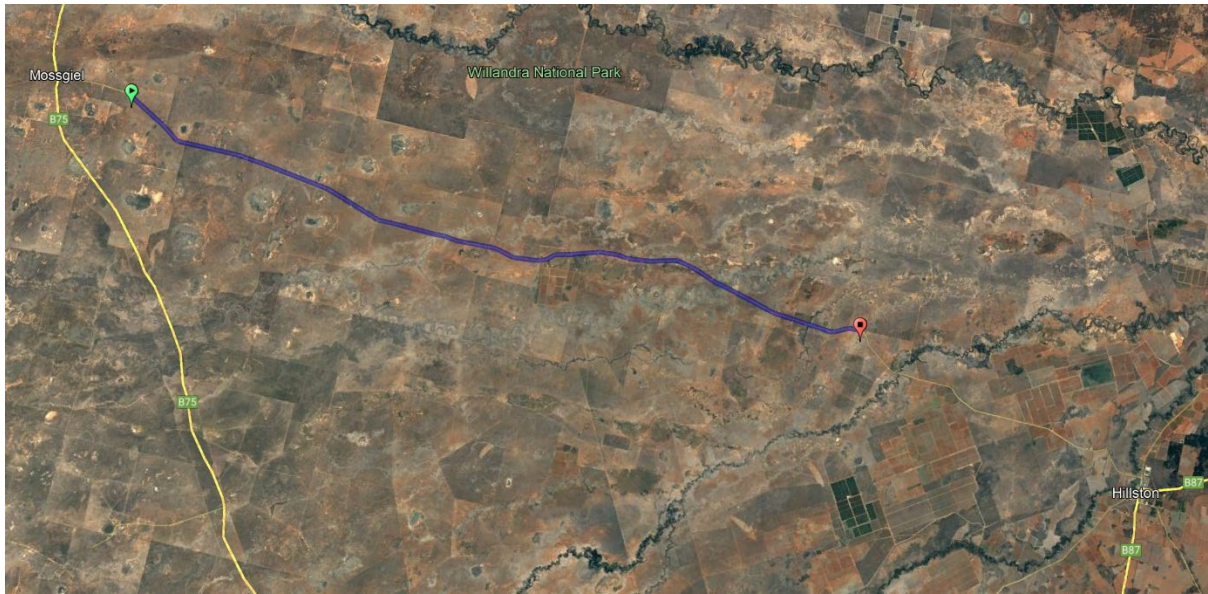


Image (above): Constraint 13.2 – Carrathool - Insufficient road pavement/ Dry weather road only

14. Wakool Road (MR94)

RAMJO LGAs on route: Edward River, Murray River

Major NSW towns on route: Deniliquin, Wakool, Moulamein

Major Industries serviced: Grain, livestock, sand, gravel, general freight

Wakool Road runs from Ochtertyre Street, Deniliquin (Cobb Highway) for a distance of 80.5kms to the intersection of Moulamein Road in Murray River Council. A 75.2km length of Wakool Road is within Murray River Council.

This road has two different sections of Regional Road. The first section, RR7605, runs from Ochtertyre Street in Deniliquin to the intersection of Perricoota Road near Thule. Murray River Council looks after 47.5km of this road. The first 6.5km falls within Edward River Council area. Barham Road, from the intersection of Perricoota Road west towards Moulamein Road is part of MR341. This section of road is 22.5km long and falls within Murray River Council area. This road is a designated B-Double route.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 14.1 *Murray River* – Insufficient pavement width.
- 14.2 *Murray River* – No HML rating on Wakool Bridge.
- 14.3 *Murray River* – No HML rating on three Murray Irrigation Limited structures.



Image (above): Constraint 14.2 Murray River - Bridge over Wakool River. Image from Murray River Council

15. Cobram - Barooga Road (MR226)

RAMJO LGAs on route: Berrigan, Murrumbidgee, Federation

Major NSW towns on route: Barooga, Berrigan, Oaklands

Major Industries serviced: General freight, grain, livestock, milk

From the Corowa-Tocumwal Road (MR550) at Barooga to the Cobram Bridge over the Murray River.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 15.1 *Berrigan* – This road is the interstate connection from Cobram to Barooga and has two bridges that have not been rated for HML. The road is designated for heavy vehicles up to B-Double size and services the major dairy processing plants at Cobram and Strathmerton, as well as the abattoirs at Cobram. The lack of HML capacity is a burden for milk and livestock carriers as well as general freight. This road also forms part of the bypass for the Newell Highway should there be a problem with the Murray River crossing at Tocumwal. It is also a well-used connection from Victoria to the Newell Highway at Jerilderie and to the Boomerang Way via Oaklands.



Image (above): Constraint 15.1 Berrigan - Bridge over Murray River at Barooga. Image from NSW LPI



Image (above): Constraint 15.1 Berrigan – Barooga Road, Peoples Bridge – Image from Berrigan Shire

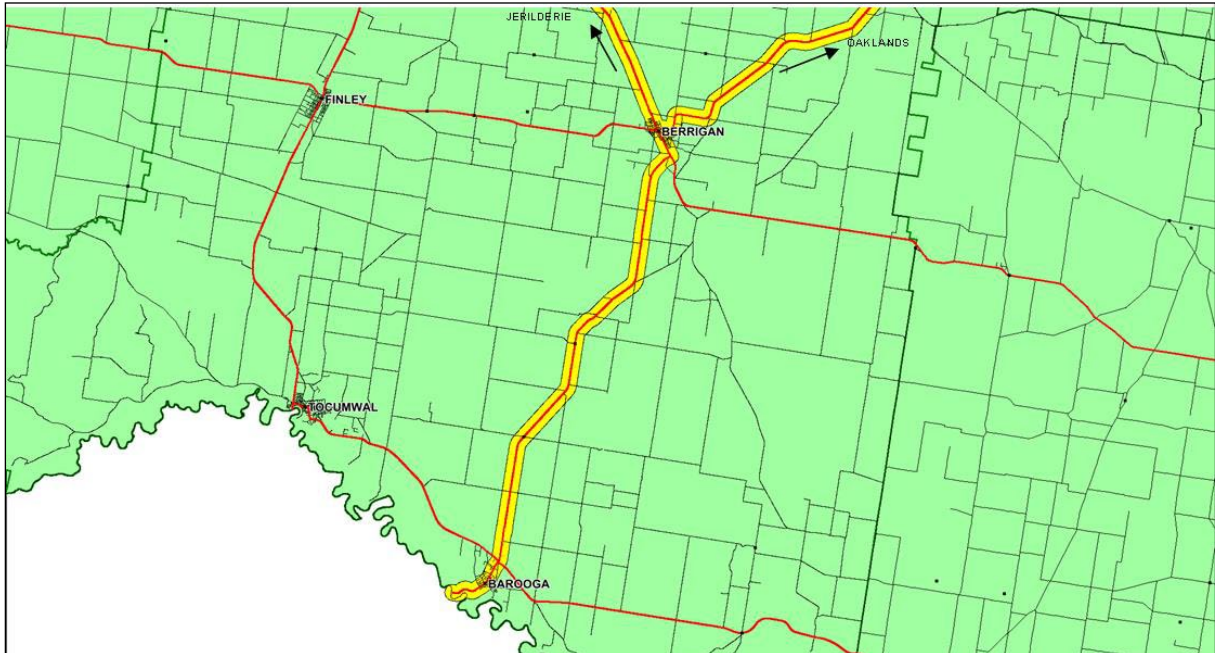


Image (above): Constraint 15.1 Berrigan - Alternate Newell Highway access

16. Pretty Pine Road (MR296)

RAMJO LGAs on route: Murray River, Edward River

Major NSW towns on route: Barham

Major Industries serviced: Grain, livestock, general freight

From the Cobb Highway (HW21) at Pretty Pine, via Barratta and Moulamein to the Tooleybuc – Balranald State Road (MR694) at Kyalite.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 16.1 *Edward River* – 85km/h curve chainage 8.850km.
- 16.2 *Edward River* – Narrow section chainage 58.673km to 66.460km.
- 16.3 *Edward River* – Aged/inadequate bridges/channel crossings:
 - 16.3.1 Box Creek drainage channel bridge Chainage 26.424km; and
 - 16.3.2 Dahwilly No. 4 Supply Channel Bridge (1950) Chainage 7.356km.



Image (above): Constraint 16.1 Edwards River - Big slow curve near Pretty Pine. Image from NSW LPI



Image (above): Constraint 16.3.1 Edwards River - Box Creek drainage Channel Bridge. Image supplied by Edward River Shire Council



Image (above): Constraint 16.3.2 Edwards River - Dahwilly No. 4 Supply Channel Bridge. Image supplied by Edward River Shire Council

17. Thule Street/Moulamein Road/Maude Road (MR319)

RAMJO LGAs on route: Murray River, Edward River, Hay

Major NSW towns on route: Barham

Major Industries serviced: Grain, livestock, sand & gravel, general freight

From Koondrook Bridge over the Murray River at Barham, via Tullakool, Beremegad Tank, Moulamein and Maude to the Hay - Oxley Road east of Maude.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region.

- 17.1 *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.
- 17.2 *Hay* – Narrow pavement.
- 17.3 *Hay* – Narrow culvert structures.
- 17.4 *Hay* – Significant pavement failures.
- 17.5 *Hay* – Chainage 2.5km Budgee Creek Bridge 5m wide.
- 17.6 *Hay* – Chainage 9km Nimmie Creek Bridge 3.6m wide.
- 17.7 *Hay* – Chainage 10.3 to 11.6km there are 6 x culverts 4.5m wide.
- 17.8 *Hay* – Chainage 19km Bridge 4.5m wide.
- 17.9 *Hay* – Chainage 20.3km Bridge 4.5m wide.
- 17.10 *Hay* – Chainage 20.7km Bridge 4.5m wide.
- 17.11 *Hay* – Chainage 20.9km Bridge 4.5m wide.



Image (above): Constraint 17.5 Hay - Chainage 2.5km Budgee Creek Bridge 5m wide



Images above: Constraint 17.7 Hay - Chainage 10.3 to 11.6km there are 6 x Culverts 4.5m wide



Image above: Constraint 17.8 Hay - Chainage 19km Bridge 4.5m wide



Image above: Constraint 17.9 Hay - Chainage 20.3km Bridge 4.5m wide



Image above: Constraint 17.10 Hay - Chainage 20.7km Bridge 4.5m wide



Image above: Constraint 17.11 Hay - Chainage 20.9km Bridge 4.5m wide

18. Berrigan/Oaklands Road (MR323/MR356)

RAMJO LGAs on route: Berrigan, Murrumbidgee, Federation

Major NSW towns on route: Berrigan

Major Industries serviced: General freight, grain, livestock

MR323 from the Corowa-Urana Road (MR131) approximately 5km north of Daysdale via Oaklands and Four Corners Lagoon to the Newell Highway (HW17) at Jerilderie.

MR356 from the Jerilderie-Oaklands Road 9.6km west of Oaklands to the Riverina Highway at Berrigan.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 18.1 *Murrumbidgee* – inadequate bridge for larger vehicles over Wangamong Creek. Bridge width a concern for heavy vehicles. Not rated HML access and is a major transport route for grain, livestock and general freight for surrounding areas.



Image (above): Constraint 18.1 Murrumbidgee - Bridge over Wangamong Creek. Image from NSW LPI



Image (above): Constraint 18.1 Murrumbidgee - Bridge over Wangamong Creek. Image from Murrumbidgee Shire

19. The Springs Road (MR368)

RAMJO LGAs on route: Carrathool

Major NSW towns on route: Hillston, Rankins Springs

Major Industries serviced: Grain, livestock

From the Mid-Western Highway (HW6) at Rankins Springs, via Monia Gap to the Hillston-Griffith Road (MR80) at Hillston.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 19.1 Carrathool – Railway provides short stacking distance to MR80.
- 19.2 Carrathool – Insufficient road pavement – Upgrade required of road from gravel surface to sealed pavement. Width of travelled way to be increased, both vertical and horizontal geometry to be corrected. Pavement thickness to be increased to carry road trains. Unsealed, dusty (restricted vision), corrugated road access from farm gate of major primary producers to transport hubs.



Image (above): Constraint 19.1 – Carrathool - Railway provides short stacking distance to MR80



Image (above): Constraint 19.2 – Carrathool - Insufficient road pavement

20. Kywong Howlong Road (MR370)

RAMJO LGAs on route: Federation

Major NSW towns on route: Howlong

Major Industries serviced: Grain, livestock

From the Riverina Highway (HW20) near Howlong via Brocklesby, Walbundrie and Urangeline to the intersection of East Street and Reid Street (MR59) at Lockhart, then from the intersection of Green Street and East Street (MR59) at Lockhart to the Sturt Highway (HW14) at Kywong.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

20.1 *Federation* – Inadequate pavement strength.

20.2 *Federation* – Floodway.



Image (above): Constraint 20.1 Federation - Kywong Howlong Road – inadequate pavement strength. Image from Federation Council



Image (above): Constraint 20.1 Federation - Kywong Howlong Road – inadequate pavement strength. Image from Federation Council



Image (above): Constraint 20.2 Federation - Kywong Howlong Road – Floodway. Image from Federation Council

21. Federation Way (MR131 and MR385)

RAMJO LGAs on route: Federation

Major NSW towns on route: Urana

Major Industries serviced: Grain, livestock, general freight

MR385 runs from the Lockhart-Jerilderie Road (MR59) at Urana via Widgiewa to the Newell Highway (HW17) near Morundah.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 21.1 *Federation* – Multiple bridge assessments over Billabong Creek required.
- 21.2 *Federation* – Pavement strength is deficient.
- 21.3 *Federation* – Bridge at Urangeline Creek does not allow HML access.
- 21.4 *Federation* – Tight 90° turn in Urana township.
- 21.5 *Federation* – Urana township overhead power lines restrict higher vehicles.
- 21.6 *Federation* – Road requires line marking.
- 21.7 *Federation* – Intersection improvement/sealing of first 20m of side roads to prevent material migration onto Federation Way, and to also reduce the risk of accidents with grader when carrying out maintenance grading on the side roads.



Images (above): Constraint 21.2 Federation - Pavement failure. Image from Federation Council



Images (above): Constraint 21.2 Federation - Pavement failure. Image from Federation Council



Image (above): Constraint 21.3 Federation - Bridge at Urangeline Creek. Image from NSW LPI



Image (above): Constraint 21.4 Federation - Tight turn in Urana Township. Image from NSW LPI



Images (above): Constraint 21.7 Federation - Unsealed side roads. Image from Federation Council

22. Barmah Road (MR391)

RAMJO LGAs on route: Murray River

Major NSW towns on route: Moama

Major Industries serviced: Grain, livestock, minerals, general freight

Barmah Road runs eastwards from the Cobb Highway for a distance of 13.6kms to the Victorian border.

The road provides a freight connection east of the Cobb Highway to Barmah (Vic), connecting the Riverina agricultural district with the Goulburn Valley district in Victoria.

This route is a B-Double route and has a high percentage of heavy vehicle usage.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

22.1 Murray River – Barmah Bridge not HML rated.

22.2 Murray River – Insufficient pavement width for 4km.



Image (above): Constraint 22.1 Murray River - Barmah Bridge. Image from Murray River Council

23. Swan Hill Road (MR467)

RAMJO LGAs on route: Murray River

Major NSW towns on route: Moulamein, Swan Hill (Vic)

Major Industries serviced: Grain, livestock, sand & gravel, general freight

From the bridge over the Murray River at Swan Hill, generally northerly to the Tooleybuc-Balranald State Road (MR694) near Kyalite.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 23.1 *Murray River* – Inadequate bridge – bridge over Murray River at Swan Hill not HML rated.
- 23.2 *Murray River* – Inadequate bridge – Coonamit Bridge not HML rated.
- 23.3 *Murray River* – Not enough room for B-Double sweeping manoeuvre from Swan Hill Road (MR386) to Moulamein Road (MR319).
- 23.4 *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.



Image (above): Constraint 23.1 Murray River - Bridge over Murray River at Swan Hill. Image from NSW LPI



Image (above): 23.1 Murray River - Bridge over Murray River at Swan Hill. Image from Murray River Council

24. Lachlan Valley Way (MR501)

RAMJO LGAs on route: Carrathool, Hay

Major NSW towns on route: Hillston, Hay

Major Industries serviced: Freight, produce, cotton, grain, livestock

Section one: From Lake Cargelligo-Rankins Springs Road (MR371) near Lake Cargelligo, generally south-westerly to the junction with Kidman Way (MR410) near Willanthry.

Section two: From McGee Street (MR80) at Hillston along the southern side of the Lachlan River to the Cobb Highway (HW21) at Booligal, and with a branch road to Whealbah Bridge over the Lachlan River.

This road serves intensive farming areas producing products which have limited time between harvesting and processing (ie. olives). The road also serves significant horticultural, grain and cotton and livestock production which are transported along this route to link to other major highways.

It is the east west link between Kidman Way (at Hillston) and Cobb Highway (at Booligal). The relative route length is 74kms.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 24.1 Hay – Unsealed surface – horticultural freight subject to damage or contamination due to unsealed surface.
- 24.2 Hay – Unsealed surface – unsealed road subject to closure after light rain.
- 24.3 Hay – Flood Prone – road subject to closure for prolonged periods during minor to major flooding of Lachlan River.
- 24.4 Hay – Intersections – There is one intersection which does not permit RAV access to/from a local road – intersection of Hillston/Booligal Road and Booligal Gunbar Road.
- 24.5 Carrathool – Insufficient road pavement – upgrade required of road from gravel surface to sealed pavement, due to unsealed road being subject to closure after light rain.



Image (above): Constraint 24.4 Hay - Intersection of Lachlan Valley Way and Booligal Road. Image from NSW LPI

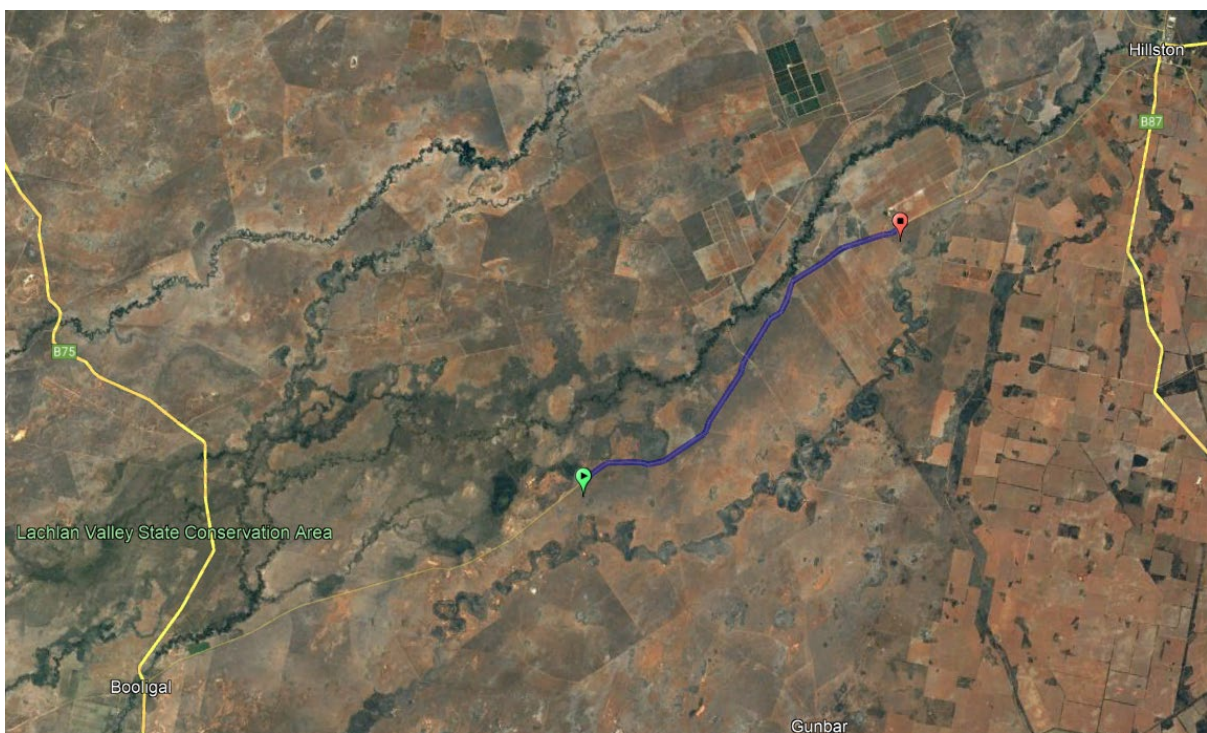


Image (above): Constraint 24.5 Carrathool - Insufficient road pavement/ Dry weather road only

25. Oxley Road (MR514)

RAMJO LGAs on route: Hay

Major NSW towns on route: Oxley

Major Industries serviced: General freight

Oxley Road (MR514) joins the Cobb Highway at Hay, via Maude Road to Oxley to the Balranald Road (MR67) at Penarie.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 25.1 Hay – Intersection of Oxley Road and MR319 Maude/Moulamein Road.
- 25.2 Hay – Narrow pavement.
- 25.3 Hay – Narrow culvert structures.
- 25.4 Hay – Chainage 13.2km narrowing of the road to Chainage 28.1km from 8m to 6m.
- 25.5 Hay – Chainage 28.6km to 84.6km– Narrow road from 8m to 6m.
- 25.6 Hay – Chainage 60.8km Pimper Creek Bridge 4.5m wide.
- 25.7 Hay – Chainage 84.6km Oxley Bridge 4.8m wide.
- 25.8 Hay – Chainage 84.8km Oxley approach Bridge 4.8m wide.



Image (Above) Constraint 25.4 Hay - Chainage 13.2km narrowing of the road to Chainage 28.1km from 8m to 6m



Image (Above) Constraint 25. 5 Hay - Chainage 28.6km to 84.6km— Narrow road from 8m to 6m



Image (Above) Constraint 25.6 Hay - Chainage 60.8km Pimperera Creek Bridge 4.5m wide

26. Conargo Road (MR552)

RAMJO LGAs on route: Edward River, Murrumbidgee

Major NSW towns on route: Deniliquin, Jerilderie

Major Industries serviced: Rice, grains, sheep and livestock, general freight

From the Newell Highway (HW17) at Jerilderie via Coree and Conargo to the Riverina Highway (HW20) at Deniliquin.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 26.1 *Edward River* – School zone – the school zone in Conargo township slows traffic and the traffic presents a hazard to children. Chainage 53.008km to 53.189km.
- 26.2 *Edward River* – Drainage channel Box Creek Bridge aged, built 1956. Chainage 68.977km.
- 26.3 *Edward River* – Drainage channel Finley Escape Bridge aged, built 1950. Chainage 19.361km.
- 26.4 *Edward River* – Forest Creek Bridge is narrow. Chainage 42.491km.
- 26.5 *Edward River* – Culvert structure over irrigation channel located 6.751km from intersection with Riverina Highway. Structure only rated for GML loading, no HML. Chainage 77.844km.
- 26.6 *Murrumbidgee* – Inadequate bridge for larger vehicles over Alguderie Creek.



Image (above): Constraint 26.3 Edward River - Bridge over Finley Escape Channel. Image from NSW LPI



Image (above): Constraint 26.4 Edward River - Bridge over Forest Creek. Image supplied by Edward River Council



Image (above): Constraint 26.5 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council



Image (above): Constraint 26.5 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council



Image (above): Constraint 26.6 Murrumbidgee - Bridge over Alguderie Creek. Image supplied by Murrumbidgee Shire

27. Barham Road (unclassified Regional Road 7605)

RAMJO LGAs on route: Edward River, Murray River

Major NSW towns on route: Deniliquin, Barham

Major Industries serviced: Rice, grains, sheep and livestock, general freight, minerals

From the Cobb Highway (HW21) at Deniliquin to the Barham-Moama Road at Thule.

Barham Road runs from Ochertyre Street, Deniliquin (Cobb Highway) for a distance of 76.5 km to the intersection of Moulamein Road near Barham.

This road has two different sections of Regional Road. The first section, RR7605 runs from Ochertyre Street in Deniliquin to the intersection of Perricoota Road near Thule. Murray River Council looks after 47.5km of this road. The first 6.5km falls within Edward River Council area. Barham Road, from the intersection of Perricoota Road west towards Moulamein Road is part of MR341. This section of road is 22.5km long and falls within Murray River Council area.

The Barham Road is a Regional Road which provides a connection from the Riverina Highway in Deniliquin to north west Victoria at Barham.

The road is a designated B-Double route.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 27.1 *Murray River* – No HML on Thule Bridge.
- 27.2 *Murray River* – No HML on Murray Irrigation Limited structures.
- 27.3 *Edward River* – Bridge structure over irrigation channel located 1.3km from intersection with Cobb Highway. Structure only rated for GML loading, no HML rating.



Image (above): Constraint 27.3 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council



Image (above): Constraint 27.3 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

28. Narrandera Barellan Road (MR7608)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: Narrandera

Major Industries serviced: General Freight

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 28.1 *Narrandera – MR84 and MR7608 intersection – This intersection does not have required pavement strength and geometry for road. Narrandera Shire Council partially improved the intersection between MR84 and MR7608 however, further work is required to make this intersection safe transit for road trains.*



Image (above): Constraint 28.1 Narrandera – Insufficient pavement strength and geometry. Image from Google Maps.

LOCAL ROADS

29. Euroley Road (Leeton)

RAMJO LGAs on route: Leeton, Murrumbidgee

Major NSW towns on route: Yanco

Major Industries serviced: Grain, cotton, wine, poultry, rice, citrus fruit, livestock, aquaculture, nuts, and general freight

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 29.1 *Leeton* – Concrete causeway/floodway – very old structure, cracked and depressed in areas. No known load rating.
- 29.2 *Leeton* – New bridge construction over Murrumbidgee River – not handed over to Council or compliance by RMS.



Image (above): Constraint 29.2 Leeton - Bridge over Murrumbidgee River. Image from Google Street view

30. Canal Street, Poplar Avenue and McQuillan Road (Leeton Bypass)

RAMJO LGAs on route: Leeton

Major NSW towns on route: Whitton

Major Industries serviced: Grain, cotton, wine, poultry, rice, citrus fruit, livestock, aquaculture, nuts, and general freight

Leeton CBD Bypass

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

30.1 *Leeton* – Upgrade pavement to HML capacity. Improve resident safety and amenity.



Image (above): Constraint 30.1 – Leeton – Upgrade pavement to HML capacity

31. Vance Road, Koonadan Road and Colinroobie Road (Leeton)

RAMJO LGAs on route: Leeton

Major NSW towns on route: Leeton

Major Industries serviced: Grain, cotton, wine, poultry, rice, citrus fruit, livestock, aquaculture, nuts

Link between Narrandera-Barellan Road and Brobenah Hall Road and Vance Road.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 31.1 *Leeton* – Murray Irrigation structure over Main Supply Canal – Council has no known load rating, possible extension of road train or B-double route to Vance Road from outside Shire



Image (above): Constraint 31.1 Leeton - Murray Irrigation structure over Main Supply Canal. Image from NSW LPI

32. Whitton Stock Road (Leeton)

RAMJO LGAs on route: Leeton

Major NSW towns on route: Leeton, Griffith

Major Industries serviced:

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

32.1 *Leeton* – Upgrade from Irrigation Way to Burley Griffin Way.

33. Yarmwal Road (Leeton)

RAMJO LGAs on route: Leeton, Griffith

Major NSW towns on route: Leeton, Griffith

Major Industries serviced: Grain, cotton, wine, poultry, rice, citrus fruit, livestock, aquaculture, nuts

Yarmwal Road will serve as a major link between the Murrumbidgee township and Irrigation Way (MR80). WR Connect is located on Irrigation Way with railway loading facilities. For interconnection with Irrigation Way and to WR Connect. The WR Connect development currently contains a 4.2km section of private road connecting Irrigation Way to Yarmwal Road. Yarmwal Road requires 4.2km of full reconstruction and sealing.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

33.1 *Leeton* – Sections of unsealed road.



Image (above): Constraint 33.1 Leeton - Sections of unsealed road – Whitton Stock Route Road

34. Speewa Road (Murray River Council)

RAMJO LGAs on route: Murray River

Major NSW towns on route: Koraleigh, Nyah (Swan Hill, Moulamein, Balranald)

Major Industries serviced: Grain, livestock, sand & gravel, general freight

Speewa Road runs from Stony Crossing Road (MR67) to Nyah Bridge at Murray River. It is 17.6km long.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 34.1. *Murray River Council* – Speewa Road, Koraleigh – Nyah Bridge over the Murray River is not HML rated and is limited to vehicles 4.0m wide.
- 34.2. *Murray River Council* – Load carrying capacity of Murray Irrigation channels crossing road.



Image (above): Constraint 34.1 Murray River - Bridge over Murray River. Image from Google Street view



Image (above): Constraint 34.1 Murray River - Bridge over Murray River. Image from NSW LPI

35. Murrabit Road (Murray River Council)

RAMJO LGAs on route: Murray River Council

Major NSW towns on route: Murrabit (Swan Hill, Wakool, Moulamein)

Major Industries serviced: Grain, livestock, sand & gravel, general freight

Murrabit Road runs from Noorong Road to Gonn Bridge on Murray River, a distance of 26.3km.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 35.1. *Murray River* – Gonn Crossing Bridge across the Murray River at Gonn Crossing is not HML rated.
- 35.2. *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.



Image (above): Constraint 35.1 Murray River - Gonn Crossing Bridge. Image from NSW LPI

36. Carrathool Road (Edward River & Carrathool)

RAMJO LGAs on route: Edward River, Murrumbidgee and Carrathool

Major NSW towns on route: None

Major Industries serviced: Grain, livestock

From Conargo Road (MR552) Conargo to Mid-Western Highway (HW6).

The road has been given trial status for use by road trains, this road services the farming sector for transport of cotton and grain. The road is of gravel construction and is closed to traffic when wet. When the road is closed, transport vehicles are required to add numerous kilometres to each trip to access the cotton gin or grain terminals.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 36.1. *Edward River* – Unsealed/gravel road. Chainage 37.405km to 59.177km.
- 36.2. *Edward River* – Drainage Channel Bridge only 6.4m wide. Chainage 52.909km.
- 36.3. *Edward River* – Billabong Creek Bridge (1965) aged and not HML rated. Chainage 0.979km.
- 36.4. *Edward River* – Large box culvert (1961) aged. Chainage 25.976km.
- 36.5. *Edward River* – Browns Creek Bridge (1970) aged and not HML rated. Chainage 2.857km.



Image (above): Constraint 36.3 Edward River - Bridge over Billabong Creek. Image supplied by Edward River Shire Council



Image (above): Constraint 36.4 Edward River - Large box culvert. Image supplied by Edward River Shire Council



Image (above): Constraint 36.5 Edward River – Bridge over Browns Creek. Image supplied by Edward River Shire Council.

37. Lakers Road (Edward River)

RAMJO LGAs on route: Edward River

Major NSW towns on route: None

Major Industries serviced: Grain, livestock

From Riverina Highway (HW20) to Moonee Swamp Road.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 37.1. *Edward River* – Bridge over drainage channel Box Creek (1956) aged and not HML rated. Chainage 0.625km.



Image (above) Constraint 37.1 Edward River - Bridge over drainage channel Box Creek. Image from NSW LPI

38. Moonee Swamp Road (Edward River)

RAMJO LGAs on route: Edward River

Major NSW towns on route: Deniliquin

Major Industries serviced: Grain, livestock, rice, grains, and general freight

From Conargo Road (MR552) at Deniliquin to Blighty Hall Road in the Blighty district.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 38.1. *Edward River* – Gravel/unsealed road. Chainage 31.446km to 39.695km.
- 38.2. *Edward River* – Multiple tight S bends and T intersections.
- 38.3. *Edward River* – Aged/inadequate bridges/channel crossings:
 - 38.3.1. Blighty 2A Ext. Channel bridge (1979). Chainage 35.765km;
 - 38.3.2. Drainage channel Box Creek Bridge (1956). Chainage 24.058km;
 - 38.3.3. Drainage channel Woodbury Centre (1994). Chainage 33.128km; and
 - 38.3.4. Blighty Channel Bridge (1940). Chainage 39.654km.
- 38.4. *Edward River* – Bridge structure over irrigation channel located 1.3km from intersection with Conargo Road. Structure only rated for GML loading, no HML rating. Narrow structure. Chainage 1.313km.



Image (above): Constraint 38.4 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

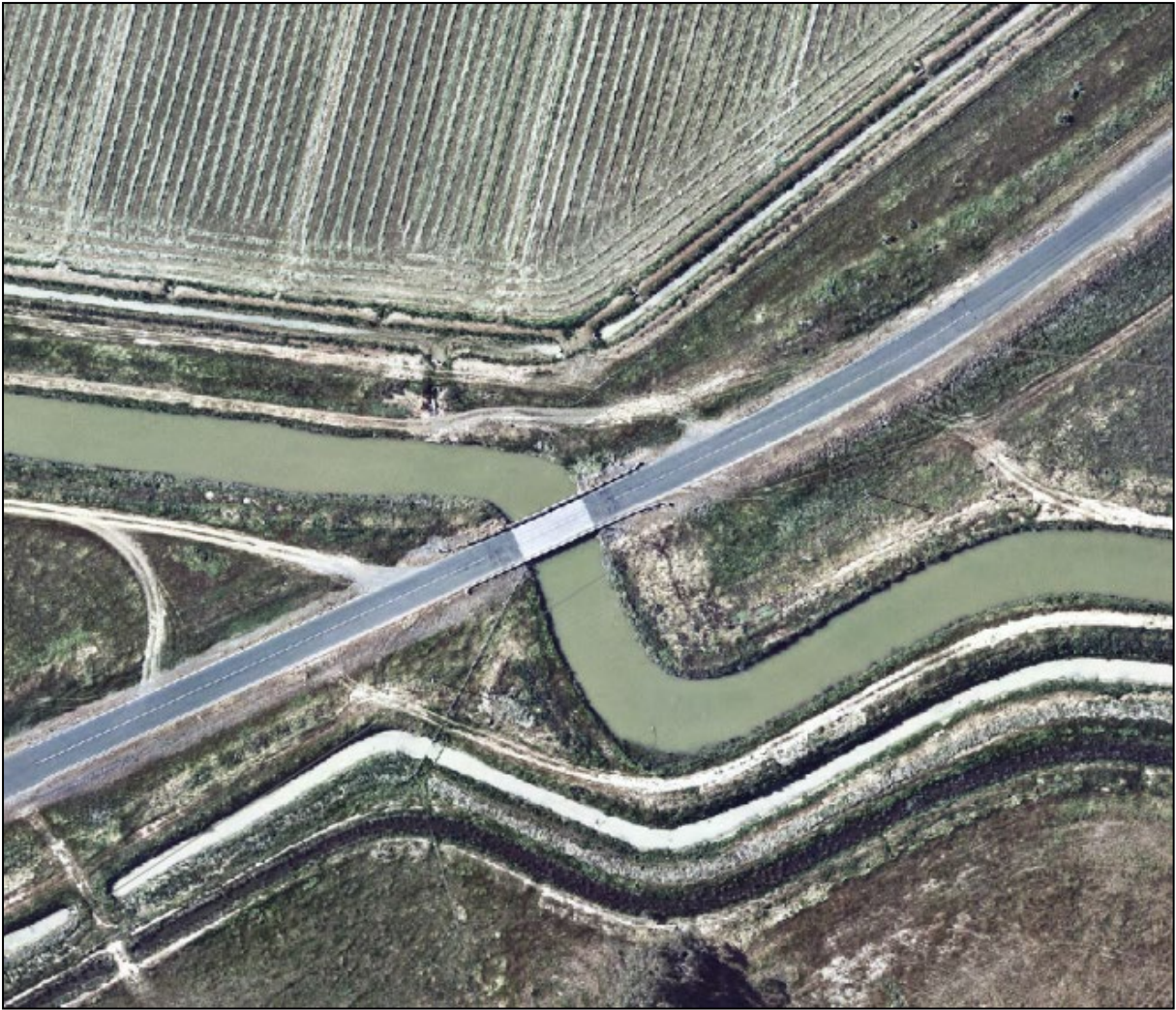


Image (above): Constraint 38.4 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

39. Tocumwal Road (Edward River)

RAMJO LGAs on route: Edward River

Major NSW towns on route: None

Major Industries serviced: Grain, livestock

From Riverina Highway (HW20) to Tuppal Road.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 39.1. *Edward River* – Gravel/unsealed road. Chainage 24.586km to 32.414km.
- 39.2. *Edward River* – Tight S bend. Chainage 26.843km to 27.465km.
- 39.3. *Edward River* – Tuppal 1 channel culvert (1939) aged. Chainage 24.892km.

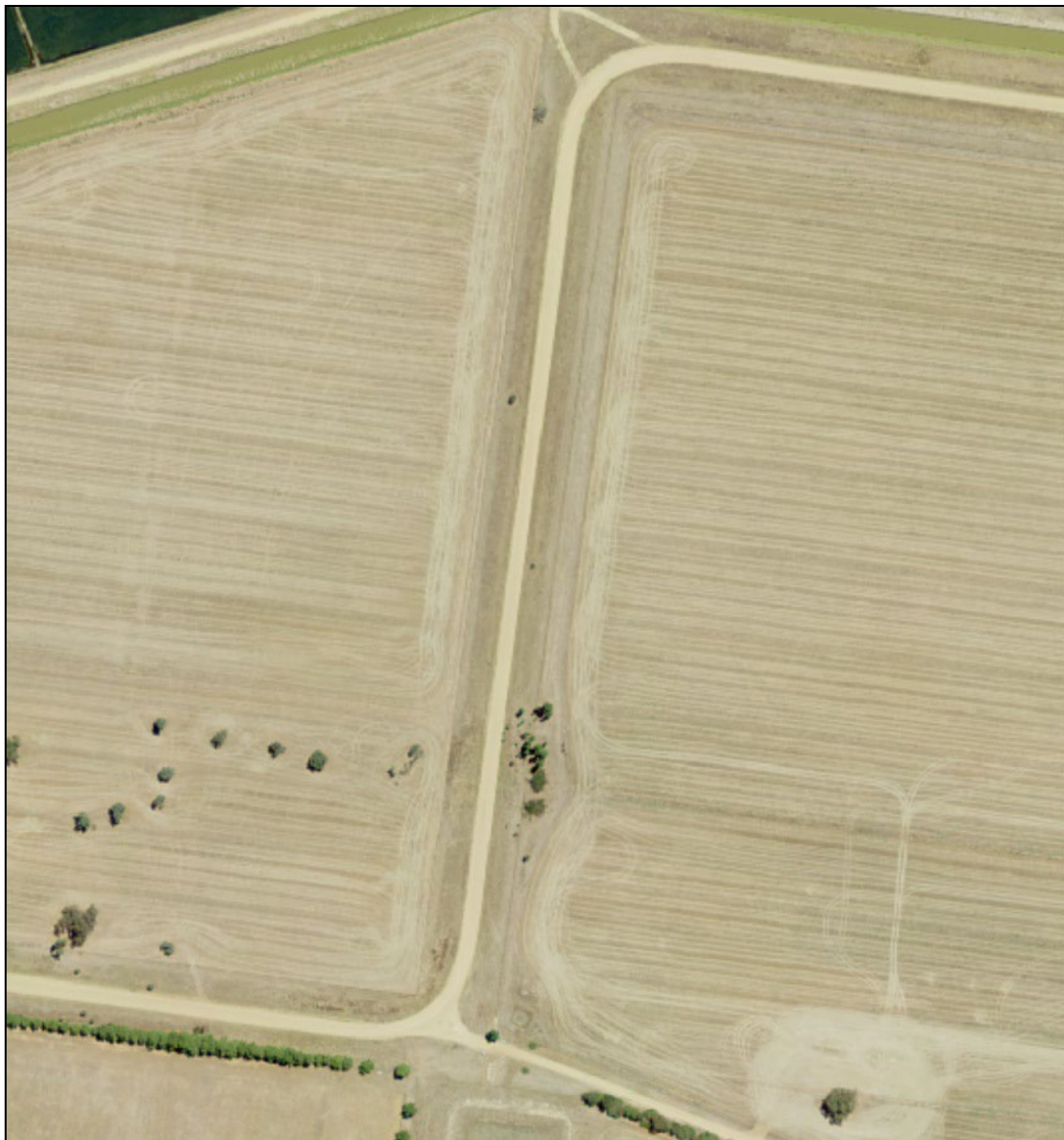


Image (above): Constraint 39.2 Edward River - Tight S bend. Image from NSW LPI

40. Tuppal Road (Edward River)

RAMJO LGAs on route: Edward River, Berrigan

Major NSW towns on route: Tocumwal

Major Industries serviced: Grain, livestock

From Riverina Highway (HW20) to Newell Highway HW17 at Tocumwal.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 40.1. *Edward River* – Two T intersections close to irrigation structure:
 - 40.1.1. Tuppal Road/Lower Finley Road intersection; and
 - 40.1.2. Tuppal Road/Tocumwal Road intersection.
- 40.2. *Edward River* – Tuppal Creek Bridge 50% shared with Berrigan Shire.
- 40.3. *Edward River* – Aged/inadequate bridges/channel crossings:
 - 40.3.1. Mulwala Canal bridge. Chainage 32.633km;
 - 40.3.2. Drainage channel Box Creek Bridge (1987). Chainage 28.473km; and
 - 40.3.3. Tuppal 1 Channel Bridge (1939). Chainage 30.263km.



Image (above): Constraint 40.1 Edward River - T Intersection near channel crossing. Images from NSW LPI



Image (above): Constraint 40.1 Edward River - T Intersection near channel crossing. Images from NSW LPI



Image (above): Constraint 40.3 Edward River - Mulwala Canal Bridge. Images from NSW LPI



Image (above): Constraint 40.3 Edward River - Box Creek Bridge. Images from NSW LPI



Image (above): Constraint 40.3 Edward River - Tuppal 1 Channel Bridge. Images from NSW LPI

41. Willurah Road (Edward River)

RAMJO LGAs on route: Edward River

Major NSW towns on route: None

Major Industries serviced: Livestock

From Carrathool Road to North Boundary Road.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 41.1. *Edward River* – Gravel/unsealed road. Chainage 10.582km to 51.663km.
- 41.2. *Edward River* – Multiple stock grid width issues 3.8-4m wide.
- 41.3. *Edward River* – Aged/inadequate bridges/channel crossings:
 - 41.3.1. Drainage channel bridge. Chainage 45.669km;
 - 41.3.2. Delta Creek Bridge. Chainage 18.659km; and
 - 41.3.3. Browns Creek Bridge. Chainage 1.324km.



Image (above): Constraint 41.3 Edward River - Drainage Channel Bridge. Images from NSW LPI



Image (above): Constraint 41.3 Edward River - Delta Creek. Image supplied by Edward River Shire



Image (above): Constraint 41.3 Edward River - Browns Creek. Image supplied by Edward River Shire

42. Noorong Road (Murray River)

RAMJO LGAs on route: Murray River Council

Major NSW towns on route: Barham

Major Industries serviced: Grain, livestock, sand & gravel, general freight

Noorong Road provides a link between Swan Hill and Deniliquin and Wagga Wagga and Albury. It provides a saving of between 42km and 64km travel return trip between Swan Hill and Albury in comparison to other major routes.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

42.1. *Murray River* – Load carrying capacity of Murray Irrigation channels crossing road.

43. Gerogery Road (Albury)

RAMJO LGAs on route: Albury and Greater Hume

Major NSW towns on route: Albury and Gerogery

Major Industries serviced: Grain, Livestock and General Freight

Description

Gerogery Road runs from Wagga Road, just north of Albury, to the Olympic Highway at Gerogery township (Greater Hume Shire). Gerogery Road has a total road length of 22 kms.

The section from Wagga Road to Hub Road (2.3kms) is the primary access to Albury's large scale 24/7 industrial development. This precinct includes the Ettamogah Rail Hub, an open access road/rail intermodal facility.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 43.1. *Albury* – The geometry of the intersection of Gerogery Road and Wagga Road restricts the safe movement of freight to and from the nearby industrial estate.
- 43.2. *Albury* – Gerogery Road is not HML rated with restricted access. Upgrading of this roadway and associated structures will provide critical freight access from the north to the Nexus Industrial Estate and the Ettamogah Intermodal Hub. Gerogery Road is also identified as an emergency alternate route for the Olympic Highway.



Image (above): Constraint 43.1 Albury - Intersection of Gerogery Road and Wagga Road. Image from Google Maps.

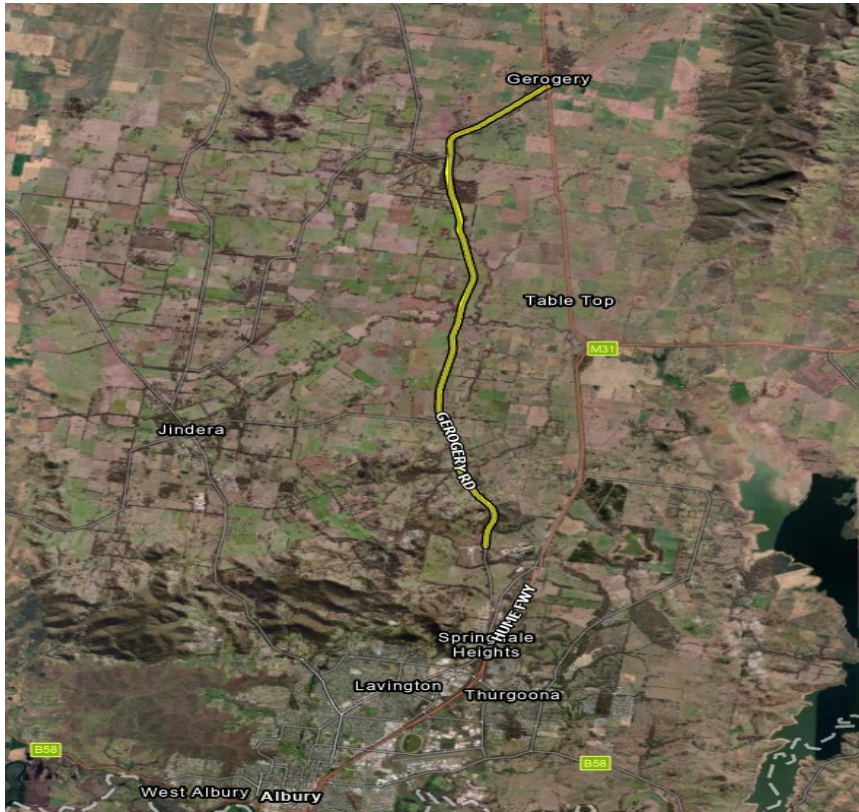


Image (above): Constraint 43.2 Albury - Gerogery Road - Wagga Road to Olympic Highway

44. Willows Road (Narrandera)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: None

Major Industries serviced: General freight

Willows Road runs from Kamarah Road heading east to the Newell Highway.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 44.1 *Narrandera* – 12km unsealed road between Newell Highway and MR7608. This link connects the Newell Highway freight with Leeton and Griffith Region. This unsealed section needs to be strengthened and sealed.



Image (above): Constraint 44.1 Narrandera - Unsealed section of road. Image from Google Maps.

45. Erigolia Road (Narrandera/Carrathool)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: None

Major Industries serviced: General freight

Erigolia Road is an important freight link as it connects the Mid-Western Highway with Burley Griffin Way.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 45.1 *Narrandera* – Insufficient road width for freight traffic. 7.5km of road length is in Narrandera Shire and is a very narrow width of 5.5m seal. Sections of this road in Carrathool Shire are 7.5m wide. This small section needs to be widened for better freight movement between MR84 and the Mid-Western Highway.
- 45.2 *Carrathool* – Insufficient road intersection – 1.0km of road length recently upgraded by Carrathool Shire. The access from Erigolia Road to the Mid-Western Highway is not sufficient nor safe for heavy vehicle movements. This small section needs a revised BAR and BAL as well as improvement in the visibility (horizontal alignment) when entering and exiting Erigolia Road.



Image (above): Constraint 45.1 Narrandera - Insufficient road width. Image from Google Maps.



Image (above): constraint 45.2 Carrathool - Insufficient road intersection

46. Brobenah Hall Road (Narrandera)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: None

Major Industries serviced: General freight

Brobenah Hall Road runs from Colinroobie Road heading north to Burley Griffin Way.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 46.1 *Narrandera* – 2.97km of Brobenah Hall Road needs raising at Mirrool Creek. This section starting at 7km south of MR84 is subject to frequent flooding. Additional culverts need to be placed and road should be raised adequately to cover at least a one in 20 year flooding. With the existing constraint, the road shuts down frequently causing excessive freight inefficiency.



Image (above): Constraint 46.1 Narrandera - Road needs raising at Mirrool Creek. Image from Google Maps.

47. Donaldsons Road/Canal Bridge (Narrandera)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: None

Major Industries serviced: General Freight

Donaldsons Road runs from Strontian Road to Kangaroo Plains Road.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 47.1 *Narrandera* – Inadequate pavement strength and drainage, inadequate bridge capacity – 2.44km of Donaldsons Road. Upgrade of Donaldsons road and upgrade of Canal Bridge will develop a freight efficient connectivity between Narrandera and Leeton region.

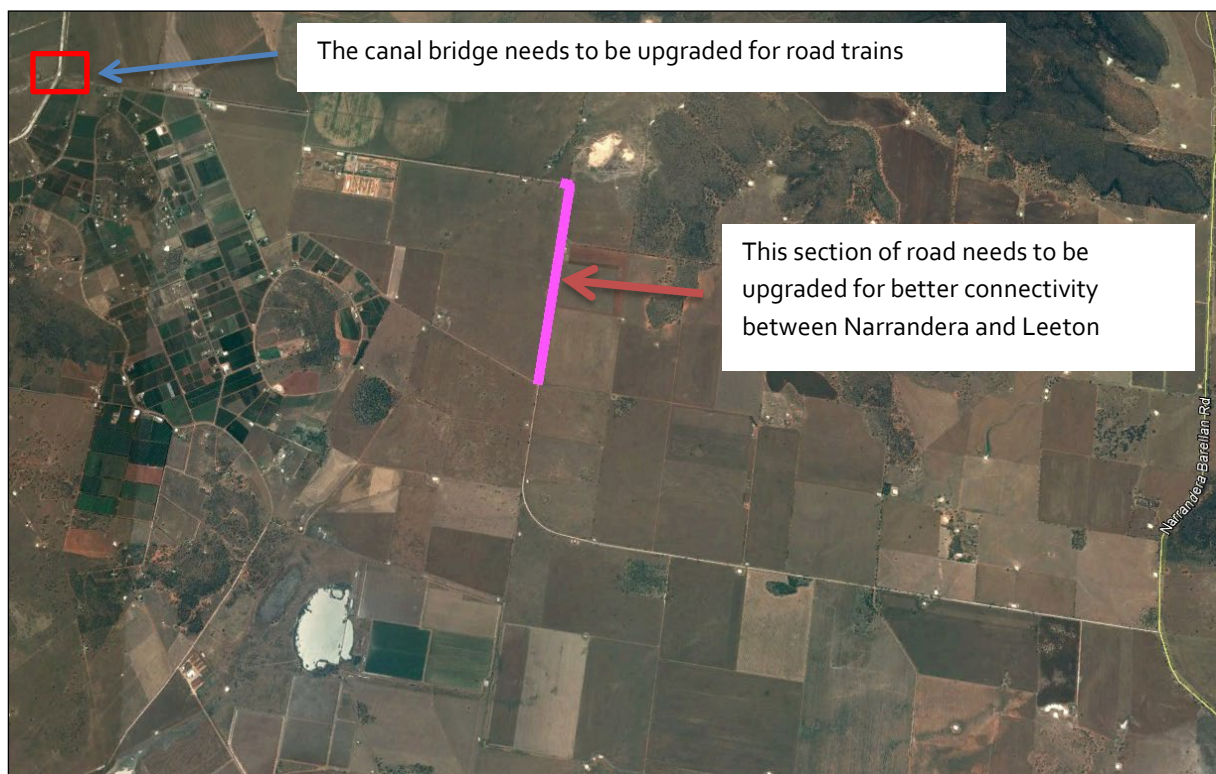


Image (above): Constraint 47.1 Narrandera - Inadequate pavement strength and drainage, inadequate bridge capacity. Image from Google Maps.

48. Raes Lane (Narrandera)

RAMJO LGAs on route: Narrandera

Major NSW towns on route: None

Major Industries serviced: General freight

Raes Lane connects between the Newell Highway and the Sturt Highway on the south western outskirts of Narrandera Township.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 48.1 *Narrandera* – Insufficient pavement strength. This link between the Newell Highway and Sturt Highway serves during flood situations on Poison Creek, when Raes Lane is utilised as a traffic detour. Due to frequent movement of heavy vehicles at HML rating, this road has extensively deteriorated. Pavement should be strengthened, and drainage should be improved on this section of road.



Image (above): Constraint 48.1 Narrandera - Insufficient pavement strength. Image from Google Maps.

49. Cowper Street (Hillston Bypass) (Carrathool)

RAMJO LGAs on route: Carrathool

Major NSW towns on route: Hillston

Major Industries serviced: General freight

Cowper Street is an important freight link as it connects the Kidman Highway (MR80), Springs Road (MR368) and the Kidman Highway (MR410) around the town of Hillston.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 49.1 *Carrathool* – Upgrade of intersections – Upgrade required at Cowper Street/MR410 intersection (Keats Street) adjacent to the Hillston Central School – The intersection requires improved turning lanes onto MR410. Current turning circles too tight and there are a lot of safety concerns at this junction when heavy vehicles meet (Photo 1).
- 49.2 *Carrathool* – Upgrade of intersections – Upgrade required at the western section of Hillston HV Bypass (Milton Street-Lachlan River Road-Oxley Avenue-MR80 Mossgiel intersections). The intersections require BAR/BAL and improvements on turning lanes. (Photo 2).



Image (Above): Constraint 49.1 Carrathool – Upgrade of intersection.



Image (Above): Constraint 49.2 Carrathool – Upgrade of intersection.

50. Billings Rd (Carrathool)

RAMJO LGAs on route: Carrathool

Major NSW towns on route: None

Major Industries serviced: Primary Industry

Billings Road is an important freight link as it connects an area of high agricultural productivity and several major producers to the north of the western region.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 50.1 *Carrathool* – Insufficient pavement construction – Upgrade required of road from gravel surface to sealed pavement. Width of travelled way to be increased and vertical geometry to be corrected. Pavement thickness to be increased to carry road trains.



Image (Above): Constraint 50.1 Carrathool – Insufficient Pavement

51. Boorga Rd (Carrathool)

RAMJO LGAs on route: Carrathool

Major NSW towns on route: None

Major Industries serviced: Primary Industry

Boorga Road is an important freight link as it connects an area of high agricultural productivity and several primary producers to Griffith, which serves as a major transport hub for the western region, and Billings Road, which serves as a connecting road to the north of the western region.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 51.1 *Carrathool* – Insufficient pavement construction – Upgrade required of road from gravel surface to sealed pavement. Width of travelled way to be increased and horizontal geometry to be corrected. Pavement thickness to be increased to carry road trains.



Image (Above) – Constraint 51.1 Carrathool – Insufficient pavement construction

52. Murrumbidgee/Thorne Rd intersection (Griffith)

RAMJO LGAs on route: Griffith

Major NSW towns on route: Griffith

Major Industries serviced: General freight

Southern Industrial Link (GSIL) Stage 4.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

52.1 *Griffith* – History of accidents, narrow pavement, unsuitable for HML and road trains.



Image (above): Constraint 52.1 Griffith - History of accidents, narrow pavement, unsuitable for HML and road trains.

53. Boorga and Dickie Roads (Griffith)

RAMJO LGAs on route: Griffith

Major NSW towns on route: Griffith

Major Industries serviced: Griffith

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 53.1 *Griffith* – History of accidents, unsealed, dusty, (restricted vision), corrugated road, access from farm gate of major primary producers to transport hubs, High traffic volume.

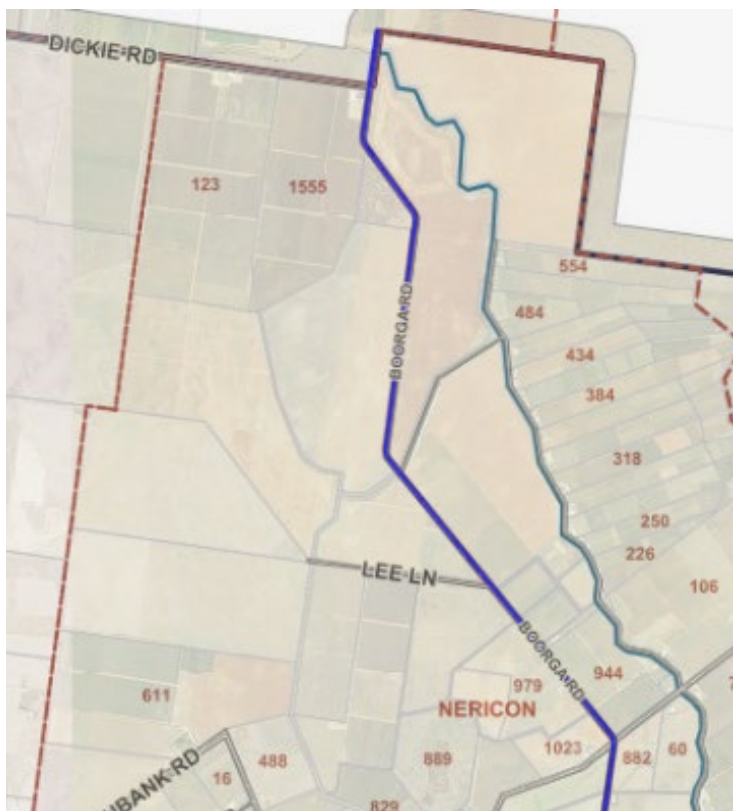


Image (above) – Constraint 53.1 Griffith - History of accidents, unsealed, dusty, (restricted vision)

54. Kurrajong Avenue (Griffith)

RAMJO LGAs on route: Griffith

Major NSW towns on route: Griffith

Major Industries serviced: Griffith

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region: *Griffith – Narrow pavement, unsuitable for road trains, no turning lanes at intersections.*

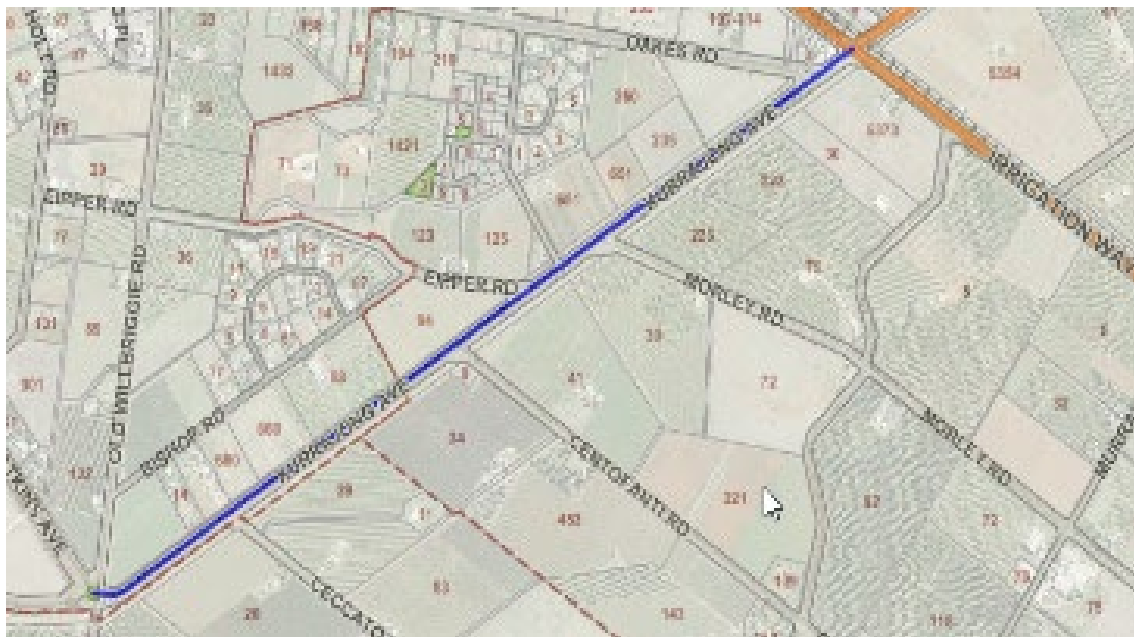


Image (above): Constraint 54.1 Griffith - Narrow pavement, unsuitable for road trains, no turning lanes at intersections.

55. Lakes Road (Griffith)

RAMJO LGAs on route: Griffith

Major NSW towns on route: Griffith

Major Industries serviced: General freight

Between MR80 Kidman Way and Mallinson Road.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

55.1 *Griffith* – Deformed and narrow pavement, unsuitable for HML and overmass vehicles.



Image (above) – Constraint 55.1 Griffith - Deformed and narrow pavement, Unsuitable for HML and over mass vehicles.

56. Murrumbidgee River Road (Hay)

RAMJO LGAs on route: Hay

Major NSW towns on route: Hay

Major Industries serviced: General Freight

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 56.1 Hay – Inadequate pavement strength and width – local road that runs from the Mid-Western Highway in Hay, through Carrathool Shire to Griffith City Council linking up with Kidman Way. The road is a major route used by emergency vehicles and has seen a significant increase in heavy vehicles recently due to new Cotton Gins opening up as well as the new bridge over the Murrumbidgee River at Carrathool which will see Murrumbidgee River Road a Sturt Highway by-pass in the event of a closure of the Highway.



Image (above): Constraint 56.1 Hay – Murrumbidgee River Road

57. Dights Forest Road (Albury)

RAMJO LGAs on route: Albury and Greater Hume

Major NSW towns on route: Albury and Jindera

Major Industries serviced: Grain, Livestock and General Freight

Dights Forest Road runs from Gerogery Road, just north of Albury, to Urana Road at Jindera township (Greater Hume Shire). Dights Forest Road has a total road length of 7kms.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 57.1 *Albury* – Dights Forest Road is not HML rated with restricted access. Upgrading of this roadway and associated structures will provide critical freight access from the west to the Hume Highway, Olympic Highway, Nexus Industrial Estate and the Ettamogah Intermodal Hub.



Image (above): Constraint 57.1 Albury – Dights Forest Road - Gerogery Road to Urana Road

58. Thorne Road (Griffith)

RAMJO LGAs on route: Griffith City Council

Major NSW towns on route: Griffith

Major Industries serviced: General Freight

Thorne Road Stage 4a between Murrumbidgee Avenue and Kidman Way (MR321).

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 58.1 *Griffith* – Deformed and narrow pavement, unsuitable for HML and overmass vehicles and no turning lanes at intersections.



Image (above): Constraint 58.1 Albury – Thorne Road between Murrumbidgee Avenue and Kidman Way

59. Bringagee Road (Griffith)

RAMJO LGAs on route: Griffith City Council

Major NSW towns on route: Griffith, Carrathool, and Goolgowi

Major Industries serviced: Agriculture Freight

Bringagee Road (33.4km) between RR7606 Tabbita Lane and Carrathool Shire Boundary.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 59.1 *Griffith* –Impassable in wet conditions, unsealed pavement, dusty, corrugated in dry conditions, unsuitable for heavy vehicles, HML and overmass vehicles.



Image (above): Constraint 59.1 Albury – Bringagee Road between RR7606 Tabbita Lane and Carrathool Shire Boundary

RAILWAY

60. Ettamogah Rail Hub (Albury)

RAMJO LGAs on route: Albury

Major NSW towns on route: Albury

Major Industries serviced: Manufacturing, agriculture

The Nexus Industrial Precinct (Nexus) is a 450 hectares site in Albury's industrial growth area at Ettamogah, 10kms north of Albury CBD. It is zoned to support large scale 24/7 industrial development and offers expansion capacity of an additional 780 hectares as required in the future. The precinct includes the Ettamogah Rail Hub, an open access road/rail intermodal facility supporting the transport and logistics needs of tenants of the industrial precinct and businesses in the Southern New South Wales and North East Victoria regions.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 60.1 *Albury* – Upgrading of available services to the rail hub including water, power, NBN, gas and sewer will enhance future warehousing development opportunities. This in turn will eliminate the need for road containers between customer sites and the rail hub, providing significant freight efficiencies and savings in costs.
- 60.2 *Albury* – Increasing allowable axle loads within the Nexus Industrial Precinct will enable the development of a seamless inland port precinct. A Nexus exporter is permitted to move 30 tonne gross containers on rail, however gross tonnage on the road network is 25 tonnes. Allowing container road movements up to 30 tonnes will remove the missing link in the supply chain.



Image (above): Constraint 60 Albury - Servicing at Ettamogah Rail Hub. Image from Albury City Council

61. Tocumwal Intermodal Freight Terminal (Berrigan)

RAMJO LGAs on route: Berrigan

Major NSW towns on route: Tocumwal

Major Industries serviced: Agriculture

The Tocumwal Intermodal Freight Terminal is located in the Berrigan Shire in the Southern Riverina region of New South Wales, 257kms from Melbourne near the Victorian and New South Wales border. The Tocumwal railway station was once the "break of gauge" between the Victorian Railways broad gauge (BG) line from the south and the New South Wales standard gauge (SG) line from the north, but now only the line from Victoria remains operational.

Traffic ceased over the New South Wales standard gauge line south of Jerilderie to Tocumwal in 1986 and the entire NSW line was closed in December 1988.

The line to Melbourne is currently open for freight trains that convey container and bulk products between Tocumwal and Melbourne via Shepparton and Seymour. The line crosses the Murray River (border) at Tocumwal via a three span, steel truss bridge that for many years has required regular monitoring and attention and recently underwent extensive strengthening works.

The Tocumwal station precinct is bounded by the Newell Highway, Tuppal Road and Silo Road and is managed in part by VicTrack and in part by New South Wales Country Regional Network (CRN). There are four businesses operating in the precinct, namely Gray's Container Terminal (Gray's), Wilson Stockfeeds (Wilson), GrainCorp, and Kelly and Sons Grain Merchant (Kelly). Another grain handling business, Goulburn Enterprises, has acquired a site at the northern end of the precinct.

Rail access is currently provided to Gray's, GrainCorp, and Kelly, with Gray's being the major rail user. Approximately 3- 5 trains per week currently service the terminal.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 61.1 *Berrigan* – Ongoing maintenance of the Rail Bridge is critical to the continued success and growth of the Intermodal Freight Terminal. There is concern that as it is managed by VicTrack and services New South Wales that it does not get a high priority in their budget considerations.
- 61.2 *Berrigan* – The extension and modification to the lines servicing the grain handling businesses contained within the Intermodal Freight Terminal would allow for greater efficiency in loading and the use of longer trains as there is currently a lack of storage space for rail cars and shunting.
- 61.3 *Berrigan* – Standardisation of the railway line gauge would also be critical to improving efficiency of transportation along this line in the future.



Image (above): Constraint 61.1 Berrigan - Tocumwal Railway Bridge – Image from Berrigan Shire



Image (above): Constraint 61.1 Berrigan - Tocumwal Railway Bridge – Image from Berrigan Shire



Image (above) – Constraint 61.2 Berrigan - Tocumwal Intermodal Freight Terminal – Container handling area, Tocumwal Intermodal Freight Terminal – Grain storage and handling area – image from Berrigan Shire



Image (above) – Constraint 61.2 Berrigan - Tocumwal Intermodal Freight Terminal – Container handling area, Tocumwal Intermodal Freight Terminal – Grain storage and handling area – image from Berrigan Shire

62. Western Riverina Rail Network (Narrandera)

RAMJO LGAs on route: Narrandera, Murrumbidgee, Berrigan

Major NSW towns on route: Narrandera, Jerilderie, Tocumwal

Major Industries serviced: Agriculture

The existing rail network in the Western Riverina does not follow a geographically direct path to Melbourne. A more direct path could reduce the distance travelled by approximately 130 kilometres from 640 kilometres to 510 kilometres and thus improve the competitiveness of rail (*Narrandera Shire Council 2012 Narrandera to Tocumwal Rail Line Infrastructure Revamp*).

Due to the cross-border nature of the two regions, any action would require co-ordination between the New South Wales, Victoria and Commonwealth Governments.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 62.1 *Narrandera* – An option for further investigation includes the creation of a fit for purpose, standard gauge regional freight link between Western Riverina and Melbourne, using the existing rail alignments. This involves:
 - 62.1.1 Restoration of the disused Tocumwal to Narrandera standard gauge rail line in NSW; and
 - 62.1.2 Standardisation of the broad-gauge Mangalore to Tocumwal rail line in Victoria.

63. WR Connect (Leeton)

RAMJO LGAs on route: Leeton, Griffith, Carrathool

Major NSW towns on route: Leeton, Griffith

Major Industries serviced: Agriculture, Agribusiness, Freight & Logistics

The WR Connect multimodal freight facility at Wumbulgal provides a transport efficient logistics hub with a rail centrepiece, surrounded by effective road networks. It provides the region's agricultural producers and agribusiness with world-competitive export industries through the connectivity of road and rail.

The site is on the boundary of Leeton Shire and Griffith City and is centrally located within the Western Riverina, servicing many key large industries. WR Connect provides the least cost pathway to domestic and export markets for goods produced in Griffith, Carrathool, Leeton and parts of Murrumbidgee and Hay Council areas.

WR Connect is the only site in Australia that allows loading of both containers and bulk freight, resulting in increased flexibility, reliability and volume for producers/processors and end users. The site also has significant potential as an industrial park which will boost employment in the region.

While still relatively 'agricultural' in its current operations, announcements in 2022 by the NSW Government of a \$19M of investment into a rail siding, followed by \$371K towards a site master plan and industrial plant business case (completed in Nov 2023), has increased confidence in the project. The rail siding designs have been prepared but works are yet to commence.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 63.1 *Leeton and Griffith* – The current barriers to development of the WR Connect site are power, water supply and telecommunications limitations, site governance and funding.
- 63.2 *Leeton and Griffith* – The addition of the rail siding (funded but not yet built) will enable bulk container movement for the domestic and export market, as well as reducing the risks of main-line loading. The Whitton Stock Route (between Yenda end and Irrigation Way turnoff to Griffith, needs to be upgraded to accommodate heavy vehicles.



Image (above): Constraint 63.2 Leeton WR Connect

AIRPORTS

64. Albury Airport (Albury)

RAMJO LGAs on route: Albury

Major NSW towns on route: Albury

Major Industries serviced: Manufacturing, retail, business administration

Albury Airport is a major regional airport providing important transport links to Sydney and Melbourne and servicing a population of approximately 170,000 people. Located adjacent to the Murray River on Australia's busiest inland transport corridor, Albury is a strategic hub for commerce, transport, industry, health and education and has a strong tradition of regional leadership. The Airport supports regular passenger transport, air charter operations, air ambulance services, small/medium freight services and aviation related industries. The Airport infrastructure allows jet operations on a routine basis and the Airport operates under positive air traffic control administered by Airservices Australia from a control tower located at the Airport.

CONSTRAINT IDENTIFICATION

The following is identified as a risk to the successful transport of freight from and through the region:

- 64.1 *Albury* – Lack of existing freight storage and freight processing infrastructure limits the potential for attracting large freight companies to Albury Airport as a significant freight distribution centre.



Image (above): Constraint 64.1 Albury - Albury Airpark. Image from Albury City Council

66. Griffith Airport (Griffith)

RAMJO LGAs on route: Griffith

Major NSW towns on route: Griffith

Major Industries serviced: Agricultural/horticultural, processing/manufacturing, business administration

Griffith Airport is a major regional airport, which provides important transport links to Sydney and Melbourne and serves a population of approximately 85,000 people in the Western Riverina.

Griffith is centrally located within the Murrumbidgee Irrigation Area with the region producing large volumes of agricultural/horticultural products, including cereals, rice, cotton, vegetables, fruits, grapes, citrus, nuts and poultry, with many of these commodities being processed in Griffith.

The Airport supports regular passenger transport to Sydney and Melbourne, air charter operations, air ambulance services, small scale freight services and is a focal point for agricultural aerial spraying operations.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

66.1 *Griffith* – Limited freight storage and freight processing infrastructure.



Image (above): Constraint 66.1 Griffith - Griffith Airport. Image from Griffith City Council.

67. Narrandera-Leeton Airport (Narrandera/Leeton)

RAMJO LGAs on route: Narrandera and Leeton

Major NSW towns on route: Narrandera and Leeton

Major Industries serviced: Business administration, retail

The Narrandera-Leeton airport is centrally located between Narrandera LGA and Leeton LGA. These LGAs lie at the intersection of two important highways, the Newell Highway and the Sturt Highway. The Airport could potentially be utilised as an air freight terminal. While road transport is predominant in this region, air transport could be considered important for businesses because both the Newell Highway and the Sturt Highway are subject to frequent cut-off due to flooding. This can stop necessary supply for a considerable period of time. One of the reasons for low business confidence of this area is due to frequent cut-off of both highways. Improved air freight capability at this Airport will benefit the region.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 67.1 *Narrandera* – Lack of existing freight storage, safety checking system and freight processing infrastructure.
- 67.2 *Narrandera* – Insufficient pavement strength and width to support bigger aircraft.
- 67.3 *Narrandera* – Low intensity runway lighting that requires upgrade.
- 67.4 *Narrandera* – The sealed runway length is too short for larger freight carriers.
- 67.5 *Narrandera* – Security screening measures are required to cater for larger aircraft.

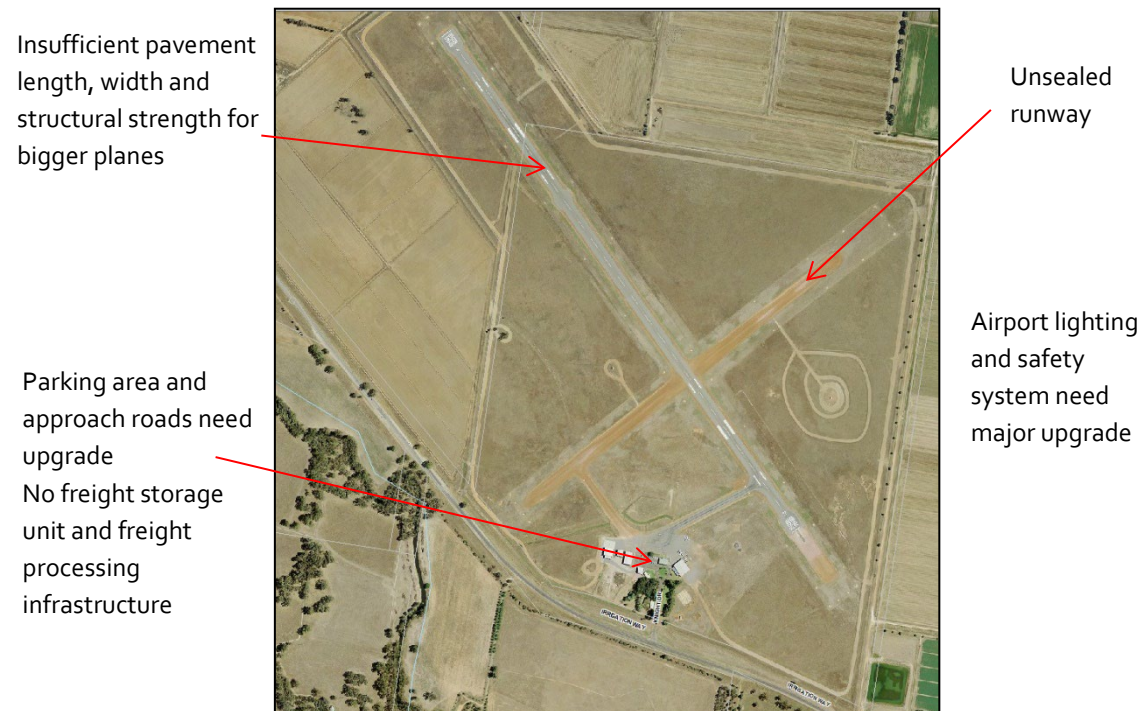


Image (above): Constraint 67. Narrandera-Leeton Airport. Image from Narrandera Shire Council.

68. Hay Airport (Hay)

RAMJO LGAs on route: Hay

Major NSW towns on route: Hay

Major Industries serviced: Business administration, retail

The Hay aerodrome is a critical asset and an important facility of the Hay Shire Council. It is used extensively for agricultural businesses, medical services (on average 6.4 flights per month), post and banking daily services, and there has been an increase in recreational flying particularly flight school/training. There are no passenger services operated from the Hay Aerodrome. The Airport is located at the intersection of the Sturt and Cobb Highways and with land available adjacent for industrial development. The Airport has potential to be a freight hub which can benefit the region.

CONSTRAINT IDENTIFICATION

The following are identified as risks to the successful transport of freight from and through the region:

- 68.1 Hay – Lack of existing freight storage, safety checking system and freight processing infrastructure.
- 68.2 Hay – Insufficient pavement strength and width to support bigger aircraft.
- 68.3 Hay – Low intensity runway lighting that requires upgrade.
- 68.4 Hay – The sealed runway length is too short for larger freight carriers.



Image (above): Constraint 68. Hay Airport. Image from Hay Shire Council

APPENDIX ONE – RESTRICTED VEHICLES MAPS

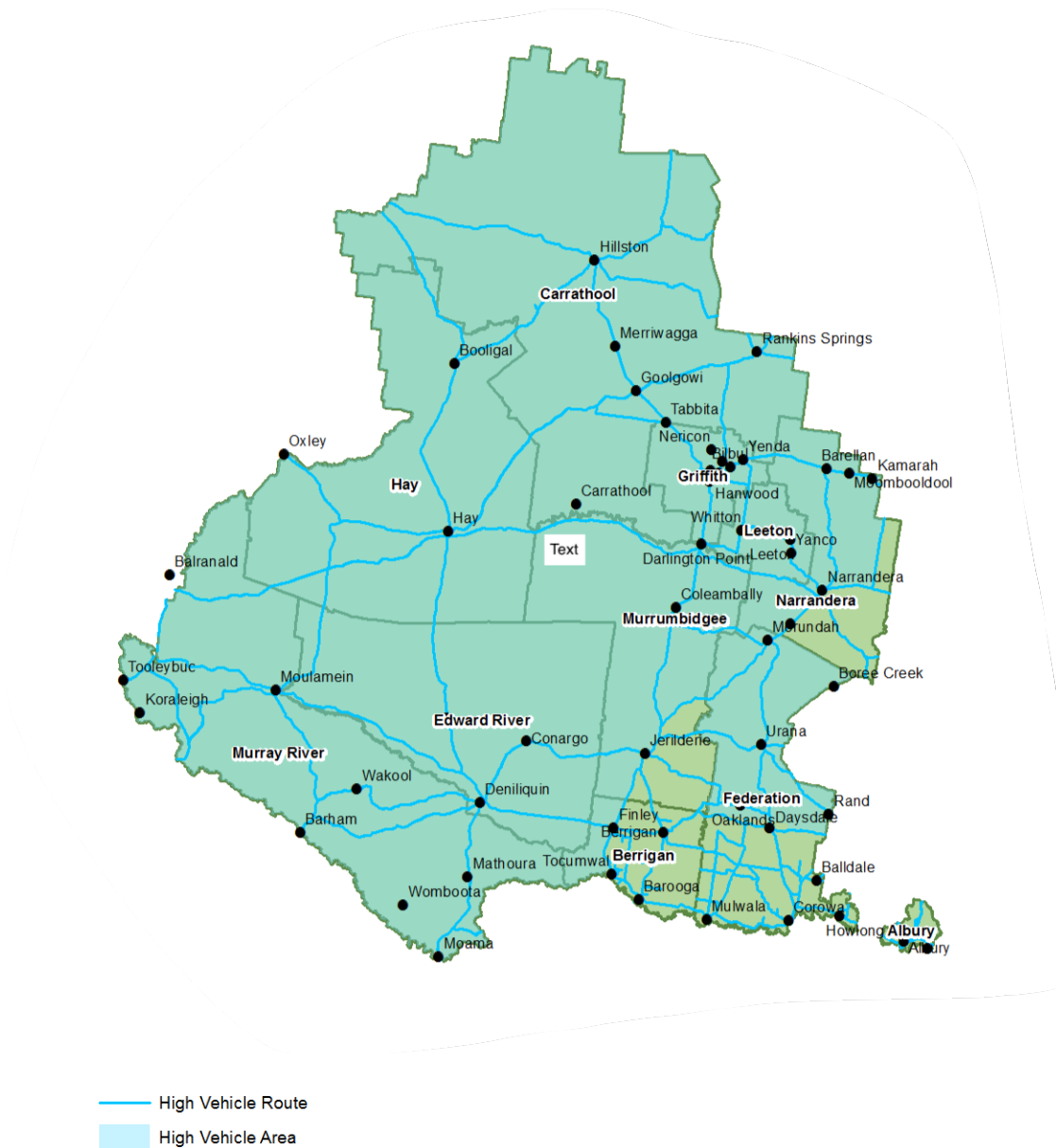
RAMJO B-DOUBLE ROUTES



Please refer to the following website for the most up-to-date mapping information.

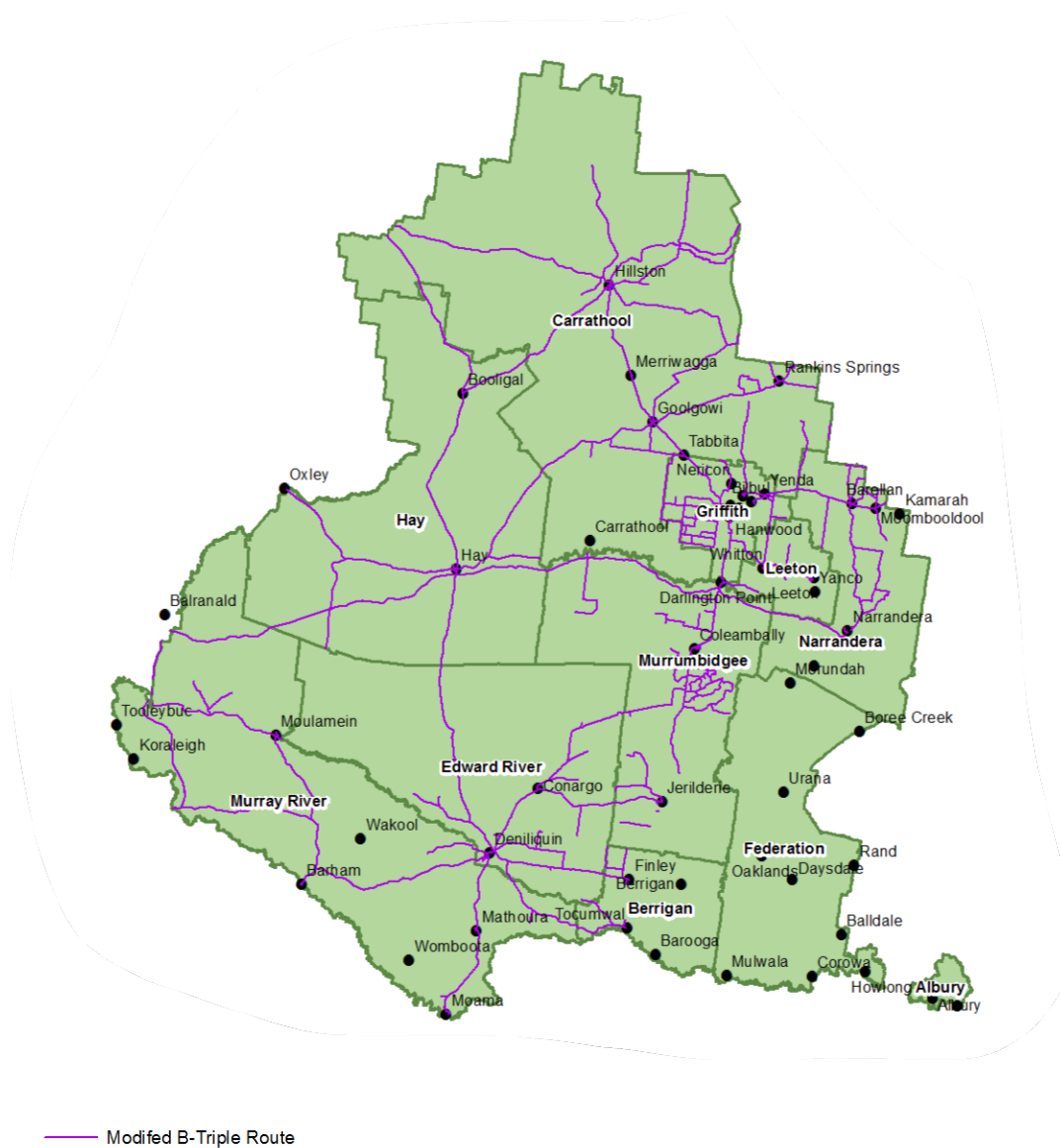
[Transport for NSW - Restricted Access Vehicle \(RAV\) Map](#)

RAMJO HIGH VEHICLE ROUTES



Please refer to the following website for the most up-to-date mapping information.
[Transport for NSW - Restricted Access Vehicle \(RAV\) Map](#)

RAMJO MODIFIED B-TRIPLE ROUTES



Please refer to the following website for the most up-to-date mapping information.

[Transport for NSW - Restricted Access Vehicle \(RAV\) Map](#)

RAMJO ROAD TRAIN ROUTES



Please refer to the following website for the most up-to-date mapping information.

[Transport for NSW - Restricted Access Vehicle \(RAV\) Map](#)

APPENDIX TWO – ASSESSMENT MATRIX

ROAD NAME:	Does not apply	Very Low	Low	Medium	High	Very High	Multiply by Weighting	Total	Comments
Criteria	Score = 0	Score = 1	Score = 2	Score = 3	Score = 4	Score = 5			
Road Usage Level (Most recent Traffic Counts)							5	0	
Crash History (Last 5 years)							5	0	
Impact on Traffic if Road was Closed for 24 hours							4	0	
Grain Freight Route							4	0	
Livestock Freight Route							4	0	
Timber Freight Route							4	0	
HML Route							5	0	
B Double Route							5	0	
Road train and Other Restricted Access Vehicles (excluding B Doubles) Route							3	0	
Recognised as a Regional Route of Economic Significance							3	0	

ROAD NAME:	Does not apply	Very Low	Low	Medium	High	Very High	Multiply by Weighting	Total	Comments
Impact of Road Constraints on Industry (Economic Impacts)							3	0	
The Road should be opened to RAVs							5	0	
Part of a Designated RMS Bypass Route							2	0	
Impact on Town Amenity							2	0	
Established Tourism Route							3	0	
Identified in the NSW Regional Transport Plan							1	0	
Identified in the NSW Master Transport Plan							1	0	
Identified in the Riverina Regional Action Plan							1	0	
Identified in the NSW Freight and Ports' Strategy							1	0	
TOTAL SCORE								0	
Ability of Rail to Address the Road Constraints									

APPENDIX THREE – COMPLETED ACTIONS

ALBURY			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Riverina Highway (HW20)	East of Lake Hume Village.	Road reconstruction, re-alignment and widening.	Complete. Project completed 2018.
Gerogery Road	Hub Road intersection.	Construction of roundabout.	Complete. Construction of roundabout completed 2017.
Hume Highway (HW2)	Davey Road Interchange.	Southern Ramps Construction.	Complete. Project completed 2020.
Hume Highway (HW2)	Borella Road Interchange.	Widen interchange to increase travel lanes and capacity.	Complete. Transport model undertaken to identify future demands. Corridor Strategy completed 2019/20. Short term interchange adjustments (medians and lane configurations) completed in 2020.
Ettamogah Rail Hub	Rail siding capacity.	Extend rail siding.	Complete. Funding secured and siding extended in 2021.

BERRIGAN			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Riverina Highway (HW20)	Bridges not HML rated.	Conduct load assessment of bridge and determine if HML suitable.	Complete. 100% - restrictions have been removed from the HML network.
Barooga – Berrigan Road (MR363)	No HML rating on MIL structures.	Conduct load assessment of bridge and determine if HML suitable.	Complete. 100% - restrictions have been removed from the HML network.
Berrigan – Jerilderie Road (MR564)	MIL bridge not HML rated.	Conduct load assessment of bridge and determine if HML suitable.	Complete. 100% - restrictions have been removed from the HML network.

CARRATHOOL			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Mossgiel Road (MR80)	Bridge over Lachlan River.		Completed – replaced with new concrete bridge.
Carrathool Road	Single Lane Wooden Bridge (heritage listed).		Completed – replaced with new concrete bridge.
	Murrumbidgee Road/Carrathool Road intersection.	Widen to cater for B-Double and road train movements.	Completed – intersection has been upgraded.
	Insufficient pavement construction.	Upgrade roadway to sealed pavement.	Completed – pavement has been upgraded.
Cowper Street (Hillston Hv Bypass)	Upgrade of Intersection Cowper Street.		Completed – intersection has been upgraded.
Lachlan River Road	Insufficient Width/Part Dry Weather Road only.		Completed – pavement has been upgraded and remaining gravel sections sealed.

EDWARD RIVER			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Thule Street/Moulamein Road/ Maude Road (MR319)	Unsealed road.	Reconstruct and seal from 58.673km to 66.460km	Complete.

FEDERATION			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Cocketgedong/Brookong Creek/Urana Rd (MR59)		Brookong – deficient road width.	Complete. Heavy Patching and reseal.

GRIFFITH			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Kidman Way/Irrigation Way/Mackay Avenue (MR80/MR321)	MR80/84 Intersection (Irrigation Way/Burley Griffin Way) – short stacking distance at rail line, no turning lanes, restricted sight distance, narrow bridge structure, unsuitable for road train or HML vehicles, unsafe for long vehicles.	Intersection treatment under TfNSW RMS.	Works completed 2021.
	Southern Industrial Link (GSIL) Stage 6b – unsuitable for heavy vehicles and HML, unsealed, corrugated, dusty road, narrow pavement, intersection alignment.	Realign and upgrade intersection.	Works completed 2021.

GRIFFITH			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Jones Road	Jones Road Lake Wyangan Causeway – narrow pavement unsuitable for HML and overmass vehicles.	Upgrade and widen pavement to accommodate HML.	Works complete 2021.
	Jones Road Causeway, Griffith Northern Link Road – narrow causeway between north and south lakes, single lane only, flooding, unsuitable for HML and overmass vehicles.	Upgrade, raise and widen road pavement. Adjust utilities.	Completed in conjunction with above item.
Old Willbriggie Road/Kurrajong Avenue/Watkins Avenue	Intersection difficult for larger traffic to negotiate, prohibiting road train approval.		Works complete 2017.
	Hairpin corners, narrow opening and uneven intersection		Works completed 2017.
Griffith Southern Industrial Link (GSIL) Stage 5b & Stage 6a – Bromley/ Brown/Thorne & Walla Avenue intersection	Narrow pavement, unsealed, dusty, restricted vision, corrugated road, narrow culverts, unsuitable for heavy vehicles.	Realign, construct and seal unsealed road, intersection treatments and upgrade culvert crossings and drainage.	Expected completion August 2023.
Griffith Airport	Absence of Precision Approach Path Indicator system to assist aircraft landing safely.		Works completed 2019.

HAY			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Thule Street/Moulamein Road/Maude Road (MR319)	Matthews Bridge.	Replacement of the existing timber bridge with a double land RCC bridge complying with AS5100 providing an access to road trains.	Complete. New concrete 160 tonne, 2 way, 2 lane bridge has been constructed.
	Chainage 6.5km Matthews Bridge over the Murrumbidgee River at Maude 3.8m wide (timber bridge built 1967).	Replace the bridge with 2 lanes allowing for road train access.	Complete. New concrete 160 tonne, 2 way, 2 lane bridge has been constructed.
Nap Nap Road	Timber bridge over Sandy Creek – Load (42t) Constraint for heavy vehicles.	Replace the bridge with 2 lanes allowing for road train access.	Complete.

LEETON			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	Intersection McQuillan Rd	Widen intersection to allow for trailer drag.	Complete. Intermediate Intersection works completed by RMS in mid-2018. Sufficient widening of pavement to allow for turning movements of Heavy Vehicles South from McQuillan Road.
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	Bridge over Main Supply Canal	Investigation of load capacity approval for Heavy Vehicles.	Complete. RMS approved for B-Doubles and Road Trains under the national gazettal.
Euroley Road	Tight radius	Widening of tight bends and line marking.	Complete. Completed early 2019; Council funded.

LEETON			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Vance Road, Koonadan Road, Colinroobie Road Route	Insufficient intersection Geometry at Koonaban & Vance Road	BAL and BAR Treatment at intersection with Colinroobie Road.	Complete. Completed construction of BAL/BAR late 2019. Asphalt overlay and line marking to be completed early 2020.
	Insufficient Intersection Geometry	Intersection works required to accommodate for trailer drag of Heavy Vehicles onto Koonadan Road from Vance Road.	Complete. To be completed under joint "Fixing Country Roads" funding application with Narrandera Shire Council RNSW 1631. Expected completion Early 2020.
	Pavement widening and structure replacement at Vance Road	Widening pavement in several sections of Vance Road, and renewal of drainage structure on North of Vance Road.	Complete. To be completed under joint "Fixing Country Roads" funding application with Narrandera Shire Council RNSW 1631. Expected completion Early 2020.
Sturt Highway (HW14)	Intersection with Innisvale Lane.	BAL/BAR	Complete. Completed by TfNSW.
Whitton-Darlington Point Road (MR539) – Bridge – Sturt Canal Bridge Upgrade	Sturt Canal Bridge needs upgrading.	Replace bridge.	Complete.

MURRAY RIVER			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Thule Street/Moulamein Road/Maude Road (MR319)	Bridge over Murray River.	Reconstruct/upgrade bridge.	Complete. Reconstruction completed by RMS.
Noorong Road	Section of Noorong Road 6.2m wide.	Widen narrow sections to 8.0m seal.	Works complete.
	Gee Gee bridge over Wakool River.	Upgrade bridge to carry HML traffic.	Upgrade underway. Completion date approximately June 2020.
Cobb Highway (HW21)	Bridge over the Murray.	Construct a new bridge.	Complete. Bridge completed and open April 2022.
Swan Hill Road (MR467)	Bridge at Yarrein Creek is only 6.1m wide.	Widen and upgrade bridge to accommodate relevant traffic.	Complete.
Barham Road (unclassified Regional Road 7605)	Insufficient pavement width.	Widen the pavement to 8.0m width.	Complete.

NARRANDERA			
ROAD	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Newell Highway (HW17)	Grong Grong realignment.	Construction of by-pass road.	Complete.
Narrandera Barellan Road (MR7608)	Water flows over this section frequently.	Construction of new culverts and raised road level.	Complete.
Kolkilbertoo Road	Narrow bends.	Widening of carriageway and shoulders.	Complete.
Kolkilbertoo Road	Insufficient geometry, pavement strength & alignment.	Pavement rehabilitation.	Complete.
Kamarah Road	Sharp bend with blind corner.	Road reconstruction, re-alignment and widening.	Complete.
Sandigo River Road	Gravel road insufficient width.	Road construction, widening and sealing.	Complete. This road has been upgraded to a sealed surface.

APPENDIX FOUR - ACTION LIST

ALBURY CITY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Hume Highway (HW2)	1.1	Thurgoona Road Interchange.	Widen interchange to increase travel lanes and capacity.	Transport model undertaken to identify future demands. Overall Transport Strategy to be completed during 2023/24. TfNSW undertaking a feasibility study into short term interchange improvements in 2023.
Riverina Highway (HW20)	5.3	Riverina Highway/Smollett Street/ Padman Drive – narrow bridge.	Realign highway to increase capacity and remove tight manoeuvres.	No progress at this stage.
Gerogery Road	43.1	Wagga Road intersection.	Construction of roundabout.	Unsuccessful in securing funding as part of Fixing Country Roads Round 2. Included in Council's Four Year Delivery Program for 2026/27.
	43.2	Not HML rated with restricted access.	Upgrade to HML rated.	Limited progress at this stage.
Dights Forest Road	57.1	Not HML rated with restricted access.	Upgrade to HML rated.	Limited progress at this stage.
Ettamogah Rail Hub	60.1	Upgrade of servicing to improve warehousing development.	Upgrade of services to rail hub including water, power, NBN, gas and sewer.	Limited progress at this stage.
	60.2	Insufficient load carrying capacity of adjacent road network.	Upgrade adjacent roads to create a seamless inland port precinct.	Limited progress at this stage.

ALBURY CITY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Albury Airport	64.1	Lack of freight infrastructure.	Develop a specific area for future air freight facilities.	Airport Master Plan reviewed in 2018 which includes consideration of future air freight movements. No capital funding allocated at this stage. Complementary projects such as taxiway extensions, General Aviation development and apron resurfacing included in Council's Four Year Delivery Program 2023-2007.

BERRIGAN				
ROAD	ITEM NUMBER	ROAD	ITEM NUMBER	PROGRESS
Newell Highway (HW17)	4.1	Insufficient road train facilities.	RMS to develop truck parking and decoupling facilities in the Tocumwal area.	Private development in planning stage in consultation with RMS.
Cobram – Barooga Road (MR226)	15.1	Unrated bridges.	Conduct Load assessment of bridge and determine if HML suitable.	0% - no progress has been made.
Tocumwal Intermodal Freight Terminal	61.1	Rail siding capacity and condition of rail bridges.	Extend rail siding to service existing and future grain facilities. Ongoing maintenance of bridge to ensure it remains serviceable.	Private proposal has been developed, requires agreement of State Authorities and funding. VicTrack advises that this is happening but concerns that lack of painting maintenance will result in rust damage to rivets.
	61.2	Access to the grain handling area.	The extension and modification to the lines servicing the grain handling area.	
	61.3	Inconsistent railway line gauges.	Standardising the railway line gauge.	

CARRATHOOL				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Mid-Western Highway (HW6)	2.5	Intersection of Rankins Springs Road.		No progress at this stage.
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.5	Intersection the Springs Road.		No progress at this stage.
Mossgiel Road (MR80)	13.1	Insufficient road pavement.	Reconstruct pavement and seal from Chainage 26.80km to 93.1km.	
The Springs Road (MR368)	19.1	Railway crossing in Hillston.		No progress at this stage.
	19.2	Insufficient road pavement.	Reconstruct pavement, correct alignment and seal from Chainage 4.3km to 33.4km.	
Lachlan Valley Way (MR501)	24.5	Insufficient road pavement.	Reconstruct pavement and seal from Chainage 18.70km to 45km.	
Erigolia Road	45.2	Insufficient road intersection.		No progress at this stage.
Cowper Street (Hillston Hv Bypass)	49.1	Upgrade of intersection Keats Street.		No progress at this stage.
	49.2	Upgrade of intersection Hillston HV Bypass.		No progress at this stage.
Billings Road	50.1	Insufficient pavement construction.		No progress at this stage.
Boorga Road	51.1	Insufficient pavement construction.		No progress at this stage.

EDWARD RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Pretty Pine Road (MR296)	16.1	85km curve not suitable.	Reconstruct curve to 100km/hr.	Not in the 10-year plan.
	16.2	Narrow section of roadway.	Reconstruct and widen.	Funding is being secured to widen the road.
	16.3	Inadequate bridges/channel crossings.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
Conargo Road (MR552)	26.1	School zone.		No progress at this stage.
	26.2	Drainage channel bridge Box Creek.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
	26.3	Bridge over Finley Escape Channel.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
	26.4	Forest Creek Bridge.	Widen and reconstruct bridges.	No progress at this stage.
	26.5	Culvert over irrigation channel.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
Barham Road (unclassified Regional Road 7605)	27.3	MIL bridge not rated	Bridge to be inspected for GML, HML loading.	Funding has been received to undertake inspections and load testing for MIL bridges.
Carrathool Road	36.1	Unsealed/gravel road.	Reconstruct and seal from Chainage 37.405km to 59.177km.	No progress at this stage
	36.2	Drainage channel bridge narrow.	Widen and reconstruct bridges.	CIL structure. No progress at this stage.
	36.3	Billabong Creek Bridge.	Widen and reconstruct bridges.	No progress at this stage.
	36.4	Large box culvert.	Widen and reconstruct bridges.	No progress at this stage.
	36.5	Browns Creek Bridge.	Widen and reconstruct bridges.	No progress at this stage.

EDWARD RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Lakers Road	37.1	Bridge over drainage channel Box Creek aged and not HML rated. Chainage 0.625km road.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
Mooney Swamp Road	38.1	Gravel/unsealed road.	Reconstruct and seal from Chainage 31.446km to 39.695km.	No progress at this stage.
	38.2	Multiple tight S bends and T intersections.	Reconstruct curve to 100km/hr.	No progress at this stage.
	38.3	Aged/inadequate bridges/channel crossings.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.
	38.4	Bridge structure over Blighty channel.	Widen and reconstruct bridges.	No progress at this stage.
Tocumwal Road	39.1	Gravel/unsealed road.	Reconstruct and seal from Chainage 24.843km to 32.414km.	No progress at this stage.
	39.2	Tight S bend. Chainage 26.843km to 27.465km.	Reconstruct curve to 100km/hr.	No progress at this stage.
	39.3	Tuppall 1 Channel culvert aged. Chainage 24.892km.	Widen and reconstruct culverts.	Funding has been received to undertake inspections and load testing for MIL bridges.
Tuppall Road	40.1	Intersections close to irrigation crossings.		No progress at this stage.
	40.2	Tuppall Creek Bridge.	Widen and reconstruct bridge. Jointly owned by Edward River and Berrigan Councils.	No progress at this stage.
	40.3	Aged/inadequate bridges/channel crossings.	Widen and reconstruct bridges.	Funding has been received to undertake inspections and load testing for MIL bridges.

EDWARD RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Willurah Road	41.1	Gravel/unsealed road.	Reconstruct and seal from Chainage 10.582km to 51.663km.	No progress at this stage.
	41.2	Multiple narrow stock grids.		No progress at this stage.
	41.3	Aged/inadequate bridges/channel crossings.	Widen and reconstruct bridges.	No progress at this stage.
Deniliquin Airport	65.1	Length of runway.	Reconstruct existing 1,218m long runway and lengthen to 1,400m long	Reconstruction of existing 1,218m long runway is proceeding. Grant funding being sourced for extension of runway to 1,400m long.

FEDERATION				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Riverina Highway (HW20)	5.1	Road geometry at Honour Avenue.	Rehabilitation of pavement	TfNSW has carried out some reconstruction work – further work proposed as funds are available.
	5.2	Wangamong Creek Bridge.	Construction of new bridge.	New bridge constructed. Roadworks to be completed.
Corowa Road/Melbourne Street (MR314)	9.1	Bridge over Mulwala Canal.	Construction of new bridge.	Nil.
	9.2	Bridge over Murray River.	Construction of new bridge.	Final bridge location agreed as the Green Route – adjacent to the railway line.
Cocketgedong/Brookong Creek/Urana Rd (MR59)	11.1	Bridge assessments required.	Replacement of bridges.	Future bridge replacement program.
	11.2	Deficient pavement strength.	Rehabilitation of pavement.	Some works completed under REPAIR Program – further work required.

FEDERATION				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	11.3	Urana township intersection and overhead powerlines.	Pavement reconstruction and possible realignment.	Survey and design work complete – waiting for funding.
Kywong Howlong Road (MR370)	20.1	Inadequate pavement strength.	Inadequate pavement strength.	Rehabilitation of pavement.
	20.2	Floodway.	Floodway.	Rehabilitation of pavement to eliminate floodway.
Federation Way (MR131 and MR385)	21.1	Bridges across Billabong Creek.	Replacement of bridges.	Billabong Anabranche Bridge replaced – funding required for Billabong Creek replacement – design completed for new structure.
	21.2	Pavement strength is deficient.	Rehabilitation of pavement.	Rehabilitation works continuing to be undertaken – expected 5-10 years to complete.
	21.3	Bridge over Urangeline Creek – no HML access.	Replacement of bridge.	
	21.4	Tight 90° turn in Urana township.		
	21.5	Powerlines in Urana.		
	21.6	Line marking required.		
	21.7	Intersection improvement unsealed roads.	Rehabilitation of pavement at Intersections.	Included in above works

GRIFFITH				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Kidman Way/Irrigation Way/Mackay Avenue (MR80/MR321)	7.2	Proposed Southern Bypass – portions of road require major upgrades or new construction. Redirect heavy traffic from city CBD and improve industry movement.		
	7.3	Intersection of Kidman Way and Mirrool Branch Canal Road - history of accidents, restricted sight distance, restricted turning movements at the intersection, narrow turning lanes, location of entry and exit to rest area, narrow bridge.	Widen pavement and bridge structure. Intersection treatment.	Not funded.
	7.4	Railway crossing has sharp approach and departure bends at Widgelli Silos - curves at railway crossing are unsuitable for road trains, history of accidents, ie. truck rollovers.	Road widening and realignment.	Not funded. TfNSW has implemented reduced speed limit from 100km/hr to 60kmhr at the railway crossing and curves.
Burley Griffin Way/Mirrool Avenue (MR84)	8.1	Intersection of Twigg Road, Beelbangera Road and Burley Griffin Way (MR84) – railway line proximity, hairpin turn and intersection road length.	To redirect heavy traffic out of narrow residential Railway Street into improved Beelbangera Road.	
	8.2	Intersection Burley Griffin Way and Twigg Road, Yenda – narrow pavement at intersection, super elevation of road surface, unsuitable	Intersection treatment and pavement widening.	Not funded.

GRIFFITH				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
		for road train or HML vehicles, no turning lanes.		
Murrumbidgee/Thorne Rd Intersection – (Griffith Southern Industrial Link (GSIL) Stage 4)	52.1	History of accidents, narrow pavement, unsuitable for HML and road trains.	Upgrade Intersection. Construct roundabout.	Funding Application submitted under Safer Roads Programme (State Govt). Proposed construction scheduled 1 July 2021 to 30 June 2023.
Boorga and Dickie Roads	53.1	History of accidents, unsealed, dusty, (restricted vision), corrugated road. access from farm gate of major primary producers to transport hubs, high traffic volume	Upgrade pavement and construct to sealed road.	Funding Application submitted under Fixing Local Roads Round 1 (State Govt, Council & Private contribution). Proposed construction scheduled 3 March 2020 to 2 March 2024.
Kurrajong Avenue – Griffith Southern Industrial Link (GSIL) Stage 3	54.1	Narrow pavement, unsuitable for road trains, no turning lanes at intersections.	Widen and rehabilitation of pavement. Intersection treatments.	Not funded.
Lakes Road	55.1	Deformed and narrow pavement, unsuitable for HML and overmass vehicles.	Upgrade and widen pavement Intersection treatment.	Not funded.
Thorne Road	58.1	Stage 4a between Murrumbidgee Avenue and Kidman Way (MR321) – deformed and narrow pavement, unsuitable for HML and overmass vehicles and no turning lanes at intersections.	Upgrade and widen pavement. Intersection treatments.	Design completed. Secured Federal and State Government funding to deliver project.

GRIFFITH				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Bringagee Road	59.1	Bringagee Road (33.4km) between RR7606 Tabbita Lane and Carrathool Shire boundary – impassable in wet conditions, unsealed pavement, dusty, corrugated in dry conditions, unsuitable for heavy vehicles, HML and overmass vehicles.	Upgrade, widen and seal pavement. Upgrade drainage.	Secured Federal and State Government funding to deliver project.
Griffith Airport	66.1	Limited freight storage and processing infrastructure.		

HAY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Mid-Western Highway (HW6)	2.1	Inadequate shoulder width.		
	2.2	Flood prone.		
	2.3	Wongalea Road intersection.	Improvements to allow road train access.	Nil
	2.4	Murrumbidgee River Road intersection.	Improvements to allow road train access.	Nil
Sturt Highway (HW14)	3.1	Flood prone.		
	3.2.1	Glencoe Road intersection.	Improvements to allow road train access.	Nil
	3.2.2	Glenhope Road intersection.	Improvements to allow road train access.	Nil

HAY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	3.2.3	Romani Road intersection.	Improvements to allow road train access.	Nil
	3.3	Moama Street – lack of truck parking and interchange area.		
Cobb Highway (HW21)	6.1	Intersections with Corrong Road, Boxyards Road, Daisy Plains Road, Mutherumbung road, Jerilderie Road, Ti Tree Road, West Burrabogie Road and Lara Road, do not permit RAV access to/from local roads.	Improvements to allow road train access.	Nil
	6.3	Bridge over Murrumbidgee River is not HML rated, restricted access for oversize vehicles.	Widen the pavement. Strengthen to allow for AB Triples.	Nil
Thule Street/Moulamein Road/Maude Road (MR319)	17.2	Narrow pavement.		
	17.3	Narrow culvert structures.		
	17.4	Significant pavement failures.		
	17.5	Chainage 2.5km Budgee Creek Bridge 5m wide.	Replace the bridge with 2 lanes allowing for road train access.	Contract awarded to replace with a 2 way, 2 lane concrete bridge.
	17.6	Chainage 9km Nimmie Creek Bridge 3.6m wide.	Replace the bridge with 2 lane allowing for road train access.	Contract awarded to replace with a 2 way, 2 lane concrete bridge.
	17.7	Chainage 10.3 to 11.6km there are 6 x culverts 4.5m wide.	Replace the culverts with 2 lanes allowing for road train access.	Funding secured. Contract not yet awarded.

HAY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	17.8	Chainage 19km Bridge 4.5m wide.	Replace the bridge with 2 lanes allowing for road train access.	Funding secured. Contract not yet awarded.
	17.9	Chainage 20.3km Bridge 4.5m wide.	Replace the bridge with 2 lanes allowing for road train access.	Funding secured. Contract not yet awarded.
	17.10	Chainage 20.7km Bridge 4.5m wide.	Replace the bridge with 2 lanes allowing for road train access.	Funding secured. Contract not yet awarded.
	17.11	Chainage 20.9km Bridge 4.5m wide.	Replace the bridge with 2 lanes allowing for road train access.	Funding secured. Contract not yet awarded.
Lachlan Valley Way (MR501)	24.1	Unsealed surface – horticultural freight subject to damage or contamination.	Reconstruct and seal the remaining section (6.3km) progressively @ 2km per year.	Road has been sealed to the HSC boundary.
	24.2	Unsealed surface – subject to closure after light rain.	Reconstruct and seal the remaining section (6.3km) progressively @ 2km per year.	Road has been sealed to the HSC boundary.
	24.3	Flood prone – road subject to closure for prolonged periods during minor to major flooding of Lachlan River.	Improve drainage with more culverts and adequate table drains.	None since 2013.
	24.4	Intersection with Hillston/Booligal Road and Booligal Gunbar Road does not permit RAV access.	Reconstruct and seal the remaining section (6.3km) progressively @ 2km per year.	Road has been sealed to the HSC boundary.
Oxley Road (MR514)	25.1	Intersection with Maude/Moulamein Road.	Reconfigure the turning radius to accommodate road trains and strengthen the pavement.	Nil.

HAY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	25.2	Narrow pavement.		
	25.3	Narrow culvert structures.		
	25.4	Chainage 13.2km narrowing of the road to Chainage 28.1km from 8m to 6m.	Widen the sealed section to 8m.	
	25.5	Chainage 28.6km to 846km – narrow road from 8m to 6m.	Widen the sealed section to 8m.	
	25.6	Chainage 60.8km Pimper Creek Bridge 4.5m wide.	Replace the bridge with two lanes allowing for road train access.	Funding secured. Contract not yet awarded.
	25.7	Chainage 84.6km Oxley bridge 4.8m wide.	Replace the bridge with two lanes allowing for road train access.	
	25.8	Chainage 84.8 Oxley approach bridge 4.8m wide.	Replace the bridge with two lanes allowing for road train access	
Murrumbidgee River Road	56.1	Inadequate pavement strength and width.		
Hay Airport	68.1	Lack of existing freight storage, safety checking system and freight processing infrastructure.		
	68.2	Insufficient pavement strength and width to support bigger aircraft.		
	68.3	Low intensity runway lighting that requires upgrade.		

HAY				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	68.4	Sealed runway length is too short for larger freight carriers.		

LEETON				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.1	Proposed Western Bypass.		
Euroley Road	29.1	Causeway/floodway.	Investigate capacity and potential for renewal at higher level, flood inundation area.	No known WAE has been found to exist. Difficult to actively test for load rating. Investigation flood impact if renewal at higher level.
	29.2	Bridge over Murrumbidgee River.	Investigate compliance and handover to Council.	Document from RMS stating handover to Council completed. No WAE or capacity statement handed over. Still to investigate.
Canal Street, Poplar Avenue and McQuillan Road (Leeton Bypass)	30.1	Leeton HV Bypass – past residential zone.	Upgrade pavement to HML Capacity. Improvement to resident safety and public amenity.	Initial impact studies complete, 24-month trial of road trains along this route approved by Council.
Vance Road, Koonadan Road, Colinroobie Road Route	31.1	Murray Irrigation structure over Main Supply Canal.	Renewal of bridge structure.	Geotechnical investigations completed. Draft road alignment designed. Road has been opened to road trains. Funding will be applied for as it arises.
Whitton Stock Road	32.1	Upgrade from Irrigation Way to Burley Griffin Way.		

LEETON				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Yarmwal Road	33.1	Sections of unsealed road.	Upgrade to sealed roadway with sufficient pavement depth and width for proposed Heavy Vehicles.	Nil works completed on this route to date.
WR Connect	63.1	Service limitations.		LSC has completed (Nov 2023) master planning of the site with the assistance of NSW grant funding. Development approval, identification of funding sources, and agreement on governance of the site is still required.
	63.2	Extension and upgrade of rail siding, road and ancillary infrastructure (power, gas, roads, drainage, water).		LSC has completed (Nov 2023) master planning of the site with the assistance of NSW grant funding. Also, the NSW Government announced \$19M of investment in a rail siding in 2022 (however works yet to commence as at Nov 2023). The Whitton Stock Route between Yenda and Irrigation ay turn to Griffith requires upgrade to accommodate heavy vehicles.

MURRAY RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Tooleybuc Road (MR694)	10.1	Bridge over Murray River not HML rated.	Construct a new bridge	Transport for NSW to plan for replacement/upgrade.
	10.2	Intersection of Stony Crossing Road – poor visibility Balranald-bound.		
	10.3	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Balranald Road (MR67)	12.1	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
	12.2	Bridge construction.	Construct a new bridge.	Construction of a new bridge not planned.
	12.3	Unsealed roadway.	Construct and seal the road.	Construction not part of Council's long-term plan. Maintain gravel road in the meantime.
Wakool Road (MR94)	14.1	Insufficient pavement width.	Widen the pavement to 8.0m width	Widening of the pavement in progress. This will continue over the next 10 years as part of the Regional Repair Program.
	14.2	No HML rating on Wakool Bridge.	Road users must apply for HML permit.	Reject application for HML permit.
	14.3	No HML rating on MIL structures.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Thule Street/Moulamein Road/Maude Road (MR319)	17.1	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.

MURRAY RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Barmah Road (MR391)	22.1	Barmah Bridge not HML rated.	Road users must apply for HML permit.	Reject application for HML permit.
	22.2	Insufficient pavement width for 4km.	Widen the pavement to 8.0m width.	Only the last 1.80km to the intersection with Cobb Highway needs to be widen. The rest are up to standard. Scheduled for construction FY 2023/24.
Swan Hill Road (MR467)	23.1	Bridge over Murray River at Swan Hill not HML rated.	Upgrade bridge to HML standard.	Transport for NSW to plan for replacement/upgrade.
	23.2	Coonamit Bridge not HML rated.	Upgrade/replace bridge.	Transport for NSW to plan for replacement/upgrade.
	23.3	Not enough room for B-Double sweeping manoeuvre from Swan Hill Road (MR386) to Moulamein Road (MR319).	Widen the intersection to accommodate B-Double sweeping manoeuvre.	Widening is not planned for. Subject to funding.
	23.4	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Barham Road (unclassified Regional Road 7605)	27.1	Thule Bridge is not HML rated.	Road users must apply for HML permit.	Reject application for HML permit.
	27.2	MIL structures not HML rated.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Speewa Road	34.1	Nyah Bridge over Murray River not HML rated.	Upgrade/reconstruct bridge to accommodate HML loads.	Transport for NSW to plan replacement/upgrade.

MURRAY RIVER				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
	34.2	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Murrabit Road	35.1	Gonn Crossing Bridge over Murray River is not HML rated.	Replace/upgrade bridge.	Transport for NSW to plan replacement/upgrade.
	35.2	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard.	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.
Noorong Road	42.1	Load carrying capacity of Murray Irrigation channels crossing road.	Upgrade or replace irrigation channel crossings to HML standard	Council supported an application from MIL to do a Level 4 investigation of all their structures. Funding approved. Assessment going to tender.

MURRUMBIDGEE				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Newell Highway (A39)	4.6	Corner Newell Highway and Conargo Road needs realignment, dedicated turning lanes east and west.	Realignment of intersection. Change to Newell Highway right of way. Dedicated southern turning lanes east and west. West to east dedicated lane for through traffic Conargo Road.	Nil
	4.7	Corner Newell Highway and Kidman Way – square intersection, dedicated southern lane, acceleration lanes and clearing of sight lines.	Square Kidman Way intersection to Newell Highway. Dedicated southern lane of Newell highway passing Kidman Way intersection. Dedicated acceleration lane south and north of Kidman Way intersection. Clearing of sight lines in both directions for both Newell Highway and Kidman Way.	Nil
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.10	Irrigation crossing Argoon Channel.	Construction of new bridge	No progress at this stage
Cocketgedong/Brookong Creek/Urana Rd (MR59)	11.4	Bridge over Colombo Creek – width of bridge a concern for heavy vehicles. Not assess for HML.		
Thule Street/Moulamein Road/Maude Road (MR319)	17.1	Load carrying capacity of Murray Irrigation channels crossing road.		

MURRUMBIDGEE				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Berrigan/Oaklands Road (MR323/MR356)	18.1	Inadequate bridge for larger vehicles over Wangamong Creek – not HML rated.		
Conargo Road (MR552)	26.6	Inadequate bridge for larger vehicles over Alguderie Creek.		

NARRANDERA				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Sturt Highway (HW14)	3.4	South of Gillenbah – section needs raising.		
	3.5	Poison Creek – section needs raising.		
Newell Highway (HW17)	4.2	Whitton Street Crossing to be upgraded		
	4.3	Sharp bend near the Mill.		
	4.4	South of Sturt Highway – needs raising.		
	4.5	Not open for road trains from Narrandera to Ardlethan on Newell Highway.		
Kidman Way/Irrigation Way/ Mackay Avenue (MR80)	7.8	Narrow bridge.		
	7.9	Inadequate road train connection.		

NARRANDERA				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Narrandera Barellan Road (MR7608)	28.1	MR84 and MR7608 intersection does not have required pavement strength and geometry for road.	Intersection upgrade.	No progress at this stage.
Willows Road	44.1	12km unsealed road between Newell Highway and MR7608.	Road reconstruction and sealing.	No progress at this stage as this is a lower priority than item 4.7.
Erigolia Road	45.1	Insufficient road width for freight traffic.	Road reconstruction, re-alignment and widening. Intersection upgrade with Mid-Western Highway.	NSC has secured funding under the Remote Roads Upgrade Pilot Program for the widening of Erigolia Road, with works to be undertaken in the 2023/24 financial year.
Brobenah Hall Road	46.1	2.97km of road needs raising at Mirrool Creek.	Construction of new culverts and raised road level.	No progress at this stage.
Donaldsons Road/Canal Bridge	47.1	Inadequate pavement strength and drainage, inadequate bridge capacity.	Road reconstruction, re-alignment and widening. Intersection upgrade. Construction of new bridge. Sealing of gravel sections.	No progress at this stage.
Raes Lane	48.1	Insufficient pavement strength.	Road reconstruction, drainage improvements, widening and sealing. Intersection upgrade.	No progress at this stage as this is a lower priority than item 3.5.
Western Riverina Rail Network	62.1	Restoration of Tocumwal to Narrandera standard gauge rail line and standardisation of the broad gauge Mangalore to Tocumwal rail line.	Upgrade of existing rail corridor and track.	Continued lobbying to modify the route of the Inland Rail Corridor Project.

NARRANDERA				
ROAD	ITEM NUMBER	CONSTRAINT	PROPOSED TREATMENT	PROGRESS
Narrandera-Leeton Airport	67.1	Lack of existing freight storage, safety checking system and freight processing infrastructure.		No progress at this stage.
	67.2	Insufficient pavement strength and width to support bigger aircraft.	Upgrade to pavement strength.	
	67.3	Low intensity runway lighting that requires upgrade.	Low intensity runway lighting.	
	67.4	Sealed runway length is too short for larger freight carriers.	Upgrade to runway length.	
	67.5	Security screening measures are required to cater for larger aircraft.		

GLOSSARY OF TERMS

AADT	Average Annual Daily Traffic
CML	Concessional Mass Limits
GIAC	Grain Infrastructure Advisory Committee
High Vehicle	Is a vehicle between 4.3 and 4.6 metres in height eg triple decker stock truck, a car carrier
Higher Mass Limits	HML provides a significant increase in the productivity of road freight transport vehicles as detailed below

Vehicle Configuration	Standard (Gross) Mass Limit*	Concessional Mass Limit (CML)*	Higher Mass Limit (HML)*
19 metre (6 axle) semi-trailer	42.5 tonnes	43.5 tonnes	45.5 tonnes
25/26 metre (9 axle) B-Double	62.5 tonnes	64.5 tonnes	68 tonnes
Double Road Train	79 tonnes	81 tonnes	85 tonnes

HML	Higher Mass Limits
LGA	Local Government Area
MIA	Murrumbidgee Irrigation Area
RAMJO	Riverina and Murray Joint Organisation
RIFL	Riverina Inland Freight Logistics Hub

