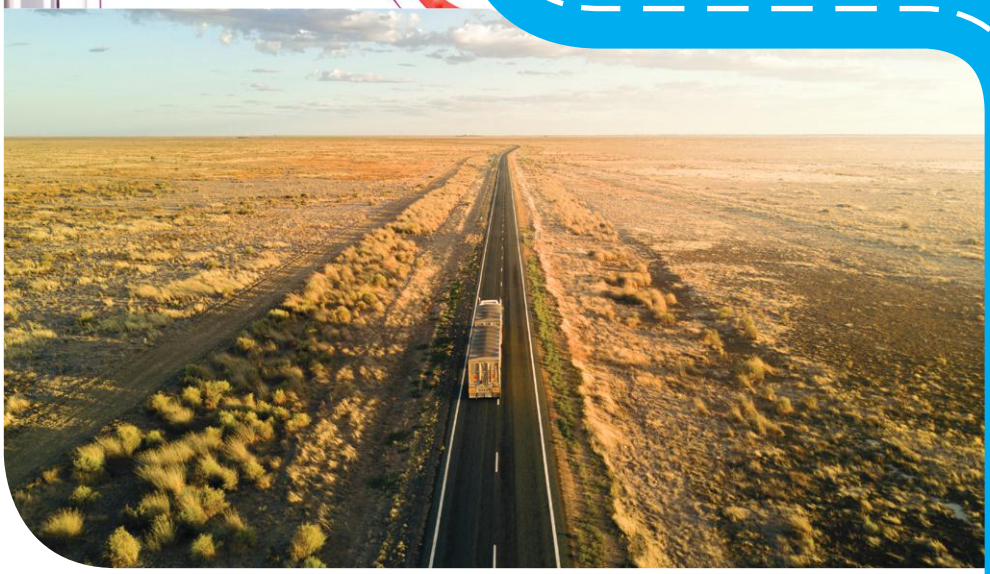
RAMJO
Riverina & Murray Joint Organisation

Riverina And Murray Joint Organisation

Improving Transport Connectivity

Regional Freight Transport Plan

November 2020



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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 72,724 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 NSWs 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 Pruduct (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://ramroc.giscloud.com/.

[1] NSW Freight and Port Plan 2018 – 2023 p18
[2] Ibid p 36

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. [3]

[3] Regional Development Australia Murray Regional Plan 2016 - 2019

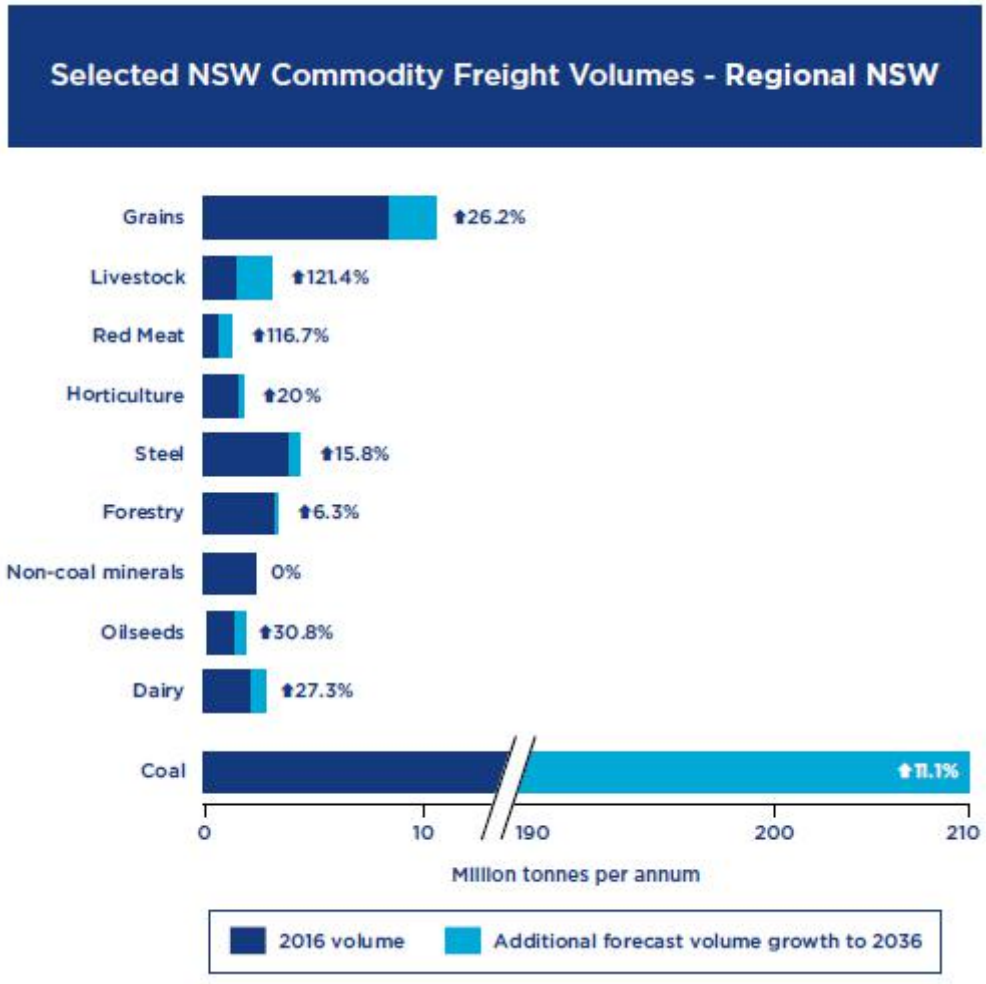
HIGHWAYS

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.



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

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

[5] Ibid

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.

Findings from the Regional Development Australia Murray Regional Plan 2016-2019 in particular showed that transport and infrastructure upgrade of roads, rail, bridges and air services was a challenge, need and opportunity for the survival of the region's food processing, manufacturing, agribusiness and forestry plantations.[6]

EXTRACT FROM THE RDA MURRAY REGIONAL PLAN 2016-2019

Transport

The major towns in the region are well supported with road and rail access to markets in Melbourne, Sydney ad Adelaide. Albury is centrally located on main road, rail and air corridors between Melbourne and Sydney as well as having east road access to Canberra.

The Albury airport is one of the busiest regional airports in NSW and the redeveloped Mildura airport near Wentworth, which services the south western region of NSW, is the busiest regional passenger airport in Victoria.

The Tocumwal Intermodal freight transport facility and the Ettamogah Rail Hub are strategically placed to provide warehousing and rail shipment options for movement of national and international freight.

Regional Infrastructure

The importance of state-of-the-art logistics, transport and warehousing is central to economic development in the region.

The Ettamogah Rail Hub is regarded as a leading edge transport facility for eastern Australia and has increased its capacity to handle over 200,000 tonnes of freight annually with twice-weekly services between Albury and Brisbane. Located on the Melbourne – Sydney rail line, the Hub offers access to the eastern seaboard, linking freight from the region to most parts of Eastern Australia. The Hub's aim is to reinvigorate regional rail by introducing new technology and providing a professional and reliable service to clients.

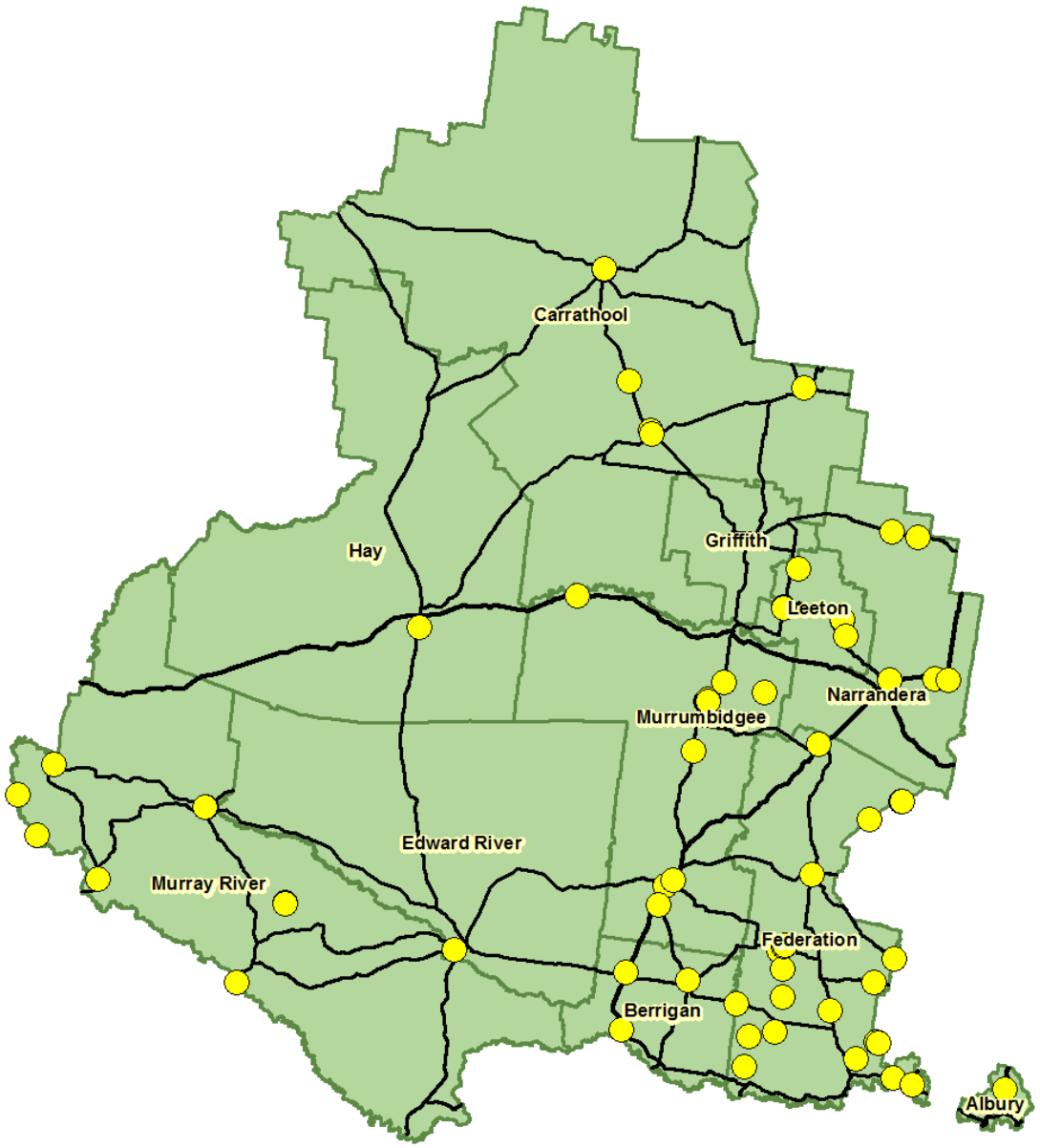
Similarly, the Tocumwal Intermodal facility is a key transport asset that provides a competitive advantage to users through cost advantages and Port of Melbourne access. The tonnages and product range presently moving through the Tocumwal Intermodal facility are significant and are encouraging investment in the infrastructure and the establishment of further value adding industries that are dependent upon a cost-effective freight logistics system to bring economic benefits to the region. Stakeholder consultation however, raised concerns about the amount of time it takes to receive transport permits and highlighted a range of cross border anomalies that create barriers to cost effective business operations.

[6]Regional Development Australia Murray Regional Plan 2016-2019

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.

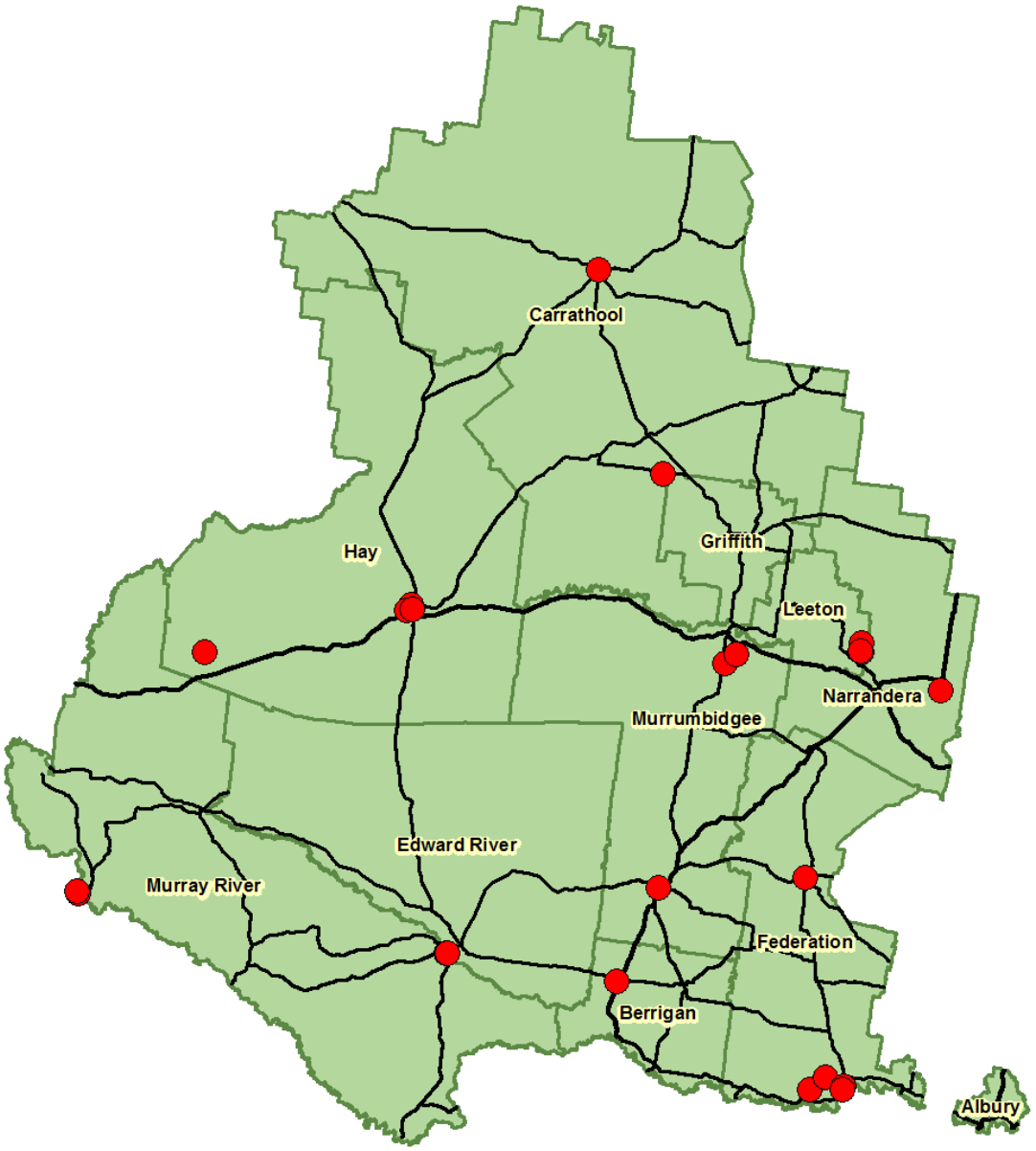
The following maps show the major freight transport routes for commodities and their modal points and the HML routes within the Riverina and Murray area.

MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – GRAIN



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

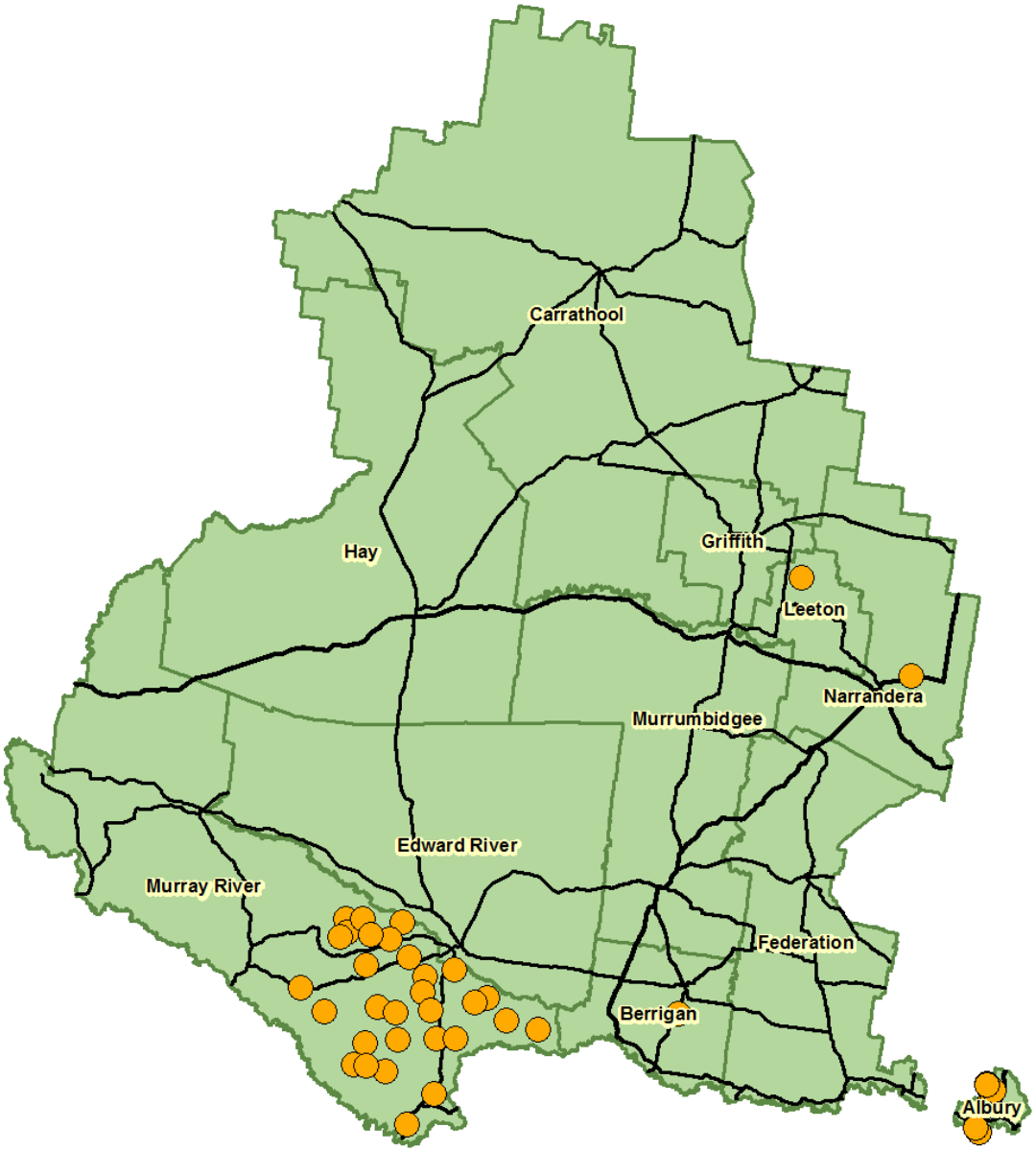
MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – LIVESTOCK



Livestock Modal Point

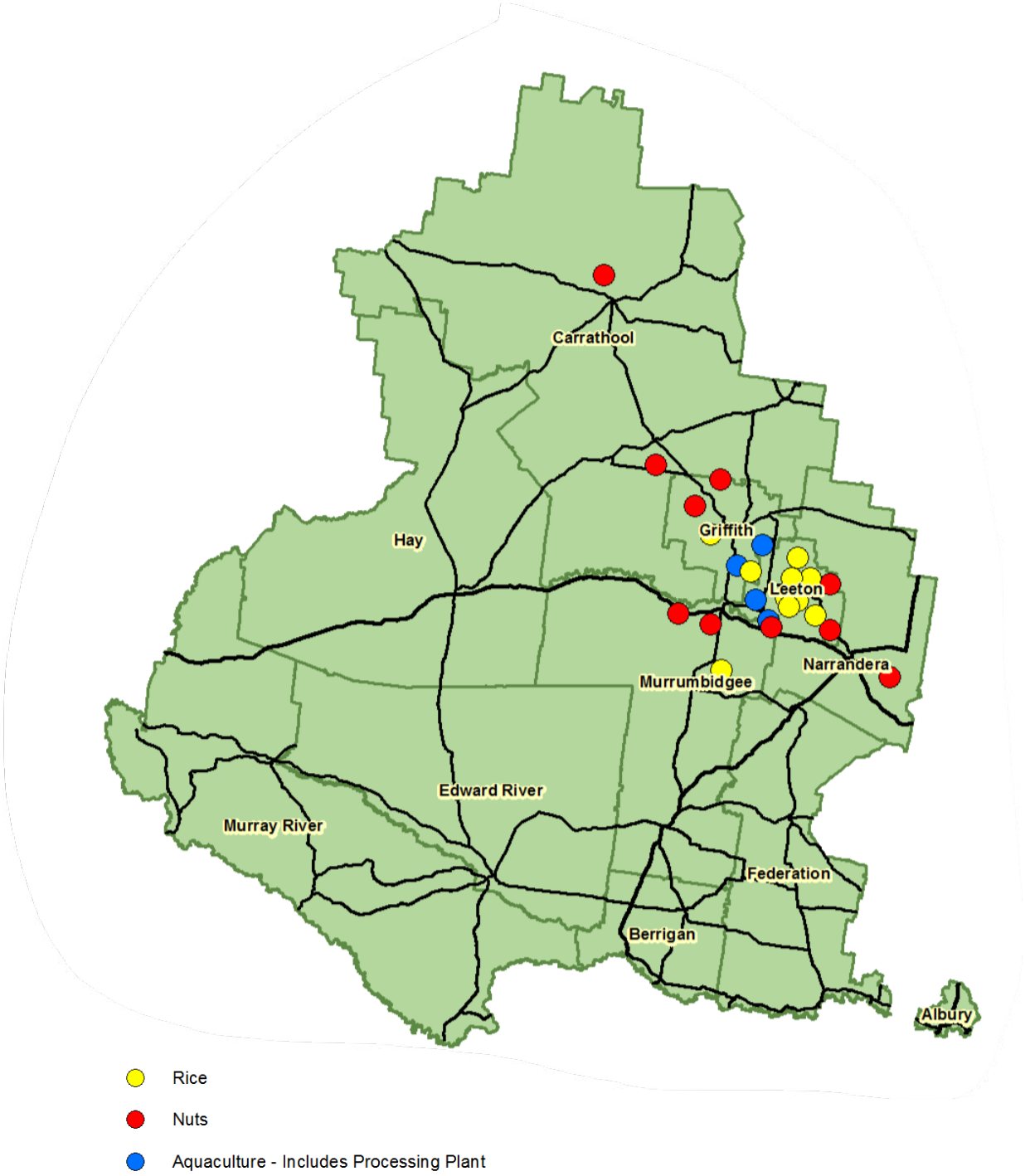
Includes feedlots, saleyards, abattoirs and poultry farming.

MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – MINERALS



Minerals Modal Point *Includes gravels pits and quarries.*

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



MAJOR INDUSTRY FREIGHT ROUTES AND MODALS – COTTON

Cotton Modal Point *Includes cotton gins and oilseed plants.*

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 71 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	Davey Rd Interchange	184
			1.2	Borella Rd Interchange	131
			1.3	Thurgoona Dr Interchange	119
2.	Mid-Western Highway (HW6)	Hay	2.1	Inadequate Shoulder Width	
			2.2	Flood Prone	
			2.3	Wongalea Rd Intersection	176
			2.4	Murrumbidgee River Rd Intersection	192
		Carrathool	2.5	Intersection of Rankin Springs Road	
3.	Sturt Highway (HW14)	Hay	3.1	Flood Prone	
			3.2.1	Glencoe Rd Intersection	208
			3.2.2	Glenhope Rd Intersection	201
			3.2.3	Romani Rd Intersection	212
			3.3	Moama Street, Lack of parking	
		Leeton	3.4	Intersection, with Innisvale Lane	
		Narrandera	3.5	South of Gillenbah	
			3.6	Poison creek	
4.	Newell Highway (HW17)	Berrigan	4.1	Insufficient road train facilities	157

ROADS		COUNCIL		CONSTRAINT	SCORE
		Narrandera	4.2	Whitton Street Crossing	
			4.3	Sharp bend near the Mill	
			4.4	South of Sturt Highway	
			4.5	Road train access to Ardlethan	
5.	Riverina Highway (HW20)	Federation	5.1	Road geometry at Honour Avenue	166
			5.2	Wangamong Creek bridge	166
		Albury	5.3	Smollett St bridge	115
6.	Cobb Highway (HW21)	Murray River	6.1	Bridge over the Murray	227
		Hay	6.2	Intersections	143
		Hay	6.3	Bridge over Murrumbidgee River	240
7.	Kidman Way/Irrigation Way/Mackay Avenue (MR80)	Leeton	7.1	Proposed Western Bypass	
		Griffith	7.2	Intersection Burley Griffith Way	187
			7.3	Proposed southern bypass	202
			7.4	Intersection Mirrool Branch Canal Rd	157
			7.5	Curves at railway crossing (Widgelli Silos)	132
			7.6	Southern Industrial Link stage 6b	
			7.7	Curves at Railway Crossing	
			7.8	Narrow Turning Lanes to rest area. Narrow Bridge	
		Carrathool	7.9	Intersection The Springs Road	
		Narrandera	7.10	Narrow Bridge	
			7.11	Inadequate Road Train connection	
		Murrumbidgee	7.12	Irrigation crossing Argoon Channel	
8.	Burley Griffin Way/Mirrool Avenue (MR84)	Griffith	8.1	Intersection Twigg Rd/Beelbangera Rd	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.		Murray River	10.1	Bridge over Murray River	155

ROADS		COUNCIL		CONSTRAINT	SCORE
	Tooleybuc Road (MR694)		10.2	Intersection of Stony Crossing Road	
			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	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	Bridge over Lachlan River	107
14.	Wakool Road (MR94)	Murray River	14.1	Insufficient pavement width	151
			14.2	Wakool Bridge is not HML rates	151
			14.3	No HML rating on MIL structures	151
15.	Cobram – Barooga Road (MR226)	Berrigan	15.1	Unrated bridge	116
16.	Pretty Pine Road (MR296)	Edward River	16.1	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)	Edward River	17.1	Unsealed roadway	103
		Murray River	17.2	Load carrying capacity of Murray irrigation channels crossing road	79
		Hay	17.3	Mathews Bridge 10 tonne load limit	108
			17.4	Narrow Pavement	
			17.5	Narrow Culvert Structures	
			17.6	Significant pavement failures	
			17.7	Budgee Creek Bridge 3.6m	

ROADS		COUNCIL		CONSTRAINT	SCORE
			17.8	Matthew Bridge over the Murrumbidgee River	
			17.9	Nimmie Creek Bridge	
			17.10	Chainage 10.3 to 11.6km Culverts	
			17.11	Chainage 19km Bridge 4.5m wide	
			17.12	Chainage 20.3km Bridge 4.5m wide	
			17.13	Chainage 20.7km Bridge 4.5m wide	
			17.14	Chainage 20.9km Bridge 4.5m wide	
18.	Berrigan/Oaklands Road (MR323/MR356)	Murrumbidgee	18.1	Bridge over Wangamong Creek	133
19.	The Springs Road (MR368)	Carrathool	19.1	Railway Crossing in Hillston	198
20.	Kywong Howlong Road (MR370)	Federation	20.1	Inadequate pavement strength	93
			20.2	Floodway	
21.	Federation Way (MR131 and MR385)	Federation	21.1	Bridge over Billabong Creek	133
			21.2	Pavement strength	133
			21.3	Bridge over Urangeline Creek	133
			21.4	Tight 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
			22.1	Pavement width	
23.	Swan Hill Road (MR467)	Murray River	23.1	Bridge over Murray River at Swan Hill	
			23.2	Coonamit Bridge	116
			23.3	Bridge at Yarrein Creek	149
			23.4	Not enough room for B-Double sweeping manoeuvre	132
			23.5	Load carrying capacity of Murray irrigation channels crossing road	79
24.		Hay	24.1	Unsealed road (damages freight)	90

ROADS		COUNCIL		CONSTRAINT	SCORE
	Lachlan Valley Way (MR501)		24.2	Dry weather only road	
			24.3	Flood prone	
			24.4	RAV access to local roads	
25.	Oxley Road (MR514)	Hay	25.1	Intersection with Maude/Moulamein Rd	90
			25.2	Narrow pavement	
			25.3	Narrow culvert structures	
			25.4	13.2km Narrowing of the road to Chainage 28.1km	
			25.5	Chainage 28.6km to 84.6km – Narrow road	
			25.6	Pimpera Creek Bridge	
			25.7	Oxley Bridge	
			25.8	Oxley Bridge approach	
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.	Whitton – Darlington Point Road (MR539)	Leeton	27.1	Sturt Canal Bridge	
28.	Barham Road (unclassified Regional Road 7605)	Murray River	28.1	Narrow Sections	152
			28.2	Thule Bridge is not HML rated	
			28.3	MIL structures not HML rated	
		Edward River	28.4	MIL bridge not rated	
29.	Narrandera Barellan Road (MR7608)	Narrandera	29.1	Intersection with MR84	
LOCAL ROADS					

ROADS		COUNCIL		CONSTRAINT	SCORE
30.	Euroley Road	Leeton	30.1	Causeway/floodway	91
			30.2	Bridge over Murrumbidgee River	86
31.	Canal Street, Poplar Avenue & McQuillan Road (Leeton Bypass)	Leeton	31.1	Leeton CBD Bypass	
32.	Vance Road, Koonadan Road and Colinroobie Road	Leeton	32.1	MIL structure over Main Supply Canal	99
33.	Whitton Stock Road	Leeton	33.1	Upgrade from Irrigation Way to Burley Griffin Way	
34.	Yarmwal Road	Leeton	34.1	Sections of unsealed road	151
35.	Jones Road	Griffith	35.1	Lake Wyangan Causeway	172
			35.2	Causeway Northern Link Road	
36.	Old Willbriggie Rd/Kurrajong Ave/Willandra Ave	Griffith	36.1	Intersection of Old Willbriggie/Kurrajong Ave/Willandra Ave (Southern Bypass)	202
			36.2	Hairpin corners	
37.	Speewa Road	Murray River	37.1	Nyah Bridge over Murray River	132
			37.2	Load carrying capacity of Murray irrigation channels crossing road	79
38.	Murrabit Road	Murray River	38.1	Gonn Crossing Bridge over Murray River	122
			38.2	Load carrying capacity of Murray irrigation channels crossing road	79
39.	Carrathool Road	Edward River	39.1	Unsealed/gravel road	102
			39.2	Drainage channel bridge narrow	
			39.3	Billabong Creek bridge	
			39.4	Large box culvert	
			39.5	Browns Creek bridge	
		Carrathool	39.6	Single Lane Wooden Bridge	77
			39.7	Murrumbidgee Road Intersection	
			39.8	Unsealed/gravel road	

ROADS		COUNCIL		CONSTRAINT	SCORE
40.	Lakers Road	Edward River	40.1	Box Creek Culvert	99
41.	Mooney Swamp Road	Edward River	41.1	Gravel/unsealed road	84
			41.2	Multiple tight S bends	
			41.3	Inadequate Bridges	
			41.4	Bridge structure over Blighty Channel	102
42.	Tocumwal Road	Edward River	42.1	Gravel/unsealed	96
			42.2	Tight S bend	
			42.3	Tuppal 1 Channel culvert	
43.	Tuppal Road	Edward River	43.1	Intersection close to irrigation crossings	94
			43.2	Tuppal Creek Bridge	
			43.3	Inadequate bridges	
44.	Willurah Road	Edward River	44.1	Gravel/unsealed	87
			44.2	Multiple narrow stock grids	139
			44.3	Inadequate bridges	132
45.	Noorong Road	Murray River	45.1	Load carrying capacity of Murray irrigation channels crossing road	176
46.	Gerogery Road	Albury	46.1	Wagga Road intersection	146
47.	Willows Road	Narrandera	47.1	Unsealed between Newell Highway and MR7608	
48.	Erigolia Road	Narrandera	48.1	Insufficient road width	
		Carrathool	48.2	Insufficient road intersection	
49.	Sandigo River Road	Narrandera	49.1	Gravel Road insufficient width Inadequate pavement strength and drainage, inadequate bridge capacity	
50.	Brobenah Hall Road	Narrandera	50.1	Needs raising at Mirrool Creek	
51.	Donaldsons Road/Canal Bridge	Narrandera	51.1	Inadequate pavement strength and drainage, inadequate bridge capacity	
52.	Raes Lane	Narrandera	52.1	Insufficient pavement strength	
53.	Cowper Street (Hillston Hv Bypass)	Carrathool	53.1	Upgrade of Intersection Cowper Street	
			53.2	Upgrade of Intersection Keats Street	
			53.3	Upgrade of intersection Hillston Bypass	
54.	Billings Road	Carrathool	54.1	Insufficient pavement construction	

ROADS		COUNCIL		CONSTRAINT	SCORE
55.	Boorga Road	Carrathool	55.1	Narrow pavement	
56.	Lachlan River Road	Carrathool	56.1	Insufficient Width/Part Dry Weather Rd only	
57.	Murrumbidgee/Thorne Road	Griffith	57.1	Narrow pavement and unsuitable for HML	
58.	Boorga and Dickie Roads	Griffith	58.1	Unsealed, dusty, (restricted vision), corrugated road	
59.	Kurrajong Ave	Griffith	59.1	Narrow pavement, unsuitable for road trains, no turning lanes at intersection	
60.	Lakes Road	Griffith	60.1	Deformed and narrow pavement	117
61.	Griffith Southern Industrial Link – Bromley/Brown/ Thorne and Walla Ave Intersection	Griffith	61.1	Narrow Pavement unsuitable for heavy vehicles	
62.	Nap Nap Road	Hay	62.1	Timber bridge – load (42t) Constraint for heavy vehicles	
63.	Murrumbidgee River Road	Hay	63.1	Inadequate pavement strength and width	
RAILWAY					
63.	Ettamogah Rail Hub	Albury	63.1	Rail Sliding capacity	
64.	Tocumwal Intermodal Freight Terminal	Berrigan	64.1	Rail Sliding capacity and condition of rail bridges	
			64.2	Extension and modification to the lines servicing the grain handling areas	
			64.3	Standardisation of the railway line gauge	
65.	Western Riverina Rail Network	Narrandera	65.1	Restoration of Tocumwal to Narrandera standard gauge rail line and standardisation of the broad gauge. Mangalore to Tocumwal rail line.	
66.	WR Connect formerly known as Western	Leeton	66.1	Service Limitations	

ROADS		COUNCIL		CONSTRAINT	SCORE
	Riverina Intermodal Freight Terminal (WRIFT)		66.2	Extension and upgrade of rail siding, road and ancillary infrastructure (power, gas, roads, drainage, water)	
AIRPORT					
67.	Albury Airport	Albury	67.1	Lack of freight infrastructure	75
68.	Deniliquin Airport	Edward River	68.1	Length of runway	
69.	Griffith Airport	Griffith	69.1	Absence of appropriate landing systems and lack of freight processing infrastructure	
			69.2	Limited freight storage and freight processing infrastructure	
70.	Narrandera – Leeton Airport	Narrandera	70.1	Lack of freight infrastructure	
			70.2	Pavement Strength	
			70.3	Low intensity runway requires lighting upgrade	
			70.4	Sealed runway length is too short	
			70.5	Security screening measures required	
71.	Hay Airport	Hay	71.1	Lack of freight infrastructure	
			71.2	Length of runway	
			71.3	Low intensity runway requires lighting upgrade	
			71.4	Sealed runway length is too short	

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 Plan[9]

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 Plan[10]

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

1.1. *Albury – Davey Road Interchange* – Lack of south-facing ramps inhibit access to one of Albury's main industrial precinct ("Nexus"), including an open access road/rail intermodal facility ("Ettamogah Rail Hub"). With the construction of the Hume Freeway through Albury in 2007, it was determined to limit construction at the Davey Road interchange to only a half diamond (northern ramps). Since the construction, heavy vehicle movements to the precinct have increased significantly and southern ramps are required to improve supply chain management, business productivity, efficiency and safety.

1.2. *Albury – Borella Road Interchange* – Congestion and constrained geometry inhibits efficient movement of freight and other vehicles. Primary interchange for access from Hume Highway to Albury Business Centre, industrial estates and the broader region.

Albury – Thurgoona Drive 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 Hwy/Davey Rd interchange. Image from Google Earth

Image (above): Constraint 1.2 Albury - Hume Hwy/Borella Rd interchange. Image from Google Earth

Image (above): Constraint 1.3 Albury - Hume Hwy/Thurgoona Rd 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 is not sufficient nor safe for heavy vehicle movements. This small section needs a revised BAR & BAL as well as improvement in the vertical alignment to provide safe approach sight distance on the Kidman Way when entering and exiting onto the MR321. 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

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 (3) intersections in Hay Shire with the Sturt Highway that do not permit RAV access to/from the highway to local roads.

2.3.1 Intersection with Glencoe Road

2.3.2 Intersection with Glenhope Road

2.3.3 Intersection with Romani Road

3.3 *Hay – Moama Street - Lack of truck parking and interchange area.* Trucks have no area to park over night or change over trailers.

3.4 *Leeton – Intersection with Innisvale Lane* - does not permit RAV access to/from the highway to local roads.

3.5 *Narrandera - South of Gillenbah-needs raising* – Section need to be raised. The frequent closure of highway due to flooding not only impacts the freight but also to business confidence in this region. Several weeks of closure in 2010, 2012 and 2016 are the example to prove that this section must be upgraded to cope the flood without necessity to close the highway.

3.6 *Narrandera - Poison creek –needs raising* – This section needs to be raised. Water flows over road in minor flooding forcing to close Strut 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 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 Leeton - Intersection at Sturt Highway/Innisvale Lane at Narrandera. Image from Leeton Shire Council.

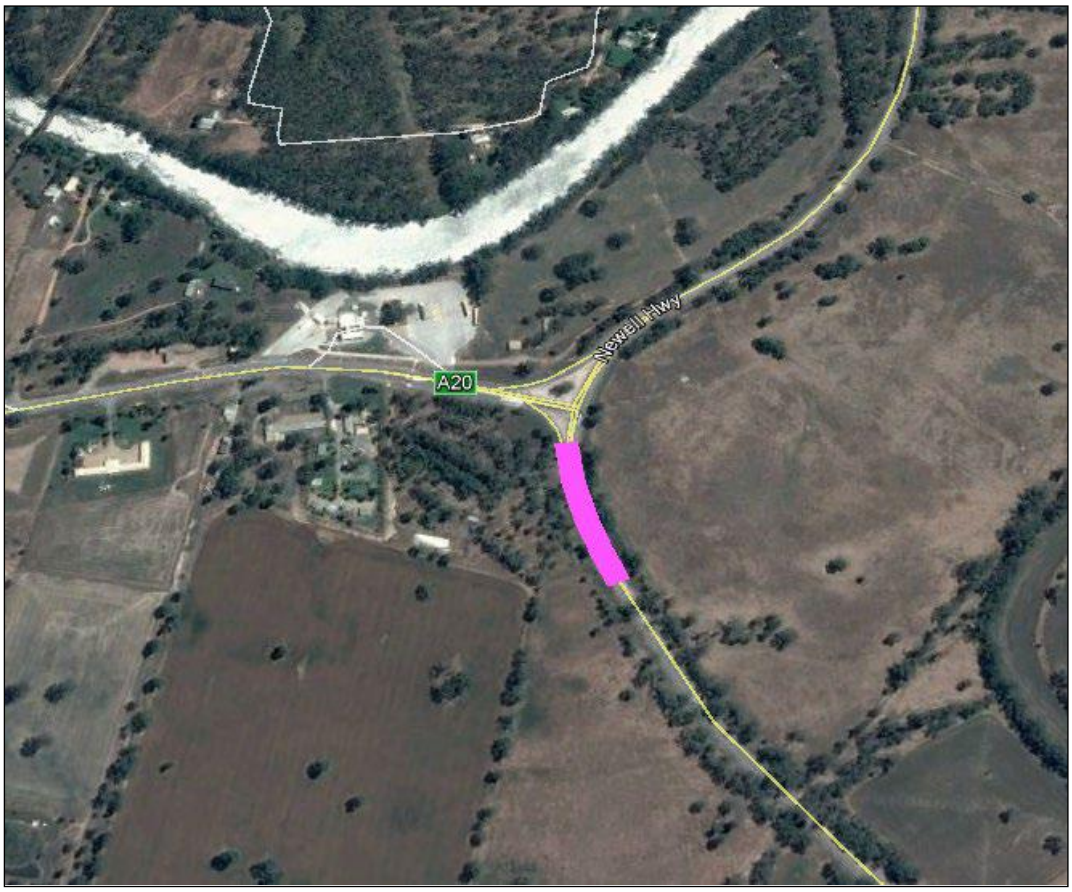


Image (above): Constraint 3.5 Narrandera - Sturt Highway South of Gillenbah. Image from Google Maps

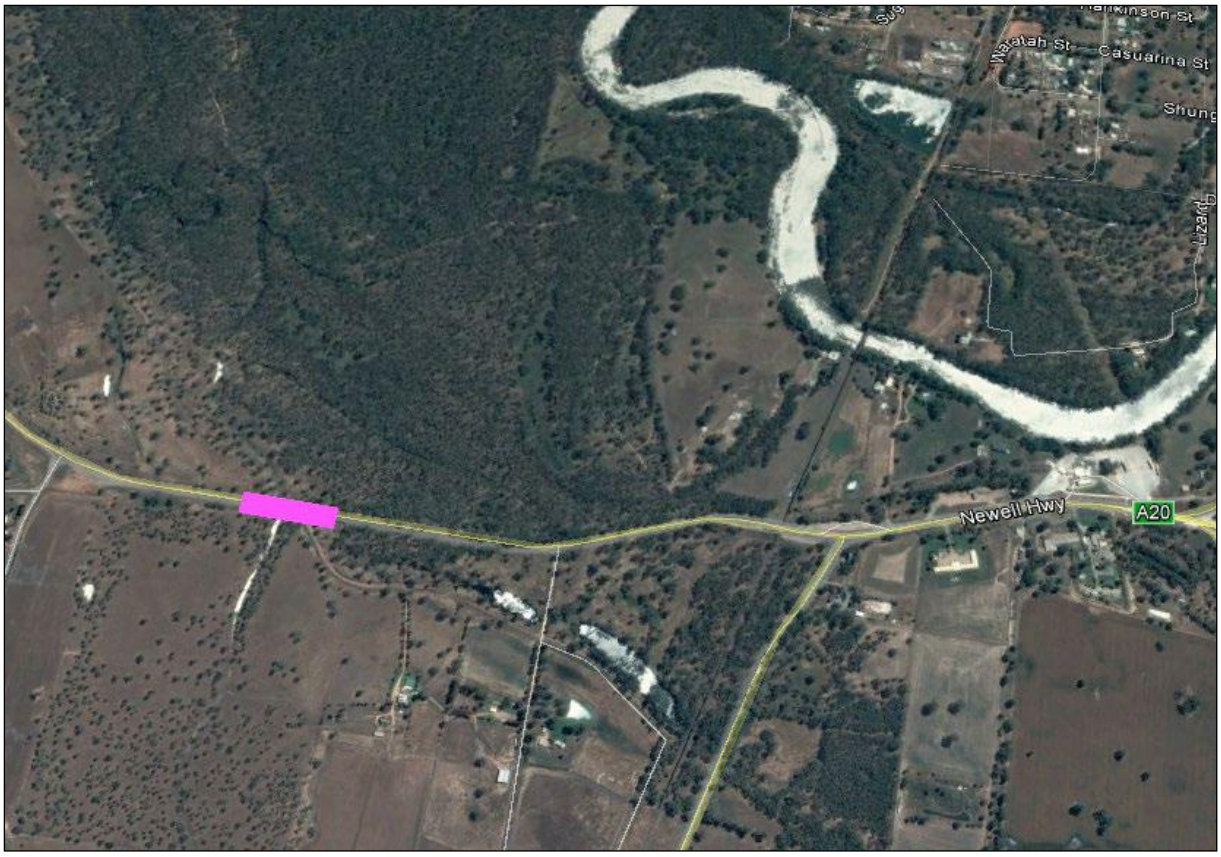


Image (above): Constraint 3.6 Narrandera - Sturt Highway, Poison Creek - Image from Google Maps.

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: General freight

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 a 1,000kms in length the Highway commences at the Murray Valley Highway in Victoria and finishes at Goondiwindi in Queensland.

The Newell 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. It is believed that this reflects the quality of the Newell between Tocumwal and Narrandera. This route is slower than using the Hume Highway and then the Burley Griffin Way (meeting the Newell just east of Ardlethan) or the Hume Highway and then the Olympic Way and Goldfields Way (meeting the Newell 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* - 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 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 causing delay in transit of trucks. This section of Newell Highway occasionally

gets congested when turning traffic queue 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 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 need to be increased and road pavement need to be raised.

4.5 *Narrandera - Not open for road train from Narrandera to Ardlethan through Newell Highway*. This section of Newell Highway should be open for better freight efficiency in this region.

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

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

Riverina Highway runs from Bethanga Bridge 20kms east of Albury to meet the Cobb Highway at Deniliquin, it 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 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 this 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

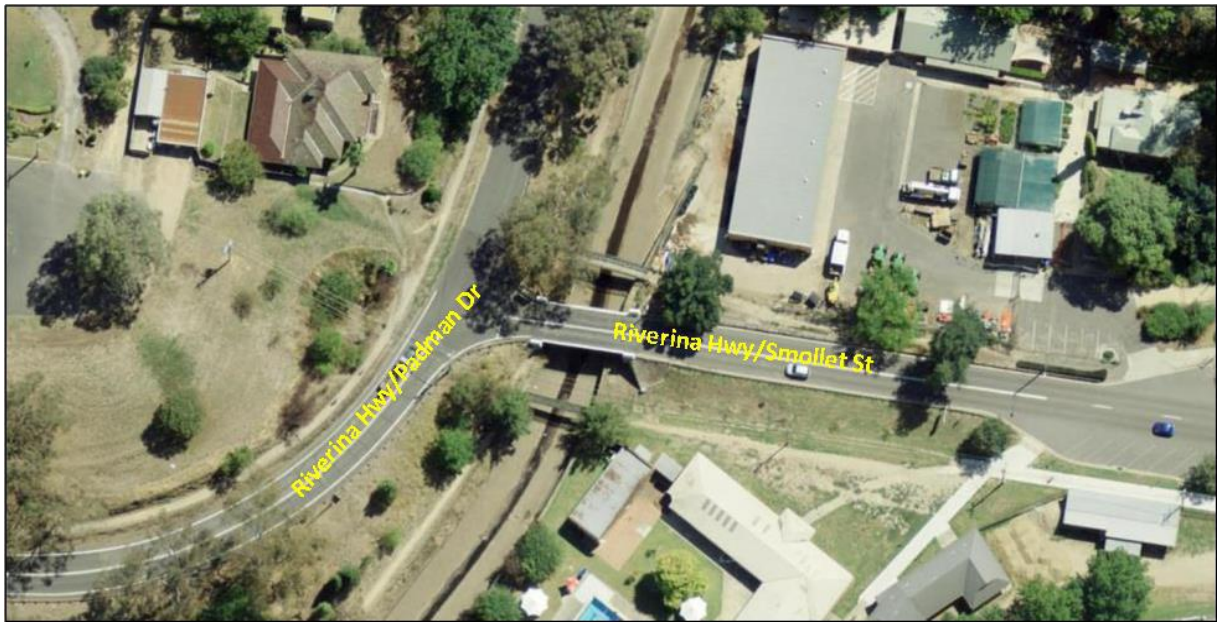


Image (above): Constraint 5.3 Albury - Bridge on Riverina Hwy at Smollett St/Padman Dr intersection and bridge. Image from NSW LPI.

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 *Murray River – Bridge over the Murray River at Moama* is not HML rated and there is restricted access for oversize vehicles. The Cobb Highway provides a vital strategic access from the Riverina to Melbourne/Victoria for freight and cross border access. The Echuca Moama Bridge is the closest NSW/VIC crossing to Melbourne. The bridge does not meet current road design standards, is narrow with one lane in each direction and is not rated for higher mass limit freight vehicles.

6.2 *Hay - Intersections* – In Hay Shire there are eight intersections which do not permit RAV access to/from local roads.

6.2.1 Intersection of Cobb Highway and Corrong Road

6.2.2 Intersection of Cobb Highway and Boxyards Road

6.2.3 Intersection of Cobb Highway and Daisy Plains Road

6.2.4 Intersection of Cobb Highway and Mutherumbung Road

6.2.5 Intersection of Cobb Highway and Jerilderie Road

6.2.6 Intersection of Cobb Highway and Ti Tree Road

6.2.7 Intersection of Cobb Highway and West Burrabogie Road

6.2.8 Intersection of Cobb Highway and Lara Road

6.3 *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.

Image (above): Constraint 6.1 Murray River - Bridge over Murray River at Moama – image by Murray River Council

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

The Kidman Way is a state road in the western Riverina and western region of New South Wales, Australia. The 644 km 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, situated 16 km 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 CBD and improve industry movement.

7.2 *Griffith - Intersection of MacKay Avenue, Burley Griffin Way and Irrigation Way (MR80 and MR84) at Griffith* - Proximity of railway line to road intersection impedes long transport vehicles and stops road train from being able to use all connection roads. HML restricted on irrigation drainage bridge.

7.3 *Griffith - Proposed Griffith Southern Bypass* - Portions of road require major upgrades or new construction. Redirect heavy traffic from city CBD and improve industry movement

7.4 *Griffith - Intersection of Kidman Way and Mirrool Branch Canal Road* - Hairpin turn into fast traffic lanes on a large bend

7.5 *Griffith* – Railway crossing has sharp approach and departure bends at Widgelli Silos

7.6 *Griffith – Southern Industrial Link stage 6b* – Unsuitable for Heavy vehicles and HML. Unsealed, corrugated, dusty road. Narrow pavement intersection alignment.

7.7 *Griffith – Curves at railway* crossing are unsuitable for Road trains.

7.8 *Griffith – 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.

7.9 *Carrathool – Intersection with The Springs Road at Hillston* – railway line close to intersection

7.10 *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.

7.11 *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.

7.12 *Murrumbidgee - irrigation crossing* over Argoon Channel 44.01km west of Newell Highway

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

Image (above): Constraint 7.2 Griffith - Intersection of MacKay Avenue, Burley Griffin Way and Irrigation Way (MR80 and MR84) at Griffith

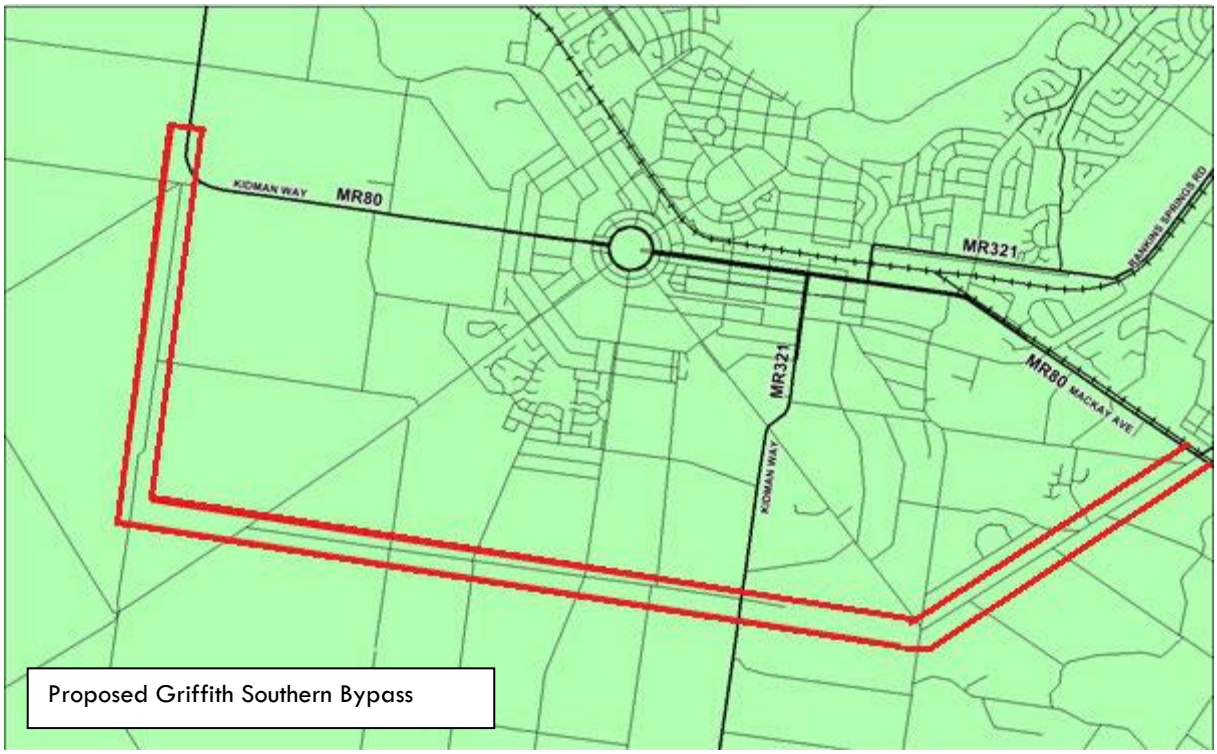


Image (above): Constraint 7.3 Griffith - Proposed Griffith Southern Bypass

Image (above): Constraint 7.4 Griffith - Mirrool Branch Canal Rd intersection presents a sharp turn into fast traffic on a bend. Image from NSW LPI

Image (above): Constraint 7.5 Griffith - Railway crossing has sharp approach and departure bends at Widgelli Silos

Image (above): Constraint 7.6 - Griffith – Southern Industrial Link stage 6b

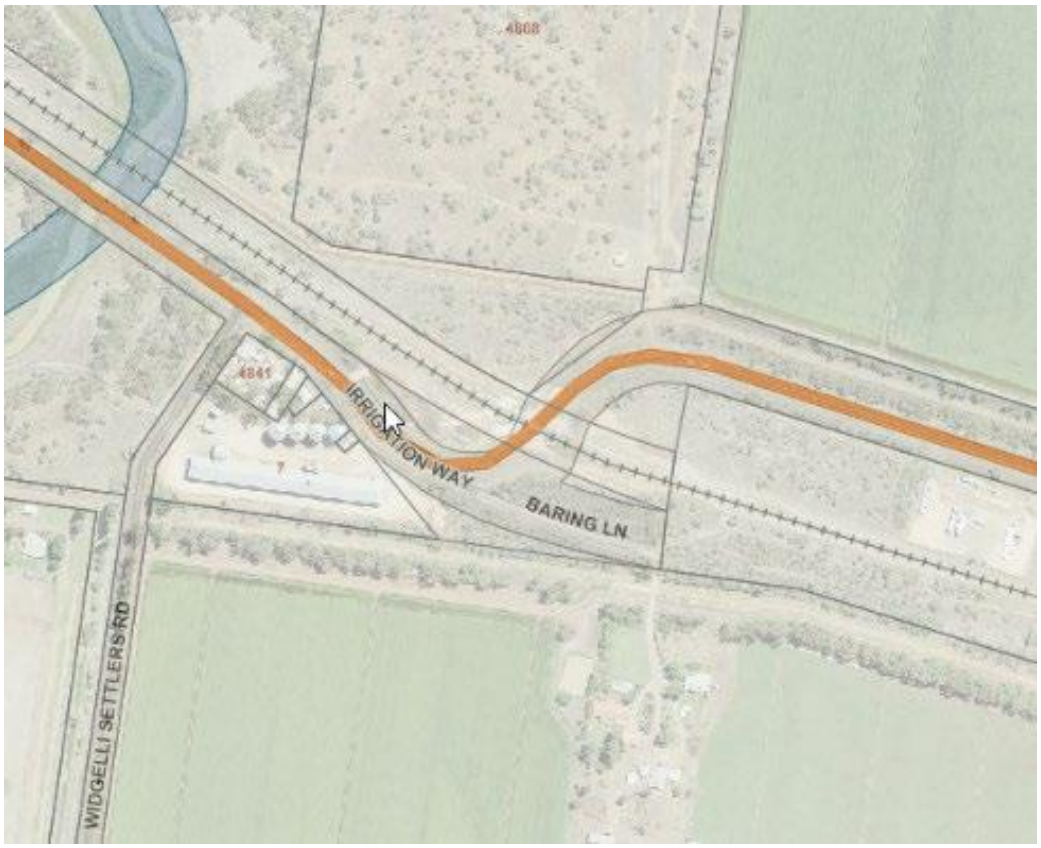


Image (above) Constraint 7.7 - Griffith – Curves at railway crossing

Image (above) Constraint 7.9 Carrathool - Intersection of Kidman Way and The Springs Road at Hillston. Image from NSW LPI

Image (above): Constraint 7.10 Narrandera - Narrow bridge on curve on MR80. Image from Google Street view

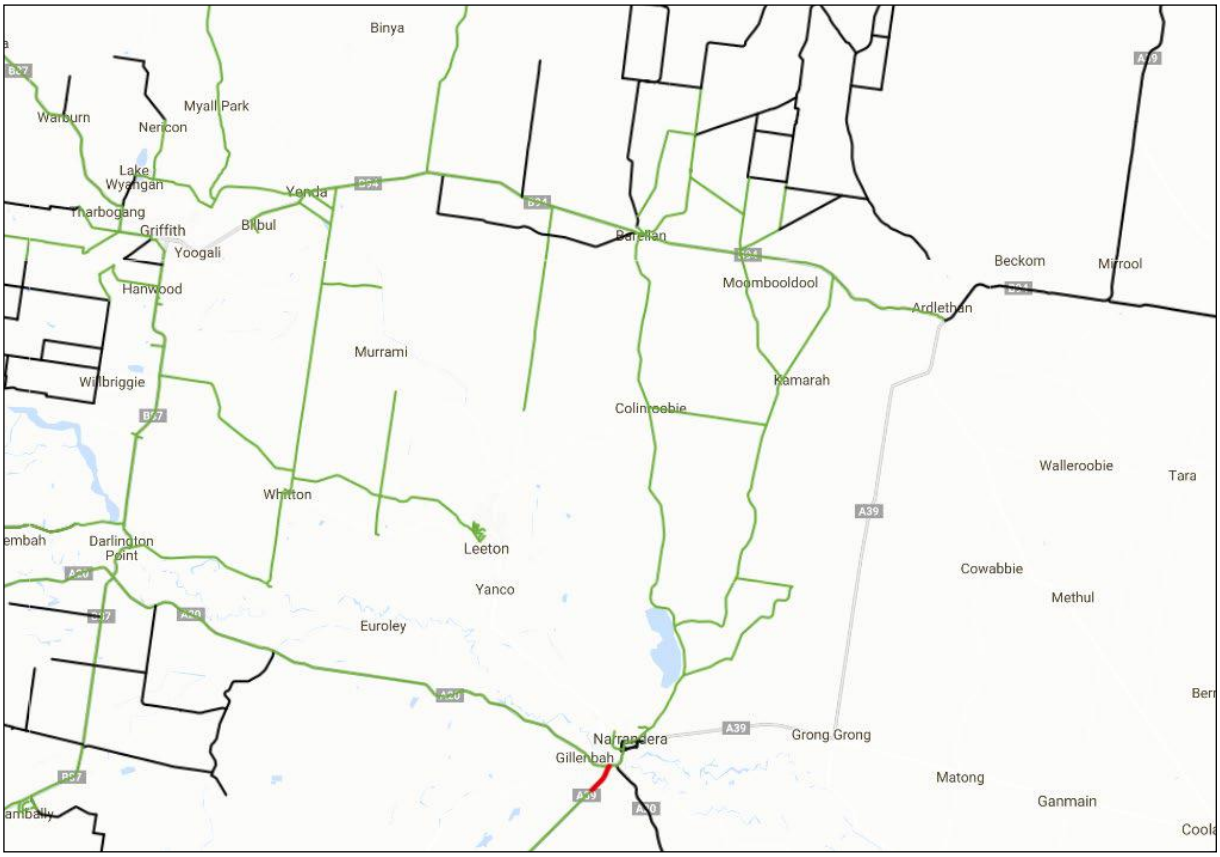


Image (above): Constraint 7.11 Narrandera - Inadequate Road train connection

Image (above): Constraint 7.12 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 Ariah 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 Rd, Beelbangera Rd and Burley Griffin Way (MR84)* - Railway line proximity, hairpin turn and intersection road length. To redirect heavy traffic out of the narrow residential Railway St into improved Beelbangera Rd

8.2 *Griffith – Intersection MR84 Burley Griffin Way & Twigg Rd, 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 Beelbangera Road. Image from NSW LPI

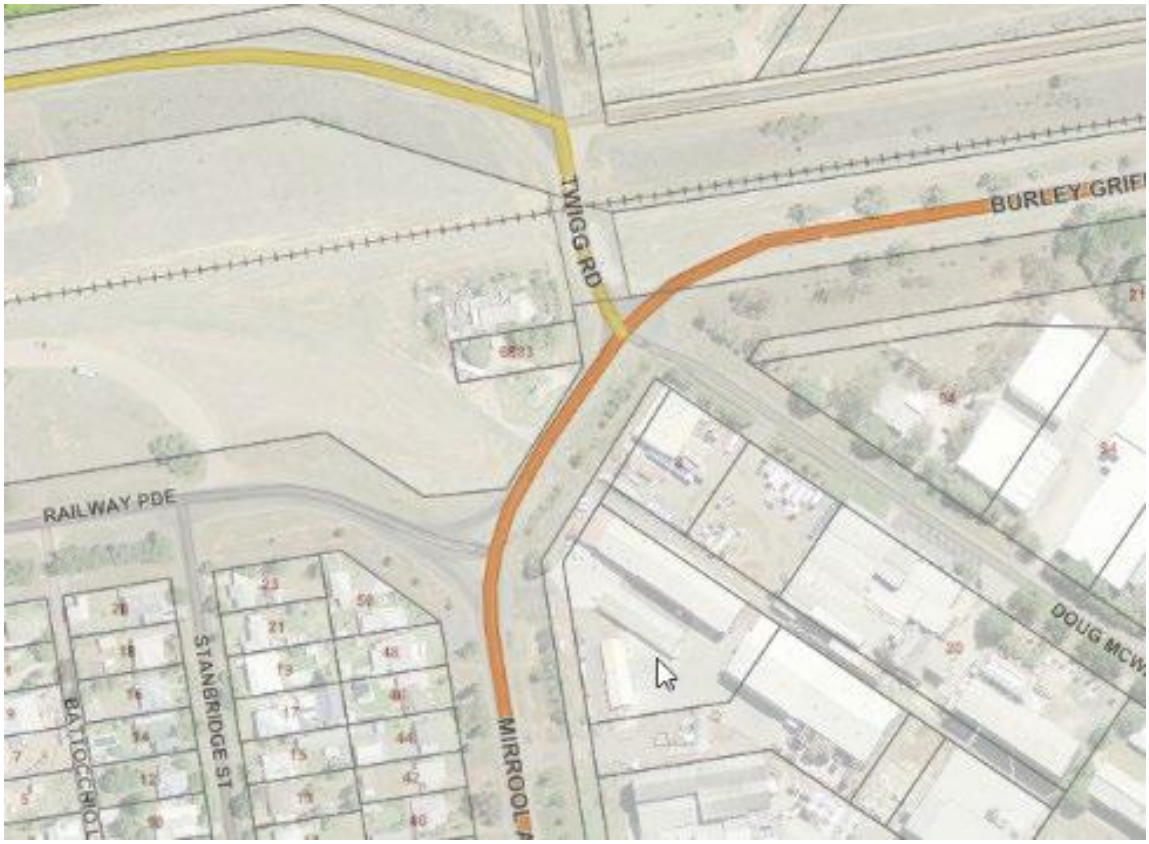


Image (above): Constraint 8.2 Griffith – Intersection MR84 Burley Griffin Way & Twigg Rd, Yenda (MR84)

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 at Tooleybuc* – Bridge over Murray River 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. The road 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: Narrandera, Leeton, Griffith, Carrathool
Major NSW towns on route: None
Major Industries serviced: Livestock, wheat, cotton

From the Newell Highway (HW17) at Narrandera, via Yanco, and Leeton, a point 1.6 km north of Whitton, Griffith, Goolgowi and Hillston to the Cobb Highway (HW21) at Mossgiel.

MR8 is a State Road from the Newell Highway (HW17) at Narrandera via Yanco, Leeton, a point 1.6 km north of Whitton, Griffith and Goolgowi to Hillston and 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

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

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 75.2 km 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 3 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 are identified as risks 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 2 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

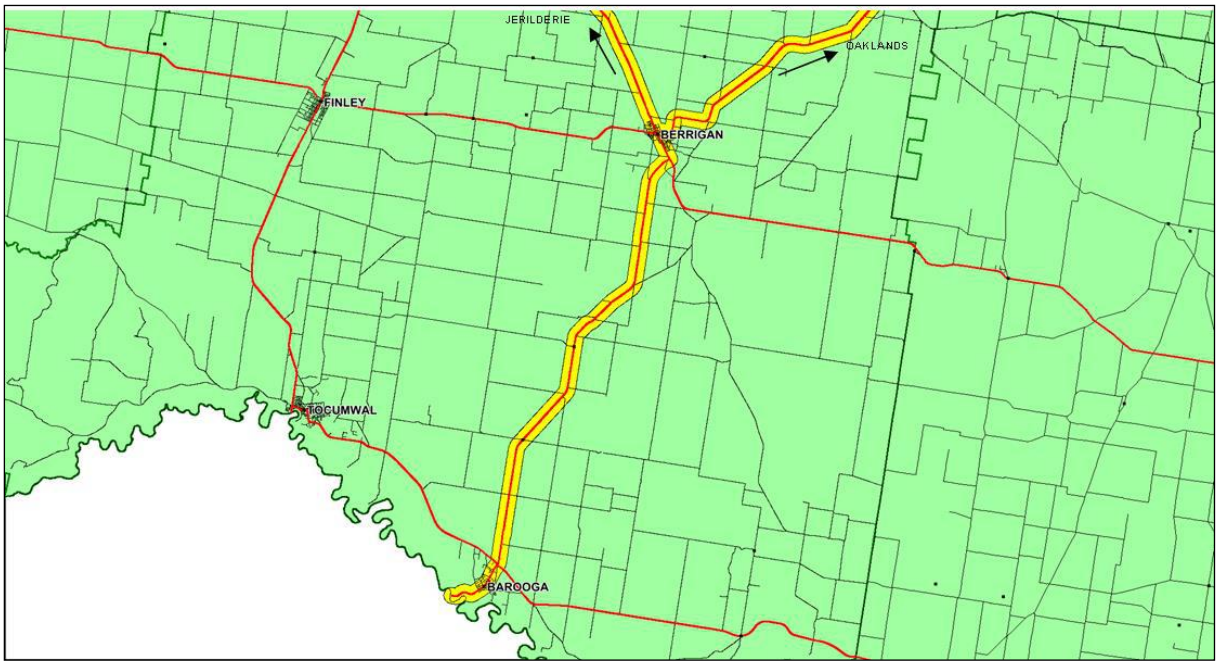


Image (above): Constraint 15.1 Berrigan - Alternate Newell Highway access

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

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 *Edward River* – unsealed/gravel road. Chainage 36.039km to 45.567km.

17.2 *Murray River* – load carrying capacity of Murray Irrigation channels crossing road

17.3 *Hay* - Matthews Bridge 10 tonne load limit

17.4 *Hay* – Narrow pavement

17.5 *Hay* – Narrow culvert structures

17.6 *Hay* – Significant pavement failures

17.7 *Hay* - Chainage 2.5km Budgee Creek Bridge 5m wide

17.8 *Hay* - Chainage 6.5km Matthews Bridge over the Murrumbidgee River at Maude 3.8m wide (Timber Bridge built 1967)

17.9 *Hay* - Chainage 9km Nimmie Creek Bridge 3.6m wide

17.10 *Hay* - Chainage 10.3 to 11.6km there are 6 x Culverts 4.5m wide

17.11 *Hay* - Chainage 19km Bridge 4.5m wide

17.12 *Hay* - Chainage 20.3km Bridge 4.5m wide

17.13 *Hay* - Chainage 20.7km Bridge 4.5m wide

17.14 *Hay* - Chainage 20.9km Bridge 4.5m wide

Image (above): Constraint 17.7 Hay - Chainage 2.5km Budgee Creek Bridge 5m wide

Images (above): Constraint 17.8 Hay - Chainage 6.5km Matthews Bridge over the Murrumbidgee River at Maude 3.8m wide (Timber Bridge built 1967)






Images above: Constraint 17.10 Hay - Chainage 10.3 to 11.6km there are 6 x Culverts 4.5m wide

Image above: Constraint 17.11 Hay - Chainage 19km Bridge 4.5m wide

Image above: Constraint 17.12 Hay - Chainage 20.3km Bridge 4.5m wide

Image above: Constraint 17.13 Hay - Chainage 20.7km Bridge 4.5m wide

Image above: Constraint 17.14 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 5 km north of Daysdale via Oaklands and Four Corners Lagoon to the Newell Highway (HW17) at Jerilderie.

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

CONSTRAINT IDENTIFICATION:

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

18.1 *Murrumbidgee - Berrigan/Oaklands Road* – 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, Rankin Springs
Major Industries serviced: Grain, livestock

From the Mid-Western Highway (HW6) at Rankin 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

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

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* – 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 - 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* – No HML on Barmah bridge

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* – Bridge at Yarrein Creek is only 6.1m wide

23.4 *Murray River* – Not enough room for B-Double sweeping manoeuvre from Swan Hill Road (MR386) to Moulamein Road (MR319)

23.5 *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 the 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 the Kidman Way (at Hillston) and the 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* - Due to 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 local a road. Intersection of Hillston/Booligal Road and Booligal Gunbar Road

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

25. Oxley Road (MR514)

RAMJO LGAs on route: Hay
Major NSW towns on route: Oxley
Major Industries serviced: General Freight

Main Road 514 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 Pimpera 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 Pimpera 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. 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. Whitton – Darlington Point Road (MR539) – Bridge – Sturt Canal Bridge Upgrade

RAMJO LGAs on route: Murrumbidgee, Leeton
Major NSW towns on route: Darlington Point, Whitton
Major Industry's serviced: Cotton, nuts, grain, Hay

Main Road 539 joins the Sturt Highway via Kidman Way and Irrigation Way (MR80) via Stephenson/Binyah Streets.

CONSTRAINT IDENTIFICATION:

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

27.1 *Leeton – Bridge over Sturt Canal (needs upgrading)*

Image (above): Constraint 27.1 Leeton - Bridge over Sturt Canal

28. 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 Ochtertyre 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 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.

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.

28.1 *Murray River* – Narrow sections hinder transport between Deniliquin and Barham

28.2 *Murray River* – No HML on Thule Bridge

28.3 *Murray River* – No HML on Murray Irrigation Limited structures

28.4 *Edward River* – Bridge structure over irrigation channel located 1.3km from intersection with Cobb Highway. Structure only rated for GML loading, no HML.

Image (above): Constraint 28.4 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

Image (above): Constraint 28.4 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

29. Narrandera Barellan Road (MR7608)

RAMJO LGAs on route: Narrandera
Major NSW towns on route: Narrandera
Major Industries serviced: General Freight

CONSTRAINT IDENTIFICATION:

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

29.1 *Narrandera – MR84 and MR7608 intersection* – This intersection doesn't 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 29.1 Narrandera – Insufficient pavement strength and geometry. Image from Google Maps.

LOCAL ROADS

30. 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.

30.1 *Leeton - Concrete causeway/floodway* - very old structure, cracked and depressed in areas. No known load rating.

30.2 *Leeton - New bridge construction over Murrumbidgee River* - not handed over to council or compliance by RMS.

Image (above): Constraint 30.2 Leeton - Bridge over Murrumbidgee River. Image from Google Street view

31. 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.

31.1 *Leeton* - Upgrade pavement to HML capacity. Improve resident safety and amenity.

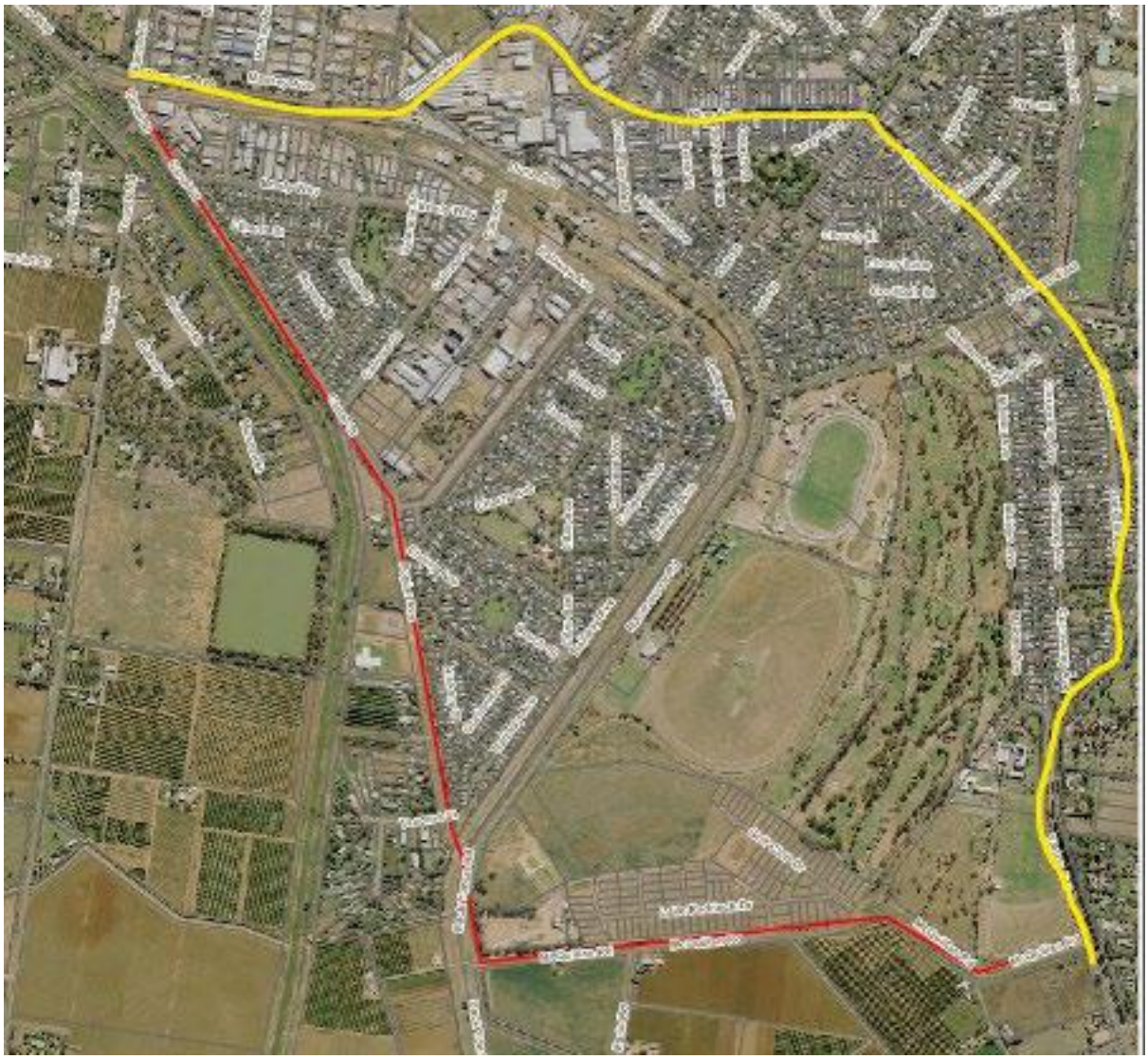


Image (above): Constraint 31.1 – Leeton Upgrade pavement to HML capacity

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

32.1 *Leeton - Murrumbidgee Irrigation structure over Main Supply Canal* - council has no known load rating, possible extension of RT or BD route to Vance Rd from outside shire

Image (above): Constraint 32.1 Leeton - Murray Irrigation structure over Main Supply Canal. Image from NSW LPI

33. Whitton Stock Road (Leeton)

RAMJO LGAs on route: Leeton,
Major NSW towns on route: Leeton, Griffith
Major Industries serviced:

CONSTRAINT IDENTIFICATION:

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

33.1 *Leeton* - Upgrade from Irrigation Way to Burley Griffin Way

34. 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 Murrami township and Irrigation Way (MR80). The newly established Western Riverina Intermodal Freight Terminal (WRIFT) is located on Irrigation Way with railway loading facilities. For interconnection with Irrigation Way and to WR Connect. The new WRIFT development currently contains a 4.2-kilometre section of private road connecting Irrigation Way to Yarmwal Road. Yarmwal Road requires 4.2km full reconstruction and sealing.

CONSTRAINT IDENTIFICATION:

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

34.1 *Leeton* - Sections of unsealed road

Image (above): Constraint 34.1 Leeton - Sections of unsealed road – Whitton Stock Route Road

35. Jones Road (Griffith)

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: Livestock, grain, rice, wine, grapes, citrus

Griffith Northern Heavy Vehicle Bypass

CONSTRAINT IDENTIFICATION:

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

35.1 *Griffith - Jones Rd Lake Wyangan causeway.* - Single lane access only, soft culvert bridge under roads does not sufficiently withstand heavy traffic.

35.2 *Griffith - Jones Road Causeway Griffith Northern Link Road* - Narrow causeway between north and south lakes, single lane only, flooding, unsuitable for HML and overpass vehicles.

Image (above): Constraint 35.1 Griffith - Causeway on Jones Road. Image from NSW LPI

Image (above): Constraint 35.1 Griffith - Causeway on Jones Road. Image from NSW LPI

Image (above) – Constraint 35.2 – Griffith - Jones Road Causeway Griffith Northern Link Road

36. Old Willbriggie Rd/Kurrajong Ave/Willandra Ave (Griffith)

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: Grain, rice, citrus, livestock, fruit, vegetables, wine, grapes

Griffith Southern Heavy Vehicle Bypass.

CONSTRAINT IDENTIFICATION:

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

36.1 *Griffith - Intersection of Old Willbriggie Rd, Kurrajong Ave and Willandra Ave.* - Difficult for larger traffic to negotiate, prohibiting road train approval.

36.2 *Griffith* - Hairpin corners, narrow opening and uneven intersection

Image (above): Constraint 36.1 Griffith - Intersection of Old Willbriggie Rd, Kurrajong Avenue and Willandra Avenue. Image from NSW LPI

37. 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.

37.1 *Murray River Council* - Speewa Road, Koraleigh – Nyah Bridge over the Murray River is not HML rated and is limited to vehicles 4.0m wide

37.2 *Murray River Council* – Load carrying capacity of Murray Irrigation channels crossing road

Image (above): Constraint 37.1 Murray River - Bridge over Murray River. Image from Google Street view

Image (above): Constraint 37.1 Murray River - Bridge over Murray River. Image from NSW LPI

38. 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.

38.1 *Murray River* - Gonn Crossing Bridge across the Murray River at Gonn Crossing is not HML

38.2 *Murray River* - Load carrying capacity of Murray Irrigation channels crossing road

Image (above): Constraint 38.1 Murray River - Gonn Crossing Bridge. Image from NSW LPI

39. 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 the 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.

39.1 *Edward River* - Unsealed/gravel road. Chainage 37.405km to 59.177km.

39.2 *Edward River* - Drainage Channel Bridge only 6.4m wide. Chainage 52.909km.

39.3 *Edward River* - Billabong Creek bridge (1965) aged and not HML rated. Chainage 0.979km.

39.4 *Edward River* - Large box culvert (1961) aged. Chainage 25.976km.

39.5 *Edward River* - Browns Creek bridge (1970) aged and not HML rated. Chainage 2.857km.

39.6 *Carrathool* - Single Lane Wooden Bridge (heritage listed) restricts the type and quantity of vehicles that can travel on this road and bridge (RMS Bridge)

39.7 *Carrathool – Murrumbidgee Rd – Carrathool Rd Intersection Upgrade* – This intersection requires widening to cater for b-double and road train movements.

39.8 *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 39.3 Edward River - Bridge over Billabong Creek. Image supplied by Edward River Shire Council

Image (above): Constraint 39.4 Edward River - Large box culvert. Image supplied by Edward River Shire Council

Image (above): Constraint 39.5 Edward River - Bridge over Browns Creek. Image supplied by Edward River Shire Council

Image (above): Constraint 39.7 - Carrathool – Murrumbidgee Rd – Carrathool Rd Intersection Upgrade

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

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

Image (above) Constraint 40.1 Edward River - Bridge over drainage channel Box Creek. Image from NSW LPI

41. 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.

41.1 *Edward River* - Gravel/unsealed road. Chainage 31.446km to 39.695km.

41.2 *Edward River* - Multiple tight S bends and T intersections.

41.3 *Edward River* - Aged/inadequate bridges/channel crossings

41.3.1 Blighty 2A Ext. Channel bridge (1979). Chainage 35.765km.

41.3.2 Drainage channel Box Creek Bridge (1956). Chainage 24.058km.

41.3.3 Drainage channel Woodbury Centre (1994). Chainage 33.128km.

41.3.4 Blighty Channel Bridge (1940). Chainage 39.654km.

41.4 *Edward River* – Bridge structure over irrigation channel located 1.3km from intersection with Conargo Road. Structure only rated for GML loading, no HML. Narrow structure. Chainage 1.313km.

Image (above): Constraint 41.4 Edward River - Bridge over irrigation channel. Image supplied by Edward River Council

Image (above): Constraint 41.4 Edward River -Bridge over irrigation channel. Image supplied by Edward River Council

42. 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.

42.1 *Edward River* - Gravel/unsealed road. Chainage 24.586km to 32.414km.

42.2 *Edward River* - Tight S bend. Chainage 26.843km to 27.465km.

42.3 *Edward River* - Tuppal 1 channel culvert (1939) aged. Chainage 24.892km.

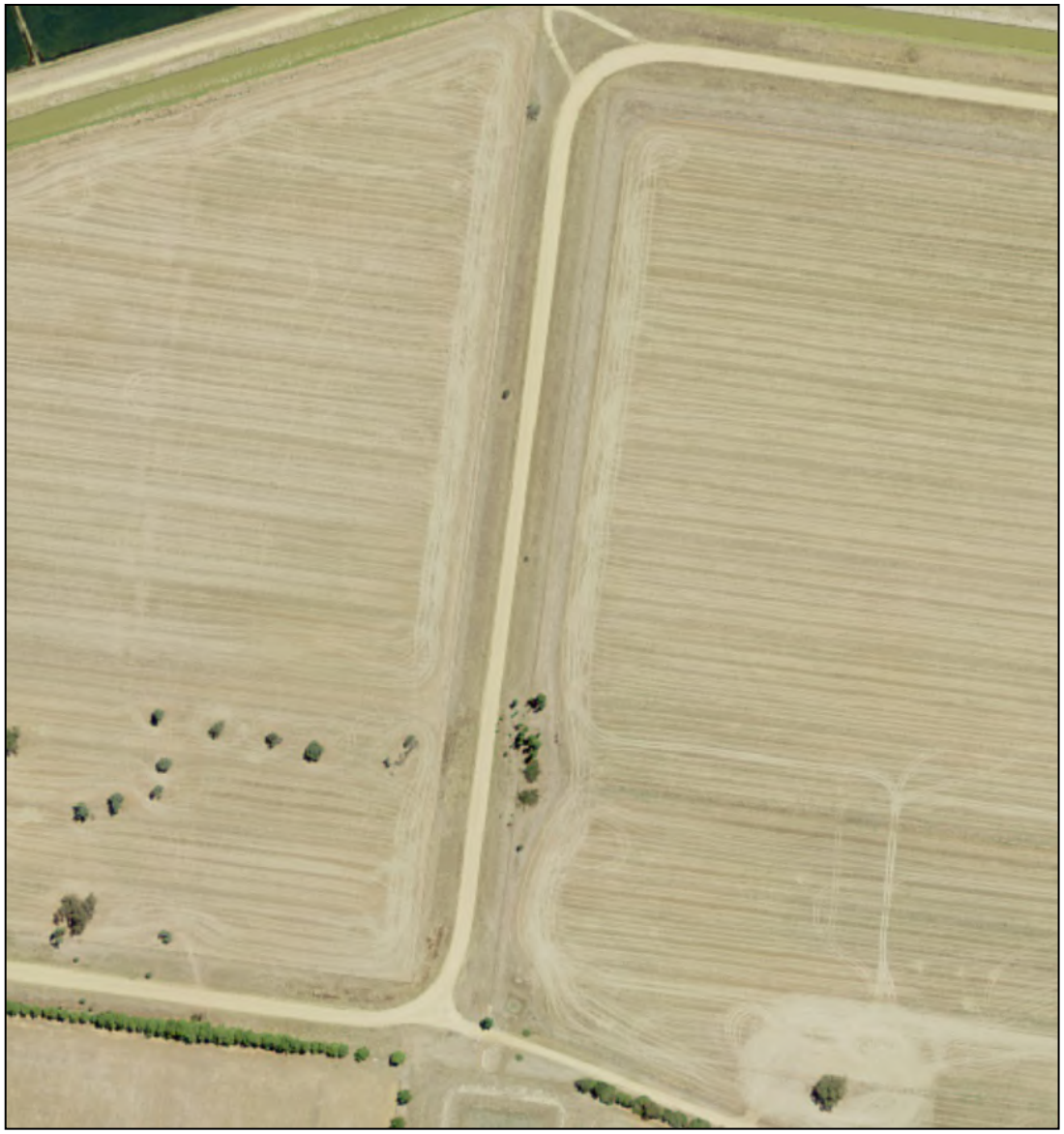


Image (above): Constraint 42.2 Edward River - Tight S bend. Image from NSW LPI

43. 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.

43.1 *Edward River* - Two T intersections close to irrigation structure

43.1.1 Tuppal Road/Lower Finley Road intersection

43.1.2 Tuppal Road/Tocumwal Road intersection

43.2 *Edward River* - Tuppal Creek bridge 50% shared with Berrigan shire

43.3 *Edward River* - Aged/inadequate bridges/channel crossings

43.3.1 Mulwala Canal bridge. Chainage 32.633km

43.3.2 Drainage channel Box Creek bridge (1987). Chainage 28.473km

43.3.3 Tuppal 1 Channel bridge (1939). Chainage 30.263km

Image (above): Constraint 43.1 Edward River - T Intersection near channel crossing. Images from NSW LPI

Image (above): Constraint 43.1 Edward River - T Intersection near channel crossing. Images from NSW LPI

Image (above): Constraint 43.3 Edward River - Mulwala Canal Bridge. Images from NSW LPI

Image (above): Constraint 43.3 Edward River - Box Creek Bridge. Images from NSW LPI

Image (above): Constraint 43.3 Edward River - Tuppal 1 Channel Bridge. Images from NSW LPI

44. 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.

44.1 *Edward River* - Gravel/unsealed road. Chainage 10.582km to 51.663km.

44.2 *Edward River* - Multiple stock grid width issues 3.8-4m wide

44.3 *Edward River* - Aged/inadequate bridges/channel crossings

44.3.1 Drainage channel bridge. Chainage 45.669km.

44.3.2 Delta Creek Bridge. Chainage 18.659km.

44.3.3 Browns Creek Bridge. Chainage 1.324km.

Image (above): Constraint 44.3 Edward River - Drainage Channel Bridge. Images from NSW LPI

Image (above): Constraint 44.3 Edward River - Delta Creek. Image supplied by Edward River Shire

Image (above): Constraint 44.3 Edward River - Browns Creek. Image supplied by Edward River Shire

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

45.1 *Murray River* - Load carrying capacity of Murray Irrigation channels crossing road

46. Gerogery Road (Albury)

RAMJO LGAs on route: Albury
Major NSW towns on route: Albury
Major Industries serviced: Manufacturing, agriculture

Gerogery Road runs northward from Wagga Road to the Olympic Highway, a distance of 21.6kms.

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.

46.1 *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.

Image (above): Constraint 46.1 Albury - Intersection of Gerogery Road and Wagga Road. Image from Google Maps.

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

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

Image (above): Constraint 47.1 Narrandera - Unsealed section of road. Image from Google Maps.

48. 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.

48.1 *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 Carathool Shire are 7.5m wide. This small section needs to be widened for better freight movement between MR84 and Mid-Western Highway.

48.2 *Carrathool – Insufficient road intersection* - 1.0 km of road length recently upgraded by Carrathool Shire. The access from Erigolia Rd to the Mid-Western is not sufficient nor safe for heavy vehicle movements. This small section needs a revised BAR & BAL as well as improvement in the visibility (horizontal alignment) when entering and exiting Erigolia Rd.

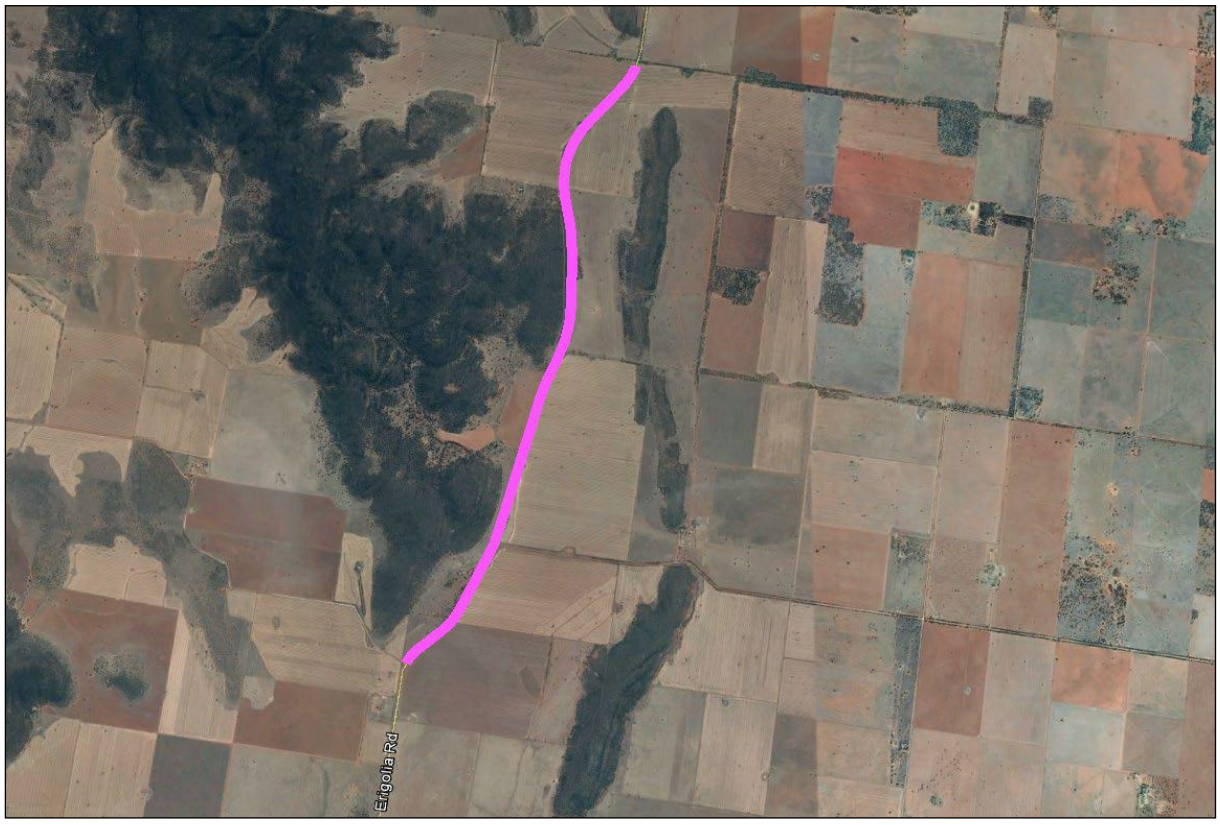


Image (above): Constraint 48.1 Narrandera - Insufficient road width. Image from Google Maps.

Image (above): constraint 48.2 Carrathool - Insufficient road intersection

49. Sandigo River Road (Narrandera)

RAMJO LGAs on route: Narrandera
Major NSW towns on route: None
Major Industries serviced: General freight

Sandigo Road runs from Boree Creek Road heading north to Sandigo on the Sturt Highway.

CONSTRAINT IDENTIFICATION:

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

49.1 *Narrandera – Gravel road insufficient width. Local constraint for hazel nut produce.* A 70 million investment by Agri Australis to produce hazel nut farm will peak in next 2-4 years. Due to this 11 km section of road being unsealed and of limited width, the goods produced have to travel longer trip through flood prone road. Strengthening of the pavement and sealing of this section of Sandigo River Road will assist freight efficiency greatly.

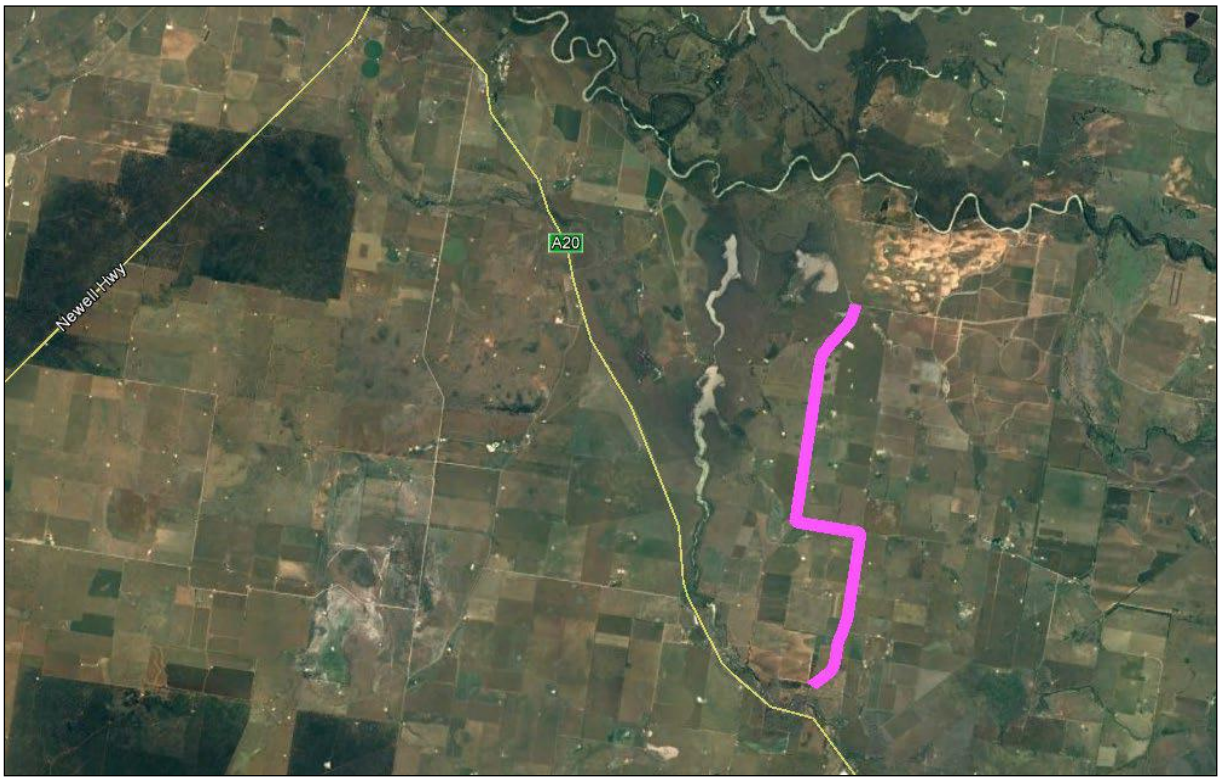


Image (above): Constraint 49.1 Narrandera - Gravel road insufficient road width. Image from Google Maps.

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

50.1 *Narrandera – 2.97 km of Brobenah Hall road need raising at Mirrool Creek*. This section starting at 7 km South from MR84 subject to frequent flooding. Additional culverts need to be placed and road should be raised adequately to cover at least 1 in 20 year flooding. With the existing constraint, the road shuts down frequently causing excessive freight inefficiency.

Image (above): Constraint 50.1 Narrandera - Road needs raising at Mirrool Creek. Image from Google Maps.

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

51.1 *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 51.1 Narrandera - Inadequate pavement strength and drainage, inadequate bridge capacity. Image from Google Maps.

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

52.1 *Narrandera* – Insufficient pavement strength. This link between Newell and Strut Highway serves during flood situation on poison creek and Raes lane is utilized as a traffic detour. Due to frequent movement of heavy vehicles at HML, this road has extensively deteriorated. Pavement should be strengthened, and drainage should be improved on this section road.

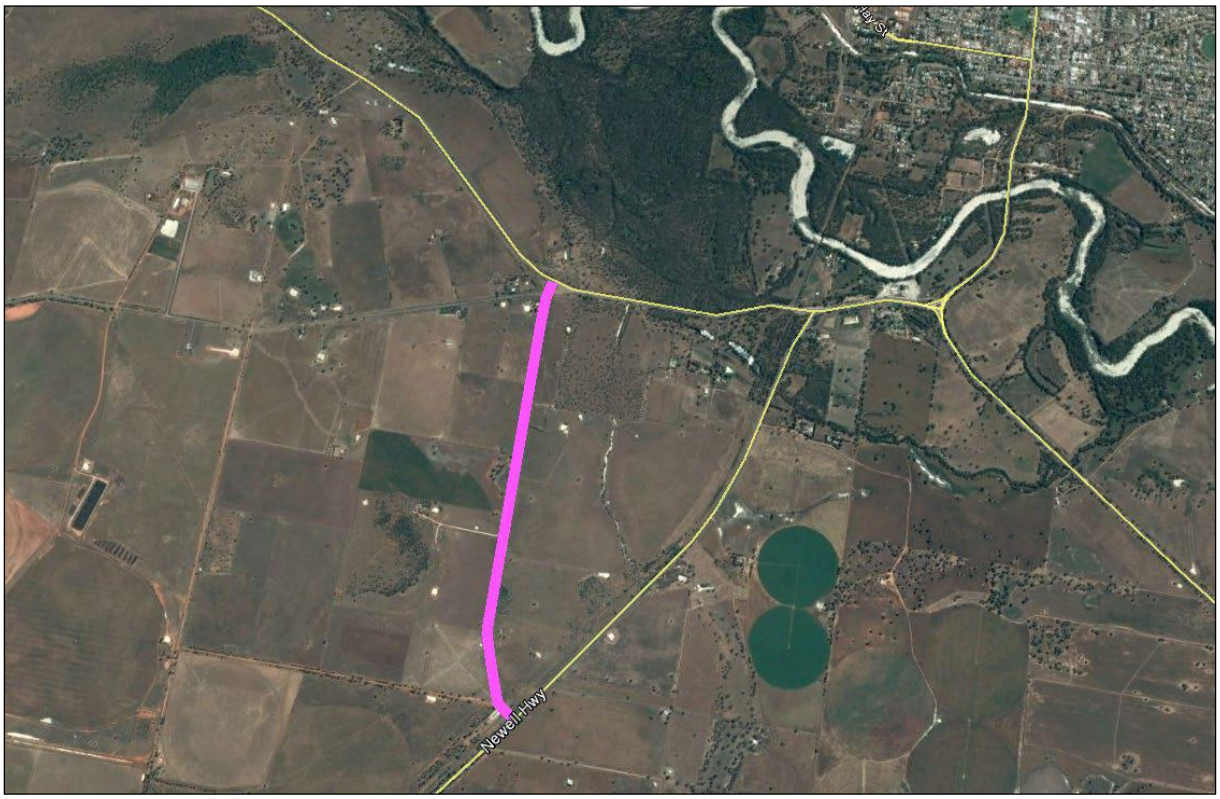


Image (above): Constraint 52.1 Narrandera - Insufficient pavement strength. Image from Google Maps.

53. Cowper St (Hillston Bypass) (Carrathool)

RAMJO LGAs on route: Carrathool
Major NSW towns on route: None
Major Industries serviced: General freight

Cowper St is an important freight link as it connects the Kidman Highway (MR80), Springs Rd (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.

53.1 *Carrathool* – Upgrade of intersection – Cowper St was never sufficient enough to carry the heavy transport around Hillston. It is known as Hillston's (unofficial) Heavy Vehicle Bypass. The intersection at MR368 requires a BAR/BAL as well as a new alignment to move away from Essential Energy assets (Photo 1).

53.2 *Carrathool* – Upgrade of intersection - Upgrade required at Cowper St/MR410 intersection (Keats St) 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 2).

53.3 *Carrathool* – Upgrade of intersections – Upgrade required at the western section of Hillston Hv Bypass (Milton St-Lachlan River Rd-Oxley Ave-MR80 Mossgiel Intersections). The intersections require BAR/BAL and improvements on turning lanes. (Photo 3)

Image (Above): Constraint 53.1 Carrathool – Upgrade of intersection.

Image (Above): Constraint 53.2 Carrathool – Upgrade of intersection.

Image (Above): Constraint 53.2 Carrathool – Upgrade of intersection.

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

54.1 *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 54.1 Carrathool – Insufficient Pavement

55. 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 western region, and Billings Rd, which serves as a connecting road to the north of the western region.

CONSTRAINT IDENTIFICATION:

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

55.1 *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 55.1 Carrathool – Insufficient Pavement Construction

56. Lachlan River Rd (Carrathool)

RAMJO LGAs on route: Carrathool
Major NSW towns on route: None
Major Industries serviced: Primary Industry

Lachlan River Road is an important freight link as it connects MR80 Mossgiel Rd to the Kidman Way and provides connectivity of several major fruit and nut producers to the north of the western region.

CONSTRAINT IDENTIFICATION:

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

56.1 *Carrathool – Insufficient Width/Part Dry Weather Rd Only* – 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 56.1 Carrathool – Insufficient Width/Part Dry Weather Rd Only

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

57.1 *Griffith* – History of accidents, narrow pavement, unsuitable for HML and Road Trains.

Image (above): Constraint 57.1 Griffith - History of accidents, narrow pavement, unsuitable for HML and Road Trains.

58. Boorga and Dickie Roads

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: Griffith

CONSTRAINT IDENTIFICATION:

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

58.1 *Griffith* - History of accidents, Unsealed, dusty, (restricted vision), corrugated road

Access from farm gate of major primary producers to transport hubs, High traffic volume.

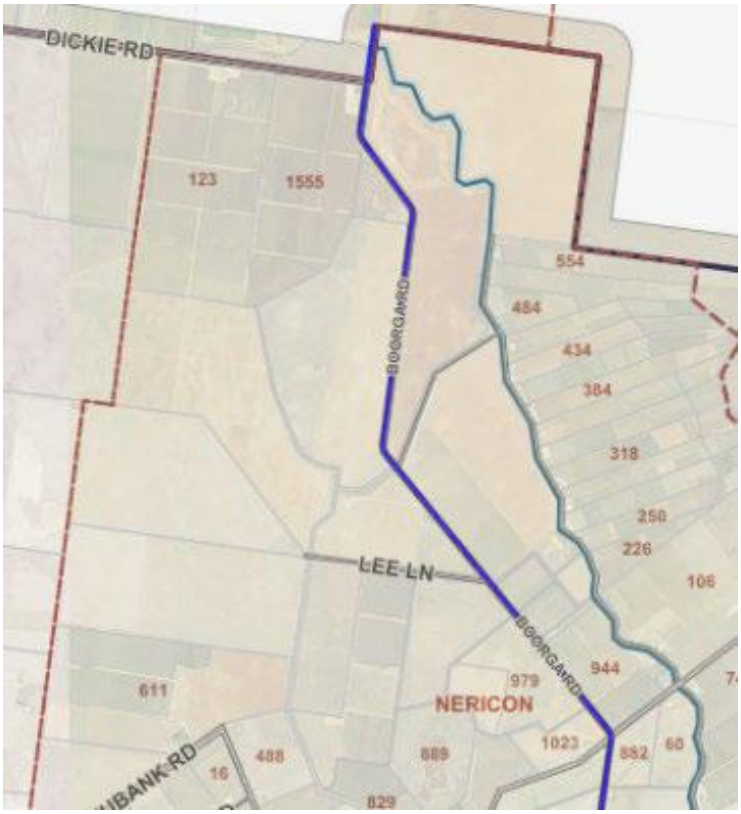


Image (above) – Constraint 58.1 Griffith - History of accidents, Unsealed, dusty, (restricted vision

59. Kurrajong Avenue (Griffith)

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: Griffith

CONSTRAINT IDENTIFICATION:

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

59.1 *Griffith* – Narrow pavement, unsuitable for road trains, no turning lanes at intersections.

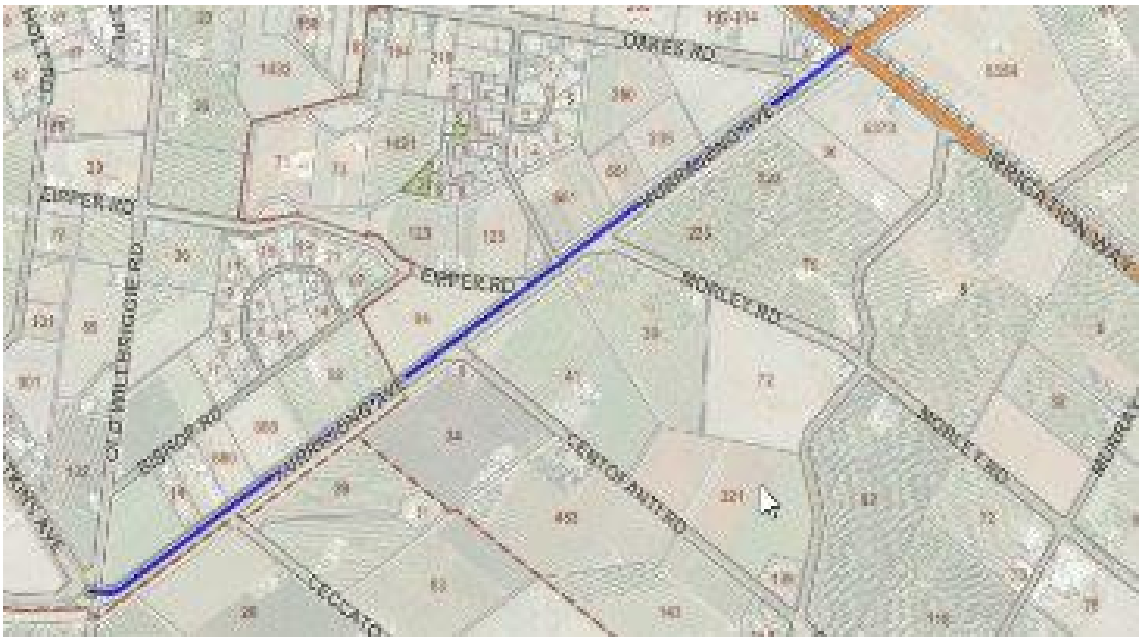


Image (above): Constraint 59.1 Griffith - Narrow pavement, unsuitable for road trains, no turning lanes at intersections.

60. Lakes Road (Griffith)

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: *General Freight*

Between MR80 Kidman Way & Mallinson Road

CONSTRAINT IDENTIFICATION:

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

60.1 *Griffith* – Deformed and narrow pavement, Unsuitable for HML and overmass vehicles.

Image (above) – Constraint 60.1 Griffith - Deformed and narrow pavement, Unsuitable for HML and over mass vehicles.

61. Griffith Southern Industrial Link – Bromley/Brown/Thorne and Walla Ave Intersection (Griffith)

RAMJO LGAs on route: Griffith
Major NSW towns on route: Griffith
Major Industries serviced: General Freight

CONSTRAINT IDENTIFICATION:

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

61.1 *Griffith* – Narrow pavement unsuitable for heavy vehicles.

Image (above): Constraint 61.1 Griffith – Narrow pavement unsuitable for heavy vehicles.

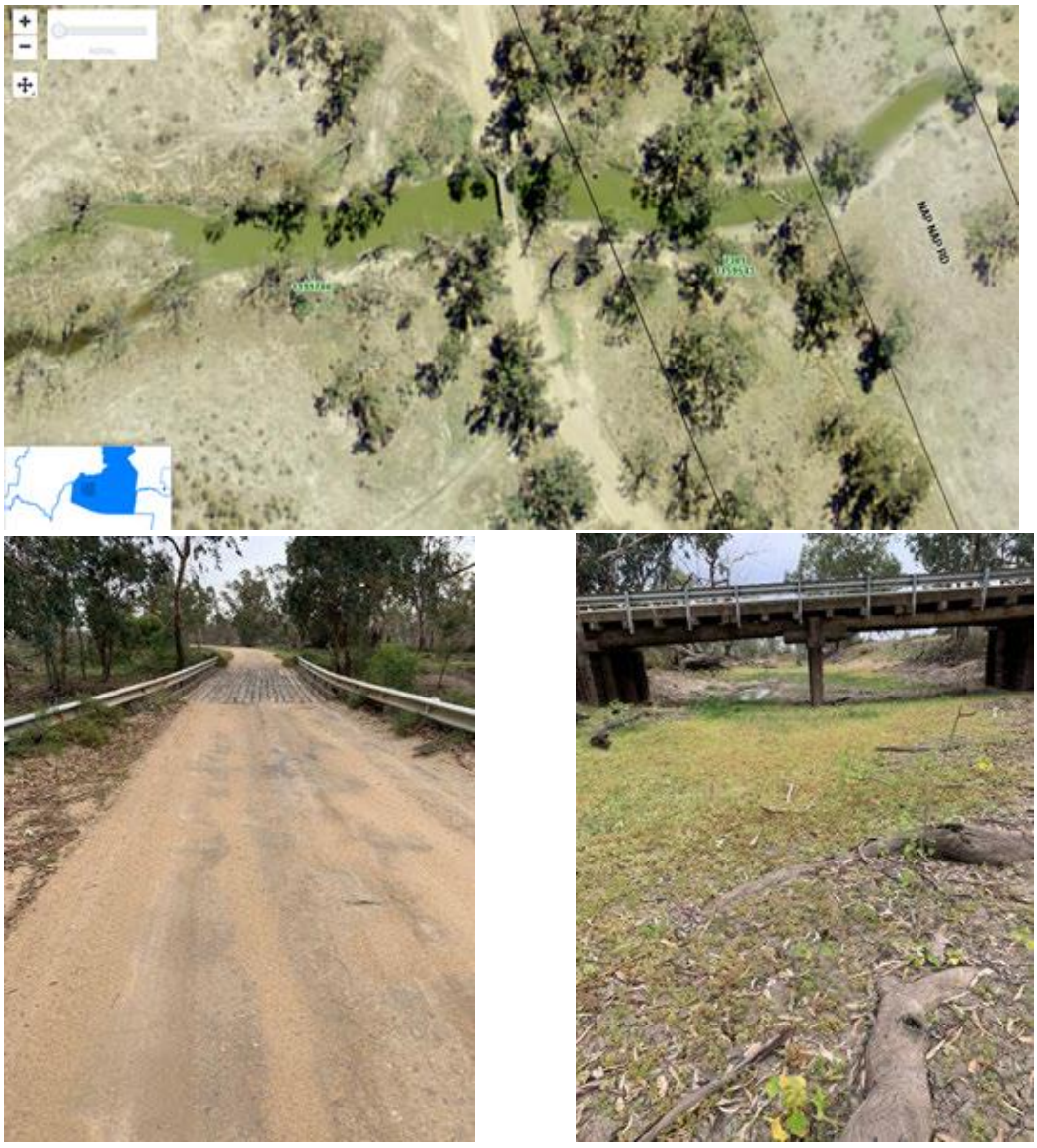
62. Nap Nap Road

RAMJO LGAs on route: Hay
Major NSW towns on route: Hay
Major Industries serviced: General Freight

Unsealed road servicing the community of Nap Nap, west of Maude.

CONSTRAINT IDENTIFICATION:

62.1 *Hay* - Timber bridge over Sandy Creek. Bridge is limited to 42t and in unable to accommodate large freight vehicles.



Images (above): Constraint 62.1 Hay - Timber bridge over Sandy Creek

63. Murrumbidgee River Road (Hay)

RAMJO LGAs on route: Hay
Major NSW towns on route: Hay
Major Industries serviced: General Freight

CONSTRAINT IDENTIFICATION:

63.1 *Hay - Inadequate pavement strength and width* - Local road that runs from Midwestern Highway in Hay, through Carrathool Shire to Griffith City Council linking up with the Kidman Way. The road is 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 will see Murrumbidgee River Road a Sturt Highway by-pass in the event of a closure of the highway. Constraints is inadequate pavement strength and width

Image (above): Constraint 63.1 Hay – Murrumbidgee River Road

RAILWAY

64. 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.

63.1 *Albury* - Extension and upgrade of rail siding would enable interstate trains to move off the main line during loading. This will ensure that the rail freight infrastructure has the capacity to accommodate long term growth in regional rail freight demand and to minimise risks associated with stationary trains on the on the main line.

Image (above): Constraint 63.1 Albury - Siding at Ettamogah Rail hub. Image from Albury City Council

65. 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 of the Southern Riverina region of New South Wales, 257kms from Melbourne near the Victorian and New South Wales border. 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.

65.1. *Berrigan* - Ongoing maintenance of the Rail Bridge is critical to the continued success and growth of the intermodal. 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.

65.2. *Berrigan* - The extension and modification to the lines servicing the grain handling businesses contained within the intermodal 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.

65.3. *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 64.1 Berrigan - Tocumwal Railway Bridge – Image from Berrigan Shire

Image (above): Constraint 64.1 Berrigan - Tocumwal Railway Bridge – Image from Berrigan Shire

Image (above) – Constraint 64.2 Berrigan - Tocumwal Intermodal Freight Terminal – Container handling area, Tocumwal Intermodal Freight Terminal – Grain storage and handling area – image from Berrigan Shire

Image (above) – Constraint 64.2 Berrigan - Tocumwal Intermodal Freight Terminal – Container handling area, Tocumwal Intermodal Freight Terminal – Grain storage and handling area – image from Berrigan Shire

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

66.1. *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.

66.1.1. Restoration of the disused Tocumwal to Narrandera standard gauge rail line in NSW

66.1.2. Standardisation of the broad-gauge Mangalore to Tocumwal rail line in Victoria.

67. WR Connect (Leeton)

RAMJO LGAs on route: Leeton
Major NSW towns on route: Leeton, Griffith
Major Industries serviced: Agriculture

The WR Connect formally known as Western Riverina Intermodal Freight Terminal (WRIFT)) at Wumbulgal provides a transport efficient logistics hub with a rail centrepiece, surrounded by effective road networks. It provides our agricultural producers with world-competitive export industries through 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.

CONSTRAINT IDENTIFICATION:

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

67.1. *Leeton* - The current barriers to expansion are the limitation of power, water and telecommunications to the region.

67.2. *Leeton* - Extension and upgrade of rail siding would enable bulk container movement for the domestic and export market as well as reducing risks for main loading.

Image (above): Constraint 65.2 Leeton WR Connect

AIRPORT

68. 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 on the airport.

CONSTRAINT IDENTIFICATION:

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

68.1. *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 67.1 Albury - Albury Airpark. Image from Albury City Council

69. Deniliquin Airport (Edward River)

RAMJO LGAs on route: Edward River
Major NSW towns on route: Deniliquin
Major Industries serviced: Export food production, retail, health and Government services

CONSTRAINT IDENTIFICATION:

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

69.1. *Edward River* - The existing asphalt runway is only 1219m in length which prohibits the potential use of the Deniliquin Airport by air freight companies using aircraft such as Airbus A320 freighter.

Image (above): Constraint 68.1 Edward River - Deniliquin Airport. Image from Edward River Council

70. 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.

70.1. *Griffith* - The absence of Precision Approach Path Indicator system (PAPI) to assist aircraft landing safely at Griffith Airport

70.2. *Griffith* - Limited freight storage and freight processing infrastructure.

Image (above): Constraint 69.2 Griffith - Griffith Airport. Image from Griffith City Council.

71. Narrandera - Leeton Airport

RAMJO LGAs on route: Narrandera and Leeton
Major NSW towns on route: Narrandera and Leeton
Major Industries serviced: Business administration, retail

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.

71.1. *Narrandera* - Lack of existing freight storage, safety checking system and freight processing infrastructure

71.2. *Narrandera* - Insufficient pavement strength and width to support bigger aircraft

71.3. *Narrandera* - Low intensity runway lighting that requires upgrade

71.4. *Narrandera* - The sealed runway length is too short for larger freight carriers

71.5. *Narrandera* - Security screening measures are required to cater for larger aircraft

Image (above): Constraint 70. Narrandera - Leeton Airport. Image from Narrandera Shire Council.

72. 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.

71.1 *Hay* - Lack of existing freight storage, safety checking system and freight processing infrastructure

71.2 *Hay* - Insufficient pavement strength and width to support bigger aircraft

71.3 *Hay* - Low intensity runway lighting that requires upgrade

71.4 *Hay* - The sealed runway length is too short for larger freight carriers

Image (above): Constraint 71. Hay Airport. Image from Hay Shire Council

APPENDIX ONE – RESTRICTED VEHICLES MAPS

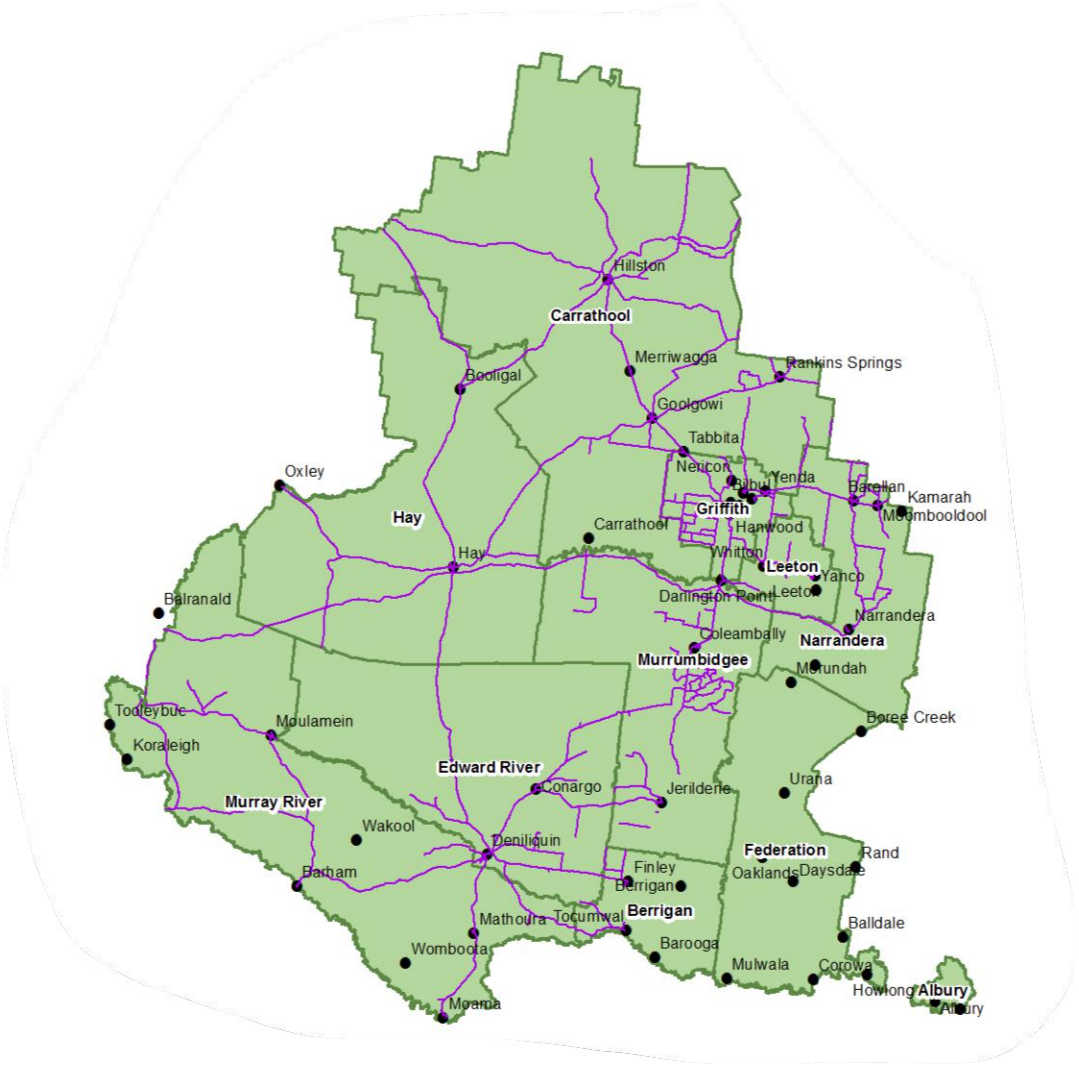
RAMJO B-DOUBLE ROUTES

RAMJO HIGH VEHICLE ROUTES

High Vehicle Route

High Vehicle Area

RAMJO MODIFIED B-TRIPLE ROUTES



Modifed B-Triple Route

RAMJO ROAD TRAIN ROUTES

Road Train Route

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.
BERRIGAN			
ROAD	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Riverina Highway (HW20)	Bridges not HML	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 rated	Conduct Load assessment of bridge and determine if HML suitable.	Complete. 100% - restrictions have been removed from the HML network.

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

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.
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. 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. Completion early 2020.

NARRANDERA			NARRANDERA
ROAD	**CONSTRAINT**	**PROPOSED TREATMENT**	**ROAD**
Newell Highway (HW17)	Grong Grong realignment	Construction of by-pass Road	Newell Highway (HW17)
Narrandera Barellan Road (MR7608)	Water flows over this section frequently	Construction of new culverts and raised road level	Narrandera Barellan Road (MR7608)
Kolkilbertoo Road	Narrow bends	Widening of carriageway and shoulders	Kolkilbertoo Road
Kolkilbertoo Road	Insufficient geometry, pavement strength & alignment	Pavement rehabilitation.	Kolkilbertoo Road
Kamarah Road	Sharp bend with blind corner	Road reconstruction, re-alignment and widening.	Kamarah Road

APPENDIX FOUR - ACTION LIST

ALBURY CITY				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Hume Highway (HW2)	1.1	Davey Rd Interchange	Southern Ramps Construction.	Secured Federal and State Government Funding to deliver project. Design underway with construction scheduled for 2020/21.
	1.2	Borella Rd Interchange	Widen interchange to increase travel lanes and capacity.	Transport model undertaken to identify future demands. Corridor Strategy completed 2019/20.
	1.3	Thurgoona Dr Interchange	Widen interchange to increase travel lanes and capacity.	Transport model undertaken to identify future demands. Overall Transport Strategy to be completed during 2020/21.
Riverina Highway (HW20)	5.3	Smollett St bridge	Realign highway to increase capacity and remove tight manoeuvres.	No progress at this stage.
Gerogery Road	46.1	Wagga Road intersection	Construction of roundabout.	Unsuccessful in securing funding as part of Fixing Country Roads Round 2.
Ettamogah Rail Hub	63.1	Rail siding capacity	Extend rail siding	Funding secured and construction underway. Expected completion December 2020.
Albury Airport	67.1	Lack of freight infrastructure	Develop a specific area for future air freight facilities.	Airport Masterplan reviewed in 2018 which includes consideration of future air freight movements. No

				capital funding allocated at this stage.
BERRRIGAN				
ROAD	**ITEM NUMBER**	**ROAD**	**ITEM NUMBER**	**ROAD**
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	64.1	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.
	64.2	Access to the grain handling area	The extension and modification to the lines servicing the grain handling area.	
	64.3	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 Rankin Springs Road		
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.9	Intersection the Springs Rd		
Mossgiel Road (MR80)	13.1	Bridge over Lachlan River		
The Springs Road (MR368)	19.1	Railway Crossing in Hillston		
Carrathool Road	39.6	Single Lane Wooden Bridge (heritage listed)		
	39.7	Murrumbidee Road/Carrathool Road intersection	Widen to cater for B-Double and road train movements.	
	39.8	Insufficient pavement construction	Upgrade roadway to sealed pavement.	
Cowper Street (Hillston Hv Bypass)	53.1	Upgrade of Intersection Cowper Street		
	53.2	Upgrade of Intersection Keats Street		
	53.3	Upgrade of Intersection Hillstone Bypass		
Billings Road	54.1	Insufficient pavement construction		
Boorga Road	55.1	Narrow pavement		

Lachlan River Road	56.1	Insufficient Width/Part Dry Weather Rd only		

EDWARD RIVER				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Pretty Pine Road (MR296)	16.1	85km curve	Reconstruct curve to 100km/hr	Not in the 10-year plan.
	16.2	Narrow section	Reconstruct and widen	Although not confirmed it could be considered in the next 10 years.
	16.3	Inadequate bridges	Widen and reconstruct bridges	Box Creek bridge at Ch 26.422km completed. All other bridges inspected by MIL but no plans to reconstruct in the near future.
Thule Street/Moulamein Road/Maude Road (MR319)	17.1	Unsealed road	Reconstruct and seal from 58.673km to 66.460km	It will not be addressed until our current sealed Regional Roads are brought up to suitable standard. Funding just received, works not as yet undertaken.
Conargo Road (MR552)	26.1	School zone		No progress at this stage.
	26.2	Drainage channel bridge Box Creek	Widen and reconstruct bridges	MIL structure. No progress at this stage.
	26.3	Bridge over Finley Escape Channel	Widen and reconstruct bridges	MIL structure. No progress at this stage.
	26.4	Forest Creek bridge	Widen and reconstruct bridges	No progress at this stage.
	26.5	Culvert over irrigation channel	Widen and reconstruct bridges	MIL structure. No progress at this stage.

Barham Road (unclassified Regional Road 7605)	28.4	MIL bridge not rated	Bridge to be inspected for GML, HML loading.	MIL structure. No progress at this stage.
Carrathool Road	39.1	Unsealed/gravel road	Reconstruct and seal from 37.405km to 59.177km.	No progress at this stage
	39.2	Drainage channel bridge narrow	Widen and reconstruct bridges.	CIL structure. No progress at this stage.
	39.3	Billabong Creek bridge	Widen and reconstruct bridges.	No progress at this stage.
	39.4	Large box culvert	Widen and reconstruct bridges.	No progress at this stage.
	39.5	Browns Creek bridge	Widen and reconstruct bridges.	No progress at this stage.
Lakers Road	40.1	Box Creek culvert	Widen and reconstruct bridges.	MIL structure. No progress at this stage.
Mooney Swamp Road	41.1	Gravel/unsealed	Reconstruct and seal from chainage 31.446km to 39.695km.	No progress at this stage.
	41.2	Multiple tight S bends	Reconstruct curve to 100km/hr.	No progress at this stage.
	41.3	Inadequate bridges	Widen and reconstruct bridges.	MIL structure. No progress at this stage.
	41.4	Bridge structure over channel	Widen and reconstruct bridges.	No progress at this stage.
Tocumwal Road	42.1	Gravel/unsealed	Reconstruct and seal from 24.843km to 32.414km.	No progress at this stage.
	42.2	Tight S bend	Reconstruct curve to 100km/hr.	No progress at this stage.
	42.3	Tuppal 1 Channel culvert	Widen and reconstruct culverts.	MIL structure. No progress at this stage.

Tuppal Road	43.1	Intersections close to irrigation crossings		No progress at this stage.
	43.2	Tuppal Creek bridge	Widen and reconstruct bridge. Jointly owned by Edward River a Berrigan Councils.	No progress at this stage.
	43.3	Inadequate bridges	Widen and reconstruct bridges.	MIL structure. No progress at this stage.
Willurah Road	44.1	Gravel/unsealed	Reconstruct and seal from 10.582km to 51.663km.	No progress at this stage.
	44.2	Multiple narrow stock grids		No progress at this stage.
	44.3	Inadequate bridges	Widen and reconstruct bridges.	No progress at this stage.
Deniliquin Airport	68.1	Length of runway	Build a new runway 1950m long 45m wide.	Completed business case study. Sourcing grant funding.

FEDERATION				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Riverina Highway (HW20)	5.1	Road geometry	Rehabilitation of pavement	TfNSW proposing to carry out some reconstruction work 2020/21.
	5.2	Wangamong Creek bridge	Construction of new bridge.	Nil.
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 to be agreed between all parties – very slow progress.
Cocketgedong/Brookong Creek/Urana Rd (MR59)	11.1	Bridge assessments required	Replacement of Bridges.	Future bridge replacement program.
	11.2	Cocketgedong – deficient pavement strength	Rehabilitation of Pavement.	Funding applied for under 2020/21 Fixing Country Roads Program.
	11.3	Urana township	Pavement reconstruction and possible realignment.	Survey work complete – design being undertaken.
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	Funding applied for under 2020/21 Fixing Country Bridges Program.

	21.2	Pavement strength	Rehabilitation of Pavement	Rehabilitation works continuing to be undertaken – expected 5 years to complete.
	21.3	Bridge over Urangeline Creek	Replacement of Bridges	Funding applied for under 2020/21 Fixing Country Bridges Program.
	21.4	Tight turn in Urana		
	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**
MR80/ MR84 Intersection (Irrigation Way/ Burley Griffin Way)	7.2	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.	Funding application under the HSVPP programme approved for RMS. Design completed. Relocation of Utility completed. Construction scheduled for 2021
Kidman Way/Irrigation Way/Mackay Avenue (MR80/MR321)	7.3	Portions of road require major upgrades or new construction. Redirect heavy traffic from city CBD and improve industry movement.		
MR321 Seg 730 Kidman Way Intersection Mirrool Branch Canal Rd	7.4	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.
MR80 Seg 80 Irrigation Way Widgelli	7.5	Curves at railway crossing are unsuitable for Road trains History of accidents i.e. truck rollovers.	Road widening and realignment	Not funded.

MR80 Seg 270 / Brown Road Intersection (Kidman Way/ Brown & Bromley Roads) Griffith Southern Industrial Link (GSIL) Stage 6b	7.6	Unsuitable for Heavy vehicles and HML Unsealed, corrugated, dusty road Narrow pavement Intersection alignment.	Realign and upgrade Intersection.	Funded and construction currently in progress.
	7.7	Curves at Railway Crossing		
	7.8	Narrow Turning Lanes to rest area. Narrow Bridge.		
MR84 Burley Griffin Way/Mirrool Avenue (Intersection MR84 Burley Griffin Way &Twigg Rd, YENDA)	8.1	line proximity, hairpin turn and intersection road length. To redirect heavy traffic out of the narrow residential Railway St into improved Beelbangera Rd		
	8.2	Narrow pavement at intersection Super Elevation of road surface Unsuitable for Road Train or HML vehicles. No turning lanes.	Intersection treatment and pavement widening.	Not funded.
Jones Road Lakes Road (Causeway) to Boorga Road	35.1	Narrow pavement Unsuitable for HML and overmass vehicles	Upgrade and widen pavement to accommodate HML	Not funded.
Jones Road Causeway Griffith Northern Link Road	35.2	Narrow causeway between north and south lakes Single lane only Flooding	Upgrade, raise and widen road pavement. Adjust utilities.	Funding Application submitted under Fixing Country Roads (FCR) Tranche 1 and Roads to Recovery (R2R) (State Govt & Fed Govt) Proposed construction scheduled

		Unsuitable for HML and overmass vehicles		1 Jul 2020 to 28 Feb 2021.
Old Willbriggie Rd/Kurrajong Ave/Willandra Ave	36.1	Intersection of Old Willbriggie/Kurrajong Ave/Willandra Ave (Southern Bypass)		
	36.2	Hairpin corners		
Murrumbidgee / Thorne Rd intersection Griffith Southern Industrial Link (GSIL) Stage 4	57.1	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 31 October 2021.
Boorga and Dickie Roads	58.1	History of accidents Unsealed, dusty, (restricted vision), corrugated road Access from farm gate of major primary producers to transport hubs High traffic volume	Upgrade and construct to Sealed Road.	Funding Application submitted under Fixing Local Roads Round 1 (State Govt, Council & Private contribution). Proposed construction scheduled 3 Mar 2020 to 2 Mar 2022.
Kurrajong Avenue Griffith Southern Industrial Link (GSIL) Stage 3	59.1	Narrow pavement Unsuitable for road trains No turning lanes at intersections	Widen and rehabilitation of Pavement. Intersection treatments.	Not funded.
Lakes Road	60.1	Deformed and narrow pavement	Upgrade & Widen pavement Intersection treatment.	Not funded.

(between MR80 Kidman Way & Mallinson Road)		Unsuitable for HML and overmass vehicles		
Bromley Road, Brown Road, Thorne Road (West) & Walla Avenue intersection Griffith Southern Industrial Link (GSIL) Stage 5b & Stage 6a	61.1	Narrow pavement Unsealed, dusty, (restricted vision), corrugated road Narrow culverts. Unsuitable for Heavy vehicles.	Realign, Construct & Seal unsealed Road, intersection treatments and upgrade culvert crossings and drainage.	Currently funded and in progress. Funded by Fixing Country Roads Round 3 and Roads to Recovery grants. (State Govt, Fed Govt)
Griffith Airport	69.1	Absence of appropriate landing systems and lack of freight processing infrastructure.		
	69.2	Pavement Strength		

HAY				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Mid-Western Highway (HW6)	2.1	Inadequate Shoulder Width		
	2.2	Flood Prone		
	2.3	Wongalea Rd Intersection	Improvements to allow road train access.	Nil
	2.4	Murrumbidgee River Rd Intersection	Improvements to allow road train access.	Nil
Sturt Highway (HW14)	3.1	Flood Prone		
	3.2.1	Glencoe Rd Intersection	Improvements to allow road train access.	Nil
	3.2.2	Glenhope Rd Intersection	Improvements to allow road train access.	Nil
	3.2.3	Romani Rd Intersection	Improvements to allow road train access.	Nil
	3.3	Moama Street	Lack of truck parking	
Cobb Highway (HW21)	6.2	Intersections	Improvements to allow road train access.	Nil
	6.3	Bridge over Murrumbidgee River	Widen the pavement.	Nil
Thule Street/Moulamein Road/Maude Road (MR319)	17.3	Mathews Bridge 10 tonne load limit	Replacement of the existing timber bridge with a double lane RCC bridge complying with AS5100 providing an access to Road trains.	Funding for the full project scope has been secured. Detailed design is underway. It is expected that the construction of the new bridge will be completed by June 2021.
	17.4	Narrow Pavement		
	17.5	Narrow Culvert Structures		
	17.6	Significant pavement failures		

	17.7	Chainage 2.5km Budgee Creek Bridge 5m wide	Replace the bridge with 2 lanes allowing for road train access.	
	17.8	Chainage 6.5km Matthews Bridge over the Murrumbidgee River at Maude 3.8m wide (Timber Bridge built 1967)		
	17.9	Chainage 9km Nimmie Creek Bridge 3.6m wide		
	17.10	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.	
	17.11	Chainage 19km Bridge 4.5m wide	Replace the bridge with 2 lanes allowing for road train access.	
	17.12	Chainage 20.3km Bridge 4.5m wide	Replace the bridge with 2 lanes allowing for road train access.	
	17.13	Chainage 20.7km Bridge 4.5m wide	Replace the bridge with 2 lanes allowing for road train access.	
	17.14	Chainage 20.9km Bridge 4.5m	Replace the bridge with 2 lanes allowing for road train access.	
Lachlan Valley Way (MR501)	24.1	Unsealed road (damages freight)	Reconstruct and Seal the remaining section (6.3km) progressively @ 2km per year.	Continuous @2.0 km reconstruction and seal per year.
	24.2	Dry weather only road	Reconstruct and Seal the remaining section (6.3km) progressively @ 2km per year.	Continuous @2.0 km reconstruction and seal per year.
	24.3	Flood prone	Improve drainage with more culverts and adequate table drains.	None since 2013.

	24.4	RAV access to local roads	Reconstruct and Seal the remaining section (6.3km) progressively @ 2km per year.	Continuous @2.0 km reconstruction and seal per year.
Oxley Road (MR514)	25.1	Intersection with Maude/Moulamein Rd	Reconfigure the turning radius to accommodate road trains and strengthen the pavement.	Nil.
	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-6m	Widen the sealed section to 8m.	
	25.6	Chainage 60.8km Pimpera Creek Bridge 4.5m	Replace the bridge with two lanes allowing for road train access.	
	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	Replaced the bridge with two lanes allowing for road train access	
Nap Nap Road	62.1	Timber Bridge – Load (42t) Constraint for heavy vehicles		
Murrumbidgee River Road	63.1	Inadequate pavement strength and width		
Hay Airport	71.1	Lack of freight Infrastructure		
	71.2	Length of runway		

	71.3	Low intensity requires lighting upgrade		
	71.4	Sealed runway length is too short		
LEETON				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Sturt highway (HW14)	3.3	Intersection, with Innisvale Lane		
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.1	Proposed Western Bypass		
Whitton – Darlington Point Road (MR539)	27.1	Sturt Canal Bridge		
Euroley Road	30.1	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.
	30.2	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)	31.1	Leeton Heavy Vehicle 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	32.1	MIL structure over Main Supply Canal	Renewal of bridge structure.	Geotechnical investigations completed. Draft road alignment designed. Looking to apply for funding under Fixing Country Roads 2020 for road and bridge component construction.
Yarmwal Road	34.1	Sections of unsealed road insufficient pavement.	Upgrade to sealed roadway with sufficient pavement depth and width for proposed Heavy Vehicles.	Nil works completed on this route to date.
WR Connect (WRIFT)	66.1	Service Limitations		
	66.2	Extension and upgrade of rail siding, road and ancillary infrastructure (power, gas, roads, drainage, water)		

MURRAY RIVER				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Cobb Highway (HW21)	6.1	Bridge over the Murray	Construct a new bridge	Construction of the new bridge starts in February 2020. Construction period is 130 weeks.
Tooleybuc Road (MR694)	10.1	Bridge over Murray River	Construct a new bridge	Transport for NSW to plan for replacement/upgrade.
	10.2	Intersection of Story Crossing Road		
	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.
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.
	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	Wakool Bridge is not HML rated	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.
Thule Street/Moulamein Road/Maude Road (MR319)	17.2	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.
Barmah Road (MR391)	22.1	Barmah Bridge not HML rated	Road users must apply for HML permit.	Reject application for HML permit.
	22.2	Pavement width	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.
Swan Hill Road (MR467)	23.1	Bridge over Murray River at Swan Hill	Upgrade bridge to HML standard.	Transport for NSW to plan for replacement/upgrade.
	23.2	Coonamit Bridge	Upgrade/replace bridge.	Transport for NSW to plan for replacement/upgrade.
	23.3	Bridge at Yarrein Creek is only 6.1m wide	Widen and upgrade bridge to accommodate relevant traffic.	Survey, Geotech investigation and design will be completed by June 2020. Replacement of the bridge subject to funding.
	23.4	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.
	23.5	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.

Barham Road (unclassified Regional Road 7605)	28.1	Insufficient pavement width	Widen the pavement to 8.0m width.	Widening of Barham Road is underway and is due for completion in June 2021.
	28.2	Thule Bridge is not HML rated	Road users must apply for HML permit.	Reject application for HML permit.
	28.3	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.
Speewa Road	37.1	Nyah Bridge over Murray River	Upgrade/reconstruct bridge to accommodate HML loads.	Transport for NSW to plan replacement/upgrade.
	37.2	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.
Murrabit Road	38.1	Gonn Crossing Bridge over Murray River	Replace/upgrade bridge.	Transport for NSW to plan replacement/upgrade.
	38.2	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.
Noorong Road	45.1	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.

MURRUMBIDGEE				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Kidman Way/Irrigation Way/Mackay Avenue (MR80)	7.12	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		
Berrigan/Oaklands Road (MR323/MR356)	18.1	Bridge over Wangamong Creek		
Conargo Road (MR552)	26.6	Bridge over Alguderie Creek		

NARRANDERA				
ROAD	**ITEM NUMBER**	**CONSTRAINT**	**PROPOSED TREATMENT**	**PROGRESS**
Sturt Highway (HW14)	3.4	South of Gillenbah		
	3.5	Poison Creek		
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 train from Narrandera to Ardlethan on Newell Highway		
Kidman Way/Irrigation Way/ Mackay Avenue (MR80)	7.10	Narrow Bridge		
	7.11	Inadequate Road Train connection		
Narrandera Barellan Road (MR7608)	29.1	Intersection Upgrade	Intersection upgrade.	No progress at this stage.
Willows Road	47.1	Unsealed 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	48.1	Insufficient width for freight traffic	Road reconstruction, re-alignment and widening. Intersection upgrade with Mid-Western Highway.	No progress at this stage.
Sandigo River Road	49.1	Gravel road insufficient width	Road reconstruction, widening and sealing.	No progress at this stage.

Brobenah Hall Road	50.1	Road needs raising at Mirrool Creek	Construction of new culverts and raised road level.	No progress at this stage.
Donaldsons Road / Canal Bridge	51.1	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	52.1	Inadequate 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	66.1	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-Leeton Airport	70.1	Lack of freight infrastructure	Upgrade to pavement strength and runway length. Low intensity runway lighting.	No progress at this stage.
	70.2	Pavement Strength		
	70.3	Low intensity runway requires lighting upgrade		
	70.4	Sealed runway length is too short		
	70.5	Security screening measures required		

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

RAMJO
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