

# Annexure 1. Murray Basin Freight Rail Network (MBFRN) region freight forecast for 2026 - 2035

## Contents

- Forecast; Combined export wheat, barley & canola, intermodal freight & mineral sands
- Forecast; Export wheat, barley & canola
- Forecast; Intermodal freight
- Forecast; Critical mineral sands

<b>Murray Basin Freight Rail Network region</b>	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	10 Year
<b>Export Grains, Intermodal &amp; Mineral Sands</b>	Base year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
<b>FREIGHT TASK - suited to rail transport</b>												
Tonnes; Export wheat, barley & canola	1,615,828	1,629,416	1,643,196	1,657,171	1,671,347	1,675,344	1,679,301	1,683,218	1,687,094	1,690,927	1,694,718	<b>16,711,731</b>
Tonnes; Intermodal	1,473,600	1,527,704	1,583,860	1,642,148	1,702,651	1,765,453	1,817,484	1,871,076	1,926,275	1,983,130	2,041,692	<b>17,861,472</b>
Tonnes; Critical Mineral Sands	-	491,440	552,400	552,400	552,400	552,400	552,400	552,400	552,400	152,400	152,400	<b>4,663,040</b>
Total tonnes - suited to rail transport	3,089,428	3,648,560	3,779,456	3,851,720	3,926,398	3,993,196	4,049,185	4,106,693	4,165,768	3,826,457	3,888,810	<b>39,236,244</b>
<b>REVISED MBRP;</b>												
<b>FREIGHT TASK ON RAIL</b>												
Tonnes to port by rail %	30%	28%	28%	28%	27%	26%	26%	25%	25%	27%	26%	<b>27%</b>
Tonnes to port by rail	929,298	1,013,579	1,068,154	1,062,545	1,057,714	1,053,666	1,047,999	1,042,955	1,038,531	1,028,096	1,016,787	<b>10,430,024</b>
<b>FREIGHT TASK ON ROAD</b>												
% of freight on road	70%	72%	72%	72%	73%	74%	74%	75%	75%	73%	74%	<b>73%</b>
tonnes (net) to port on road	2,160,130	2,634,981	2,711,302	2,789,175	2,868,683	2,939,531	3,001,186	3,063,739	3,127,238	2,798,361	2,872,023	<b>28,806,219</b>
Tonnes payload per road trip	42.0	40.6	41.0	41.3	41.9	42.9	43.1	43.2	43.5	43.8	43.8	42.5
Number of truck trips to port	51,410	64,899	66,164	67,482	68,445	68,495	69,572	70,931	71,887	63,906	65,504	677,286
Km distance - one way on road to port	408	412	402	402	403	403	403	403	404	386	387	401
Total truck km's	41,921,789	53,508,541	53,168,094	54,296,926	55,211,314	55,146,269	56,077,081	57,229,511	58,112,017	49,343,058	50,721,858	<b>542,814,670</b>

<b>Murray Basin Freight Rail Network region</b>	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	10 Year
<b>Export wheat, barley &amp; canola</b>	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>	<u>Total</u>
<b>FREIGHT TASK</b>												
% increase yield, accumulative		1.5%	1.5%	1.5%	1.5%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	
Tonnes wheat, barley & canola produced	2,733,770	2,775,170	2,817,266	2,860,069	2,903,593	2,929,866	2,956,380	2,983,136	3,010,138	3,037,387	3,064,886	<b>29,337,890</b>
% volume exported	59.11%	58.71%	58.33%	57.94%	57.56%	57.18%	56.80%	56.42%	56.05%	55.67%	55.29%	
Export bulk tonnes - total	1,615,828	1,629,416	1,643,196	1,657,171	1,671,347	1,675,344	1,679,301	1,683,218	1,687,094	1,690,927	1,694,718	<b>16,711,731</b>
<b>FREIGHT TASK ON RAIL WITH REVISED MBRP</b>												
Export Tonnes to port by rail %	40.8%	39.5%	38.2%	36.9%	35.7%	34.7%	33.8%	32.8%	32.0%	31.1%	30.3%	34.4%
Export Tonnes to port by rail	659,701	643,198	627,124	611,468	596,219	581,365	566,896	552,802	539,072	525,697	512,668	<b>5,756,510</b>
<b>FREIGHT TASK ON ROAD WITH REVISED MBRP</b>												
% of freight on road	59.2%	60.5%	61.8%	63.1%	64.3%	65.3%	66.2%	67.2%	68.0%	68.9%	69.7%	65.6%
tonnes (net) to port on road	956,127	986,218	1,016,071	1,045,703	1,075,128	1,093,979	1,112,405	1,130,416	1,148,021	1,165,230	1,182,050	<b>10,955,222</b>
Tonnes payload per road trip	45.1	45.1	45.1	45.1	46.8	46.8	46.8	46.8	47.6	47.6	47.6	
Number of truck trips to port	21,216	21,878	22,535	23,186	22,988	23,390	23,783	24,167	24,119	24,484	24,841	
Km distance - one way on road to port	358	358	358	359	359	359	359	359	360	360	360	
Total truck km's	15,191,606	15,675,711	16,156,291	16,633,596	16,509,967	16,804,739	17,093,213	17,375,531	17,361,504	17,630,541	17,894,038	<b>169,135,132</b>

Notes / Assumptions Consideration is given to the general findings of the 2020 'GRDC Australia's Grains Industry In 2030 - A Look Into The Future ; \*Aust.'s population is projected to increase by between 16% & 19% especially in eastern Aust. where most of the population increase & greater demand for feed grains, flour, oil for human consumption & malt will occur, \*unlikely to see increase in the area sown to winter, crops, \*climate change & seasonal variation are limiting yield growth in many grain-growing regions, in eastern Aust., \*coarse grains and pulses feature more in the crop mix (i.e. less planted to cereals)

The initial scope of the MBRP was to deliver a 500,000 tonne grain shift from road to rail. Despite an increase in rail tonne axle loadings (TAL) and network reliability plus a range of small rail improvements (completed & planned), the underlying inherent problems of having half the Murray Basin Freight Rail Network on broad gauge and the other half no longer taking the direct route to port causing increased operating costs and a huge added cost stemming from the disruption to train cycle times, there is a minimal increase (on a net basis) in mode shift to rail. Graincorp's suspension of rail Project Regeneration and a range of other factors including Cargill Birchip no longer able to achieve a 24 hour train cycle to Geelong are evidence of the inefficiencies of the Revised scope of the MBRP (refer to pages 6 to 9 of the submission) The continued expansion of the HPFV network (started 2019-2021) and a further reduction in HPFV restrictions will see an ongoing conversion to these vehicles with an approx. 24% productivity gain. Have assumed an initial shift of say 150,000 tonnes to rail in the 2025 base year figures to reflect the Revised MBRP works and thereafter a loss of tonnes to road over the forecast period.

Forecast calculation methodology;  
 Geospatial map of Murray Basin Freight Rail Network region and nine sub regions as shown on page 4 of this submission.  
 For each sub region;  
 - calculation of arable land  
 - average % planted to wheat, barley and canola and average yields (obtained from agronomist, broker and farmers; kept yields below; conservative)  
 - average tonnes produced  
 - % exported; used various sources; quite variable year to year  
 - % road transported; local knowledge; accumulation at grain sites; out turn to port by road only versus road and rail. Also considered increase in rail TAL and network reliability against the increase in HPFVs, recent % of exports delivered by road and impact of the Revised MBRP on grain receival sites.

<b>Murray Basin Freight Rail Network region</b>	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	10 Year
<b>Intermodal Freight</b>	<b>Base year</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>	<b>Total</b>
<b>FREIGHT TASK</b>												
% increase yield, plantings, accumulative		3.7%	3.7%	3.7%	3.7%	3.7%	2.9%	2.9%	3.0%	3.0%	3.0%	
Intermodal freight tonnes p.a.	1,473,600	1,527,704	1,583,860	1,642,148	1,702,651	1,765,453	1,817,484	1,871,076	1,926,275	1,983,130	2,041,692	<b>17,861,472</b>
<b>FREIGHT TASK ON RAIL WITH REVISED MBRP</b>												
% of intermodal freight on rail	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	17%	18%
Tonnes to port on rail	269,597	278,941	288,629	298,677	309,095	319,901	328,703	337,753	347,058	349,999	351,720	<b>3,210,475</b>
<b>FREIGHT TASK ON ROAD WITH REVISED MBRP</b>												
% of freight on road	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	83%	82%
tonnes (net) to port on road	1,204,003	1,248,763	1,295,231	1,343,472	1,393,555	1,445,552	1,488,781	1,533,323	1,579,216	1,633,131	1,689,973	<b>14,650,998</b>
Tonnes payload per road trip	40.4	40.3	43.0	43.6	43.6	45.7	46.1	46.1	46.1	46.1	46.1	
Number of truck trips to port	30,194	31,320	30,477	31,144	32,304	31,953	32,637	33,611	34,615	35,793	37,035	<b>330,889</b>
Km distance - one way on road to port	464	464	464	464	464	464	464	464	464	464	464	
Total truck km's	<b>26,730,183</b>	<b>27,737,592</b>	<b>26,916,564</b>	<b>27,568,091</b>	<b>28,606,109</b>	<b>28,246,292</b>	<b>28,888,630</b>	<b>29,758,742</b>	<b>30,655,275</b>	<b>31,712,517</b>	<b>32,827,820</b>	<b>292,917,633</b>

Notes / Assumptions

- Continuation of Mode Shift Incentive Scheme beyond 30 June 2024 assumed
- GHD Advisory 2021 business case key findings for the 'shovel ready' Sunraysia Mallee Port Link intermodal terminal (this has had a significant weighting on the forecast volumes produced and going to port by road)
- 2023 report; 'Contribution of Australian horticulture industry' key relevant findings - refer to text box to the right
- relevant 2021 Agriculture census data - ABARES (one year snap shot)
- Industry bodies and transport businesses
- knowledge of regional operations

Potential intermodal freight from the fringes of the Murray Basin Freight Rail Network region that has not been included in the above forecasts due to a lack of information and certainty

- significant volumes of freight from North East South Australia; e.g., Potato exports from the Pinnaroo region and citrus from a very large packhouse in the Riverland with 80% of exports shipped from the Port of Melbourne
- intermodal under construction at the Ballarat West Employment Zone (BWEZ). No operator appointed and no rail rate pricing provided to largest potential user of the facility.
- intermodal freight from the City of Greater Bendigo region. An intermodal at Marong is under consideration. High cube shipping containers cannot be easily transported on rail to Melbourne via the Sunbury line due to height limitations with historical bridges and tunnels. One option is to reopen the Marong to Inglewood line and 'piggy back' of the Ultima intermodal service.

Centre for International Economics 2023 report; 'Contribution of Australian horticulture industry' was commissioned by Hort Innovation to undertake economic analysis including projecting the horticulture industry to 2030

Key relevant findings include;  
Horticulture is an important Australian industry with a farm gate value of production of \$15.2 billion in 2020-21. Among all the 25 regions nationally, North West (Mildura) in Victoria is the most significant horticultural growing region.

Table grapes and almonds are the top two horticulture crops in the Mildura region. Table grapes production in the region is projected to grow by 30 per cent while almonds will grow at a much faster pace, 42 per cent (centre forecast range reflecting the most common and long term average conditions going forward)

<b>Murray Basin Freight Rail Network region</b>	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Critical Mineral Sands</b>	Base Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	<b>10 Year total</b>
<b>FREIGHT TASK</b>												
Tonnes - Critical Mineral Sands		491,440	552,400	552,400	552,400	552,400	552,400	552,400	552,400	152,400	152,400	<b>4,663,040</b>
<b>FREIGHT TASK ON RAIL WITH REVISED MBRP</b>												
Export Tonnes to port by rail %	0%	19%	28%	28%	28%	28%	28%	28%	28%	100%	100%	31%
Export Tonnes to port by rail		91,440	152,400	152,400	152,400	152,400	152,400	152,400	152,400	152,400	152,400	<b>1,463,040</b>
<b>FREIGHT TASK ON ROAD WITH REVISED MBRP</b>												
% of freight on road	100%	81%	72%	72%	72%	72%	72%	72%	72%	0%	0%	69%
tonnes (net) to port on road	-	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	-	-	<b>3,200,000</b>
Mineral Sand - tonnes, net per truck	42	42	42	42	42	42	42	42	42	42	42	
truck trips p.a.	-	11,701	13,152	13,152	13,152	13,152	13,152	13,152	13,152	3,629	3,629	<b>111,025</b>
Mineral sands transport- km one way	530	530	530	530	530	530	530	530	530			
Ttotal truck km p.a.	-	10,095,238	10,095,238	10,095,238	10,095,238	10,095,238	10,095,238	10,095,238	10,095,238	-	-	<b>80,761,905</b>
<p>Notes / Assumptions</p> <p>Refer to map on page 5 of the submission.</p> <p>The forecast is conservative, as the above numbers only include mines with Definitive Feasibility Studies (DFS);</p> <ul style="list-style-type: none"> <li>· Iluka Resources -Balranald South West NSW, starting 2025</li> <li>· VHM Resources Goschen Mine—Lalbert, NW Vic.; starting 2025</li> <li>-Other mines such as Euston &amp; Donald are likely to commence in the forecast period but are not Included.</li> </ul> <p>Mineral Sand &amp; Rare Earth mining at Balranald by Iluka Resources is set to start in 2025. Iluka is part way through a leased wharf facility at the Port of Portland (Victoria’s naturally deepest port) and the rail line to Portland is standard gauge. The nearest suitable rail terminal to the Balranald mine site is Manangatang, but that line has remained a broad gauge line (it’s conversion to standard gauge was stage 3 of the initial scope of the MBRP that was abandoned in 2020) Instead of using rail, the Definitive Feasibility Study for the upcoming mining is showing 400,000 + tonnes of ore p.a. being road freighted approximately 530 km from North Balranald to Geelong.</p>												